UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	)	Docket No. ER04-____-000

GRID MANAGEMENT CHARGE

VOLUME I OF IX

- Transmittal Letter
- Table of Contents
- Tab A - Tariff Sheets (Clean)
- Tab B – Tariff Sheets (Blacklined)
- Tab C – Testimony and Exhibits
  Exh. Nos. ISO-1 through 10

October 31, 2003

SWIDLER BERLIN SHEREFF FRIEDMAN, LLP

THE WASHINGTON HARBOUR
3000 K STREET, NW, SUITE 300
WASHINGTON, DC 20007-5116
TELEPHONE (202) 424-7500
FACSIMILE (202) 424-7643
WWW.SWIDLAW.COM

KENNETH G. JAFFE
TELEPHONE: (202) 424-7563
FACSIMILE: (202) 424-7643
KGJAFFE@SWIDLAW.COM

NEW YORK OFFICE
THE CHRYSLER BUILDING
405 LEXINGTON AVENUE
NEW YORK, NY 10174
TELEPHONE (212) 973-0111
FACSIMILE (212) 891-9598

October 31, 2003

The Honorable Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: California Independent System Operator Corporation
Docket No. ER04-___-000

Dear Secretary Salas:

Pursuant to Section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, and Section 35 of the Commission's Regulations, 18 C.F.R. § 35 (2003), the California Independent System Operator Corporation ("ISO") submits for Federal Energy Regulatory Commission ("FERC" or "the Commission") approval, six copies of revisions to its Grid Management Charge ("GMC") rate formula. Two electronic copies of the full filing on CD-ROM also are being submitted to the Commission for its use. Two additional paper copies are enclosed to be time-stamped and returned to our messenger.

The GMC is the rate through which the ISO recovers its administrative and operating costs, including the costs incurred in establishing the ISO prior to the commencement of operations. The ISO requests an effective date for the revised GMC rate of January 1, 2004.

The ISO respectfully submits that the rates contained herein are just and reasonable. The ISO's 2004 GMC rate structure has been arrived at through a deliberative process in which the ISO has taken its current unbundled GMC rate and, in consultation with stakeholders and independent rate consultants, has redesigned and refined the GMC rate to better reflect cost causation and respond to stakeholder and Commission concerns. The redesigned GMC rate consists of seven distinct charges that significantly improve the alignment between the cost responsibility of ISO customers for GMC charges and the costs they cause the ISO to incur. This methodology was reviewed and approved by the Finance Committee of the ISO's Board

of Governors and by the full Board as more fully described in the testimony of Mr. Ben T. Arikawa, Exh. No. ISO-51, included with this filing.

The costs applied to the redesigned GMC rate formula to produce the rates contained in this filing were reviewed separately and approved by the Finance Committee and by the full Board through the budget process that is described at length in the testimony of Mr. Philip R. Leiber, Exh. No. ISO-24, included with this filing. The costs comprising the budget are prudent expenditures that will be incurred by the ISO in the furtherance of its role as a non-profit, independent operator of the ISO Controlled Grid.

I. BACKGROUND

The ISO originally filed its Grid Management Charge as a bundled rate on October 17, 1997 in Docket No. ER98-211-000. That original rate filing led to negotiations that resulted in an April 1998 settlement and gave rise to a stakeholder process directed toward the unbundling of the GMC rate to better reflect cost causation. The first proposal to unbundle the ISO GMC was adopted by the ISO Board of Governors and filed with the Commission on November 1, 2000 in Dockets No. ER01-313-000, *et al.* ("2001 GMC"). That original unbundling divided the GMC into three service categories: Control Area Services, Inter-Zonal Scheduling, and Market Operations. The 2001 GMC did not specify in the ISO Tariff how costs were to be allocated among the charges for these three categories and therefore could not operate as a formula rate.

The 2001 GMC resulted in a lengthy hearing before a Commission administrative law judge ("ALJ") in November and December of 2001. Just prior to the commencement of that hearing, on November 21, 2001, the ISO filed its further revised GMC rates, to take effect on January 1, 2002 in Dockets ER02-250-000, *et al.* (the "2002 GMC"). That filing contained relatively minor changes to the 2001 rate design, leaving the major elements of the 2001 rate design intact. Stakeholders and the ISO were able to work through differences over a four-and-a-half month period and successfully concluded a negotiated settlement agreement, which was filed with the Commission on October 17, 2002 ("2002 GMC Settlement"). Among other things, the 2002 GMC Settlement allowed for the ISO to avoid making a new rate filing under Section 205 if its rates for 2003 were kept under certain set ceilings for each of the three service categories. The ISO filed its 2003 GMC as an informational filing with the Commission on November 8, 2002.

The 2001 GMC proceeding resulted in an Initial Decision issued on May 10, 2002, which was adopted with modifications by the Commission on May 2, 2003. In that Initial Decision, the Presiding ALJ adopted the suggestion of the ISO and some intervenors to re-evaluate the GMC's structure with the aid of a comprehensive stakeholder process. As discussed in greater detail below, and in the testimony of Mr. Ben T. Arikawa, Exh. No. ISO-51, the ISO engaged with stakeholders in a year-long process to reassess and debate concepts for a redesigned GMC that would better track

cost-causation and be responsive to concerns expressed regarding the past GMC design; balancing these goals with an eye towards being able to logistically and efficiently administer the new rate. The rate developed by the ISO during that stakeholder process was approved by the ISO Board of Governors on September 25, 2003.

II. COMMUNICATIONS

Correspondence and other communications regarding this filing should be directed to:

Stephen A. S. Morrison
Corporate Counsel
California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630
Tel: (916) 351-2207
Fax: (916) 351-2350

Kenneth G. Jaffe
Julia Moore
Theodore J. Paradise
Swidler Berlin Shereff Friedman, LLP
3000 K Street, NW – Suite 300
Washington, DC 20007
Tel: (202) 424-7500
Fax: (202) 424-7643

III. CONTENTS OF FILING

The instant filing comprises this Transmittal Letter, proposed revisions to the ISO Tariff in both clean and blacklined sheets, the testimony explaining, and offered in support of, the ISO's 2004 rate design together with various exhibits to that testimony, the ISO's budget for 2004, including Period I and Period II cost data required under 18 C.F.R. § 35.13(h), and data regarding the stakeholder process that lead to the design of the proposed GMC rate. A form of notice suitable for publication in the Federal Register is included in hard copy and electronic format on a 3.5" diskette. A table of contents follows this Transmittal Letter. All testimony and supporting exhibits have been assigned an exhibit number and are located at the corresponding tab.

The Direct Testimony of Dr. Barbara R. Barkovich, designated as Exh. No. ISO-1, provides a description of the ISO's proposed GMC rate and describes the process used to assign ISO tasks to overarching functional categories. Dr. Barkovich is also sponsoring Exh. No. ISO-2. The Direct Testimony of Ms. Catherine E. Yap, designated as Exh. No. ISO-3, describes the subsequent steps in the development of the proposed GMC rate and that data that was used to calculate the rates. Ms. Yap also describes the increased detail concerning cost allocation that the ISO proposes to include in the ISO Tariff so that the GMC may function as a formula rate. Ms. Yap is also sponsoring exhibit numbers ISO-4 through ISO-23.

The Direct Testimony of Mr. Phil R. Leiber, included with this filing as Exh. No. ISO-24, explains the ISO's 2004 budget process and the estimated costs that resulted from that process. Mr. Leiber's testimony also reviews and explains changes from 2003

to 2004 in the ISO's costs and describes the ISO's Section 35.13 Period I and Period II cost statements. In addition to his direct testimony, Mr. Leiber is also sponsoring exhibit numbers ISO-25 through ISO-50.

The Direct Testimony of Mr. Ben T. Arikawa, included with this filing as Exh. No. ISO-51, reviews the stakeholder process that the ISO undertook over 2002 and 2003 in order to redesign the ISO's GMC rate. In addition to his direct testimony, Mr. Arikawa is also sponsoring exhibit numbers ISO-52 through ISO-383.

IV. STAKEHOLDER PROCESS

The ISO's 2004 GMC rate re-redesign has been informed by both the comments received by the ISO during the 2001 and 2002 GMC proceedings and the comments and alternative proposals offered by stakeholders over the past year. The ISO's re-evaluation of the GMC rate was guided by the directions given by the Presiding ALJ, guidelines set out as part of the ISO's 2002 GMC Settlement, pre-process meetings with stakeholders, and finally by the charter for the project that set out the goals to be achieved. Briefly, the goals of the 2004 Rate Structure Project Charter were:

- Develop a rate structure that meets the FERC "just and reasonable" standard and appropriately allocates ISO costs among the ISO's users;
- Develop a rate structure based on the principle of cost causation which charges customers for the cost of services that they use/cause;
- Design a rate structure that is easy to administer (including reasonably cost effective; and benefits should outweigh the costs) and understandable;
- Develop a rate structure that is arrived at through an open and balanced stakeholder process;
- Recover the ISO's costs in a stable, low risk manner without excess volatility;
- Have the new rate structure field with FERC by November 1, 2003, so that it can be effective January 1, 2004; and
- Meet the terms of the 2002 GMC Settlement Agreement, which set forth issues to be covered in the 2004 GMC Stakeholder process.

The 2002-2003 stakeholder process consisted of 11 meetings and 20 telephone conferences. The ISO hosted several special topic calls in response to particular requests, in which all stakeholders were invited to participate.

While the ISO encouraged stakeholders to identify and express their concerns and proposed solutions regarding the design of the GMC, it also encouraged those stakeholders interested in developing separate proposals for presentation to the ISO Finance Committee and Board of Governors to do so. As is discussed in the testimony of Ben T. Arikawa, the ISO made staff and data available to those requesting such resources. Ultimately, from this stakeholder process three separate proposals were

developed and submitted to the ISO Finance Committee for review. In addition, stakeholders submitted possible modifications to the proposal developed by ISO staff for consideration by the ISO Board.

The ISO endeavored to meet the guidelines set out in the Initial Decision in the 2001 proceeding, Appendix B to the 2002 GMC Settlement, and as expressed by participants and agreed to in the project charter. The proposal developed by ISO staff incorporates suggestions from stakeholders, and input from professional rate consultants. This process resulted in a new GMC rate design based on seven charges and implemented through a formula mechanism.

The ISO staff proposal, along with the other proposals and suggested modifications, were submitted to the Finance Committee of the ISO Board on July 17, 2003. The Finance Committee heard comments on all of the proposals and suggestions and reviewed presentations on each separate proposal and suggested modifications to the ISO staff proposal. After requesting additional data on the various proposals and modifications and undertaking further consideration of all the options, the Finance Committee recommended the ISO staff proposal to the Board of Governors with a direction to pursue additional study of alternative elements submitted by Southern California Edison. After additional meetings were held, data collected, and a report to the Board prepared, the ISO GMC proposal was approved by the full ISO Board September 25, 2003.

V. SUMMARY OF THE 2004 GMC

The GMC recovers the ISO's operating costs through unbundled charges corresponding to the services the ISO provides. It is based on the ISO's approved budget for 2004, allocating among seven charges that are applied to customers taking different services from the ISO. The ISO's 2004 GMC is the first unbundled ISO GMC rate proposal to incorporate the cost allocation percentages by charge into the ISO Tariff. The allocations work in concert with formula billing determinants to create a formula rate as is described below in Part B of this Section.

A. Development of GMC Components

As mentioned above, and discussed in greater detail in the testimony contained in this filing, the ISO worked closely with stakeholders in a process that incorporated the suggestions of stakeholders wherever possible. ISO staff developed the 2004 proposal with this stakeholder input and review and with the assistance and expertise of rate design consultants Barkovich & Yap, Inc.

The ISO believes that the 2004 proposal meets the direction given in the 2001 GMC Initial Decision to further unbundle GMC rates, consider demand charges, and consider alternative methods of cost assignment for certain cost centers. The 2004 proposal was developed wholly consistent with the 2002 Settlement and the 2004

proposal further satisfies the criteria of the 2004 GMC Rate Structure Project Charter, which are summarized under Section IV, above.

Compared to the current GMC, which comprises distinct charges for three services (the Control Area Services Charge, the Congestion Management Charge, and the Ancillary Services and Real Time Energy Operations Charge), the redesigned 2004 GMC comprises seven charges. The different charges do not simply represent a shift of the existing GMC rate design to new categories with a bit more granularity, but rather reflect a new rate design, based on a bottom up review, that better reflects cost causation.

The GMC charge categories now proposed are fully detailed and explained in the testimony of witnesses Dr Barbara Barkovich (Exh. No. ISO-1) and Ms Catherine Yap (Exh. No. ISO-3), who also outline the justification and appropriateness of these proposed charges. The proposed charges are:

Core Reliability Services ("CRS"): This charge recovers costs associated with the reliable operation of a Control Area surrounded by other Control Areas and achieving minimal disruptions to system operation. The charge recovers costs the ISO incurs to provide a stable grid that meets regional and national regulatory requirements, such as the North American Electric Reliability Council's and the Western Electricity Coordinating Council's reliability criteria and some FERC requirements, e.g., a basic level of transmission planning. All necessary activities attributable to Control Area operation, including, for example, the capability of handling a system that is as geographically dispersed as the ISO system, but without features that are 'scalable' (i.e., that vary according to use or size of flow) are covered by this charge. However, only a core level of basic service is provided for under CRS. The level of activity does not represent fully functioning operations for a robust Control Area in which there are outages and growth as new generation and transmission projects are developed.

The CRS Charge is calculated using an SC's metered non-coincident peak hourly demand during the month (in megawatts).

Energy Transmission Services ("ETS"): This charge represents the scalable portion of Grid Reliability Services, and is a function of the level of the use of the transmission system within the Control Area and the occurrence of system outages and disruptions.

There are two charges for ETS: **ETS Net Energy** and **ETS Uninstructed Deviations**. The two charges reflect two different cost drivers. The billing determinant for the ETS Net Energy Charge is Metered Control Area Load (in megawatt hours). The billing determinant for the ETS Uninstructed Deviations Charge is net uninstructed deviations by settlement interval (in megawatt hours).

Forward Scheduling: This charge recovers costs associated with the ISO's processing of forward Schedules for Energy and Ancillary Services submitted by SCs,

including inter-SC trades, and the review and verification of those Schedules to ensure path ratings are not exceeded, that sufficient Ancillary Services have been procured, and that the SC portfolios are balanced. This charge also recovers costs associated with processing accepted Ancillary Service bids. The Forward Scheduling Charge is calculated using the sum of a Scheduling Coordinator's Final Hour-Ahead Schedules, including all awarded Ancillary Service bids, with a value other than zero megawatts submitted to the scheduling infrastructure and scheduling applications systems.

Congestion Management: This charge, which is in effect an unchanged charge from prior GMCs, recovers the costs the ISO incurs in providing management and operation of inter-zonal congestion markets, using adjustment bids, taking Firm Transmission Rights and Existing Contracts into account, and determining the price for mitigating congestion for flows on congested paths. Congestion Management is conducted by the ISO during the scheduling process and results in the economic rationing of transmission service in order to prevent congestion. This currently provides for only inter-zonal congestion. Intra-zonal congestion is managed in real-time and is therefore incorporated in the CRS charge.

The Congestion Management Charge is calculated using the absolute value of an SC's scheduled net inter-zonal flows (excluding flows pursuant to Existing Contracts) per path for an SC.

Market Usage: This charge recovers the ISO's costs of processing Supplemental Energy and Ancillary Service bids, maintaining and controlling the Open-Access Same-Time Information System, monitoring market performance, ensuring generator compliance with market protocols, and determining market clearing prices.

The Market Usage Charge is calculated using the absolute value of an SC's market purchases and sales of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations netted by settlement interval).

Settlements, Metering, and Client Relations: This charge recovers a portion of the ISO's costs associated with maintaining customer account data, providing account information to customers, calculating market charges, processing Settlement Statements, resolving customer disputes, responding to customer inquiries, and providing customer training. This function includes Settlements, metering, and billing activities as well as client relations. As described in the testimony of Catherine E. Yap, Exh. No. ISO-3, in order to mitigate bill impacts of the move to this kind of charge, the majority of the costs attributable to these activities is recovered through other GMC charges according to a formula in the ISO Tariff.

The result of recovering the bulk of the costs associated with this charge as outlined above is that only the balance of the Settlements, Metering, and Client Relations Charge is recovered here, through a fixed monthly fee of $500.00 per SC ID.

B. Determination of 2004 GMC Charges

The rates proposed in this filing were determined by calculating the revenue requirement according to the formula contained in Part C of Appendix F, Schedule 1 of the ISO Tariff and then applying the ISO's revenue requirement to the proposed allocation percentages that have been inserted into the Tariff as proposed Part E of Appendix F, Schedule 1. Utilizing estimated billing determinant data, the billing determinants for each charge are then applied to the costs attributed to each of the seven charges under Part A of Appendix F, Schedule 1 in order to calculate the final rate for each charge.

The rates for 2004 reflect a net revenue requirement (the revenue needed after the effect of any surplus from the prior year's Operating and Capital Reserves Account) of to $218 million, a decrease from $237.6 million in 2003. The ISO costs decreased on a gross basis as well, falling from $246 million in 2003 to a projected $236 million for 2004. The ISO's costs for 2004 are detailed in the testimony of Philip R. Leiber, Exh. No. ISO-24.

C. 2004 Rate Summary

Charge:	Revenue Requirement	Rate:
Core Reliability Services Charge	$85,143,801	$160.446 / MW-Month
Energy Transmission Services Net Energy Charge	$22,222,484	$0.210 / MWh
Energy Transmission Services Uninstructed Deviations Charge	$5,555,621	$0.696 / MWh
Forward Scheduling Charge	$19,747,044	$1.489 / Schedule
Congestion Management Charge	$10,679,633	$0.161 / MWh
Market Usage Charge	$23,037,566	$0.798 / MWh
Settlements, Metering, and Client Relations Charge	$51,856,699	$500.00 / Customer Month

VI. DESCRIPTION OF TARIFF REVISIONS[1]

The ISO proposes the following changes in the ISO Tariff to implement the revised GMC rate formula:

- Section 8.3 is amended to reflect the change from three to seven GMC charges and to note the location of the formula for each of the charges in Appendix F, Schedule 1, Part A of the Tariff. Section 8.3 is further amended to remove reference to "Other Appropriate Parties", the definition of which has been eliminated from the ISO Tariff as a result of ceasing to estimate non-SC activity.
- Section 8.3.1 is amended to describe the Core Reliability Services Charge.
- Section 8.3.2 is amended to describe the Energy Transmission Services Net Energy Charge.
- Section 8.3.3 is amended to describe the Energy Transmission Services Uninstructed Deviations Charge.
- Section 8.3.4 is added to describe Forward Scheduling Charge.
- Section 8.3.5 is added to describe the Congestion Management Charge. Some of the language of the prior Section 8.3.2 is retained in this description.
- Section 8.3.6 is added to describe the Market Usage Charge. Some of the language of the prior Section 8.3.3 is retained in this description.
- Section 8.3.7 is added to describe the Settlements, Metering, and Client Relations Charge.
- Section 8.4 is amended to reflect the change in the GMC from three charges to seven charges and from a yearly filed rate to a formula rate. This amended section also states that the ISO will make a yearly informational filing with FERC to describe the adjustments that result automatically from the operation of the GMC formula rate.
- Section 8.4.1 is amended to eliminate the term "Other Appropriate Party".
- Section 8.5 is amended to state that the Operating and Capital Reserves Account will be calculated separately for each charge.
- Master Definitions Supplement, Appendix F: the following definitions have been amended, added or deleted:
    - Ancillary Services and Real-Time Energy Operations is deleted to reflect the elimination of that GMC charge;
    - Congestion Management Charge is amended to reflect the modified GMC charge;
    - Control Area Gross Load is modified to reflect that it is no longer a billing determinant for any GMC charge;

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[1] The Tariff language used in this filing does not include language proposed by the ISO in Tariff Amendments 54 or 55 due to the uncertainty of the effective dates for both of these Amendments. When they become effective, Amendments 54 and 55 will have no substantive effect on the GMC language proposed in this filing.

  - Control Area Services Charge is deleted to reflect the elimination of that GMC charge;
  - Core Reliability Services Charge is added to reflect its creation as a GMC charge;
  - Energy Transmission Services Net Energy Charge is added to reflect its creation as a GMC charge;
  - Energy Transmission Services Uninstructed Deviations Charge is added to reflect its creation as a GMC charge;
  - Forward Scheduling Charge is added to reflect its creation as a GMC charge;
  - Grid Management Charge is amended to reflect its change to a formula rate and the change from three to seven charges;
  - Market Usage Charge has been added to reflect its creation as a GMC charge;
  - Metered Control Area Load is added to reflect its creation as the billing determinant for the Energy Transmission Services Net Energy Charge;
  - Other Appropriate Party is deleted to reflect the elimination of that designation;
  - Settlements, Metering, and Client Relations Charge is added to reflect its creation as a GMC charge.
- Appendix F, Schedule 1, Part A is amended to reflect the change from three to seven GMC charges and to state the formula rate for each charge.
- Appendix F, Schedule 1, Part B is amended to make the quarterly adjustment function as a formula and limit its effect to once per quarter.
- Appendix F, Schedule 1, Part C is amended to reflect the change from three to seven GMC charges.
- Appendix F, Schedule 1, Part D is amended to require an annual informational filing to be used to update the ISO's GMC formula rate.
- Appendix F, Schedule 1, Part E is added to incorporate the ISO's GMC cost allocation into the Tariff and create a formula rate.
- SABP 3.1 is amended to reflect the elimination of the term Other Appropriate Party, the change from three to seven charges, and the change of the GMC to a formula rate.
- SABP 3.2.1 is amended to reflect the change from three to seven GMC charges and the elimination of the term Other Appropriate Party.
- SABP 3.2 is amended to correct an error in the referenced section.
- SABP 5 is amended to reflect the change from three to seven GMC charges and the elimination of the term Other Appropriate Party.
- SABP Appendix A is deleted to reflect the incorporation of the charge formulae at Appendix F, Schedule 1, Part A.
- Other minor changes to the Tariff language also have been made to correct minor past typographical errors.

VII. PROPOSED EFFECTIVE DATE AND REQUEST FOR SURCHARGE AUTHORITY

The ISO requests an effective date of January 1, 2004 for its 2004 GMC rate. The ISO recognizes that, if the Commission sets this filing for hearing, the 2004 GMC will be collected subject to refund, based on the outcome of further Commission proceedings. In the event that the instant filing is set for hearing, the ISO requests that the Commission grant the ISO conditional surcharge authority to be exercised if the Commission determines that a different cost allocation should be applied retroactively, with the effect of lowering aggregate GMC charges to some customers and raising them to others. Because the ISO is not-for-profit entity, with no invested equity, it must have the ability to surcharge the latter customers to enable it to pay refunds to the former. The only other alternative where retroactive refunds are authorized is to borrow the amounts necessary to pay refunds, with the costs to be borne by future customers. That alternative, however, is problematic in part because of the ISO's limited access to capital markets. A better solution is to authorize surcharges.

While the ISO recognizes that Commission precedent has favored implementing changes to a rate design on a prospective basis, the ISO suggests that any possibility of a retroactively-applied change to the rate design would necessarily create some uncertainty as to the manner in which the ISO recovers the monies need to fund any resulting refund. This uncertainty would hamper the ISO's ability to regain access to capital markets to fund its capital spending, if that approach is cost effective. Should this filing be set for hearing, an order granting conditional surcharge authority would provide certainty as to the manner in which any possible retroactive refunds are to be funded.

IX. REQUEST FOR WAIVER

Certain cost statements described in 18 C.F.R. §35.13(h) request information that is not applicable to the ISO. Where this is the case, the ISO has indicated on the cost statement and in the testimony of Philip R. Leiber, Exh. No. ISO-24, that the information does not apply to its operations. To the extent that a waiver is necessary for such statements, the ISO requests waiver for the those cost statements. In addition to cost statements, the ISO has included a detailed explanation and justification of this filing in the form of narrative testimony.

X. EFFECTIVE DATE

The ISO requests that the rates contained in this filing be made effective on January 1, 2004.

XI. EXPENSES

No expense or cost associated with this filing has been alleged or judged in any judicial or administrative proceeding to be illegal, duplicative, unnecessary, or demonstratively the product of discriminatory employment practices.

XII. REQUEST FOR SETTLEMENT JUDGE

The ISO and stakeholders have been able to conclude a settlement in the past, and have worked together for some time on the GMC rate design. Further collaboration would be more likely to result in a resolution that is desirable to all than would an adversarial hearing process. The ISO therefore requests that, should the Commission determine that this filing must be set for investigation and evidentiary hearing to resolve disputed factual issues, the hearing process immediately be suspended and a settlement judge appointed to determine whether parties can conclude a successful settlement. The ISO believes that a settlement judge would help parties assess areas of dispute and possibilities for resolution in a more efficient manner than if the parties were left to discuss areas of disagreement among themselves, in parallel with preparations for an evidentiary hearing. Further, the immediate stay of any hearing schedule may result in added efficiency as, in addition to the savings of resources associated with a hearing, unnecessary pre-hearing conferences and rounds of testimony may be avoided.

XIII. SERVICE

Electronic CD-ROM copies of this filing have been served on each ISO Scheduling Coordinator, the California Public Utilities Commission, the California Electricity Commission, and the California Electricity Oversight Board. These electronic copies contain full versions of the filing being submitted to the Commission today.

XIV. CONCLUSION

WHEREFORE, the California Independent System Operator Corporation requests that the Commission accept this Grid Management Charge rate filing, to be effective, and supercede the current rate, on January 1, 2004.

Respectfully submitted,

Charles F. Robinson
General Counsel
Stephen A. S. Morrison
Corporate Counsel
The California Independent System Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630

Kenneth G. Jaffe
Julia Moore
Theodore J. Paradise
Swidler Berlin Shereff Friedman, LLP
3000 K Street, NW – Suite 300
Washington, DC 20007

Counsel for the California Independent System Operator Corporation

California Independent System Operator Corporation
2004 Grid Management Charge

Table of Contents

VOLUME I		
Transmittal Letter		
Table of Contents		
Appendix A – Tariff Sheets (Clean Sheets)		Tab A
Appendix B – Tariff Sheets (Blacklined Sheets)		Tab B
Appendix C – Testimony and Supporting Exhibits		Tab C
Testimony of Barbara R. Barkovich	Exh. No. ISO-1	Tab 1
Chart Showing Breakdown of Functional Categories to Charges	Exh. No. ISO-2	Tab 2
Testimony of Catherine E. Yap	Exh. No. ISO-3	Tab 3
Summary of 2004 ISO Revenue Requirement and 2004 Grid Management Charge Rates	Exh. No. ISO-4	Tab 4
Summary of Cost Allocation Model: Billing Determinant Forecast	Exh. No. ISO-5	Tab 5
Summary of Cost Allocation Model: Detailed Revenue Requirement	Exh. No. ISO-6	Tab 6
Summary of Cost Allocation Model: Functionalization by Cost Center for IS Division	Exh. No. ISO-7	Tab 7
Summary of Cost Allocation Model: Direct Personnel Assignments by Cost Centers for Divisions 1500, 1600, 1700 and Direct Assignments of Temporary/Contract Staff or Consultants	Exh. No. ISO-8	Tab 8
Description of Spread Sheets in Cost Allocation Model / Instructions for Using the Cost Allocation Model	Exh. No. ISO-9	Tab 9
Cost Allocation Model	Exh. No. ISO-10	Tab 10

VOLUME II		
Allocation Background Document: GMC July 9, 2003 White Paper	Exh. No. ISO-11	Tab 11
Allocation Background Document: Cost Assignment Presentation	Exh. No. ISO-12	Tab 12
Allocation Background Document: Functionalization of Activity Groupings for ISO	Exh. No. ISO-13	Tab 13
Allocation Background Document: Listing of Direct Assignment Cost Centers	Exh. No. ISO-14	Tab 14
Allocation Background Document: Labor Assignment Templates	Exh. No. ISO-15	Tab 15
Allocation Background Document: Labor and Contract Assignment Templates	Exh. No. ISO-16	Tab 16
Allocation Background Document: September 12, 2003 Email From Ben Arikawa to Allen Jaschke Regarding Assistance with GMC Unbundling and Related Spreadsheet Template	Exh. No. ISO-17	Tab 17
Allocation Background Document: September 12, 2003 Email From Ben Arikawa to Eric Whitley Regarding Assistance with GMC Unbundling and Related Spreadsheet Template	Exh. No. ISO-18	Tab 18
Allocation Background Document: October 7, 2003 Email From Ben Arikawa to Steve Meinhofer Regarding Assistance with GMC Unbundling and Related Spreadsheet Template	Exh. No. ISO-19	Tab 19
Proposed Changes to ISO Tariff (Clean)	Exh. No. ISO-20	Tab 20
Proposed Changes to ISO Tariff (Blacklined)	Exh. No. ISO-21	Tab 21
Functional Association of Settlement Charge Types and Bill Impacts Presentation – Non-confidential Version	Exh. No. ISO-22	Tab 22
California Energy Commission: California Energy Demand 2003-2013 Forecast	Exh. No. ISO-23	Tab 23
Testimony of Philip R. Leiber	Exh. No. ISO-24	Tab 24

Section 35.13 Cost Statements, Period I	Exh. No. ISO-25	Tab 25
Section 35.13 Cost Statements, Period II	Exh. No. ISO-26	Tab 26
VOLUME III		
2004 Cost Allocation Calculation of Operations and Maintenance Revenue Requirement Spreadsheet	Exh. No. ISO-27	Tab 27
Memorandum from President CEO Terry Winter to ISO Personnel, June 30, 2003	Exh. No. ISO-28	Tab 28
September 25, 2003 Board of Governors Meeting: 2004 Budget Presentation Memorandum Dated September 19, 2003	Exh. No. ISO-29	Tab 29
September 25, 2003 Board of Governors Meeting: Proposed FY 2004 CAISO Budget	Exh. No. ISO-30	Tab 30
September 25, 2003 Board of Governors Meeting: Summary of Proposed FY 2004 Budgets Presentation	Exh. No. ISO-31	Tab 31
October 3, 2003 Public Budget Meeting: Agenda	Exh. No. ISO-32	Tab 32
October 3, 2003 Public Budget Meeting: Attendance	Exh. No. ISO-33	Tab 33
October 3, 2003 Public Budget Meeting: Summary of Proposed FY 2004 CAISO Budget	Exh. No. ISO-34	Tab 34
October 3, 2003 Public Budget Meeting: 2004 Budget Presentation Memorandum Dated September 19, 2003	Exh. No. ISO-35	Tab 35
October 3, 2003 Public Budget Meeting: Proposed FY 2004 CAISO Budget	Exh. No. ISO-36	Tab 36
October 3, 2003 Public Budget Meeting: Summary of Proposed FY 2004 Budgets Presentation	Exh. No. ISO-37	Tab 37
October 3, 2003 Public Budget Meeting: Calculation of Financial and Capital Operating Reserve Credit for 2004	Exh. No. ISO-38	Tab 38
October 3, 2003 Public Budget Meeting: Rate and Budget Summary	Exh. No. ISO-39	Tab 39
VOLUME IV		
October 3, 2003 Public Budget Meeting: Development of	Exh. No. ISO-40	Tab 40

ISO Rates Presentation		
October 3, 2003 Public Budget Meeting: Rate Calculation and Work Papers (Draft and Preliminary)	Exh. No. ISO-41	Tab 41
October 3, 2003 Public Budget Meeting: Questions Submitted by the California Municipal Utilities Association and ISO Responses	Exh. No. ISO-42	Tab 42
October 3, 2003 Public Budget Meeting: Questions submitted by Pacific Gas and Electric Company and ISO Responses	Exh. No. ISO-43	Tab 43
October 15, 2003 Finance Committee Meeting: Summary of and Response to Stakeholder Comments on Proposed ISO 2004 Budget	Exh. No. ISO-44	Tab 44
October 15, 2003 Finance Committee Meeting: California Municipal Utilities Association Comments	Exh. No. ISO-45	Tab 45
October 15, 2003 Finance Committee Meeting: California Department of Water Resources Comments	Exh. No. ISO-46	Tab 46
October 15, 2003 Finance Committee Meeting: Approved Motion for 2004 Budget Approval	Exh. No. ISO-47	Tab 47
October 23, 2003 Board of Governors Meeting: Billing Determinant Update (Draft and Preliminary)	Exh. No. ISO-48	Tab 48
October 23, 2003 Board Presentation Regarding Proposed Budget and GMC Rates	Exh. No. ISO-49	Tab 49
October 23, 2003 Board of Governors Meeting: Budget Vote	Exh. No. ISO-50	Tab 50
VOLUME V		
Testimony of Ben Arikawa	Exh. No. ISO-51	Tab 51
Pre-Stakeholder Process Contacts, June through September, 2002.	Exh. No. ISO-52	Tab 52
Preliminary Issues List for 2003 GMC Stakeholder Process, July 17, 2002 Document	Exh. No. ISO-53	Tab 53
Appendix B to the 2002 GMC Settlement Agreement	Exh. No. ISO-54	Tab 54

July 25, 2002 Market Issues Forum Meeting: 2003 Stakeholder Process Presentation	Exh. No. ISO-55	Tab 55
July 25, 2002 Market Issues Forum Meeting: GMC Study Stakeholder Process Presentation	Exh. No. ISO-56	Tab 56
August 2, 2002 Market Notice Regarding the 2003 Stakeholder GMC Review Process And Requesting Comments	Exh. No. ISO-57	Tab 57
August 2, 2002 Letter From the Law Firm of Duncan Weinberg Genzer and Pembroke on behalf of the Modesto Irrigation District to the ISO	Exh. No. ISO-58	Tab 58
August 9, 2002 Letter from Rod Aoki on Behalf of the Cogeneration Association of California and the Energy Producers and Users Coalition to the ISO	Exh. No. ISO-59	Tab 59
August 16, 2002 Market Notice Regarding the 2003 Stakeholder GMC Review Process Informing Market Participants of Stakeholder Advisory Committee Structure and Requesting Input for Committee Selection	Exh. No. ISO-60	Tab 60
August 16, 2002 Email from Carolyn Kehrein on Behalf of Energy Management Systems to the ISO	Exh. No. ISO-61	Tab 61
August 19, 2002 Email from Lisa Wolfe on behalf of the California Electricity Oversight Board to the ISO	Exh. No. ISO-62	Tab 62
August 19, 2002 Document by Laurence Kirsch – Steps For Allocating Control Area Services Costs to the Billing Determinants Proposed by the Modesto Irrigation District	Exh. No. ISO-63	Tab 63
August 20, 2002 from Katie Kaplan on Behalf of the Independent Energy Producers to the ISO	Exh. No. ISO-64	Tab 64
August 21, 2002 Email from Berton Hansen on Behalf of Southern California Edison, San Diego Gas and Electric Company and Pacific Gas and Electric Company to the ISO	Exh. No. ISO-65	Tab 65
August 21, 2002 Email from Tony Braun on behalf of the California Municipal Utilities Association	Exh. No. ISO-66	Tab 66
August 23, 2002 Market Notice Regarding Stakeholder Conference Call Initiating the GMC Stakeholder Review Project on August 29, 2002	Exh. No. ISO-67	Tab 67

List of Conference Calls and Meetings	Exh. No. ISO-68	Tab 68
August 26, 2002 Market Notice Regarding Stakeholder Conference Call on August 29, 2002 With Proposed Agenda Attached	Exh. No. ISO-69	Tab 69
August 29, 2002 Conference Call: Agenda	Exh. No. ISO-70	Tab 70
August 29, 2002 List of Participants for Stakeholder Conference Call	Exh. No. ISO-71	Tab 71
August 30, 2002 Letter from the Law Firm of Duncan, Weinberg, Genzer, and Pembroke on Behalf of the Modesto Irrigation District to the ISO	Exh. No. ISO-72	Tab 72
September 20, 2002 Memorandum from Laurence Kirsch to Ben Arikawa of the ISO Entitled "A Cookbook for Recovering Control Area Services Costs"	Exh. No. ISO-73	Tab 73
September 23, 2002 Email From Laurence Kirsch to Ben Arikawa Regarding Modesto Irrigation District's Cookbook for Recovering Control Area Services Costs	Exh. No. ISO-74	Tab 74
September 24, 2002 Email from Debi Le Vine to ISO Market Participants Giving Notice of and Providing Details Regarding the October 9, 2002 Stakeholder Meeting	Exh. No. ISO-75	Tab 75
October 9, 2002 Stakeholder Meeting: Agenda	Exh. No. ISO-76	Tab 76
October 9, 2002 Stakeholder Meeting: Draft Project Charter	Exh. No. ISO-77	Tab 77
October 9, 2002 Stakeholder Meeting: Possible Project Tasks Table	Exh. No. ISO-78	Tab 78
October 9, 2002 Stakeholder Meeting: Possible Criteria for Rate Design	Exh. No. ISO-79	Tab 79
October 9, 2002 Stakeholder Meeting: Market Design 2002 Project – Comprehensive Market Design Proposal	Exh. No. ISO-80	Tab 80
October 9, 2002 Stakeholder Meeting: The ABCs of MD02	Exh. No. ISO-81	Tab 81
October 9, 2002 Stakeholder Meeting: FERC Proceedings Relevant to 2004 GMC Stakeholder Process	Exh. No. ISO-82	Tab 82

November 8, 2002 Stakeholder Meeting: Agenda	Exh. No. ISO-83	Tab 83
November 8, 2002 Stakeholder Meeting: Revised Project Charter	Exh. No. ISO-84	Tab 84
November 8, 2002 Stakeholder Meeting: Market Design 2002 Presentation Slides	Exh. No. ISO-85	Tab 85
November 8, 2002 Stakeholder Meeting: Summary of Ratemaking Methods	Exh. No. ISO-86	Tab 86
November 8, 2002 Stakeholder Meeting: Summary Table of Rate Structures for Several ISOs	Exh. No. ISO-87	Tab 87
November 8, 2002 Stakeholder Meeting: Review of Traditional and Marginal Cost of Service Ratemaking Methods	Exh. No. ISO-88	Tab 88
November 8, 2002 Stakeholder Meeting: Review of Testimony of Stephen Pointer, FERC Staff, ISO GMC Rate Deficiencies as a Formula Rate	Exh. No. ISO-89	Tab 89
November 8, 2002 Stakeholder Meeting: Attachment A ISO Cost Centers Table	Exh. No. ISO-90	Tab 90
November 8, 2002 Stakeholder Meeting: Attachment B ISO Cost Center to FERC Uniform System of Accounts Translation for Budget Year 2003	Exh. No. ISO-91	Tab 91
November 8, 2002 Stakeholder Meeting: Attachment C-1 RTO Division of Functional Responsibilities	Exh. No. ISO-92	Tab 92
November 8, 2002 Stakeholder Meeting: Attachment C-2 Draft RTO Functions (from FERC Accounting Working Group)	Exh. No. ISO-93	Tab 93
November 8, 2002 Stakeholder Meeting: Attachment D Example Using ISO Cost Center to ISO Services Matrix with 2003 Budget Data	Exh. No. ISO- 94	Tab 94
November 8, 2002 Stakeholder Meeting: Summary of FERC Staff Testimony – Why the ISO's Current Rate is not a Formula Rate	Exh. No. ISO-95	Tab 95
VOLUME VI		
November 12, 2002 Market Issues Forum ISO Grid	Exh. No. ISO-96	Tab 96

Management Charge Status Report Presentation		
December 4, 2002 Email from Mike McGuffin of the ISO to Jan Pritchard Regarding Data on Deviations for MID Proposal	Exh. No. ISO-97	Tab 97
December 5, 2002 Email from Jan Pritchard on Behalf of MID to Mike McGuffin Regarding Data on Deviations for MID Proposal	Exh. No. ISO-98	Tab 98
December 9, 2002 Stakeholder Meeting: Agenda	Exh. No. ISO-99	Tab 99
December 9, 2002 Stakeholder Meeting: Amended Project Charter	Exh. No. ISO-100	Tab 100
December 9, 2002 Stakeholder Meeting: Briefing – Comparison of ISO Rate Structures Presentation	Exh. No. ISO-101	Tab 101
December 9, 2002 Stakeholder Meeting: Updated Comparison of ISO Rate Structures	Exh. No. ISO-102	Tab 102
December 9, 2002 Stakeholder Meeting: Discussion of List of Data Requirements Presentation	Exh. No. ISO-103	Tab 103
December 9, 2002 Stakeholder Meeting: Preliminary Listing of Billing Determinant Data, Use and Source (Data Needed to Develop Rate Proposals)	Exh. No. ISO-104	Tab 104
December 9, 2002 Stakeholder Meeting: FERC Order in ER02-1656-009 Regarding MD02 Implementation (requested by MID)	Exh. No. ISO-105	Tab 105
December 9, 2002 Stakeholder Meeting: ISO MD02 Presentation before the December 9, 2002 FERC Technical Conference (requested by MID)	Exh. No. ISO-106	Tab 106
December 9, 2002 Stakeholder Meeting: Discussion of Preliminary List of ISO Services Presentation	Exh. No. ISO-107	Tab 107
December 9, 2002 Stakeholder Meeting: Preliminary List of ISO Functions (Groupings of Activities)	Exh. No. ISO-108	Tab 108
December 10, 2002 Email from Stephen Morrison to the Grid Management Charge Working Group Email Distribution List Providing a Statement on Information Availability	Exh. No. ISO-109	Tab 109

December 13, 2002 Conference Call: Memorandum from David Cohen to ISO Regarding Billing Determinant Data	Exh. No. ISO-110	Tab 110
December 17, 2002 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa, Jan Pritchard, and Ross Hemphill Regarding Summarizing Discussion About MID's Data Requirements	Exh. No. ISO-111	Tab 111
December 17, 2002, 11:30 A.M. Email from Ben Arikawa of the ISO to Jan Pritchard, Laurence Kirsch, and Ross Hemphill Regarding Summarizing Discussion About MID's Data Requirements	Exh. No. ISO-112	Tab 112
December 17, 2002, 2:06 P.M. Email from Ben Arikawa of the ISO to Laurence Kirsch, Ben Arikawa, Jan Pritchard, and Ross Hemphill Regarding Summarizing Discussion About MID's Data Requirements	Exh. No. ISO-113	Tab 113
December 17, 2002, 2:46 P.M. Email from Ben Arikawa of the ISO to Laurence Kirsch, Ross Hemphill, and Jan Pritchard Regarding Data Requirements Revised Including MID Requirements	Exh. No. ISO-114	Tab 114
December 19, 2002 Email from Ross Hemphill on Behalf of MID to Ben Arikawa Regarding a Memorandum Concerning the GMC Cost of Service and Ratemaking Process	Exh. No. ISO-115	Tab 115
December 19, 2002 Email from Jan Pritchard on Behalf of MID to Ben Arikawa Regarding a Memorandum Concerning the GMC Cost of Service and Ratemaking Process	Exh. No. ISO-116	Tab 116
December 19, 2002 Email from Ben Arikawa of the ISO to Ross Hemphill Regarding November 8th GMC Presentations	Exh. No. ISO-117	Tab 117
December 19, 2002 Email from Ben Arikawa of the ISO to Ross Hemphill Regarding October 9, 2002 Presentation	Exh. No. ISO-118	Tab 118
December 19, 2002 Email from Stephen Morrison to Grid Management Charge Electronic Distribution List Regarding a Draft Non-Disclosure Agreement	Exh. No. ISO-119	Tab 119
December 20, 2002 Email from Lisa Wolfe on Behalf of the California Electricity Oversight Board to Stephen Morrison and the Grid Management Charge Working	Exh. No. ISO-120	Tab 120

Group Electronic Distribution List Regarding the Draft Non-Disclosure Agreement		
December 23, 2002 Email from Lisa Wolfe on Behalf of the California Electricity Oversight Board to Stephen Morrison and the Grid Management Charge Working Group Electronic Distribution List Regarding the Draft Non-Disclosure Agreement	Exh. No. ISO-121	Tab 121
December 23, 2002 Conference Call: 2003 GMC Cost Allocation Matrix	Exh. No. ISO-122	Tab 122
December 23, 2002 Conference Call: Draft Non-Disclosure Agreement	Exh. No. ISO-123	Tab 123
December 23, 2002 Conference Call: Proposed Functions (Services) Mapped to Modesto Irrigation District Proposal **[need to reprint]**	Exh. No. ISO-124	Tab 124
December 23, 2002 Conference Call: Preliminary Grouping of Activities For ISO GMC Rate Structure, December 16, 2002 Version	Exh. No. ISO-125	Tab 125
December 23, 2002 Conference Call: Preliminary Grouping of Activities for ISO GMC Rate Structure, December 19, 2002 Version With Cost Centers	Exh. No. ISO-126	Tab 126
January 6, 2003 Email from Ross Hemphill on Behalf of MID to Ben Arikawa Regarding Cost of Service Information	Exh. No. ISO-127	Tab 127
January 8, 2003 Market Notice Email to all ISO Market Participants Regarding January 13, 2003 Stakeholder Meeting	Exh. No. ISO-128	Tab 128
January 13, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-129	Tab 129
January 13, 2003 Stakeholder Meeting: Participant List	Exh. No. ISO-130	Tab 130
January 13, 2003 Stakeholder Meeting: Summary of ISO-NE Rate Structure with Attachments (prepared by David Cohen, Navigant Consulting) Part One: ISO New England Rate Design Test Year 2003	Exh. No. ISO-131	Tab 131
January 13, 2003 Stakeholder Meeting: Summary of ISO-NE Rate Structure with Attachments (prepared by David Cohen, Navigant Consulting) Part Two: Billing	Exh. No. ISO-132	Tab 132

Determinants Under SMD for the ISO New England Tariff		
January 13, 2003 Stakeholder Meeting: Summary of ISO-NE Rate Structure with Attachments (prepared by David Cohen, Navigant Consulting) Part Three: ISO-New England Summary of Methods in the 2003 Administrative Cost Recovery	Exh. No. ISO-133	Tab 133
January 13, 2003 Stakeholder Meeting: Functionalization of California ISO Costs (Memorandum from MID Consultants to ISO)	Exh. No. ISO-134	Tab 134
January 13, 2003 Stakeholder Meeting: Organization of Cost of Service Information (Memorandum from MID Consultants to ISO)	Exh. No. ISO-135	Tab 135
January 13, 2003 Stakeholder Meeting: Existing Transmission Contracts Workload Overview	Exh. No. ISO-136	Tab 136
January 13, 2003 Stakeholder Meeting: Final Version of Confidentiality Agreement	Exh. No. ISO-137	Tab 137
January 13, 2003 Stakeholder Meeting: Discussion of Functionalization into ISO Services	Exh. No. ISO-138	Tab 138
January 13, 2003 Stakeholder Meeting: Preliminary Listing of Billing Determinant Data	Exh. No. ISO-139	Tab 139
January 13, 2003 Stakeholder Meeting: List of Outstanding Items From January 13 Meeting	Exh. No. ISO-140	Tab 140
January 13, 2003 – Market Issues Forum ISO Grid Management Charge Status Report Presentation	Exh. No. ISO-141	Tab 141
January 16, 2003 Conference Call: Email Dated January 15, 2003 Regarding January 16 Call Concerning MID Issues	Exh. No. ISO-142	Tab 142
January 16, 2003 Conference Call: Notes on January 16 Call	Exh. No. ISO-143	Tab 143
January 16, 2003 Email from Jan Pritchard on Behalf of MID to Ben Arikawa, Phil Leiber, Laurence Kirsch and Ross Hemphill Regarding Results of Conference Call with MID Concerning MID Proposal	Exh. No. ISO-144	Tab 144
January 16, 2003 Email from Phil Leiber of the ISO to Jan Pritchard, Laurence Kirsch, Ross Hemphill, and Sean Neal	Exh. No. ISO-145	Tab 145

Regarding Results of Conference Call with MID Concerning MID Proposal		
January 16, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard, Laurence Kirsch, and Ross Hemphill	Exh. No. ISO-146	Tab 146
January 16, 2003 Market Notice Email to All ISO Market Participants Regarding the Release of SC Data	Exh. No. ISO-147	Tab 147
January 21, 2003 Email from Jan Pritchard on Behalf of MID to Ben Arikawa Regarding Agenda	Exh. No. ISO-148	Tab 148
January 22, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard, Ross Hemphill, and Laurence Kirsch Regarding Agenda for the January 23, 2003 MID/ISO Conference Call	Exh. No. ISO-149	Tab 149
January 23, 2003 Conference Call: Agenda	Exh. No. ISO-150	Tab 150
January 23, 2003 Conference Call: Memorandum Dated January 21, 2003 From Ross Hemphill and Laurence Kirsch on Behalf of MID to the ISO Regarding Wholesale Customer Rate Functions	Exh. No. ISO-151	Tab 151
January 23, 2003 Conference Call: Notes on the January 23 Call	Exh. No. ISO-152	Tab 152
January 23, 2003 Email from Phil Leiber of the ISO to Jan Pritchard, Ross Hemphill, Laurence Kirsch, and Sean Neal Regarding ISO Resources for Cost Allocation Exercise	Exh. No. ISO-153	Tab 153
January 24, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard, Ross Hemphill, and Laurence Kirsch Regarding MID Conference Call Notes	Exh. No. ISO-154	Tab 154
January 27, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding Edits to 1/23 Meeting Notes	Exh. No. ISO-155	Tab 155
January 27, 2003 Final Version of the Grid Management Rate Structure Project Charter	Exh. No. ISO-156	Tab 156
January 28, 2003 Email from Ben Arikawa to Laurence Kirsch, Ross Hemphill, and Jan Pritchard Regarding Information Supporting Cost Allocations of Bond Funded Capital Expenditures	Exh. No. ISO-157	Tab 157

January 29, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding Conference Call Information and Other 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-158	Tab 158
January 29, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa, Jan Pritchard, and Ross Hemphill Regarding Preliminary Functional Assignments	Exh. No. ISO-159	Tab 159
January 29, 2003 Email from Ross Hemphill on Behalf of MID to Ben Arikawa Regarding the Agenda for the January 30, 2003 Conference Call	Exh. No. ISO-160	Tab 160
January 30, 2003 Email from Ross Hemphill on Behalf of MID to Ben Arikawa Regarding Available Time	Exh. No. ISO-161	Tab 161
January 30, 2003 Conference Call: Email Dated January 24, 2003 Regarding January 30, 2003 Conference Call Concerning MID Issues	Exh. No. ISO-162	Tab 162
January 30, 2003 Conference Call: Memorandum Dated January 28, 2003 From Ross Hemphill and Laurence Kirsch on Behalf of MID to the ISO Regarding Preliminary Functional Assignments	Exh. No. ISO-163	Tab 163
January 30, 2003 Conference Call: Spreadsheet from MID Regarding Preliminary Functional Assignments	Exh. No. ISO-164	Tab 164
January 30, 2003 Conference Call: Notes on January 30 Call	Exh. No. ISO-165	Tab 165
January 31, 2003 Email from Ben Arikawa of the ISO to Ross Hemphill, Laurence Kirsch, and Jan Pritchard Regarding Draft Meeting Notes From January 30, 2001 Conference Call	Exh. No. ISO-166	Tab 166
January 31, 2003 Email from Ross Hemphill on Behalf of MID to Ben Arikawa Regarding Modifications to Memo	Exh. No. ISO-167	Tab 167
January 31, 2003 Memorandum from Ben Arikawa to ISO Regarding a Request To Directors and Managers to Assist MID	Exh. No. ISO-168	Tab 168
February 3, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa and David Hawkins Regarding an Updated Spreadsheet	Exh. No. ISO-169	Tab 169

February 3, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa, Jan Pritchard, and Ross Hemphill Regarding an Updated Spreadsheet	Exh. No. ISO-170	Tab 170
February 3, 2003 Email from Ben Arikawa of the ISO to Laurence Kirsch, Ben Arikawa, and David Hawkins Regarding an Updated Spreadsheet	Exh. No. ISO-171	Tab 171
February 3, 2003 Email from Phil Leiber of the ISO to Ross Hemphill, Laurence Kirsch, and Jan Pritchard Regarding Price Waterhouse Coopers Operational Audit	Exh. No. ISO-172	Tab 172
February 4, 2003 Email from Philip Leiber of the ISO to Laurence Kirsch, Ross Hemphill, Jan Pritchard, and Sean Neal Regarding Additional Capital Cost Information Related to Development of MID's Proposal	Exh. No. ISO-173	Tab 173
February 4, 2003 Email from Philip Leiber to the GMC Working Group Electronic Distribution List Regarding the Results of a Conference Call With MID and the Next Conference Call	Exh. No. ISO-174	Tab 174
February 5, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding Assignment Spreadsheet Update 030205	Exh. No. ISO-175	Tab 175
February 5, 2003 Email from Ben Arikawa at the ISO to Jan Prichard, Ross Hemphill, and Laurence Kirsch Regarding Written Document Concerning Statement BA for Posting on the ISO Website	Exh. No. ISO-176	Tab 176
VOLUME VII		
February 6, 2003 Market Notice Email to all ISO Market Participants Regarding February 19, 2003 Stakeholder Meeting	Exh. No. ISO-177	Tab 177
February 7, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Issues	Exh. No. ISO-178	Tab 178
February 10, 2003 Email From Laurence Kirsch on Behalf of MID to Debi Le Vine at the ISO Regarding Department 1731	Exh. No. ISO-179	Tab 179
February 12, 2003 Email From Ben Arikawa of the ISO to	Exh. No. ISO-180	Tab 180

Laurence Kirsch Regarding Revised CAM and Cost Center 1424/1441 Detail		
February 14, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure and Related Items	Exh. No. ISO-181	Tab 181
February 18, 2003 Email from Ben Arikawa of the ISO to Laurence Kirsch Regarding a Power Point Presentation from Laurence Kirsch	Exh. No. ISO-182	Tab 182
February 19, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-183	Tab 183
February 19, 2003 Stakeholder Meeting: Conceptual Proposal of Southern California Edison Company	Exh. No. ISO-184	Tab 184
February 19, 2003 Stakeholder Meeting: Modesto Irrigation District's Initial Conceptual Proposal for ISO Rate Structure: Progress in Quantifying Modesto's GMC Proposal.	Exh. No. ISO-185	Tab 185
February 19, 2003 Stakeholder Meeting: Memorandum from David Cohen of Navigant Consulting Dated February 10, 2003 to the ISO Regarding the ISO's Indirect Costs	Exh. No. ISO-186	Tab 186
February 19, 2003 Stakeholder Meeting: California ISO Conceptual Rate Proposal	Exh. No. ISO-187	Tab 187
February 19, 2003 Stakeholder Meeting: MD02 and ETC Information Prepared by the ISO Dated February 12, 2003	Exh. No. ISO-188	Tab 188
February 19, 2003 Stakeholder Meeting: GMC Tool Prototype	Exh. No. ISO-189	Tab 189
February 19, 2003 Stakeholder Meeting: Preliminary Listing of Billing Determinant Data, Use and Source – Updated February 7, 2003 Version	Exh. No. ISO-190	Tab 190
February 19, 2003 Stakeholder Meeting: Preliminary Groupings of Activities – February 14, 2003 Version	Exh. No. ISO-191	Tab 191
February 19, 2003 Stakeholder Meeting: Preliminary Listing of Billing Determinant Data, Use and Source – Updated February 14, 2003 Version	Exh. No. ISO-192	Tab 192
February 19, 2003 Stakeholder Meeting: Preliminary	Exh. No. ISO-193	Tab 193

Mapping SC IDs to Customer Classes		
February 19, 2003 Stakeholder Meeting: Comments of CDWR to the ISO Regarding Preliminary Listing of Customer Classes	Exh. No. ISO-194	Tab 194
February 19, 2003 Stakeholder Meeting: Budget Tool	Exh. No. ISO-195	Tab 195
February 19, 2003 Stakeholder Meeting: Budget Tool Template Additional Detail: Insurance	Exh. No. ISO-196	Tab 196
February 19, 2003 Stakeholder Meeting: Budget Tool Template Additional Detail: Salary Allocation	Exh. No. ISO-197	Tab 197
February 19, 2003 Stakeholder Meeting: Budget Tool Template Additional Detail: Salary Tasks	Exh. No. ISO-198	Tab 198
February 19, 2003 Stakeholder Meeting: Budget Tool Template Additional Detail: Bank Fees	Exh. No. ISO-199	Tab 199
February 19, 2003 Stakeholder Meeting: Memorandum Regarding Assignment of ISO Indirect Costs (Prepared by David Cohen, Navigant Consulting)	Exh. No. ISO-200	Tab 200
February 19, 2003 Stakeholder Meeting: List of Documents Provided under the Non-Disclosure Agreement to Date	Exh. No. ISO-201	Tab 201
February 19, 2003 Stakeholder Meeting: CDWR-SWP Summary of Position in 2004 GMC Rate Structure Project	Exh. No. ISO-202	Tab 202
February 19, 2003 Stakeholder Meeting: Contact and Attendance List	Exh. No. ISO-203	Tab 203
February 19, 2003 Stakeholder Meeting: Web Postings	Exh. No. ISO-204	Tab 204
February 19, 2003 Stakeholder Meeting: Notes of February 19, 2003 Stakeholder Meeting	Exh. No. ISO-205	Tab 205
February 21, 2003 Email from Ben Arikawa of the ISO to Sean Neal Regarding the ISO's GMC Web Page and Confidential Documents	Exh. No. ISO-206	Tab 206
February 21, 2003 Email from Sean Neal on behalf of MID to Ben Arikawa Regarding the ISO's GMC Web Page and Confidential Documents	Exh. No. ISO-207	Tab 207

March 4, 2003 Conference Call: Agenda	Exh. No. ISO-208	Tab 208
March 4, 2003 Conference Call: Comments on GMC Rate by Bert Hansen on Behalf of Southern California Edison Dated February 21, 2003.	Exh. No. ISO-209	Tab 209
March 4, 2003 Conference Call: Memorandum from Ross Hemphill and Laurence Kirsch on behalf of MID Dated to March 3, 2003 to the ISO Regarding the Rate Design of the ISO's GMC	Exh. No. ISO-210	Tab 210
March 4, 2003 Conference Call: List of Conference Call Participants	Exh. No. ISO-211	Tab 211
March 4, 2003 Conference Call: Contact List	Exh. No. ISO-212	Tab 212
March 4, 2003 Conference Call: Notes on March 4, 2003 Call	Exh. No. ISO-213	Tab 213
March 7, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure and Related Items	Exh. No. ISO-214	Tab 214
March 12, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard and Ben Arikawa Regarding Market Issues Forum Presentation	Exh. No. ISO-215	Tab 215
March 13, 2003 Market Issues Forum ISO Grid Management Charge Status Report Presentation	Exh. No. ISO-216	Tab 216
March 17, 2003 Conference Call: Conference Call Agenda	Exh. No. ISO-217	Tab 217
March 17, 2003 Conference Call: Memorandum Regarding Assignment of ISO Indirect Costs (Prepared by David Cohen, Navigant Consulting)	Exh. No. ISO-218	Tab 218
March 17, 2003 Conference Call: ISO Conceptual Rate Structure	Exh. No. ISO-219	Tab 219
March 17, 2003 Conference Call: Modesto Irrigation District's Rate Design for the ISO's GMC	Exh. No. ISO-220	Tab 220
March 17, 2003 Conference Call: Notes on Conference Call	Exh. No. ISO-221	Tab 221
April 2, 2003 Conference Call: Conference Call Agenda	Exh. No. ISO-222	Tab 222

and Notes on April 2, 2003 Call		
April 2, 2003 Conference Call: Email from Berton Hanen Dated April 1, 2003 Clarifying the Dynamic Dispatch Export Service on behalf of Southern California Edison	Exh. No. ISO-223	Tab 223
April 3, 2003 Market Notice Email to all ISO Market Participants Regarding April 11, 2003 Stakeholder Meeting	Exh. No. ISO-224	Tab 224
April 4, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-225	Tab 225
April 7, 2003 Email from Ben Arikawa to Internal ISO Staff Regarding Providing Assistance to Southern California Edison on the GMC Rate Structure Project	Exh. No. ISO-226	Tab 226
April 7, 2003 Email From Ben Arikawa to Bert Hansen at Southern California Edison Regarding Contact List	Exh. No. ISO-227	Tab 227
April 7, 2003 Contact List for Southern California Edison For Assistance In Developing Their Rate Proposal in the 2004 GMC Rate Structure Project	Exh. No. ISO-228	Tab 228
April 9, 2003 Email from Ben Arikawa to Bert Hansen at Southern California Edison Providing Contact Information for ISO Staff	Exh. No. ISO-229	Tab 229
April 11, 2003 Stakeholder Meeting: Market Notice Dated April 3, 2003 Regarding April 11 Meeting	Exh. No. ISO-230	Tab 230
April 11, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-231	Tab 231
April 11, 2003 Stakeholder Meeting: White Paper – California ISO Rate Structure Proposal	Exh. No. ISO-232	Tab 232
April 11 2003 Stakeholder Meeting: Appendix A to ISO White Paper – Functionalization with Cost Centers and Activities	Exh. No. ISO-233	Tab 233
April 11, 2003 Stakeholder Meeting: Appendix B to the ISO White Paper – Comparison of ISO Rate Structures	Exh. No. ISO-234	Tab 234
April 11, 2003 Stakeholder Meeting: Update on MID Rate Proposal	Exh. No. ISO-235	Tab 235

April 11, 2003 Stakeholder Meeting: CPUC / EOB Comments on CAISO GMC Proposal	Exh. No. ISO-236	Tab 236
April 11, 2003 Stakeholder Meeting: Presentation on ISO Rate Structure Proposal	Exh. No. ISO-237	Tab 237
April 11, 2003 Stakeholder Meeting: List of Outstanding Issues	Exh. No. ISO-238	Tab 238
April 11, 2003 Stakeholder Meeting: Notes on April 11, 2003 Meeting	Exh. No. ISO-239	Tab 239
April 15, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding Information Issues	Exh. No. ISO-240	Tab 240
April 15, 2003 Email from Phil Leiber of the ISO to Laurence Kirsch Regarding Information Issues	Exh. No. ISO-241	Tab 241
April 21, 2003 Email from Berton Hansen on Behalf of SCE to the ISO and Attached Documents Showing SCE Proposal Proposed Rates and Direct Assignments	Exh. No. ISO-242	Tab 242
April 21, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa at the ISO Regarding Requested Documents	Exh. No. ISO-243	Tab 243
April 21, 2003 Market Notice Email to All ISO Market Participants Regarding the Release of SC Data	Exh. No. ISO-244	Tab 244
April 23, 2003 Email from Jan Pritchard on Behalf of MID to Ben Arikawa Regarding Example Rate Calculation	Exh. No. ISO-245	Tab 245
April 23, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard and Laurence Kirsch Regarding Updated Billing Determinants	Exh. No. ISO-246	Tab 246
April 24, 2003 Email from Phil Leiber of the ISO to Laurence Kirsch Regarding MID Numbers	Exh. No. ISO-247	Tab 247
April 24, 2003 Email from Laurence Kirsch on Behalf of MID to Phil Leiber Regarding MID Numbers	Exh. No. ISO-248	Tab 248
April 24, 2003 Email From Phil Leiber of the ISO to Mike McGuffin Regarding MID Numbers	Exh. No. ISO-249	Tab 249
April 24, 2003 Email from Mike McGuffin of the ISO to Laurence Kirsch and Phil Leiber Regarding MID Numbers	Exh. No. ISO-250	Tab 250

April 24, 2003 Email from Laurence Kirsch on Behalf of MID to Mike McGuffin Regarding MID Numbers	Exh. No. ISO-251	Tab 251
April 24, 2003 Email from Laurence Kirsch on Behalf of MID to Phil Leiber Regarding MID Numbers	Exh. No. ISO-252	Tab 252
April 24, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding MID Rate Design Paper and Presentation	Exh. No. ISO-253	Tab 253
April 25, 2003 Email from Phil Leiber to Laurence Kirsch Regarding MID Numbers	Exh. No. ISO-254	Tab 254
April 25, 2003 Email from Ben Arikawa of the ISO to Ross Hemphill Regarding ISO Bill Impacts Analysis for the ISO Proposal	Exh. No. ISO-255	Tab 255
April 28, 2003 Email from Ben Arikawa of the ISO to Laurence Kirsch Regarding a Requested Spreadsheet	Exh. No. ISO-256	Tab 256
April 28, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-257	Tab 257
April 28, 2003 Stakeholder Meeting: Further Update on MID's GMC Proposal	Exh. No. ISO-258	Tab 258
April 28, 2003 Stakeholder Meeting: Memorandum from Ross Hemphill and Laurence Kirsch on behalf of MID Dated April 24, 2003 to the ISO Regarding Rate Design of the ISO's GMC	Exh. No. ISO-259	Tab 259
April 28, 2003 Stakeholder Meeting: Rates under SCE Rate Proposal	Exh. No. ISO-260	Tab 260
April 28, 2003 Stakeholder Meeting: Presentation Regarding Components of Rates Under the California ISO Rate Proposal	Exh. No. ISO-261	Tab 261
April 28, 2003 Stakeholder Meeting: Presentation Regarding Customer Service Cost Recovery Options	Exh. No. ISO-262	Tab 262
April 28, 2003 Stakeholder Meeting: Presentation Regarding Example Rate Calculation	Exh. No. ISO-263	Tab 263
April 28, 2003 Stakeholder Meeting: Notice Regarding the Release of SC Date in Conjunction with the GMC Stakeholder Rate Structure Project	Exh. No. ISO-264	Tab 264

April 28, 2003 Stakeholder Meeting: Meeting Notes	Exh. No. ISO-265	Tab 265
VOLUME VIII		
April 29, 2003 Email from Laurence Kirsch on Behalf of MID to Mike McGuffin of the ISO Regarding Access Database	Exh. No. ISO-266	Tab 266
May 2, 2003 Email from Mike McGuffin of the ISO to Ben Arikawa, Ross Hemphill, Laurence Kirsch, and Jan Pritchard Regarding Net Uninstructed Energy Database	Exh. No. ISO-267	Tab 267
May 5, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-268	Tab 268
May 6, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding Questions About Billing Determinant Data	Exh. No. ISO-269	Tab 269
May 7, 2003 Conference Call: Agenda	Exh. No. ISO- 270	Tab 270
May 7, 2003 Conference Call: Notes of May 7, 2003 Call	Exh. No. ISO-271	Tab 271
May 7, 2003 Email from Phil Leiber of the ISO to Laurence Kirsch Regarding a Question About Billing Determinant Data; Also Included Is an Email Dated May 6, 2003 From Laurence Kirsch on Behalf of MID to Ben Arikawa at the ISO Regarding the Same Question About Billing Determinant Data	Exh. No. ISO-272	Tab 272
May 8, 2003 Market Issues Forum ISO Grid Management Charge Status Report Presentation	Exh. No. ISO-273	Tab 273
May 12, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-274	Tab 274
May 12, 2003 Stakeholder Meeting: MID Rate Proposal Update	Exh. No-ISO-275	Tab 275
May 12, 2003 Stakeholder Meeting: ISO Rate Proposal Update	Exh. No. ISO-276	Tab 276
May 12, 2003 Stakeholder Meeting: Example Rate Calculation Under the ISO Proposal	Exh. No. ISO-277	Tab 277
May 12, 2003 Stakeholder Meeting: Rates for 12 NCP, 12	Exh. No. ISO-278	Tab 278

CP and Mohave Under the ISO Rate Proposal		
May 12, 2003 Stakeholder Meeting: Notes of the May 12, 2003 Meeting	Exh. No. ISO-279	Tab 279
May 14, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-280	Tab 280
May 19, 2003 Email from Ben Arikawa of the ISO to Laurence Kirsch Regarding Uninstructed Energy Tiers and Scheduling Certification	Exh. No. ISO-281	Tab 281
May 19, 2003 Email from Ben Arikawa of the ISO to Laurence Kirsch	Exh. No. ISO-282	Tab 282
May 28, 2003 Conference Call: Agenda	Exh. No. ISO-283	Tab 283
May 28, 2003 Conference Call: Comparison of Rate Proposals	Exh. No. ISO-284	Tab 284
May 28, 2003 Conference Call: Qualifying Facility Bill Impact Comparison	Exh. No. ISO-285	Tab 285
May 28, 2003 Conference Call: Preliminary Bill Impacts Presentation	Exh. No. ISO-286	Tab 286
May 28, 2003 Conference Call: Assessment of Rate Impact With Functional Association of Customer Service Revenues Based on Charge-Type Analysis	Exh. No. ISO-287	Tab 287
May 28, 2003 Conference Call: Proposed Notes on May 28 Call with Laurence Kirsch Edits	Exh. No. ISO-288	Tab 288
May 28, 2003 Conference Call: Notes on May 28, 2003 Call	Exh. No. ISO-289	Tab 289
May 29, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding the Updated Modesto Rate Design Proposal	Exh. No. ISO-290	Tab 290
May 29, 2003 California Public Utilities Commission Submission of Customer Classifications	Exh. No. ISO-291	Tab 291
June 4, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-292	Tab 292

June 4, 2003 Stakeholder Meeting: MID Rate Proposal Update	Exh. No. ISO-293	Tab 293
June 4, 2003 Stakeholder Meeting: ISO Rate Proposal Update	Exh. No. ISO-294	Tab 294
June 4, 2003 Stakeholder Meeting: Presentation Regarding Cost Assignment Methodology	Exh. No. ISO-295	Tab 295
June 4, 2003 Stakeholder Meeting: Preliminary Review of GMC Settlement Appendix B Issues	Exh. No. ISO-296	Tab 296
June 4, 2003 Stakeholder Meeting: Preliminary Issues List From Appendix B of the 2002 GMC Settlement – Table With Resolution Comments	Exh. No. ISO-297	Tab 297
June 4, 2003 Stakeholder Meeting: Initial Review of Billing Determinant Stability	Exh. No. ISO-298	Tab 298
June 4, 2003 Stakeholder Meeting: Comparison of Rate Proposals (as of June 4, 2003)	Exh. No. ISO-299	Tab 299
June 4, 2003 Stakeholder Meeting: Preliminary Analysis of Bill Impacts	Exh. No. ISO-300	Tab 300
June 4, 2003 Stakeholder Meeting: Notes to the June 4, 2003 Stakeholder Meeting	Exh. No. ISO-301	Tab 301
June 6, 2003 Email from Laurence Kisrch on Behalf of MID to Ben Arikawa Regarding a Standing Information Request	Exh. No. ISO-302	Tab 302
June 6, 2003 Memorandum from Laurence Kirsch and Ross Hemphill to Ben Arikawa Regarding a Standing Information Request for Any and All Data the ISO is Using or Might Use When Converting Its Current GMC Proposal from the Use of Historical to Prospective Data	Exh. No. ISO-303	Tab 303
June 6, 2003 ISO Status Report Presentation to the Board of Governors Regarding the Grid Management Charge Rate Structure Project	Exh. No. ISO-304	Tab 304
June 16, 2003 Conference Call: Agenda	Exh. No. ISO-305	Tab 305
June 16, 2003 Conference Call: Notes on the June 16, 2003 Call Including Participant List	Exh. No. ISO-306	Tab 306

June 19, 2003 Market Issues Forum ISO Grid Management Charge Status Report Presentation	Exh. No. ISO-307	Tab 307
June 20, 2003 ISO Memorandum From William J. Regan, Deborah Le Vine, and Philip Leiber to the Board of Governors Regarding Ratemaking and the History of the Grid Management Charge	Exh. No. ISO-308	Tab 308
June 20, 2003 Attachment A to ISO Memorandum Regarding Rulemaking and the History of the Grid Management Charge – Summary of a Cost-of-Service Study and its Use to Allocate and Recover Costs	Exh. No. ISO-309	Tab 309
June 24, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard Regarding Board Contact List	Exh. No. ISO-310	Tab 310
June 24, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard Regarding Additional Contact Information	Exh. No. ISO-311	Tab 311
June 26, 2003 ISO Presentation to the Board of Governors Regarding the History of the GMC and the Structure and Schedule of the Rate Structure Project	Exh. No. ISO-312	Tab 312
June 27, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-313	Tab 313
June 30, 2003 Stakeholder Meeting: Agenda	Exh. No. ISO-314	Tab 314
June 30, 2003 Stakeholder Meeting: Draft ISO GMC White Paper	Exh. No. ISO-315	Tab 315
June 30, 2003 Stakeholder Meeting: Appendix A to Draft ISO GMC White Paper – Functionalization an Activities	Exh. No. ISO-316	Tab 316
June 30, 2003 Stakeholder Meeting: Appendix B to Draft ISO GMC White Paper – Comparison of ISO Rate Structure Proposal to Rate Structures of Other ISO/RTOs	Exh. No. ISO-317	Tab 317
June 30, 2003 Stakeholder Meeting: Appendix C to Draft ISO GMC White Paper – Functional Association of Charge Types	Exh. No. ISO-318	Tab 318
June 30, 2003 Stakeholder Meeting: ISO Presentation Regarding Stability of Billing Determinants	Exh. No. ISO-319	Tab 319

June 30, 2003 Stakeholder Meeting: Barkovich and Yap Presentation Regarding Cost Assignment Methodology	Exh. No. ISO-320	Tab 320
June 30, 2003 Stakeholder Meeting: Southern California Edison GMC Proposal Update	Exh. No. ISO-321	Tab 321
June 30, 2003 Stakeholder Meeting: San Diego Gas and Electric Company's White Paper on the 2004 GMC Proposal	Exh. No. ISO-322	Tab 322
June 30, 2003 Stakeholder Meeting: Notes on the June 30, 2003 Meeting Including Participant List	Exh. No. ISO-323	Tab 323
July 3, 2003 Email from Ben Arikawa of the ISO to Jan Pritchard, Ross Hemphill, and Laurence Kirsch Regarding Updated Aggregated Data	Exh. No. ISO-324	Tab 324
July 7, 2003 Conference Call: Agenda and Notes	Exh. No. ISO-325	Tab 325
July 16, 2003 Market Issues Forum ISO Grid Management Charge Status Report Presentation	Exh. No. ISO-326	Tab 326
July 17, 2003 Finance Committee Meeting: San Diego Gas & Electric White Paper	Exh. No. ISO-327	Tab 327
July 17, 2003 Finance Committee Meeting: GMC Rate Structure Evaluation – Introduction Presentation	Exh. No. ISO-328	Tab 328
July 17, 2003 Finance Committee Meeting: ISO Staff GMC Cover Memorandum	Exh. No. ISO-329	Tab 329
July 17, 2003 Finance Committee Meeting: Appendix 1 to the ISO Staff GMC Memorandum – Project Charter	Exh. No. ISO-330	Tab 330
July 17, 2003 Finance Committee Meeting: Appendix 2 to the ISO Staff GMC Memorandum – Participants in the Stakeholder Process	Exh. No. ISO-331	Tab 331
July 17, 2003 Finance Committee Meeting: Appendix 3a to the ISO Staff GMC Memorandum – Summary of Proposed Functionalization and Comparison to Current GMC Structure	Exh. No. ISO-332	Tab 332
July 17, 2003 Finance Committee Meeting: Appendix 3b – Rate Proposal Overviews	Exh. No. ISO-333	Tab 333
July 17, 2003 Finance Committee Meeting: Appendix 4 to	Exh. No. ISO-334	Tab 334

the ISO Staff GMC Memorandum – GMC White Paper		
VOLUME IX		
July 17, 2003 Finance Committee Meeting: Appendix 4, Attachment A to the ISO Staff GMC Memorandum – Functionalization of Activity Groupings for ISO Rate Structure	Exh. No. ISO-335	Tab 335
July 17, 2003 Finance Committee Meeting: Appendix 4, Attachment B to the ISO Staff GMC Memorandum – Comparison of California ISO Rate Structure Proposal to Rate Structures of Other ISOs/RTOs	Exh. No. ISO-336	Tab 336
July 17, 2003 Finance Committee Meeting: Appendix 5 to the ISO Staff GMC Memorandum – MID Proposal Document	Exh. No. ISO-337	Tab 337
July 17, 2003 Finance Committee Meeting: Appendix 6a to the ISO Staff GMC Memorandum – SCE GMC Proposal Update	Exh. No. ISO-338	Tab 338
July 17, 2003 Finance Committee Meeting: Appendix 6b to the ISO Staff GMC Memorandum – Conceptual Proposal of Southern California Edison	Exh. No. ISO-339	Tab 339
July 17, 2003 Finance Committee Meeting: Appendix 6c to the ISO Staff GMC Memorandum – GMC Proposal of Southern California Edison	Exh. No. ISO-340	Tab 340
July 17, 2003 Finance Committee Meeting: Appendix 7 – Identification of Potentially Unstable Billing Determinants and the Potential for ISO Cost Under-Recovery	Exh. No. ISO-341	Tab 341
July 17, 2003 Finance Committee Meeting: Appendix 8 – Commentary on Project Charter Objectives / Goals	Exh. No. ISO-342	Tab 342
July 17, 2003 Finance Committee Meeting: SCE GMC Proposal Presentation	Exh. No. ISO-343	Tab 343
July 17, 2003 Finance Committee Meeting: ISO Staff GMC Proposal Presentation	Exh. No. ISO-344	Tab 344
July 17, 2003 Finance Committee Meeting: California Department of Water Resources, State Water Project Position Paper on the ISO's 2004 GMC Rate Structure Proposal	Exh. No. ISO-345	Tab 345

July 17, 2003 Finance Committee Meeting: California Department of Water Resources, State Water Project Grid Management Charge Rate Structure Proposal	Exh. No. ISO-346	Tab 346
July 17, 2003 Finance Committee Meeting: San Diego Gas & Electric Slide Regarding APS/IID Southwest Powerlink Schedules	Exh. No. ISO-347	Tab 347
July 17, 2003 Finance Committee Meeting: San Diego Gas & Electric Slide of Southwest Powerlink System	Exh. No. ISO-348	Tab 348
July 17, 2003 Finance Committee Meeting: San Diego Gas & Electric Slide Showing Map of Southern California and Southwest Powerlink Lines	Exh. No. ISO-349	Tab 349
July 21, 2003 ISO Briefing Notes Memorandum: Memorandum from Ben Arikawa to Participants in 2004 GMC Rate Structure Project Regarding 2004 GMC Rate Structure Project Related Items	Exh. No. ISO-350	Tab 350
July 21, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa at the ISO Regarding Email Addresses for the ISO Board of Governors	Exh. No. ISO-351	Tab 351
July 22, 2003 Email from Laurence Kirsch on Behalf of MID to Ben Arikawa Regarding a Memorandum to Finance Committee Chairman Gage	Exh. No. ISO-352	Tab 352
July 24, 2003 Finance Committee Meeting: Public Notice of ISO Board of Governors and Committees – Meeting Schedule	Exh. No. ISO-353	Tab 353
July 24, 2003 Finance Committee Meeting: 2004 GMC Board Memorandum	Exh. No. ISO-354	Tab 354
July 24, 2003 Finance Committee Meeting: Rod Aoki and Jim Ross Memorandum on Behalf of CAC/EPUC to ISO Finance Committee Chairman, Tim Gage Regarding the 2004 GMC Rate Proposals	Exh. No. ISO-355	Tab 355
July 24, 2003 Finance Committee Meeting: California Department of Water Resources, State Water Project Memorandum to the ISO Finance Committee Regarding a Critique of Coincident / Non-Coincident Peak Methodologies' Effects on Cost Principles	Exh. No. ISO-356	Tab 356
July 24, 2003 Finance Committee Meeting: Dr. Laurence	Exh. No. ISO-357	Tab 357

Kirsch Memorandum on Behalf of Modesto Irrigation District to Finance Committee Chairman, Tim Gage Regarding a Critique of Other Rate Design Proposals		
July 24, 2003 Finance Committee Meeting: ISO Commentary on Proposed Billing Determinants and Their Effects on ISO Revenue Stability and The Use of the Principle of Cost Causation in the MID, SCE and California ISO GMC Proposals	Exh. No. ISO-358	Tab 358
July 24, 2003 Finance Committee Meeting: SCE Comments on GMC Proposals	Exh. No. ISO-359	Tab 359
July 24, 2003 Finance Committee Meeting: Barkovich and Yap Presentation Regarding Comments on Criticisms of the ISO GMC Proposal	Exh. No. ISO-360	Tab 360
July 24, 2003 Board of Governors Meeting: Approved Motion Regarding the GMC, Including Record of July 24, 2003 Finance Committee Motion and Vote	Exh. No. ISO-361	Tab 361
July 24 Email from Ben Arikawa to GMC Working Group Electronic Distribution List Regarding Board Vote and the Additional Study Needed to Respond to the Board Request	Exh. No. ISO-362	Tab 362
July 29, 2003 Conference Call: Notes on the July 29, 2003 Conference Call Including Participant List	Exh. No. ISO-363	Tab 363
July 30, 2003 List of Entities and Individuals That Executed the Non-Disclosure Agreement and Non-Disclosure Certificates	Exh. No. ISO-364	Tab 364
August 1, 2003 Conference Call: Notes on the August 1, 2003 Conference Call	Exh. No. ISO-365	Tab 365
August 6, 2003 Conference Call: Agenda and Notes on the August 6, 2003 Conference Call Including Participant List	Exh. No. ISO-366	Tab 366
August 22, 2003 Follow-Up Report: Memorandum to the Board of Governors	Exh. No. ISO-367	Tab 367
August 22, 2003 Follow-Up Report: Response to Board Inquiries on Potential Changes to Billing Determinants, Revised September 10, 2003	Exh. No. ISO-368	Tab 368
August 22, 2003 Follow-Up Report: Appendix A – Status of Entities Within the California ISO Control Area	Exh. No. ISO-369	Tab 369

August 22, 2003 Follow-Up Report: Appendix B - Documents Provided by Southern California Edison in Support of Its Grid Demand Proposal	Exh. No. ISO-370	Tab 370
August 22, 2003 Follow-Up Report: Appendix C – August 1, 2003 Information Request and Non-Confidential Responses	Exh. No. ISO-371	Tab 371
August 28, 2003 MID Transmittal Letter	Exh. No. ISO-372	Tab 372
August 28, 2003 MID Comments on GMC Follow-Up Report	Exh. No. ISO-373	Tab 373
August 28, 2003 Comments of Dr. Laurence Kirch of Christensen Associates to Board of Governors Regarding ISO Follow-Up Report	Exh. No. ISO-374	Tab 374
August 2003, Comments of SCE to ISO Board Finance Committee Regarding GMC Follow-Up Report (Comments are undated)	Exh. No. ISO-375	Tab 375
August 2003, Comments of CAC/EPUC Regarding ISO Follow-Up Report (Comments are undated)	Exh. No. ISO-376	Tab 376
September 5, 2003 Finance Committee Meeting: Motion Regarding 2004 Rate Structure and Finance Committee Vote	Exh. No. ISO-377	Tab 377
September 5, 2003 List of Documents Distributed Under the Non-Disclosure Agreement	Exh. No. ISO-378	Tab 378
September 25, 2003 Board of Governors Motion and Vote Regarding the 2004 Rate Structure and Board Vote Approving Motion	Exh. No. ISO-379	Tab 379
List of Members on the Grid Management Charge Working Group Email Distribution List	Exh. No. ISO-380	Tab 380
List of Individuals with Passwords for Accessing Confidential Electronic Postings on the ISO Web Site	Exh. No. ISO-381	Tab 381
List of Contacts with the Modesto Irrigation District Concerning the GMC Rate Structure Project	Exh. No. ISO-382	Tab 382
List of Contacts with All GMC Project Participants	Exh. No. ISO-383	Tab 383
Federal Register Draft Notice		Tab D

Certificate of Service		Tab E

8.2.4 Operating and Capital Reserves Cost.

The budgeted annual cost of pay-as-you-go capital expenditures and reasonable coverage of debt service obligations. Such reserves shall be utilized to minimize the impact of any variance between forecast and actual costs throughout the year ("Operating and Capital Reserves Costs").

8.3 Allocation of the Grid Management Charge Among Scheduling Coordinators.

The costs recovered through the Grid Management Charge shall be allocated to the seven service charges that comprise the Grid Management Charge. If the ISO's revenue requirement for any service charge changes from the most recent FERC-approved revenue requirement for that service charge, the costs recovered through that service charge shall be delineated in a filing to be made at FERC as set forth in Section 8.4. The seven service charges are as follows:

(1) Core Reliability Services Charge,

(2) Energy Transmission Services Net Energy Charge,

(3) Energy Transmission Services Uninstructed Deviations Charge,

(4) Forward Scheduling Charge,

(5) Congestion Management Charge,

(6) Market Usage Charge, and

(7) Settlements, Metering, and Client Relations Charge.

The seven charges shall be levied separately monthly in arrears on all Scheduling Coordinators based on the billing determinants specified below for each charge in accordance with formulae set out in Appendix F, Schedule 1, Part A of this Tariff.

8.3.1 Core Reliability Services Charge.

The Core Reliability Services Charge for a Scheduling Coordinator is calculated using the Scheduling Coordinator's metered non-coincident peak hourly demand during the month (in megawatts). The rate for the Core Reliability Services Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total of the forecasted metered non-coincident peak hourly demand for all months during the year, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.2 Energy Transmission Services Net Energy Charge.

The Energy Transmission Services Net Energy Charge for each Scheduling Coordinator is calculated using that Scheduling Coordinator's Metered Control Area Load (in megawatt hours). The rate for the Energy Transmission Services Net Energy Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted Metered Control Area Load, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.3 Energy Transmission Services Uninstructed Deviations Charge.

The Energy Transmission Services Uninstructed Deviations Charge for each Scheduling Coordinator is calculated using that Scheduling Coordinator's net uninstructed deviations by settlement interval. The rate for the Energy Transmission Services Uninstructed Deviations Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted net

uninstructed deviations by settlement interval according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.4 Forward Scheduling Charge.

The Forward Scheduling Charge for each Scheduling Coordinator is calculated using the sum of that Scheduling Coordinator's Final Hour-Ahead Schedules, including all awarded Ancillary Services bids, with a value other than 0 MW, submitted to the scheduling infrastructure/scheduling application system. The rate for the Forward Scheduling Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted Final Hour-Ahead Schedules and awarded Ancillary Service bids submitted to the ISO, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.5 Congestion Management Charge.

The Congestion Management Charge for each Scheduling Coordinator is calculated as the product of the rate for the Congestion Management Charge and the absolute value of the net scheduled inter-zonal flow (excluding flows pursuant to Existing Contracts) per path for that Scheduling Coordinator. The rate for the Congestion Management Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted inter-zonal scheduled flow (excluding flows pursuant to Existing Contracts) per path in MWh, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.6 Market Usage Charge.

The Market Usage Charge for each Scheduling Coordinator is calculated using the absolute value of the Scheduling Coordinator's market purchases and sales of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval). The rate for the Market Usage Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted number of market purchases and sales, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.7 Settlements, Metering, and Client Relations Charge.

The Settlements, Metering, and Client Relations Charge for each Scheduling Coordinator is fixed at $500.00 per month, per Scheduling Coordinator ID with an invoice value other than $0.00 in the current trade month, as indicated in Appendix F, Schedule 1, Part A of this Tariff. Excess GMC costs related to the provision of these services that are not recovered through this charge are allocated to the other GMC service categories as specified above and in Appendix F, Schedule 1, Part E of this Tariff.

8.4 Calculation and Adjustment of the Grid Management Charge.

The seven charges set forth in Section 8.3 that comprise the Grid Management Charge shall be calculated through the formula set forth in Appendix F, Schedule 1, Part A of this Tariff. The formula set forth in Appendix F, Schedule 1, Part C of this Tariff sums the Operating Costs (less any available expense recoveries), Financing Costs, and Operating and Capital Reserves Costs associated with each of the seven ISO service charges to obtain a total revenue requirement. This revenue requirement is allocated among the seven charges of the GMC through the application of the factors specified in Appendix F, Schedule 1, Part E of this Tariff.

The revenue requirement for each service then shall be divided by the forecast annual or periodic billing determinant volume to obtain a rate for each service, which will be payable by Scheduling Coordinators as set forth in Section 8.3. The rates so established will be adjusted annually, through the operation of the formula set forth in Appendix F, Schedule 1, Part A of this Tariff. The ISO shall make an informational filing with the FERC each year, before the adjusted rates go into effect, as described in Appendix F, Schedule 1, Part D of this Tariff, to reflect any change in the annual revenue requirement, variance between forecast and actual costs for the previous year or period, or any surplus revenues from the previous year or period (as defined in Section 8.5), or the inability to recover from a Scheduling Coordinator its share of the Grid Management Charge, or any under-achievement of a forecast of the billing determinant volumes used to establish the rates. Appendix F, Schedule 1, Part B of this Tariff sets forth the conditions under which a quarterly adjustment to the Grid Management Charge will be made.

8.4.1 Credits and Debits of the Grid Management Charge.

In addition to the adjustments permitted under Section 11.6.3.3, the ISO shall credit or debit, as appropriate, the account of a Scheduling Coordinator for any overpayment or underpayment of the Grid Management Charge that the ISO determines occurred due to error, omission, or miscalculation by the ISO or the Scheduling Coordinator.

8.5 Operating and Capital Reserves Account.

Revenues collected to fund the ISO financial operating reserves shall be deposited in an Operating and Capital Reserves Account until such account reaches a level specified by the ISO Governing Board. The Operating and Capital Reserves Account shall be calculated separately for each GMC service category (Core Reliability Services, Energy Transmission Services, Forward Scheduling, Congestion Management, Market Usage, and Settlements, Metering and Client Relations). If the Operating and Capital Reserves Account as calculated for such service category is fully funded, surplus funds will be considered an offset to the revenue requirement of the next fiscal year.

8.6 Transition Mechanism.

During the ten-year transition period described in Section 4 of Schedule 3 to Appendix F, the Original Participating TOs collectively shall pay to the ISO each year an amount equal to, annually, for all New Participating TOs, the amount, if any, by which the New Participating TO's cost of Existing High Voltage Facilities associated with deliveries of Energy to Gross Loads in the PTO Service Area of the New Participating TO is increased by the implementation of the High Voltage Access Charge described in Schedule 3 to Appendix F. Responsibility for such payments shall be allocated to Original Participating TOs in

Applicable Reliability Criteria	The reliability standards established by NERC, WSCC, and Local Reliability Criteria as amended from time to time, including any requirements of the NRC.
Applicants	Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company and any others as applicable.

	Transfer Capacity to implement all Preferred Schedules simultaneously or, in real time, to serve all Generation and Demand. "Congested" shall be construed accordingly.
Congestion Management	The alleviation of Congestion in accordance with Applicable ISO Protocols and Good Utility Practice.
Congestion Management Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs of operating the Congestion Management process, including, but not limited to, the management and operation of inter-zonal congestion markets, adjustment bids, taking Firm Transmission Rights and Existing Contracts into account, and determining the price for mitigating congestion for flows on congested paths. The formula for determining the Congestion Management Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

Connected Entity A Participating TO or any party that owns or operates facilities that are electrically interconnected with the ISO Controlled Grid.

Constraints Physical and operational limitations on the transfer of electrical power through transmission facilities.

Contingency Disconnection or separation, planned or forced, of one or more components from an electrical system.

Control Area An electric power system (or combination of electric power systems) to which a common AGC scheme is applied in order to: i) match, at all times, the power output of the Generating Units within the electric power system(s), plus the Energy purchased from entities outside the electric power system(s), minus Energy sold to entities outside the electric power system, with the Demand within the electric power system(s); ii) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice; iii) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and iv) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

Control Area Gross Load For the purpose of calculating and billing Minimum Load Costs, Emission Costs Charge and Start-Up Fuel Costs Charge, Control Area Gross Load is all Demand for Energy within the ISO Control Area. Control Area Gross Load shall not include Energy consumed by:

(a) generator auxiliary Load equipment that is dedicated to the production of Energy and is electrically connected at the same point as the Generating Unit (*e.g.*, auxiliary Load equipment that is served via a distribution line

that is separate from the switchyard to which the Generating Unit is connected will not be considered to be electrically connected at the same point); and

(b) Load that is isolated electrically from the ISO Control Area (*i.e.*, Load that is not synchronized with the ISO Control Area).

Converted Rights Those transmission service rights as defined in Section 2.4.4.2.1 of the ISO Tariff.

Core Reliability Services Charge The component of the Grid Management Charge that provides for the recovery of the ISO's costs of providing a basic, non-scalable level of reliable operation for the ISO Control Area and meeting regional and national reliability requirements. The formula for determining the Core Reliability Services Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

Cost Shifting A transfer of costs from one group of customers to another or from one utility to another.

CPUC The California Public Utilities Commission, or its successor.

Energy	The electrical energy produced, flowing or supplied by generation, transmission or distribution facilities, being the integral with respect to time of the instantaneous power, measured in units of watt-hours or standard multiples thereof, e.g., 1,000 Wh=1kWh, 1,000 kWh=1MWh, etc.
Energy Bid	The price at or above which a Generator has agreed to produce the next increment of Energy.
Energy Efficiency Services	Services that are intended to assist End-Users in achieving savings in their use of Energy or increased efficiency in their use of Energy.
Energy Transmission Services Net Energy Charge	The component of the Grid Management Charge that provides, in conjunction with the Energy Transmission Services Uninstructed Deviations Charge, for the recovery of the ISO's costs of providing reliability on a scalable basis, i.e., a function of the intensity of the use of the transmission system within the Control Area and the occurrence of system outages and disruptions. The formula for determining the Energy Transmission Services Net Energy Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.
Energy Transmission Services Uninstructed Deviations Charge	The component of the Grid Management Charge that provides, in conjunction with the Energy Transmission Services Net Energy Charge, for the recovery of the ISO's costs of providing reliability on a scalable basis, in particular for the costs associated with balancing transmission flows that result from uninstructed deviations. The formula for determining the Energy Transmission Services Uninstructed Deviations Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

Entitlements	The right of a Participating TO obtained through contract or other means to use another entity's transmission facilities for the transmission of Energy.
Environmental Dispatch	Dispatch designed to meet the requirements of air quality and other environmental legislation and environmental agencies having authority or jurisdiction over the ISO.
Environmental Quality	In relation to Energy, means Energy which involves production sources that reduce harm to the environment.
Equipment Clearances	The process by which the ISO grants authorization to another party to connect or disconnect electric equipment interconnected to the ISO Controlled Grid.
Ex Post GMM	GMM that is calculated utilizing the real time Power Flow Model in accordance with Section 7.4.2.1.2.
Ex Post Price	The Hourly Ex Post Price or the BEEP Interval Ex Post Price.
Ex Post Transmission Loss	Transmission Loss that is calculated based on Ex Post GMM.

Final Hour-Ahead Schedule	The Hour-Ahead Schedule of Generation and Demand that has been approved by the ISO as feasible and consistent with all other Schedules based on the ISO's Hour-Ahead Congestion Management procedures.
Final Invoice	The invoice due from a RMR Owner to the ISO at termination of the RMR Contract.
Final Schedule	A Schedule developed by the ISO following receipt of a Revised Schedule from a Scheduling Coordinator.
Final Settlement Statement	The restatement or recalculation of the Preliminary Settlement Statement by the ISO following the issue of that Preliminary Settlement Statement.
Flexible Generation	Generation that is capable of, and for which the Generator has agreed to, adjust operating levels in response to real time market price or ISO control signals.
Forced Outage	An Outage for which sufficient notice cannot be given to allow the Outage to be factored into the Day-Ahead Market or Hour-Ahead Market scheduling processes.
Forward Scheduling Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs of providing the ability to Scheduling Coordinators to forward schedule Energy and Ancillary Services and the cost of processing accepted Ancillary Service bids. For purposes of the Forward Scheduling Charge, a schedule is represented by each Final Hour-Ahead Schedule with a value other than 0 MW submitted to the scheduling infrastructure/scheduling application system (import, export, Load, Generation, inter-SC trade, and Ancillary Services, including self-provided Ancillary Services) submitted to the ISO's scheduling infrastructure. The

	formula for determining the Forward Scheduling Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.
FPA	Parts II and III of the Federal Power Act, 16 U.S.C. § 824 et seq., as they may be amended from time to time.
FTR (Firm Transmission Right)	A contractual right, subject to the terms and conditions of the ISO Tariff, that entitles the FTR Holder to receive, for each hour of the term of the FTR, a portion of the Usage Charges received by the ISO for transportation of energy from a specific originating Zone to a specific receiving Zone and, in the event of an uneconomic curtailment to manage Day-Ahead congestion, to a Day-Ahead scheduling priority higher than that of a schedule using Converted Rights capacity that does not have an FTR.

Grid Management Charge The ISO monthly charge on all Scheduling Coordinators that provides for the recovery of the ISO's costs listed in Section 8.2 through the seven service charges described in Section 8.3 calculated in accordance with the formula rate set forth in Appendix F, Schedule 1, Part A of this Tariff. The seven charges that comprise the Grid Management Charge consist of: 1) the Core Reliability Services Charge, 2) the Energy Transmission Services Net Energy Charge, 3) the Energy Transmission Services Uninstructed Deviations Charge, 4) the Forward Scheduling Charge, 5) the Congestion Management Charge, 6) the Market Usage Charge, and 7) the Settlements, Metering, and Client Relations Charge.

Grid Operations Charge An ISO charge that recovers redispatch costs incurred due to Intra-Zonal Congestion in each Zone. These charges will be paid to the ISO by the Scheduling Coordinators, in proportion to their metered Demand within, and metered exports from, the Zone to a neighboring Control Area.

Gross Load For the purposes of calculating the transmission Access Charge, Gross Load is all Energy (adjusted for distribution losses) delivered for the supply of Loads directly connected to the transmission facilities or Distribution System of a UDC or MSS, and all Energy provided by a Scheduling Coordinator for the supply of Loads not directly connected to the transmission facilities or Distribution System of a UDC or MSS. Gross Load shall exclude Load with respect to which the Wheeling Access Charge is payable and the portion of the Load of an individual retail customer of a UDC, MSS, or Scheduling Coordinator that is served by a Generating Unit that: (a) is located on the customer's site or provides service to the customers site through arrangements as authorized by Section 218

of the California Public Utilities Code; (b) is a qualifying small power production facility or qualifying cogeneration facility, as those terms are defined in the FERC's regulations implementing Section 201 of the Public Utility Regulatory Policies Act of 1978; and

Market Participant An entity, including a Scheduling Coordinator, who participates in the Energy marketplace through the buying, selling, transmission, or distribution of Energy or Ancillary Services into, out of, or through the ISO Controlled Grid.

Market Usage Charge The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs for processing Supplemental Energy and Ancillary Service bids, maintaining the Open Access Same-Time Information System, monitoring market performance, ensuring generator compliance with market protocols, and determining Market Clearing Prices. The formula for determining the Market Usage Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

Master File	A file containing information regarding Generating Units, Loads and other resources.
Meter Data	Energy usage data collected by a metering device or as may be otherwise derived by the use of Approved Load Profiles.
Meter Points	Locations on the ISO Controlled Grid at which the ISO requires the collection of Meter Data by a metering device.
Metered Control Area Load	For purposes of calculating and billing the Energy Transmission Services Net Energy Charge component of the Grid Management Charge, Metered Control Area Load is: (a) all metered Demand for Energy of Scheduling Coordinators for the supply of Loads in the ISO's Control Area, plus (b) all Energy for exports by Scheduling Coordinators from the ISO Control Area; less (c) Energy associated with the Load of a retail customer of a Scheduling Coordinator, UDC, or MSS that is served by a Generating Unit that: (i) is located on the same site as the customer's Load or provides service to the customer's Load through arrangements as authorized by Section 218 of the California Public Utilities Code; (ii) is a qualifying small power production facility or qualifying cogeneration facility, as those terms are defined in FERC's regulations implementing Section 201 of the Public Utility Regulatory Policies Act of 1978; and (iii) the customer secures Standby Service from a Participating TO under terms approved by a Local Regulatory Authority or FERC, as applicable, or the customer's Load can be curtailed concurrently with an outage of the Generating Unit.

Metered Quantities	For each Direct Access End-User, the actual metered amount of MWh and MW; for each Participating Generator the actual metered amounts of MWh, MW, MVAr and MVArh.
Minimum Load Costs	The costs a generating unit incurs operating at minimum load.
Monthly Peak Load	The maximum hourly Demand on a Participating TO's transmission system for a calendar month, multiplied by the Operating Reserve Multiplier.
MSS (Metered Subsystem)	A geographically contiguous system located within a single Zone which has been operating as an electric utility for a number of years prior to the ISO Operations Date as a municipal utility, water district, irrigation district, State agency or Federal power administration subsumed within the ISO Control Area and encompassed by ISO certified revenue quality meters at each interface point with the ISO Controlled Grid and ISO certified revenue quality meters on all Generating Units or, if aggregated, each individual resource and Participating Load internal to the system, which is operated in accordance with a MSS Agreement described in Section 23.1.
MSS Operator	An entity that owns an MSS and has executed a MSS Agreement described in Section 3.3.1.

Order No. 889	The final rule issued by FERC entitled "Open Access Same-Time Information System (formerly Real Time Information Networks) and Standards of Conduct," 61 Fed. Reg. 21,737 (May 10, 1996), FERC Stats. & Regs., Regulations Preambles [1991-1996] ¶ 31,035 (1996), Order on Rehearing, Order No. 889-A, 78 FERC ¶ 61,221 (1997), as it may be amended from time to time.
Original Participating TO	A Participating TO that was a Participating TO as of January 1, 2000.
Outage	Disconnection or separation, planned or forced, of one or more elements of an electric system.
Overgeneration	A condition that occurs when total Generation exceeds total Demand in the ISO Control Area.

Settlement	Process of financial settlement for products and services purchased and sold undertaken by the ISO under Section 11 of the ISO Tariff. Each Settlement will involve a price and a quantity.
Settlement Account	An Account held at a bank situated in California, designated by a Scheduling Coordinator or a Participating TO pursuant to the Scheduling Coordinator's SC Agreement or in the case of a Participating TO, Section 2.2.1 of the TCA, to which the ISO shall pay amounts owing to the Scheduling Coordinator or the Participating TO under the ISO Tariff.
Settlement Period	For all ISO transactions the period beginning at the start of the hour, and ending at the end of the hour. There are twenty-four Settlement Periods in each Trading Day, with the exception of a Trading Day in which there is a change to or from daylight savings time.
Settlement Quality Meter Data	Meter Data gathered, edited, validated, and stored in a settlement-ready format, for Settlement and auditing purposes.
Settlement Statement	Either or both of a Preliminary Settlement Statement or Final Settlement Statement.
Settlement Statement Re-run	The re-calculation of a Settlement Statement in accordance with the provisions of the ISO Tariff including any protocol of the ISO.
Settlements, Metering, and Client Relations Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs of maintaining customer account data, providing account information to customers, responding to customer inquiries, calculating market charges, resolving customer disputes, and the costs associated with the ISO's Settlement,

billing, and metering activities. Because this is a fixed charge per Scheduling Coordinator ID, costs associated with activities listed above also are allocated to other charges under the Grid Management Charge according to formula set forth in Appendix F, Schedule 1, Part A of this Tariff.

Schedule 1

Grid Management Charge

Part A – Monthly Calculation of Grid Management Charge (GMC)

The Grid Management Charge consists of seven separate service charges: (1) the Core Reliability Services Charge, (2) the Energy Transmission Services Net Energy Charge, (3) the Energy Transmission Services Uninstructed Deviations Charge, (4) the Forward Scheduling Charge, (5) the Congestion Management Charge, (6) the Market Usage Charge, and (7) the Settlements, Metering, and Client Relations Charge.

1. The rate in $/MW for the Core Reliability Services Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the total of the forecasted Scheduling Coordinators' metered non-coincident peak hourly demand in MW for all months during the year.

2. The rate in $/MWh for the Energy Transmission Services Net Energy Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the total annual forecast Metered Control Area Load in MWh.

3. The rate in $/MWh for the Energy Transmission Services Uninstructed Deviations Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the absolute value of total annual forecast net uninstructed deviations (netted within a settlement interval) in MWh.

4. The rate in $ per Schedule for the Forward Scheduling Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the annual forecast number of non-zero MW Final Hour-Ahead Schedules, including all awarded Ancillary Service bids.

5. The rate in $/MWh for the Congestion Management Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the total annual forecast Scheduling Coordinators' inter-zonal scheduled flow (excluding flows pursuant to Existing Contracts) per path in MWh.

6. The rate in $/MWh for the Market Usage Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the annual forecast total purchases and sales (including out-of-market transactions) of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval) in MWh.

7. The rate for the Settlements, Metering, and Client Relations Charge will be fixed at $500.00 per month, per Scheduling Coordinator Identification Number ("SC ID") with an invoice value other than $0.00 in the current trade month.

The rates for the foregoing charges shall be adjusted automatically each year, effective January 1 for the following twelve months, in the manner set forth in Part D of this Schedule.

Part B – Quarterly Adjustment, If Required

Each component rate of the Grid Management Charge will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the annual revenue requirement as stated in the ISO's annual informational filing, if the estimated billing determinant volumes for that component, on an annual basis, change by 5% or more during the year. Such adjustment may be implemented not more than once per calendar quarter, and will be effective the first day of the next calendar month.

The rates will be adjusted in accordance with the following formula:

According to the formulae listed in Appendix F, Schedule 1, Part A with the billing determinant(s) readjusted on a going-forward basis to reflect the 5% or greater change from the estimated billing determinant provided in the annual informational filing.

Part C – Costs Recovered through the GMC

As provided in Section 8 of the ISO Tariff, the Grid Management Charge includes the following costs, as projected in the ISO's budget for the year to which the Grid Managment Charge applies:

- Operating costs (as defined in Section 8.2.2)
- Financing costs (as defined in Section 8.2.3), including Start-Up and Development costs and
- Operating and Capital Reserve costs (as defined in Section 8.2.4)

Such costs, for the ISO as a whole, are allocated to the seven service charges that comprise the Grid Management Charge: (1) Core Reliability Services Charge, (2) Energy Transmission Services Net Energy Charge, (3) Energy Transmission Services Uninstructed Deviations Charge, (4) Forward Scheduling Charge, (5) Congestion Management Charge, (6) Market Usage Charge, and (7) Settlements, Metering, and Client Relations Charge, according to the factors listed in Part E of this Schedule 1, and

adjusted annually for:

- any surplus revenues from the previous year as deposited in the Operating and Capital Reserve Account, as defined under Section 8.5, or deficiency of revenues, as recorded in a memorandum account;

divided by:

- forecasted annual billing determinant volumes;

adjusted quarterly for:

- a change in the volume estimate used to calculate the individual Grid Management Charge components, if, on an annual basis, the change is 5% or more.

The Grid Management Charge revenue requirement formula is as follows:

Grid Management Charge revenue requirement =

- Operating Expenses + Debt Service + [(Coverage Requirement x Senior Lien Debt Service) and/or (Cash Funded Capital Expenditures)] - Interest Earnings - Other Revenues - Reserve Transfer

Where,

- **Operating Expenses** = O&M Expenses plus Taxes Other Than Income Taxes and Penalties

- **O&M Expenses** = Transmission O&M Expenses (Accounts 560-574) plus Customer Accounting Expenses (Accounts 901-905) plus Customer Service and Informational Expenses (Accounts 906-910) plus Sales Expenses (Accounts 911-917) plus Administrative & General Expenses (Accounts 920-935)
- **Taxes Other Than Income Taxes =** those taxes other than income taxes which relate to ISO operating income (Account 408.1)
- **Penalties** = payments by the ISO for penalties or fines incurred for violation of WECC reliability criteria (Account 426.3)
- **Debt Service** = for any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any ISO notes. This amount includes the current year accrued principal and interest payments due in April of the following year.
- **Coverage Requirement** = 25% of the Senior Lien Debt Service.
- **Senior Lien Debt Service** = all Debt Service that has a first lien on ISO Net Operating Revenues (Account 128 subaccounts).
- **Cash Funded Capital Expenditures** = Post current fiscal year capital additions (Accounts 301-399) funded on a pay-as-you-go basis.
- **Interest Earnings** = Interest earnings on Operating and Capital Reserve balances (Account 419). Interest on bond or note proceeds specifically designated for capital projects or capitalized interest is excluded.
- **Other Revenues** = Amounts booked to Account 456 subaccounts. Such amounts include but are not limited to application fees, WECC security coordinator reimbursements, and fines assessed and collected by the ISO.
- **Reserve Transfer** = the projected reserve balance for December 31 of the prior year less the Reserve Requirement as adopted by the ISO Board and FERC. If such amount is negative, the amount may be divided by two, so that the reserve is replenished within a two-year period. (Account 128 subaccounts)
- **Reserve Requirement** = 15% of Annual Operating Expenses.

A separate revenue requirement shall be established for each component of the Grid Management Charge by developing the revenue requirement for the ISO as a whole and then assigning such costs to the seven service categories using the allocation factors provided in Appendix F, Schedule 1, Part E of this Tariff.

Part D – Information Requirements

Budget Schedule

The ISO Governing Board shall set forth a budget schedule that shall specify the dates for the budget posting and public workshop events noted below and other significant budget related milestones providing an opportunity for public input.

Budget Posting

The ISO will post on its Internet site the preliminary proposed ISO operating and capital budget to be effective during the subsequent fiscal year, and the projected billing determinant volumes used to develop the rate for each component of the Grid Management Charge.

Public Workshop

Subsequent to the website posting, and prior to (i) the Board approval of the budget and (ii) the submission of the informational filing described in the next paragraph of this Part D, the ISO shall hold a public budget workshop where it will provide an overview of and answer questions from stakeholders on the proposed budget, cost allocation, and the charges for each of the ISOs services for the following year.

Annual Informational Filing

The ISO will make a filing each year no later than December 15, or the first business day thereafter, at FERC that shall contain projected cost data on the ISO presented in conformance with the budget approved by the ISO Board and the FERC Uniform System of Accounts (USOA). This filing shall contain such information as is required to update the GMC rates resulting from the application of the formulae in Part A of this Schedule for the following calendar year.

Periodic Financial reports

The ISO will create periodic financial reports consisting of an income statement, balance sheet, statement of operating reserves, and such other reports as are required by the ISO Board of Governors. The periodic financial reports will be posted on the ISO's Website not less than quarterly.

Part E – Cost Allocation

The Grid Management Charge revenue requirement, determined in accordance with Part C of this Schedule 1, shall be allocated to the seven service charges specified in Part A of this Schedule 1 as follows. Expenses projected to be recorded in each cost center shall be allocated among the seven charges in accordance with the allocation factors listed in Table 1 to this Schedule 1. In the event the ISO budgets for projected expenditures for cost centers are not specified in Table 1 to this Schedule, such expenditures shall be allocated based on the allocation factors for the respective ISO division hosting that newly-created cost center. Such divisional allocation factors are specified in Table 1 to this Schedule 1.

Debt service expenditures for the ISO's year 2000 (or subsequently refinanced) bond offering shall be allocated among the seven charges in accordance with the allocation factors listed in Table 1 to this Schedule 1. Capital expenditures shall be allocated among the seven charges in accordance with the allocation factors listed in Table 2 to this Schedule 1 for the system for which the capital expenditure is projected to be made.

Any costs allocated by the factors listed in Table 1 and Table 2 to the Settlements, Metering, and Client Relations category that would remain un-recovered after the assessment of the charge for that service specified in Section 7 of Part A of this Schedule 1 on forecasted billing determinant volumes shall be reallocated to the remaining GMC service categories in the ratios set forth in Table 3 to this Schedule 1.

Costs allocated to the Energy Transmission Services category in the following tables are further apportioned to the Energy Transmission Services Net Energy and Energy Transmission Services Uninstructed Deviations subcategories in 80% and 20% ratios, respectively.

Table 1

O&M, Debt Service, and Other Expense Recoveries Cost Allocation Factors

CC #	Cost Center	CRS	ETS	FS	CM	MU	SMCR	Total
1100	**CEO Division**	**44%**	**22%**	**4%**	**5%**	**10%**	**16%**	**100%**
1111	CEO - General	44%	22%	4%	5%	10%	16%	100%
1241	MD02	7%	0%	14%	11%	28%	40%	100%
1521	Grid Planning	63%	38%	0%	0%	0%	0%	100%
1300	**Finance Division**	**44%**	**21%**	**4%**	**4%**	**10%**	**16%**	**100%**
1311	CFO - General	44%	21%	4%	4%	10%	16%	100%
1321	Accounting	44%	22%	4%	5%	10%	16%	100%
1331	Financial Planning and Treasury	44%	22%	4%	5%	10%	16%	100%
1351	Facilities	44%	21%	4%	4%	10%	17%	100%
1361	Security & Corporate Services	44%	21%	4%	4%	10%	17%	100%

1400	**Information Services Division**	**38%**	**7%**	**10%**	**5%**	**9%**	**31%**	**100%**
1411	Chief Information Officer	38%	7%	10%	5%	9%	31%	100%
1422	Corporate & Enterprise Applications	33%	7%	1%	25%	13%	21%	100%
1424	Asset Management	35%	6%	11%	5%	11%	32%	100%
1431	End User Support	38%	14%	8%	3%	9%	27%	100%
1432	Computer Operations and Infrastructure Services	34%	9%	12%	3%	9%	33%	100%
1433	Network Services	43%	12%	9%	3%	9%	24%	100%
1441	Outsourced Contracts	42%	11%	10%	3%	9%	25%	100%
1442	Production Support	25%	0%	18%	3%	8%	47%	100%
1451	Information Support Services	25%	0%	18%	3%	8%	47%	100%
1461	Control Systems	96%	2%	0%	0%	1%	1%	100%
1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%	100%
1463	Operations Systems Services	50%	3%	6%	1%	6%	33%	100%
1466	Enterprise Applications	48%	7%	1%	1%	3%	39%	100%
1467	Settlement Systems Services	27%	11%	2%	2%	5%	52%	100%
1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%	100%
1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%	100%
1471	IT Planning	25%	0%	18%	3%	8%	47%	100%
1481	Markets and Scheduling System Services	47%	3%	24%	3%	18%	6%	100%
1482	Market Systems Support Services	45%	1%	19%	6%	24%	6%	100%
1500	**Grid Operations Division**	**67%**	**33%**	**0%**	**0%**	**0%**	**0%**	**100%**
1511	VP Grid Operations	67%	33%	0%	0%	0%	0%	100%
1542	Outage Coordination	95%	5%	0%	0%	0%	0%	100%
1543	Loads and Resources	49%	51%	0%	0%	0%	0%	100%
1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%	100%
1545	Grid Operations	67%	33%	0%	0%	0%	0%	100%
1546	Security Coordination	100%	0%	0%	0%	0%	0%	100%
1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%	100%
1548	OSAT Group - General	93%	7%	0%	0%	0%	0%	100%
1549	Operations Training	50%	50%	0%	0%	0%	0%	100%
1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%	100%

1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%	100%
1559	Operations Application Support	60%	40%	0%	0%	0%	0%	100%
1561	Operations Engineering South	65%	35%	0%	0%	0%	0%	100%
1562	Operations Engineering North	55%	45%	0%	0%	0%	0%	100%
1563	Operations Coordination	75%	25%	0%	0%	0%	0%	100%
1564	Operations Scheduling	100%	0%	0%	0%	0%	0%	100%
1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%	100%
1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%	100%
1600	**Legal and Regulatory Division**	**36%**	**22%**	**4%**	**7%**	**17%**	**15%**	**100%**
1611	VP General Counsel - General	36%	22%	4%	7%	17%	15%	100%
1631	Legal and Regulatory	44%	22%	4%	5%	10%	16%	100%
1641	Market Analysis	15%	26%	0%	20%	31%	7%	100%
1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
1651	Board of Governors	44%	22%	4%	5%	10%	16%	100%
1661	Compliance - General	22%	20%	12%	0%	29%	17%	100%
1662	Compliance - Audits	8%	0%	0%	0%	50%	42%	100%
1700	**Market Services Division**	**17%**	**2%**	**9%**	**9%**	**20%**	**41%**	**100%**
1711	VP Market Services - General	17%	2%	9%	9%	20%	41%	100%
1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	80%	20%	0%	0%	0%	0%	100%
1724	BBS - PSS	0%	0%	0%	0%	0%	100%	100%
1725	BBS - FSS	0%	0%	0%	0%	0%	100%	100%
1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%	100%
1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
1751	Market Operations - General	31%	0%	15%	15%	35%	4%	100%
1752	Manager of Markets	27%	5%	27%	22%	18%	0%	100%
1753	Market Engineering	21%	0%	0%	28%	43%	7%	100%
1755	Business Solutions	6%	0%	47%	12%	29%	6%	100%
1756	Market Quality - General	0%	0%	0%	0%	71%	29%	100%
1757	Market Integration	7%	0%	30%	30%	26%	7%	100%

1800	**Corporate and Strategic Development Division**	**44%**	**21%**	**4%**	**4%**	**10%**	**16%**	**100%**
1811	VP Corporate and Strategic Development - General	44%	21%	4%	4%	10%	16%	100%
1821	Communications	44%	22%	4%	5%	10%	16%	100%
1831	Strategic Development	44%	22%	4%	5%	10%	16%	100%
1841	Human Resources	44%	21%	4%	4%	10%	17%	100%
1851	Project Office	44%	22%	4%	5%	10%	16%	100%
1861	Regulatory Policy	44%	22%	4%	5%	10%	16%	100%
Other Revenue and Credits								
	SC Application and Training Fees	0%	0%	0%	0%	0%	100%	100%
	WECC Reimbursement/NERC Reimbursement	100%	0%	0%	0%	0%	0%	100%
	Interest Earnings	37%	12%	9%	5%	11%	25%	100%
Debt Service Related Allocations		33%	8%	15%	5%	9%	29%	100%

Table 2

Capital Cost Allocation Factors

System	CRS	ETS	FS	CM	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	100%	0%	0%	0%	0%	0%	100%
Ancillary Services Management (ASM) Component of SA	15%	0%	40%	0%	45%	0%	100%
Application Development Tools	23%	0%	22%	3%	7%	45%	100%
Automated Dispatch System (ADS)	50%	0%	25%	0%	20%	5%	100%
Automated Load Forecast System (ALFS)	70%	0%	10%	0%	20%	0%	100%
Automatic Mitigation Procedure (AMP)	85%	0%	0%	0%	15%	0%	100%
Backup systems (Legato/Quantum)	23%	0%	22%	3%	7%	45%	100%

Balance of Business Systems (BBS)	0%	0%	0%	0%	0%	100%	100%
Balancing Energy Ex Post Price (BEEP) Component of SA	50%	0%	20%	10%	20%	0%	100%
Bill's Interchange Schedule (BITS)	85%	0%	0%	0%	15%	0%	100%
CaseWise (process modeling tool)	44%	21%	4%	4%	10%	17%	100%
CHASE	44%	21%	4%	4%	10%	17%	100%
Common Information Model (CIM)	100%	0%	0%	0%	0%	0%	100%
Compliance (Blaze)	19%	16%	10%	0%	33%	22%	100%
Congestion Management (CONG) (Component of SA)	10%	0%	0%	65%	25%	0%	100%
Congestion Reform-DSOW	50%	0%	0%	50%	0%	0%	100%
Congestion Revenue Rights (CRR)	0%	0%	0%	80%	20%	0%	100%
DataWarehouse	24%	18%	6%	9%	24%	18%	100%
Dept. of Market Analysis Tools (SAS/MARS)	15%	26%	0%	20%	31%	7%	100%
Dispute Tracking System (Remedy)	0%	0%	0%	0%	0%	100%	100%
Documentum	44%	21%	4%	4%	10%	17%	100%
Electronic Tagging (Etag)	100%	0%	0%	0%	0%	0%	100%
Energy Management System (EMS)	100%	0%	0%	0%	0%	0%	100%
Engineering Analysis Tools	60%	40%	0%	0%	0%	0%	100%
Evaluation of Market Separation	0%	0%	0%	50%	50%	0%	100%
Existing Transmission Contracts Calculator (ETCC)	25%	0%	20%	15%	20%	20%	100%
FERC Study Software	0%	0%	0%	0%	100%	0%	100%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	0%	0%	15%	60%	15%	10%	100%

Global Resource Reliability Management Application (GRRMA)	75%	15%	0%	0%	10%	0%	100%
Grid Operations Training Simulator (GOTS)	56%	44%	0%	0%	0%	0%	100%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0%	0%	100%	0%	0%	0%	100%
Human Resources	44%	21%	4%	4%	10%	17%	100%
IBM Contract	37%	14%	10%	4%	9%	26%	100%
Integrated Forward Market (IFM)	10%	0%	35%	0%	55%	0%	100%
Internal Development	23%	0%	22%	3%	7%	45%	100%
Interzonal Congestion Management reform - Real Time	50%	0%	0%	50%	0%	0%	100%
Land and Building Costs	44%	21%	4%	4%	10%	17%	100%
Local Area Network (LAN)	44%	21%	4%	4%	10%	17%	100%
Locational Marginal Pricing (LMPM)	10%	0%	35%	0%	55%	0%	100%
Market Transaction System (MTS)	0%	0%	0%	0%	100%	0%	100%
Masterfile	20%	0%	20%	0%	55%	5%	100%
MD02 Capital	7%	0%	14%	11%	28%	40%	100%
Meter Data Acquisition System (MDAS)	0%	0%	0%	0%	0%	100%	100%
Miscellaneous (2004 related projects)	23%	0%	22%	3%	7%	45%	100%
Monitoring (Tivoli)	23%	0%	22%	3%	7%	45%	100%
New Resource Interconnection (NRI)	100%	0%	0%	0%	0%	0%	100%
New System Equipment (replacement of owned equipment)	23%	0%	22%	3%	7%	45%	100%
NT/web servers	44%	21%	4%	4%	10%	17%	100%
NT-servers	44%	21%	4%	4%	10%	17%	100%

Oracle Enterprise Manager (OEM)	27%	0%	18%	5%	9%	41%	100%
Office Automation - desktop/laptop (OA)	44%	21%	4%	4%	10%	17%	100%
Office equipment (scanner, printer, copier, fax, Communication Equipment)	44%	21%	4%	4%	10%	17%	100%
Open Access Same Time Information System (OASIS)	10%	0%	25%	10%	35%	20%	100%
Operational Meter Analysis and Reporting (OMAR)	0%	0%	0%	0%	0%	100%	100%
Oracle Corporate Financials	44%	21%	4%	4%	10%	17%	100%
Oracle Licenses	27%	0%	18%	5%	9%	41%	100%
Oracle Market Financials BBS	0%	0%	0%	0%	0%	100%	100%
Out of Sequence Market Operation Settlements Information System (OOS)	5%	5%	0%	0%	90%	0%	100%
Outage Scheduler (OS)	50%	0%	10%	20%	20%	0%	100%
Participating Intermittent Resource Project (PIRP)	0%	0%	94%	0%	6%	0%	100%
Physical Facilities Software Application/Furniture/Leasehold Improvements	44%	21%	4%	4%	10%	17%	100%
Process Information System (PI)	80%	0%	0%	0%	10%	10%	100%
Rational Buyer	100%	0%	0%	0%	0%	0%	100%
Real Time Energy Dispatch System (REDS)	100%	0%	0%	0%	0%	0%	100%
Real Time Nodal Market	35%	0%	10%	0%	55%	0%	100%
Reliability Management System (RMS)	100%	0%	0%	0%	0%	0%	100%
Remedy (related to Transmission Registry, New Resource Interconnection, and Resource Registry)	100%	0%	0%	0%	0%	0%	100%
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	100%	0%	0%	0%	0%	0%	100%
Resource Register (RR)	100%	0%	0%	0%	0%	0%	100%

RMR Application Validation Engine (RAVE)	100%	0%	0%	0%	0%	0%	100%
Scheduling & Logging for ISO California (SLIC)	65%	0%	15%	5%	15%	0%	100%
Scheduling Architecture (SA)	24%	0%	20%	26%	30%	0%	100%
Scheduling Infrastructure (SI)	0%	0%	94%	0%	6%	0%	100%
Scheduling Infrastructure Business Rules (SIBR)	0%	0%	94%	0%	6%	0%	100%
Security Constrained Economic Dispatch (SCED)	40%	0%	0%	0%	60%	0%	100%
Security- External/Physical	44%	21%	4%	4%	10%	17%	100%
Security-ISS (CUDA)	23%	0%	22%	3%	7%	45%	100%
Settlements and Market Clearing	0%	0%	0%	0%	0%	100%	100%
Sign Board (Symon Board maint.)	44%	21%	4%	4%	10%	17%	100%
Startup Costs through 3/31/98, Working Capital-3 months	44%	21%	4%	4%	10%	17%	100%
Storage (EMC symmetrix)	19%	10%	14%	4%	12%	42%	100%
System Equipment Buyouts (lease buyouts)	43%	1%	7%	2%	11%	36%	100%
Telephone/PBX	44%	21%	4%	4%	10%	17%	100%
Training Systems	23%	0%	22%	3%	7%	45%	100%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	100%	0%	0%	0%	0%	0%	100%
Transmission Map Plotting & Display	50%	50%	0%	0%	0%	0%	100%
Trustee Costs, Interest-Capitalized, User Groups	54%	1%	11%	16%	17%	2%	100%
Utilities - System i.e. Print drivers	23%	0%	22%	3%	7%	45%	100%
Vitria (Middleware)	23%	0%	22%	3%	7%	45%	100%
Wide Area Network (WAN)	41%	2%	19%	1%	8%	29%	100%

Capital Expenditures for Systems not Specified	32%	7%	15%	6%	11%	29%	100%

Table 3

Reallocation Factors for Projected Unrecovered Portion of Settlements, Metering, and Client Relations Revenue Requirement

	CRS	ETS	FS	CM	MU	SMCR	Total
Functional Association of Settlements, Metering, and Client Relations	0.0%	70.3%	0.0%	8.2%	21.4%	0.0%	100.0%

any of which may submit comments and objections to the ISO within two weeks of the date of posting of the draft on the ISO Home Page.

SABP 2.3.4 **Final Payments Calendar**

No later than October 31st in each year, the ISO will publish pursuant to Section 11.24.1 of the ISO Tariff the final ISO Payments Calendar for the following calendar year, after considering the comments and objections received from Scheduling Coordinators, Black Start Generators, Participating TOs and Owners. The final ISO Payments Calendar will be posted on the ISO Home Page.

SABP 2.3.5 **Update the Final Payments Calendar**

If as a result of a tariff amendment approved by FERC the final ISO Payments Calendar developed in accordance with SABP 2.3.3 and 2.3.4 above is rendered inconsistent with the timing set forth in the tariff, the ISO shall update the final ISO Payments Calendar to make it consistent with the tariff as approved by FERC on the date on which the tariff amendment goes into effect. The ISO shall simultaneously send out a notice to market participants that the final ISO Payments Calendar has been revised.

SABP 2.3.6 **Final Calendar Binding**

The final ISO Payments Calendar shall be binding on the ISO and on Scheduling Coordinators, Black Start Generators, Participating TOs and Owners.

SABP 3 **COMPUTATION OF CHARGES**

SABP 3.1 **Description of Charges to be Settled**

The ISO shall, based on the Settlement Quality Meter Data it has received, or, if Settlement Quality Meter Data is not available, based on the best available information or estimate it has received, calculate the following:

(a) the amount due from each Scheduling Coordinator for its share for the relevant month of the seven components of the Grid Management Charge in accordance with the formula located in Appendix F, Schedule 1, Part A of this Tariff. These Charges shall accrue on a monthly basis.

(b) the amount due from each Scheduling Coordinator for the Grid Operations Charge in accordance with Appendix F, Schedule 2 of this Tariff. This charge shall accrue on a monthly basis.

(c) the amount due from and/or owed to each Scheduling Coordinator for the Charge for each Ancillary Service in accordance with Appendix C, for each of the Settlement Periods of Day 0.

than payments calculated as due to the ISO Creditors for the same Trading Day. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their metered Demand (including exports) in MWh of Energy for that Trading Day. In the event that the charges due from ISO Debtors are higher than the payments due to ISO Creditors, the ISO shall allocate a payment to the Scheduling Coordinators who traded on that Trading Day pro rata to their metered Demand (including exports) in MWh of Energy for that Trading Day.

(d) amounts required with respect to payment adjustments for regulating Energy as calculated in accordance with Section 2.5.27.1 of the ISO Tariff. These charges will be allocated amongst the Scheduling Coordinators who traded on that Trading Day pro rata to their metered Demand (including exports) in MWh for that Trading Day.

SABP 3.2 Method of Settlement of Charges

SABP 3.2.1 Settlement of Payments to/from Scheduling Coordinators and Participating TOs

The ISO will calculate for each charge the amounts payable by the relevant Scheduling Coordinator, Black Start Generator or Participating TO for each Settlement Period of the Trading Day, and the amounts payable to that Scheduling Coordinator, Black Start Generator or Participating TO for each charge for each Settlement Period of that Trading Day and shall arrive at a net amount payable for each charge by or to that Scheduling Coordinator, Black Start Generator or Participating TO for each charge for that Trading Day. Each of these amounts will appear in the Preliminary and Final Settlement Statements that the ISO will provide to the relevant Scheduling Coordinator, Black Start Generator or Participating TO as provided in SABP 4.

The seven components of the Grid Management Charge will be included in the Preliminary Settlement Statement and Final Settlement Statement with the other types of charges referred to in SABP 3.1, but a separate invoice for the Grid Management Charge, stating the rate, billing determinant volume, and total charge for each of its seven components, will be issued by the ISO to the Scheduling Coordinator.

SABP 4 SETTLEMENT STATEMENTS

SABP 4.1 Preliminary Settlement Statements

SABP 4.1.1 Timing of Preliminary Settlement Statements

The ISO shall provide to each Scheduling Coordinator, Black Start Generator or Participating TO for validation a Preliminary Settlement Statement for each Trading Day in accordance with the ISO Payments Calendar.

SABP 4.4.5 **ISOContact**

If the ISO does not agree with the amount claimed or if it requires additional information, it shall make reasonable efforts (taking into account the time it received the notice of dispute and the complexity of the issue involved) to contact the relevant Scheduling Coordinator, Black Start Generator or Participating TO to resolve the issue before issuing the Final Settlement Statement. If it is not possible to contact the relevant party, the ISO shall issue the Final Settlement Statement without taking into account the dispute notice.

SABP 4.4.6 **Payment Pending Dispute**

Each Scheduling Coordinator, Black Start Generator or Participating TO which receives an invoice shall pay any net debit and shall be entitled to receive any net credit shown in the invoice on the Payment Date, whether or not there is any dispute regarding the amount of the debit or credit. The provisions of Section 13 (Dispute Resolution) of the ISO Tariff shall apply to the disputed amount.

SABP 4.5 **Settlement Statement Re-runs**

SABP 4.5.1 **Notice**

If a Scheduling Coordinator, Black Start Generator or Participating TO, (having made reasonable efforts to resolve with the ISO any dispute relating to a Preliminary Settlement Statement pursuant to SABP 4.4) requires a Settlement Statement re-run, it shall send at any time to the ISO Governing Board a notice in writing.

SABP 4.5.2 **ISO Tariff**

The provisions of Sections 11.6.3, 11.6.3.1, 11.6.3.2 and 11.6.3.3 of the ISO Tariff relating to Settlement Statement re-runs shall apply to all Scheduling Coordinators, Black Start Generators or Participating TOs who require a Settlement re-run in accordance with this SABP 4.5.

SABP 5 **INVOICES**

The ISO shall provide on the day specified in the ISO Payments Calendar an invoice in the format set out in SABP Appendix I showing:

(a) amounts which according to each of the Preliminary and Final Settlement Statements of that Billing Period are to be paid from or to each Scheduling Coordinator, Black Start Generator or Participating TO;

(b) the Payment Date, being the date on which such amounts are to be paid or received and the time for such payment; and

(c) details (including the account number, bank name and Fed-Wire transfer instructions) of the ISO Clearing Account to which any amounts owed by the Scheduling Coordinator, Black Start Generator or Participating TO are to be paid.

A separate invoice for the Grid Management Charge, stating the rate, billing determinant volume and total charge for each of its seven components, will be issued by the ISO to the Scheduling Coordinator.

A separate invoice for Interest, issued on the preliminary invoice date, stating the total charges for each Trade Month in which interest is charged, will be issued by the ISO.

SABP 6 PAYMENT PROCEDURES

SABP 6.1 Time of Payment

SABP 6.1.1 Payment Date

Subject to SABP 6.1.2, payment will be made by the ISO and by each Scheduling Coordinator, Black Start Generator and Participating TO on the Payment Date as set forth in Section 11.3.2.

SABP 6.1.2 Prepayments

(a) A Scheduling Coordinator may choose to pay at an earlier date than the Payment Date specified in the ISO Payments Calendar by way of prepayment provided it notifies the ISO by electronic means before submitting its prepayment.

(b) Prepayment notifications must specify the dollar amount prepaid.

(c) Prepayments must be made by Scheduling Coordinators via Fed-Wire into their ISO prepayment account designated by the ISO. The relevant Scheduling Coordinator shall grant the ISO a security interest on all funds in its ISO prepayment account.

(d) On any Payment Date the ISO shall be entitled to cause funds from the relevant Scheduling Coordinator's ISO prepayment account to be transferred to the ISO Clearing Account in such amounts as may be necessary to discharge in full that Scheduling Coordinator's payment obligation arising in relation to that Payment Date.

(e) Any funds held in the relevant Scheduling Coordinator's ISO prepayment account shall be treated as part of that Scheduling Coordinator's Security.

(f) Interest (or other income) accruing on the relevant Scheduling Coordinator's ISO prepayment account shall inure to the benefit of that Scheduling Coordinator and shall be added to the balance of its ISO prepayment account on a monthly basis.

(g) Funds held in an ISO prepayment account by a Scheduling Coordinator may be recouped, offset or applied by the ISO to any outstanding financial obligations of that Scheduling Coordinator to the ISO or to other Scheduling Coordinators under this Protocol.

excess will be credited to the Surplus Account pursuant to SABP 6.5.2(a).

(c) The funds referred to in SABP 6.5.2(a) pertaining to default interest referred to in SABP 6.10.5 shall first be applied towards any unpaid creditor balances for the trade month in which the default interest was assessed and second to any other unpaid creditor balances Only after all unpaid creditor balances are satisfied in full will any excess funds pertaining to default interest be credited to the Surplus Account pursuant to SABP 6.5.2(a).

SABP 6.5.3 Distribution of Funds

In the event that there are funds in the ISO Surplus Account in excess of an amount to be determined by the ISO Governing Board and noticed by the ISO to Market Participants, the amount of such excess will be distributed to Scheduling Coordinators using the same method of apportioning the refund as the method employed in apportioning the liability for the Grid Management Charge.

SABP 6.5.4 Trust

All amounts standing to the credit of the ISO Surplus Account will be held at all times on trust for Market Participants in accordance with this Protocol.

SABP 6.6 System Failure

SABP 6.6.1 At ISO Debtor's Bank

If any ISO Debtor becomes aware that a payment will not, or is unlikely to be, remitted to the ISO Bank by 10:00 am on the relevant Payment Date for any reason (including failure of the Fed-Wire or any computer system), it shall immediately notify the ISO, giving full details of the payment delay (including the reasons for the payment delay). The ISO Debtor shall make all reasonable efforts to remit payment as soon as possible, by an alternative method if necessary, to ensure that funds are received for value no later than 10:00 am on the Payment Date, or as soon as possible thereafter.

SABP 6.6.2 At the ISO's Bank

In the event of failure of any electronic transfer system affecting the ISO Bank, the ISO shall use reasonable efforts to establish alternative methods of remitting funds to the ISO Creditors' Settlement Accounts by close of banking business on that Payment Date, or as soon as possible thereafter. The ISO shall notify the ISO Debtors and the ISO Creditors of occurrence of the system failure and the alternative methods and anticipated time of payment.

SABP 6.7 Payment Default

Subject to SABP 6.8, if by 10:00 am on a Payment Date the ISO, in its reasonable opinion, believes that all or any part of any amount due to be remitted to the ISO Clearing Account by any Scheduling

APPENDIX A

[Not Used]

8.3 Allocation of the Grid Management Charge Among Scheduling Coordinators ~~and Other Appropriate Parties~~.

The costs recovered through the Grid Management Charge shall be allocated to the ~~three~~ seven service charges that comprise the Grid Management Charge. If the ISO's revenue rRequirement for any service charge changes from the most recent FERC-approved revenue requirement for that service charge, the costs recovered through that service charge shall be delineated in a filing to be made at FERC as set forth in Section 8.4. The seven ~~three~~ service charges are as follows:

(1) ~~Control Area~~ Core Reliability Services Charge,

(2) Energy Transmission Services Net Energy Charge,

~~Congestion Management Charge, and~~

(3) ~~Ancillary Services and Real-Time Energy Operations Charge~~ Energy Transmission Services Uninstructed Deviations Charge,

(4) Forward Scheduling Charge,

(5) Congestion Management Charge,

(6) Market Usage Charge, and

(7) Settlements, Metering, and Client Relations Charge.

The ~~three~~ seven charges shall be levied separately monthly in arrears on all Scheduling Coordinators ~~and Other Appropriate Parties~~ based on the billing determinants specified below for each charge in accordance with formulae set out in Appendix F, Schedule 1, Part A of this Tariff.

8.3.1 ~~Control Area~~ Core Reliability Services Charge.

The ~~Control Area~~ Core Reliability Services Charge for a Scheduling Coordinator ~~or Other Appropriate Party~~ is calculated using the Scheduling Coordinator's metered non-coincident peak hourly demand during the month (in megawatts) ~~as the product of the rate for the Control Area Services Charge and the Control Area Gross Load and exports of the Scheduling~~

~~Coordinator or Other Appropriate Party~~. The rate for the ~~Control Area~~ Core Reliability Services Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total of the forecasted metered non-coincident peak hourly demand for all months during the year,~~Control Area Gross Load and exports,~~ according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.2 Energy Transmission Services Net Energy Charge ~~Congestion Management Charge~~.

The Energy Transmission Services Net Energy Charge ~~Congestion Management Charge~~ for each Scheduling Coordinator ~~or Other Appropriate Party~~ is calculated using that Scheduling Coordinator's Metered Control Area Load (in megawatt hours) ~~as the product of the rate for the Congestion Management Charge and the absolute value of the net scheduled inter-zonal flow (excluding flows pursuant to Existing Contracts) per path for that Scheduling Coordinator~~. The rate for the Energy Transmission Services Net Energy Charge ~~Congestion Management Charge~~ is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted Metered Control Area Load,~~Scheduling Coordinators' inter-zonal scheduled flow (excluding ETCs) per path,~~ according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.3 Energy Transmission Services Uninstructed Deviations Charge ~~Ancillary Services and Real-Time Energy Operations Charge~~.

The Energy Transmission Services Uninstructed Deviations Charge ~~Ancillary Services and Real-Time Energy Operations Charge~~ for each Scheduling Coordinator ~~or Other Appropriate Party~~ is calculated using that Scheduling Coordinator's net uninstructed deviations by settlement interval~~as the product of the rate for the Ancillary Services and Real-Time Energy Operations Charge and the Scheduling Coordinator's or Other Appropriate Party's total purchases and sales (including out-of-market energy resources) of Ancillary Services,~~

~~Supplemental Energy, and Imbalance Energy (both instructed and uninstructed)~~. The rate for the ~~Ancillary Services and Real-Time Energy Operations~~Energy Transmission Services Uninstructed Deviations Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted net uninstructed deviations by settlement interval ~~purchases and sales of Ancillary Services, Supplemental Energy and Imbalance Energy (both instructed and uninstructed)~~ according to the formula in Appendix F, Schedule 1, Part A of this Tariff. ~~Energy procured to cover line losses or other transmission losses also shall be assessed this charge.~~

8.3.4 Forward Scheduling Charge.

The Forward Scheduling Charge for each Scheduling Coordinator is calculated using the sum of that Scheduling Coordinator's Final Hour-Ahead Schedules, including all awarded Ancillary Services bids, with a value other than 0 MW, submitted to the scheduling infrastructure/scheduling application system. The rate for the Forward Scheduling Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted Final Hour-Ahead Schedules and awarded Ancillary Service bids submitted to the ISO, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.5 Congestion Management Charge.

The Congestion Management Charge for each Scheduling Coordinator is calculated as the product of the rate for the Congestion Management Charge and the absolute value of the net scheduled inter-zonal flow (excluding flows pursuant to Existing Contracts) per path for that Scheduling Coordinator. The rate for the Congestion Management Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted inter-zonal scheduled flow

(excluding flows pursuant to Existing Contracts) per path in MWh, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.6 Market Usage Charge.

The Market Usage Charge for each Scheduling Coordinator is calculated using the absolute value of the Scheduling Coordinator's market purchases and sales of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval). The rate for the Market Usage Charge is determined by dividing the GMC costs allocated to this service category, including a specified percentage of the costs for the Settlements, Metering, and Client Relations Charge determined to be in excess of what is recovered by that charge, by the total forecasted number of market purchases and sales, according to the formula in Appendix F, Schedule 1, Part A of this Tariff.

8.3.7 Settlements, Metering, and Client Relations Charge.

The Settlements, Metering, and Client Relations Charge for each Scheduling Coordinator is fixed at $500.00 per month, per Scheduling Coordinator ID with an invoice value other than $0.00 in the current trade month, as indicated in Appendix F, Schedule 1, Part A of this Tariff. Excess GMC costs related to the provision of these services that are not recovered through this charge are allocated to the other GMC service categories as specified above and in Appendix F, Schedule 1, Part E of this Tariff.

8.4 Calculation and Adjustment of the Grid Management Charge

The ~~three~~seven charges set forth in Section 8.3 that comprise the Grid Management Charge shall be calculated through the formula set forth in Appendix F, Schedule 1, Part A of this Tariff. The formula set forth in Appendix F, Schedule 1, Part C of this Tariff sums the Operating Costs (less any available expense recoveries), Financing Costs, and Operating and Capital Reserves Costs associated with each of the seven ISO service charges to obtain a total revenue requirement. This revenue requirement is allocated among the seven charges of the GMC through the application of the factors specified in Appendix F, Schedule 1, Part E of this

Tariff.~~annually by summing the Operating Costs (less any available expense recoveries), Financing Costs, and Operating and Capital Reserves Costs associated with each of the three ISO services, to obtain a total revenue requirement. A separate revenue requirement for each component of the GMC shall be established by dividing the revenue requirement for the ISO as a whole and then assigning such costs to the three service categories.~~ The revenue requirement for each service shall then be divided by the forecast annual or periodic billing determinant volume to obtain a rate for each service, which will be payable by Scheduling Coordinators ~~and Other Appropriate Parties~~ as set forth in Section 8.3. The rates so established ~~may~~will be adjusted annually, through the operation of the formula set forth in Appendix F, Schedule 1, Part A of this Tariff. The ISO shall make an informational~~or over such lesser period as approved by the ISO Governing Board, through a~~ filing with the FERC each year, before the adjusted rates go into effect, as described in Appendix F, Schedule 1, Part D of this Tariff,~~under Section 205 of the Federal Power Act~~ to reflect any change in the annual revenue requirement, variance between forecast and actual costs for the previous year or period, or any surplus revenues from the previous year or period (as defined in Section 8.5), or the inability to recover from a Scheduling Coordinator ~~or Other Appropriate Party~~ its share of the Grid Management Charge, or any under-achievement of a forecast of the billing determinant volumes used to establish the rates. Appendix F, Schedule 1, Part B of this Tariff sets forth the conditions under which a quarterly adjustment to the Grid Management Charge will be made ~~without a filing under Section 205 of the Federal Power Act~~.

8.4.1 Credits and Debits of the Grid Management Charge.

In addition to the adjustments permitted under Section 11.6.3.3, the ISO shall credit or debit, as appropriate, the account of a Scheduling Coordinator ~~or Other Appropriate Party~~ for any overpayment or underpayment of the Grid Management Charge that the ISO determines occurred due to error, omission, or miscalculation by the ISO or the Scheduling Coordinator ~~or Other Appropriate Party~~.

8.5 Operating and Capital Reserves Account.

Revenues collected to fund the ISO financial operating reserves shall be deposited in an Operating and Capital Reserves Account until such account reaches a level specified by the ISO Governing Board. The Operating and Capital Reserves Account shall be calculated separately for each GMC service category (Core Reliability Services, Energy Transmission Services, Forward Scheduling, Congestion Management, Market Usage, and Settlements, Metering and Client Relations). If the Operating and Capital Reserves Account as calculated for such service category is fully funded, surplus funds will be considered an offset to the revenue requirement ~~in~~of the next fiscal year~~'s operating budget~~.

* * *

~~Ancillary Services and Real-Time Energy Operations Charge~~	~~The component of the Grid Management Charge that provides for the recovery of the ISO's costs of providing ancillary service and real-time energy related services, including, but not limited to:~~ ~~• providing for Ancillary Services and Energy balancing services, including providing for open and non-discriminatory access for market-making activities for participants through auctions;~~ ~~• posting of market information;~~ ~~• market surveillance and analysis; and~~ ~~Settlement, billing, and metering related to the above.~~
	* * *
Congestion Management Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs of operating the Congestion Management process, including, but not limited to, the

management and operation of inter-zonal congestion markets, adjustment bids, taking Firm Transmission Rights and Existing Contracts into account, and determining the price for mitigating congestion for flows on congested paths. The formula for determining the Congestion Management Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

* * *

Control Area Gross Load

For the purpose of calculating and billing ~~the Grid Management Charge,~~ Minimum Load Costs, Emission Costs Charge and Start-Up Fuel Costs Charge, Control Area Gross Load is all Demand for Energy within the ISO Control Area. Control Area Gross Load shall not include Energy consumed by:

(a) generator auxiliary Load equipment that is dedicated to the production of Energy and is electrically connected at the same point as the Generating Unit (*e.g.*, auxiliary Load equipment that is served via a distribution line that is separate from the switchyard to which the Generating Unit is connected will not be considered to be electrically connected at the same point); and

(b) Load that is isolated electrically from the ISO Control Area (*i.e.*, Load that is not synchronized with the ISO Control Area).

~~**Control Area Services Charge**~~

~~The component of the Grid Management Charge that provides for recovery of the ISO's costs of ensuring safe, reliable operation of the transmission grid and dispatch of bulk power supplies in accordance with regional and national reliability standards, including, but not limited to:~~

- ~~performing operation studies;~~
- ~~system security analyses;~~
- ~~transmission maintenance standards;~~
- ~~system planning to ensure overall reliability;~~
- ~~integration with other Control Areas;~~
- ~~emergency management;~~
- ~~outage coordination;~~
- ~~transmission planning; and~~
- ~~scheduling generation, imports, exports, and wheeling in the Day-Ahead and Hour-Ahead of actual operations.~~

* * *

Core Reliability Services Charge

The component of the Grid Management Charge that provides for the recovery of the ISO's costs of providing a basic, non-scalable level of reliable operation for the ISO Control Area and meeting regional and national reliability requirements. The formula for determining the Core Reliability Services Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

* * *

Energy Transmission Services Net Energy Charge

The component of the Grid Management Charge that provides, in conjunction with the Energy Transmission Services Uninstructed Deviations Charge, for the recovery of the ISO's costs of providing reliability on a scalable basis, i.e., a function of the intensity of the use of the transmission system within the Control Area and the occurrence of system outages and disruptions. The formula for determining the Energy

	Transmission Services Net Energy Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.
Energy Transmission Services Uninstructed Deviations Charge	The component of the Grid Management Charge that provides, in conjunction with the Energy Transmission Services Net Energy Charge, for the recovery of the ISO's costs of providing reliability on a scalable basis, in particular for the costs associated with balancing transmission flows that result from uninstructed deviations. The formula for determining the Energy Transmission Services Uninstructed Deviations Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.
	* * *
Forward Scheduling Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs of providing the ability to Scheduling Coordinators to forward schedule Energy and Ancillary Services and the cost of processing accepted Ancillary Service bids. For purposes of the Forward Scheduling Charge, a schedule is represented by each Final Hour-Ahead Schedule with a value other than 0 MW submitted to the scheduling infrastructure/scheduling application system (import, export, Load, Generation, inter-SC trade, and Ancillary Services, including self-provided Ancillary Services) submitted to the ISO's scheduling infrastructure. The formula for determining the Forward Scheduling Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.
	* * *
Grid Management Charge	The ISO monthly charge on all Scheduling Coordinators ~~and~~

~~Other Appropriate Parties~~ that provides for the recovery of the ISO's costs listed in Section 8.2 through the ~~three~~seven service charges described in Section 8.3 calculated in accordance with the formula rate set forth in Appendix F, Schedule 1, Part A of this Tariff.~~:~~ The seven charges that comprise the Grid Management Charge consist of: 1) the ~~Control Area~~Core Reliability Services Charge, 2) the ~~Congestion Management~~Energy Transmission Services Net Energy Charge, ~~and~~ 3) the ~~Ancillary Services and Real-Time Energy Operations Charge~~ Energy Transmission Services Uninstructed Deviations Charge, 4) the Forward Scheduling Charge, 5) the Congestion Management Charge, 6) the Market Usage Charge, and 7) the Settlements, Metering, and Client Relations Charge. ~~The three component charges are formula rates.~~

* * *

Market Usage Charge

The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs for processing Supplemental Energy and Ancillary Service bids, maintaining the Open Access Same-Time Information System, monitoring market performance, ensuring generator compliance with market protocols, and determining Market Clearing Prices. The formula for determining the Market Usage Charge is set forth in Appendix F, Schedule 1, Part A of this Tariff.

* * *

Metered Control Area Load	For purposes of calculating and billing the Energy Transmission Services Net Energy Charge component of the Grid Management Charge, Metered Control Area Load is: (a) all metered Demand for Energy of Scheduling Coordinators for the supply of Loads in the ISO's Control Area, plus (b) all Energy for exports by Scheduling Coordinators from the ISO Control Area; less (c) Energy associated with the Load of a retail customer of a Scheduling Coordinator, UDC, or MSS that is served by a Generating Unit that: (i) is located on the same site as the customer's Load or provides service to the customer's Load through arrangements as authorized by Section 218 of the California Public Utilities Code; (ii) is a qualifying small power production facility or qualifying cogeneration facility, as those terms are defined in FERC's regulations implementing Section 201 of the Public Utility Regulatory Policies Act of 1978; and (iii) the customer secures Standby Service from a Participating TO under terms approved by a Local Regulatory Authority or FERC, as applicable, or the customer's Load can be curtailed concurrently with an outage of the Generating Unit.
	* * *
~~**Other Appropriate Party**~~	~~A party that may be liable for a component of the ISO Grid Management Charge on a basis other than its role, if any, as Scheduling Coordinator. Such party may include out-of-state or in-state entity that provides real-time power through out-of-market Energy transactions or consumes real-time power through other arrangements over the ISO Controlled Grid; or a~~

~~governmental or municipally-owned entity with Control Area Gross Load not generally served through, but continuously interconnected with, the ISO Controlled Grid.~~

* * *

Settlements, Metering, and Client Relations Charge	The component of the Grid Management Charge that provides for the recovery of the ISO's costs, including, but not limited to the costs of maintaining customer account data, providing account information to customers, responding to customer inquiries, calculating market charges, resolving customer disputes, and the costs associated with the ISO's Settlement, billing, and metering activities. Because this is a fixed charge per Scheduling Coordinator ID, costs associated with activities listed above also are allocated to other charges under the Grid Management Charge according to formula set forth in Appendix F, Schedule 1, Part A of this Tariff.

* * *

ISO TARIFF APPENDIX F

Rate Schedules

Schedule 1

Grid Management Charge

Part A – Monthly Calculation of Grid Management Charge (GMC)

The Grid Management Charge consists of ~~three~~seven separate service charges: (1) the Core Reliability Services Charge, (2) the Energy Transmission Services Net Energy Charge, (3) the Energy Transmission Services Uninstructed Deviations Charge, (4) the Forward Scheduling Charge, (5) the Congestion Management Charge, (6) the Market Usage Charge, and (7) the Settlements, Metering, and Client Relations Charge ~~the Control Area Services Charge, the Congestion Management Charge, and the Ancillary Services and Real-Time Energy Operations Charge~~.

1. The rate in $/MW for the ~~Control Area~~ Core Reliability Services Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service ~~charge~~category in accordance with Part E of this Schedule 1, by the total of the forecasted Scheduling Coordinators' metered non-coincident peak hourly demand in MW for all months during the year. ~~Control Area Gross Load and exports, in MWh.~~

2. The rate in $/MWh for the ~~Congestion Management~~ Energy Transmission Services Net Energy Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service ~~charge~~category in accordance with Part E of this Schedule 1, by the total annual forecast Metered Control~~led Grid~~ Area Load ~~Scheduling Coordinators' inter-zonal scheduled flow (excluding flows pursuant to Existing Contracts) per path~~ in MWh.

3. The rate in $/MWh for the ~~Ancillary Services and Real-Time Energy Operations~~ Energy Transmission Services Uninstructed Deviations Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service ~~charge~~category in accordance with Part E of this Schedule 1, by the absolute value of total annual forecast net uninstructed deviations (netted within a settlement interval) ~~total purchases and sales (including out-of-market transactions) of Ancillary Services, Supplemental Energy, and Imbalance Energy (both instructed and uninstructed)~~ in MWh.

4. The rate in $ per Schedule for the Forward Scheduling Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the annual forecast number of non-zero MW Final Hour-Ahead Schedules, including all awarded Ancillary Service bids.

5. The rate in $/MWh for the Congestion Management Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the total annual forecast Scheduling Coordinators' inter-zonal scheduled flow (excluding flows pursuant to Existing Contracts) per path in MWh.

6. The rate in $/MWh for the Market Usage Charge will be calculated by dividing the GMC costs, as determined in accordance with Part C of this Schedule 1, allocated to this service category in accordance with Part E of this Schedule 1, by the annual forecast total purchases and sales (including out-of-market transactions) of Ancillary Services, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval) in MWh.

7. The rate for the Settlements, Metering, and Client Relations Charge will be fixed at $500.00 per month, per Scheduling Coordinator Identification Number ("SC ID") with an invoice value other than $0.00 in the current trade month.

The rates for the foregoing charges shall be adjusted automatically each year, effective January 1 for the following twelve months, in the manner set forth in Part D of this Schedule.

Part B – Quarterly Adjustment, If Required

Each component rate of the Grid Management Charge will be adjusted automatically on a quarterly basis, up or down, so that rates reflect the ~~ISO's FERC approved~~annual revenue requirement as stated in the ISO's annual informational filing, if the estimated billing determinant volumes for that component, on an annual basis, change by 5% or more during the year. Such adjustment may be implemented not more than once per calendar quarter, and will be effective the first day of the next calendar month.

The rates will be adjusted in accordance with the following formula:

According to the formulae listed in Appendix F, Schedule 1, Part A with the billing determinant(s) readjusted on a going-forward basis to reflect the 5% or greater change from the estimated billing determinant provided in the annual informational filing.

~~Each year the Grid Management Charge may be recalculated to reflect the following year's budget estimates and to adjust for any difference between the previous year's revenue and cost estimates and actual revenues and costs, as reflected in Part D of this Schedule, "Information Requirements". The annual or periodic filing (which is described in Part D and is not the quarterly adjustment) shall not affect the automatic adjustment of the Grid Management Charge on a quarterly basis, as set forth in the first paragraph of this Part B.~~

Part C – Costs Recovered through the GMC

As provided in Section 8 of the ISO Tariff, the Grid Management Charge includes the following costs, as projected in the ISO's budget for the year to which the Grid Managment Charge applies:

- Operating costs (as defined in Section 8.2.2)
- Financing costs (as defined in Section 8.2.3), including Start-Up and Development costs and
- Operating and Capital Reserve costs (as defined in Section 8.2.4)

Such costs, for the ISO as a whole, are allocated to the ~~three~~seven service charges that comprise the Grid Management Charge: (1) ~~Control Area~~Core Reliability Services Charge,

(2) ~~Congestion Management~~ Energy Transmission Services Net Energy Charge, ~~and~~

(3) ~~Ancillary Services and Real-Time Energy Operations~~ Energy Transmission Services Uninstructed Deviations Charge, (4) Forward Scheduling Charge, (5) Congestion Management Charge, (6) Market Usage Charge, and (7) Settlements, Metering, and Client Relations Charge, according to the factors listed in Part E of this Schedule 1 ~~using appropriate methodologies~~, and

adjusted annually for:

- any surplus revenues from the previous year as deposited in the Operating and Capital Reserve Account, as defined under Section 8.5, or deficiency of revenues, as recorded in a memorandum account;

divided by:

- forecasted annual billing determinant volumes ~~in MWh~~;

adjusted quarterly for:

- a change in the volume estimate used to calculate the individual Grid Management Charge components, if, on an annual basis, the change is 5% or more.

The Grid Management Charge revenue requirement f~~F~~ormula is as follows:

Grid Management Charge revenue requirement =

- Operating Expenses + Debt Service + [(Coverage Requirement x Senior Lien Debt Service) and/or (Cash Funded Capital Expenditures)] - Interest Earnings - Other Revenues - Reserve Transfer

Where,

- **Operating Expenses =** O&M Expenses plus Taxes Other Than Income Taxes and Penalties
- **O&M Expenses** = Transmission O&M Expenses (Accounts 560-574) plus Customer Accounting Expenses (Accounts 901-905) plus Customer Service and Informational Expenses (Accounts 906-910) plus Sales Expenses (Accounts 911-917) plus Administrative & General Expenses (Accounts 920-935)
- **Taxes Other Than Income Taxes** = those taxes other than income taxes which relate to ISO operating income (Account 408.1)
- **Penalties** = payments by the ISO for penalties or fines incurred for violation of ~~WSCC~~WECC reliability criteria (Account 426.3)
- **Debt Service** = for any fiscal year, scheduled principal and interest payments, sinking fund payments related to balloon maturities, repayment of commercial paper notes, net payments required pursuant to a payment obligation, or payments due on any ISO notes. This amount includes the current year accrued principal and interest payments due in April ~~15~~ of the following year.
- **Coverage Requirement** = 25% of the Senior Lien Debt Service.
- **Senior Lien Debt Service** = all Debt Service that has a first lien on ISO Net Operating Revenues (Account 128 subaccounts).
- **Cash Funded Capital Expenditures** = Post current fiscal year capital additions (Accounts 301-399) funded on a pay-as-you-go basis.
- **Interest Earnings** = Interest earnings on Operating and Capital Reserve balances (Account 419). Interest on bond or note proceeds specifically designated for capital projects or capitalized interest is excluded.
- **Other Revenues** = Amounts booked to Account 456 subaccounts. Such amounts include but are not limited to application fees, ~~WSCC~~WECC security coordinator reimbursements, and fines assessed and collected by the ISO.

- **Reserve Transfer** = the projected reserve balance for December 31 of the prior year less the Reserve Requirement as adopted by the ISO Board and FERC. If such amount is negative, the amount may be divided by two, so that the reserve is replenished within a two-year period. (Account 128 subaccounts)

- **Reserve Requirement** = 15% of Annual Operating Expenses.

A separate rRevenue rRequirement shall be established for each component of the Grid Management Charge by developing the rRevenue rRequirement for the ISO as a whole and then assigning such costs to the threeseven service categories using appropriate the allocation methodologiesfactors provided in Appendix F, Schedule 1, Part E of this Tariff.

Part D – Information Requirements

Budget Schedule

The ISO Governing Board shall set forth a budget schedule that shall specify the dates for the budget posting and public workshop events noted below and other significant budget related milestones providing an opportunity for public input.

Budget Posting

The ISO will post on its Internet site the preliminary proposed ISO operating and capital budget to be effective during the subsequent fiscal year, and the projected billing determinant volumes used to develop the rate for each component of the Grid Management Charge.

Public Workshop

Subsequent to the website posting, and prior to (i) the Board approval of the budget and (ii) the submission of the informational filing described in the next paragraph of this Part D, the ISO shall hold a public budget workshop where it will provide an overview of and answer questions from stakeholders on the proposed budget, cost allocation, and the charges for each of the ISO's services for the following year.

Annual ~~or Periodic~~Informational Filing

~~If a change is proposed in the ISO annual revenue requirement from the most recent FERC approved annual revenue requirement, t~~The ISO will make an informational filing ~~under Section 205 of the Federal Power Act~~ each year no later than December 15, or the first business day thereafter, at FERC that shall contain projected cost data on the ISO presented in conformance with the budget approved by the ISO Board and the FERC Uniform System of Accounts (USOA). This filing shall contain such information as is required to ~~set~~update the GMC ~~unit~~ rates resulting from the application of the formulae in Part A of this Schedule for the following ~~fiscal~~calendar year ~~or period, including the criteria used to set the projected billing determinant volumes, and a description of the process used to allocate the ISO's total costs into the revenue requirements for each of the component charges of the GMC~~.

Periodic Financial reports

The ISO will create periodic financial reports consisting of an income statement, balance sheet, statement of operating reserves, and such other reports as are required by the

ISO Board of Governors. The periodic financial reports will be posted on the ISO's Website not less than quarterly.

Part E **~~[Not used]~~Cost Allocation**

The Grid Management Charge revenue requirement, determined in accordance with Part C of this Schedule 1, shall be allocated to the seven service charges specified in Part A of this Schedule 1 as follows. Expenses projected to be recorded in each cost center shall be allocated among the seven charges in accordance with the allocation factors listed in Table 1 to this Schedule 1. In the event the ISO budgets for projected expenditures for cost centers are not specified in Table 1 to this Schedule, such expenditures shall be allocated based on the allocation factors for the respective ISO division hosting that newly-created cost center. Such divisional allocation factors are specified in Table 1 to this Schedule 1.

Debt service expenditures for the ISO's year 2000 (or subsequently refinanced) bond offering shall be allocated among the seven charges in accordance with the allocation factors listed in Table 1 to this Schedule 1. Capital expenditures shall be allocated among the seven charges in accordance with the allocation factors listed in Table 2 to this Schedule 1 for the system for which the capital expenditure is projected to be made.

Any costs allocated by the factors listed in Table 1 and Table 2 to the Settlements, Metering, and Client Relations category that would remain un-recovered after the assessment of the charge for that service specified in Section 7 of Part A of this Schedule 1 on forecasted billing determinant volumes shall be reallocated to the remaining GMC service categories in the ratios set forth in Table 3 to this Schedule 1.

Costs allocated to the Energy Transmission Services category in the following tables are further apportioned to the Energy Transmission Services Net Energy and Energy Transmission Services Uninstructed Deviations subcategories in 80% and 20% ratios, respectively.

Table 1

O&M, Debt Service, and Other Expense Recoveries Cost Allocation Factors

CC #	Cost Center	CRS	ETS	FS	CM	MU	SMCR	Total
1100	**CEO Division**	**44%**	**22%**	**4%**	**5%**	**10%**	**16%**	**100%**
1111	CEO - General	44%	22%	4%	5%	10%	16%	100%
1241	MD02	7%	0%	14%	11%	28%	40%	100%
1521	Grid Planning	63%	38%	0%	0%	0%	0%	100%
1300	**Finance Division**	**44%**	**21%**	**4%**	**4%**	**10%**	**16%**	**100%**
1311	CFO - General	44%	21%	4%	4%	10%	16%	100%
1321	Accounting	44%	22%	4%	5%	10%	16%	100%
1331	Financial Planning and Treasury	44%	22%	4%	5%	10%	16%	100%
1351	Facilities	44%	21%	4%	4%	10%	17%	100%
1361	Security & Corporate Services	44%	21%	4%	4%	10%	17%	100%

1400	**Information Services Division**	**38%**	**7%**	**10%**	**5%**	**9%**	**31%**	**100%**
1411	Chief Information Officer	38%	7%	10%	5%	9%	31%	100%
1422	Corporate & Enterprise Applications	33%	7%	1%	25%	13%	21%	100%
1424	Asset Management	35%	6%	11%	5%	11%	32%	100%
1431	End User Support	38%	14%	8%	3%	9%	27%	100%
1432	Computer Operations and Infrastructure Services	34%	9%	12%	3%	9%	33%	100%
1433	Network Services	43%	12%	9%	3%	9%	24%	100%
1441	Outsourced Contracts	42%	11%	10%	3%	9%	25%	100%
1442	Production Support	25%	0%	18%	3%	8%	47%	100%
1451	Information Support Services	25%	0%	18%	3%	8%	47%	100%
1461	Control Systems	96%	2%	0%	0%	1%	1%	100%
1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%	100%
1463	Operations Systems Services	50%	3%	6%	1%	6%	33%	100%
1466	Enterprise Applications	48%	7%	1%	1%	3%	39%	100%
1467	Settlement Systems Services	27%	11%	2%	2%	5%	52%	100%
1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%	100%
1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%	100%
1471	IT Planning	25%	0%	18%	3%	8%	47%	100%
1481	Markets and Scheduling System Services	47%	3%	24%	3%	18%	6%	100%
1482	Market Systems Support Services	45%	1%	19%	6%	24%	6%	100%
1500	**Grid Operations Division**	**67%**	**33%**	**0%**	**0%**	**0%**	**0%**	**100%**
1511	VP Grid Operations	67%	33%	0%	0%	0%	0%	100%
1542	Outage Coordination	95%	5%	0%	0%	0%	0%	100%
1543	Loads and Resources	49%	51%	0%	0%	0%	0%	100%
1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%	100%
1545	Grid Operations	67%	33%	0%	0%	0%	0%	100%
1546	Security Coordination	100%	0%	0%	0%	0%	0%	100%
1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%	100%
1548	OSAT Group - General	93%	7%	0%	0%	0%	0%	100%
1549	Operations Training	50%	50%	0%	0%	0%	0%	100%
1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%	100%

1555	Operations Support Group	56%	44%	0%	0%	0%	0%	100%
1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%	100%
1559	Operations Application Support	60%	40%	0%	0%	0%	0%	100%
1561	Operations Engineering South	65%	35%	0%	0%	0%	0%	100%
1562	Operations Engineering North	55%	45%	0%	0%	0%	0%	100%
1563	Operations Coordination	75%	25%	0%	0%	0%	0%	100%
1564	Operations Scheduling	100%	0%	0%	0%	0%	0%	100%
1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%	100%
1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%	100%
1600	**Legal and Regulatory Division**	**36%**	**22%**	**4%**	**7%**	**17%**	**15%**	**100%**
1611	VP General Counsel - General	36%	22%	4%	7%	17%	15%	100%
1631	Legal and Regulatory	44%	22%	4%	5%	10%	16%	100%
1641	Market Analysis	15%	26%	0%	20%	31%	7%	100%
1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
1651	Board of Governors	44%	22%	4%	5%	10%	16%	100%
1661	Compliance - General	22%	20%	12%	0%	29%	17%	100%
1662	Compliance - Audits	8%	0%	0%	0%	50%	42%	100%
1700	**Market Services Division**	**17%**	**2%**	**9%**	**9%**	**20%**	**41%**	**100%**
1711	VP Market Services - General	17%	2%	9%	9%	20%	41%	100%
1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	80%	20%	0%	0%	0%	0%	100%
1724	BBS - PSS	0%	0%	0%	0%	0%	100%	100%
1725	BBS - FSS	0%	0%	0%	0%	0%	100%	100%
1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%	100%
1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
1751	Market Operations - General	31%	0%	15%	15%	35%	4%	100%
1752	Manager of Markets	27%	5%	27%	22%	18%	0%	100%
1753	Market Engineering	21%	0%	0%	28%	43%	7%	100%
1755	Business Solutions	6%	0%	47%	12%	29%	6%	100%
1756	Market Quality - General	0%	0%	0%	0%	71%	29%	100%

1757	Market Integration	7%	0%	30%	30%	26%	7%	100%
1800	**Corporate and Strategic Development Division**	**44%**	**21%**	**4%**	**4%**	**10%**	**16%**	**100%**
1811	VP Corporate and Strategic Development - General	44%	21%	4%	4%	10%	16%	100%
1821	Communications	44%	22%	4%	5%	10%	16%	100%
1831	Strategic Development	44%	22%	4%	5%	10%	16%	100%
1841	Human Resources	44%	21%	4%	4%	10%	17%	100%
1851	Project Office	44%	22%	4%	5%	10%	16%	100%
1861	Regulatory Policy	44%	22%	4%	5%	10%	16%	100%
Other Revenue and Credits								
	SC Application and Training Fees	0%	0%	0%	0%	0%	100%	100%
	WECC Reimbursement/NERC Reimbursement	100%	0%	0%	0%	0%	0%	100%
	Interest Earnings	37%	12%	9%	5%	11%	25%	100%
Debt Service Related Allocations		33%	8%	15%	5%	9%	29%	100%

Table 2

Capital Cost Allocation Factors

System	CRS	ETS	FS	CM	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	100%	0%	0%	0%	0%	0%	100%
Ancillary Services Management (ASM) Component of SA	15%	0%	40%	0%	45%	0%	100%
Application Development Tools	23%	0%	22%	3%	7%	45%	100%
Automated Dispatch System (ADS)	50%	0%	25%	0%	20%	5%	100%
Automated Load Forecast System (ALFS)	70%	0%	10%	0%	20%	0%	100%
Automatic Mitigation Procedure (AMP)	85%	0%	0%	0%	15%	0%	100%
Backup systems (Legato/Quantum)	23%	0%	22%	3%	7%	45%	100%

Balance of Business Systems (BBS)	0%	0%	0%	0%	0%	100%	100%
Balancing Energy Ex Post Price (BEEP) Component of SA	50%	0%	20%	10%	20%	0%	100%
Bill's Interchange Schedule (BITS)	85%	0%	0%	0%	15%	0%	100%
CaseWise (process modeling tool)	44%	21%	4%	4%	10%	17%	100%
CHASE	44%	21%	4%	4%	10%	17%	100%
Common Information Model (CIM)	100%	0%	0%	0%	0%	0%	100%
Compliance (Blaze)	19%	16%	10%	0%	33%	22%	100%
Congestion Management (CONG) (Component of SA)	10%	0%	0%	65%	25%	0%	100%
Congestion Reform-DSOW	50%	0%	0%	50%	0%	0%	100%
Congestion Revenue Rights (CRR)	0%	0%	0%	80%	20%	0%	100%
DataWarehouse	24%	18%	6%	9%	24%	18%	100%
Dept. of Market Analysis Tools (SAS/MARS)	15%	26%	0%	20%	31%	7%	100%
Dispute Tracking System (Remedy)	0%	0%	0%	0%	0%	100%	100%
Documentum	44%	21%	4%	4%	10%	17%	100%
Electronic Tagging (Etag)	100%	0%	0%	0%	0%	0%	100%
Energy Management System (EMS)	100%	0%	0%	0%	0%	0%	100%
Engineering Analysis Tools	60%	40%	0%	0%	0%	0%	100%
Evaluation of Market Separation	0%	0%	0%	50%	50%	0%	100%
Existing Transmission Contracts Calculator (ETCC)	25%	0%	20%	15%	20%	20%	100%
FERC Study Software	0%	0%	0%	0%	100%	0%	100%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	0%	0%	15%	60%	15%	10%	100%

Global Resource Reliability Management Application (GRRMA)	75%	15%	0%	0%	10%	0%	100%
Grid Operations Training Simulator (GOTS)	56%	44%	0%	0%	0%	0%	100%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0%	0%	100%	0%	0%	0%	100%
Human Resources	44%	21%	4%	4%	10%	17%	100%
IBM Contract	37%	14%	10%	4%	9%	26%	100%
Integrated Forward Market (IFM)	10%	0%	35%	0%	55%	0%	100%
Internal Development	23%	0%	22%	3%	7%	45%	100%
Interzonal Congestion Management reform - Real Time	50%	0%	0%	50%	0%	0%	100%
Land and Building Costs	44%	21%	4%	4%	10%	17%	100%
Local Area Network (LAN)	44%	21%	4%	4%	10%	17%	100%
Locational Marginal Pricing (LMPM)	10%	0%	35%	0%	55%	0%	100%
Market Transaction System (MTS)	0%	0%	0%	0%	100%	0%	100%
Masterfile	20%	0%	20%	0%	55%	5%	100%
MD02 Capital	7%	0%	14%	11%	28%	40%	100%
Meter Data Acquisition System (MDAS)	0%	0%	0%	0%	0%	100%	100%
Miscellaneous (2004 related projects)	23%	0%	22%	3%	7%	45%	100%
Monitoring (Tivoli)	23%	0%	22%	3%	7%	45%	100%
New Resource Interconnection (NRI)	100%	0%	0%	0%	0%	0%	100%
New System Equipment (replacement of owned equipment)	23%	0%	22%	3%	7%	45%	100%
NT/web servers	44%	21%	4%	4%	10%	17%	100%
NT-servers	44%	21%	4%	4%	10%	17%	100%

Oracle Enterprise Manager (OEM)	27%	0%	18%	5%	9%	41%	100%
Office Automation - desktop/laptop (OA)	44%	21%	4%	4%	10%	17%	100%
Office equipment (scanner, printer, copier, fax, Communication Equipment)	44%	21%	4%	4%	10%	17%	100%
Open Access Same Time Information System (OASIS)	10%	0%	25%	10%	35%	20%	100%
Operational Meter Analysis and Reporting (OMAR)	0%	0%	0%	0%	0%	100%	100%
Oracle Corporate Financials	44%	21%	4%	4%	10%	17%	100%
Oracle Licenses	27%	0%	18%	5%	9%	41%	100%
Oracle Market Financials BBS	0%	0%	0%	0%	0%	100%	100%
Out of Sequence Market Operation Settlements Information System (OOS)	5%	5%	0%	0%	90%	0%	100%
Outage Scheduler (OS)	50%	0%	10%	20%	20%	0%	100%
Participating Intermittent Resource Project (PIRP)	0%	0%	94%	0%	6%	0%	100%
Physical Facilities Software Application/Furniture/Leasehold Improvements	44%	21%	4%	4%	10%	17%	100%
Process Information System (PI)	80%	0%	0%	0%	10%	10%	100%
Rational Buyer	100%	0%	0%	0%	0%	0%	100%
Real Time Energy Dispatch System (REDS)	100%	0%	0%	0%	0%	0%	100%
Real Time Nodal Market	35%	0%	10%	0%	55%	0%	100%
Reliability Management System (RMS)	100%	0%	0%	0%	0%	0%	100%
Remedy (related to Transmission Registry, New Resource Interconnection, and Resource Registry)	100%	0%	0%	0%	0%	0%	100%
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	100%	0%	0%	0%	0%	0%	100%
Resource Register (RR)	100%	0%	0%	0%	0%	0%	100%

RMR Application Validation Engine (RAVE)	100%	0%	0%	0%	0%	0%	100%
Scheduling & Logging for ISO California (SLIC)	65%	0%	15%	5%	15%	0%	100%
Scheduling Architecture (SA)	24%	0%	20%	26%	30%	0%	100%
Scheduling Infrastructure (SI)	0%	0%	94%	0%	6%	0%	100%
Scheduling Infrastructure Business Rules (SIBR)	0%	0%	94%	0%	6%	0%	100%
Security Constrained Economic Dispatch (SCED)	40%	0%	0%	0%	60%	0%	100%
Security- External/Physical	44%	21%	4%	4%	10%	17%	100%
Security-ISS (CUDA)	23%	0%	22%	3%	7%	45%	100%
Settlements and Market Clearing	0%	0%	0%	0%	0%	100%	100%
Sign Board (Symon Board maint.)	44%	21%	4%	4%	10%	17%	100%
Startup Costs through 3/31/98, Working Capital-3 months	44%	21%	4%	4%	10%	17%	100%
Storage (EMC symmetrix)	19%	10%	14%	4%	12%	42%	100%
System Equipment Buyouts (lease buyouts)	43%	1%	7%	2%	11%	36%	100%
Telephone/PBX	44%	21%	4%	4%	10%	17%	100%
Training Systems	23%	0%	22%	3%	7%	45%	100%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	100%	0%	0%	0%	0%	0%	100%
Transmission Map Plotting & Display	50%	50%	0%	0%	0%	0%	100%
Trustee Costs, Interest-Capitalized, User Groups	54%	1%	11%	16%	17%	2%	100%
Utilities - System i.e. Print drivers	23%	0%	22%	3%	7%	45%	100%
Vitria (Middleware)	23%	0%	22%	3%	7%	45%	100%
Wide Area Network (WAN)	41%	2%	19%	1%	8%	29%	100%

Capital Expenditures for Systems not Specified	32%	7%	15%	6%	11%	29%	100%

Table 3

Reallocation Factors for Projected Unrecovered Portion of Settlements, Metering, and Client Relations Revenue Requirement

	CRS	ETS	FS	CM	MU	SMCR	Total
Functional Association of Settlements, Metering, and Client Relations	0.0%	70.3%	0.0%	8.2%	21.4%	0.0%	100.0%

* * *

SETTLEMENT AND BILLING PROTOCOL (SABP)

* * *

SABP 3.1 **Description of Charges to be Settled**

The ISO shall, based on the Settlement Quality Meter Data it has received, or, if Settlement Quality Meter Data is not available, based on the best available information or estimate it has received, calculate the following:

(a) the amount due from each Scheduling Coordinator ~~or Other Appropriate Party~~ for its share for the relevant month of the ~~three~~seven components of the Grid Management Charge in accordance with the formula located in Appendix F, Schedule 1, Part A of this Tariff. These Charges shall accrue on a monthly basis.

(b) the amount due from each Scheduling Coordinator for the Grid Operations Charge in accordance with Appendix ~~A~~F, Schedule 2 of this Tariff. This charge shall accrue on a monthly basis.

(c) the amount due from and/or owed to each Scheduling Coordinator for the Charge for each Ancillary Service in accordance with Appendix C, for each of the Settlement Periods of Day 0.

(d) the amount due from and/or owed to each Scheduling Coordinator for Imbalance Energy in accordance with Appendix D, for each of the Settlement Periods of Day 0.

(e) the amount due from and/or owed to each Scheduling Coordinator for Usage Charges in accordance with Appendix E, for each of the Settlement Periods of Day 0.

(f) the amount due from each Scheduling Coordinator for Wheeling Out and Wheeling Through Charges and the amount owed to each Participating TO for these charges in accordance with Appendix F, for each of the Settlement Periods of Day 0.

(g) the amounts due from/to Scheduling Coordinators for Voltage Support (supplemental reactive power charges) for each of the Settlement Periods of Day 0 in accordance with Appendix G.

(h) the monthly charges due from/to Scheduling Coordinators for long term voltage support provided by Owners of Reliability Must-Run Units in accordance with Appendix G.

(i) the amounts due from/to Scheduling Coordinators for the provision of Black Start Energy from Reliability Must-Run Units for each of the Settlement Periods of Day 0 in accordance with Appendix G.

(j) the amounts due from/to Black Start Generators for the provision of Black Start Energy for each of the Settlement Periods of Day 0 in accordance with Appendix G.

(k) the amount due from each UDC or MSS, or from a Scheduling Coordinator delivering Energy for the supply of Gross Load not directly connected to the facilities of a UDC or MSS, for the High Voltage Access Charge and Transition Charge in accordance with operating procedures posted on the ISO Home Page. These charges shall accrue on a monthly basis.

(l) the amounts due from Scheduling Coordinators for FERC Annual Charges.

All of the data, information, and estimates the ISO uses to calculate these amounts shall be subject to the auditing requirements of Section 10.5 of the ISO Tariff.

The ISO shall calculate these amounts using the software referred to in SABP 2.1 except in cases of system breakdown when it shall apply the procedures set out in SABP 9 (Emergency Procedures).

* * *

SABP 3.2.1 **Settlement of Payments to/from Scheduling Coordinators and Participating TOs**

The ISO will calculate for each charge the amounts payable by the relevant Scheduling Coordinator, Black Start Generator or Participating TO for each Settlement Period of the Trading Day, and the amounts payable to that Scheduling Coordinator, Black Start Generator or Participating TO for each charge for each Settlement Period of that Trading Day and shall arrive at a net amount payable for each charge by or to that Scheduling Coordinator, Black Start Generator or Participating TO for each charge for that Trading Day. Each of these amounts will appear in the Preliminary and Final Settlement Statements that the ISO will provide to the relevant Scheduling Coordinator, Black Start Generator or Participating TO as provided in SABP 4.

The ~~three~~seven components of the Grid Management Charge will be included in the Preliminary Settlement Statement and Final Settlement Statement with the other types of charges referred to in SABP 3.1, but a separate invoice for the Grid Management Charge, stating the rate, billing determinant volume, and total charge for each of its ~~three~~seven

components, will be issued by the ISO to the Scheduling Coordinator ~~or Other Appropriate Party~~.

* * *

SABP 5 **INVOICES**

The ISO shall provide on the day specified in the ISO Payments Calendar an invoice in the format set out in SABP Appendix I showing:

(a) amounts which according to each of the Preliminary and Final Settlement Statements of that Billing Period are to be paid from or to each Scheduling Coordinator, ~~Other Appropriate Party,~~ Black Start Generator or Participating TO;

(b) the Payment Date, being the date on which such amounts are to be paid or received and the time for such payment; and

(c) details (including the account number, bank name and Fed-Wire transfer instructions) of the ISO Clearing Account to which any amounts owed by the Scheduling Coordinator, Black Start Generator or Participating TO are to be paid.

A separate invoice for the Grid Management Charge, stating the rate, billing determinant volume, and total charge for each of its ~~three~~seven components, will be issued by the ISO to the Scheduling Coordinator ~~or Other Appropriate Party~~.

A separate invoice for Interest, issued on the preliminary invoice date, stating the total charges for each Trade Month in which interest is charged, will be issued by the ISO.

* * *

SABP 6.5.3 **Distribution of Funds**

In the event that there are funds in the ISO Surplus Account in excess of an amount to be determined by the ISO Governing Board and noticed by the ISO to Market Participants, the amount of such excess will be distributed to Scheduling Coordinators ~~and Other Appropriate Parties~~ using the same method of apportioning the refund as the method employed in apportioning the liability for the Grid Management Charge.

* * *

APPENDIX A [Not Used]

~~GRID MANAGEMENT CHARGE COMPUTATION~~

~~The Grid Management Charge will be calculated in the following manner, with the numerator of each of the equations listed below being determined as a percentage of the total ISO budget, and the denominator (billing determinant volume) for each formula being an estimated annual value:~~

~~$$\frac{\text{Costs recovered through the Control Area Services Charge}}{\text{Control Area Gross Load and exports (MWh)}} = \text{RATE in \$/MWh}$$~~

~~$$\frac{\text{Costs recovered through the}}{}$$~~

~~GMC Costs = Congestion Management Charge = RATE in $/MWh~~
~~total Scheduling Coordinators' inter-zonal scheduled flow (excluding Flows pursuant to Existing Contracts) per path (MWh)~~

~~= Costs recovered through the Ancillary Services and Real-Time Energy Operations Charge = RATE in $/MWh~~
~~total purchases and sales Ancillary Services, Supplemental Energy and Imbalance Energy (both instructed and uninstructed) (MWh)~~

* * *

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	)	Docket No. ER04-___-000

DIRECT TESTIMONY OF
BARBARA R. BARKOVICH
ON BEHALF OF
THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

Q1. Please state your name and business address.

A1. My name is Barbara R. Barkovich and my business address is 31 Eucalyptus Lane, San Rafael, California, 94901.

Q2. By whom are you employed and in what capacity?

A2. I am a principal in the consulting firm of Barkovich & Yap, Inc ("B&Y").

Q3. What type of consulting do you do?

A3. Barkovich & Yap, Inc. specializes in issues related to regulated utilities in the electricity, natural gas, water, and solid waste industries. I personally focus on matters related to the electric sector. I have presented testimony for over 15 years on matters related to cost-of-service analysis, marginal cost, cost allocation, rate design, industry structure, resource planning, and related matters.

Q4. What is your educational background?

A4. I have a Bachelor of Arts degree in Physics from the University of California at San Diego, a Master of Science degree in Urban and Policy Sciences from the State University of New York at Stony Brook, and a Doctor of Philosophy degree in Energy and Resources from the University of California at Berkeley. My Ph.D. dissertation was on the subject of regulatory decision-making in the context of the development of regulatory theory.

Q5. Please state your work experience prior to the work you do today.

A5. I worked on energy and environment issues for the Office of Energy R&D Policy in the National Science Foundation in 1974-75. Next I worked for the California Public Utilities Commission ("CPUC") from 1975 to1983, ending up as Director of Policy and Planning. In my time at the CPUC, I dealt with broad energy policy issues, as well as revenue allocation and rate design, marginal cost development, electric resource issues (including transmission and generation), and representation of the CPUC at the Legislature, the Governor's Office, and Congress.

Next I spent almost two years running a short-term financing program at a major bank holding company. Since 1985 I have been a consultant and expert witness on energy (especially electricity) and regulatory matters, including marginal cost, cost allocation and rate design, electric industry restructuring, electric resource analysis, due diligence for energy projects, and negotiations on behalf of electric consumers with utilities and energy service providers on pricing and service matters, since 1987 in conjunction with Ms. Catherine E. Yap as part of Barkovich & Yap. I have testified before the CPUC and the FERC and have worked on energy matters in Australia, the Philippines, and several states besides California. A summary of my previous testimony is included as Appendix A.

From 1998 to early 2001 I was on the California Independent System Operator Governing Board. I also served on the Energy Engineering Board of the National

Research Council. I am presently Chair of the Board of Directors of the California Power Exchange.

Q6. Why are you participating in this proceeding and on whose behalf?

A6. Barkovich & Yap, Inc. was retained by the California Independent System Operator ("CAISO") under a competitive solicitation to provide it with assistance in the area of cost-of-service analysis. The CAISO had made a commitment to stakeholders in the 2001 and 2002 GMC proceedings to engage in a thorough review of its GMC ratemaking. The CAISO retained Ms. Yap and me, both principals at B&Y, to assist it in this review because of our extensive experience in the cost-of-service area. As I mentioned above, attached to my testimony is an appendix listing the testimony I have provided in my career, including a long list of testimony in this subject area. Ms. Yap's testimony similarly presents her extensive output on cost-of-service and rate matters.

Q7. What is the GMC?

A7. The GMC is the charge through which the CAISO recovers its costs of operation. The CAISO has staff, facilities, computers, systems, etc. in order to carry out its responsibilities as the Control Area operator for 75% of California's electricity, to manage the grid, keep the system in balance, and interact successfully with neighboring Control Areas. It also has resources to operate its markets in Ancillary Services ("A/S") and real-time energy (also known as balancing or Imbalance Energy). In addition, it has administrative and support staff. It recovers these costs

through a GMC that includes multiple rates designed to track the services provided by the CAISO and to charge the users of those services for what they use.

Q8. What is the purpose of your testimony in this proceeding?

A8. The purpose of my testimony is:

I. To describe the CAISO's proposed GMC rate structure and its evolution from the current structure; and

II.. To describe the rate design process that led to this new structure being proposed by explaining cost-of-service analysis and the specific analysis pursued by B&Y in this matter.

Q9. How does your testimony relate to that of other ISO witnesses in this proceeding?

A9. I was part of the team that worked on developing the 2004 GMC proposal. My testimony provides an overview of the changes to the GMC. I then go on to discuss, in a summary fashion, the process by which the new GMC rates were developed. I focus on the functionalization of the CAISO's administrative responsibilities that are billed in the GMC. This is the first step in developing the rates. My testimony is followed by that of Ms. Yap, who explains the subsequent steps in the development of the rates and of the data that were used to calculate the rates. Her testimony is followed by that of two key CAISO staff members who were actively involved in the process as well, Philip R. Leiber (Exh. No. ISO-24) and Ben T. Arikawa (Exh. No. ISO-51).

Q10. Will you be using any specialized terms in your testimony?

A10. Yes. Capitalized terms I use in my testimony, that are not otherwise defined, are used in the sense as they are defined in the Master Definitions Supplement, Appendix F to the ISO Tariff.

Q11. Are you sponsoring any exhibits in addition to your testimony?

A11. Yes. I am sponsoring exhibit number ISO-2, which is a chart showing how the functional categories I discuss relate to the end GMC charges.

I. Proposed GMC Structure

Q12. What is the structure of the GMC being proposed by the CAISO?

A12. The proposed GMC is divided into six service categories, one of which is divided further into two subcategories, for a total of seven charges. These categories are as follows:

1. Core Reliability Services ("CRS")
2. Energy Transmission Services ("ETS")
    a. Net Energy ("ETS-Net Energy")
    b. Uninstructed Deviations ("ETS-Uninstructed Deviations")
3. Forward Scheduling
4. Congestion Management
5. Market Usage
6. Settlements, Metering, and Client Relations ("SMCR")

Q13. What is the Core Reliability Services Charge?

A13. Core Reliability Services

The CRS charge is one of three charges that make up the reliability component of the GMC. CRS provides for the reliable operation of a Control Area surrounded by other Control Areas and achieving minimal disruptions to system operation. Through CRS, the CAISO provides a stable grid and meets regional and national regulatory requirements, such as North American Electricity Reliability Council ("NERC") and Western Area Coordinating Council ("WECC") reliability criteria, as well as some FERC requirements, *e.g.*, a basic level of transmission planning. All necessary activities attributable to Control Area operation, including the capability of handling a system that is as geographically dispersed as the present system, but without features that are scalable (*i.e.*, that vary according to use or size of flow) are contained in this function. The scalable portion of the CAISO's reliability costs is recovered under the two Energy Transmission Services sub-function charges described below.

Q14. What is the billing determinant for CRS?

A14. CRS is calculated using the metered non-coincident peak hourly demand during the month (in megawatts) of a Scheduling Coordinator ("SC"). The billing determinant is further described in the testimony of Ms. Yap, Exh. No. ISO-3.

Q15. What are the Energy Transmission Services Charges?

A15. Energy Transmission Services

This service represents the scalable portion of Grid Reliability Services, and is a function of the intensity of the use of the transmission system within the Control Area and the occurrence of system outages and disruptions.

Q16. What is the billing determinant for the ETS Charges?

A16. There are two ETS charges with two billing determinants, since there are two cost drivers for ETS. The cost driver/billing determinant for the ETS Net Energy Charge is Metered Control Area Load (in MWh). The cost driver/billing determinant for the ETS Uninstructed Deviations Charge is net uninstructed deviations by settlement interval (in MWh). Metered Control Area Load accounts for approximately 80% of the revenue requirement falling under ETS and net uninstructed deviations account for the other 20%. The billing determinants are further described in the testimony of Ms.Yap, Exh. No. ISO-3.

Q17. What other services does the CAISO provide besides those related to grid reliability?

A17. The CAISO provides two other sets of services. The first set is related to its market functions, which include the sub-functions of Forward Scheduling, Market Usage, and Congestion Management. These three services are all performed by the same personnel in Market Operations. The basic function they perform is to provide

forward market services (as distinct from real-time services, which we associate with reliability), but there are three distinct cost drivers for those services: forward schedules, usage of the forward markets, and congestion management.

The second set of services is related to customer access to the grid, and consists of Settlements, metering, and client relations.

Q18. What is the Forward Scheduling Charge?

A18. Forward Scheduling

Forward Scheduling is the activity by which the CAISO processes forward schedules for energy and A/S submitted by SCs, including inter-SC trades, and reviews and verifies those schedules to be sure that path ratings are not exceeded, that there are sufficient A/S, and that SC portfolios are balanced. Forward Scheduling also includes the activity by which the CAISO processes accepted A/S bids. The charge collects the costs associated with the provision of these services.

Q19. What is the billing determinant for Forward Scheduling?

A19. Forward Scheduling is calculated using the sum of an SC's final Hour-Ahead schedules, including all awarded A/S bids, with a value other than 0 MW, submitted to the scheduling infrastructure ("SI") and scheduling applications ("SA") systems. The billing determinant is further described in the testimony of Ms. Yap, Exh. No. ISO-3.

Q20. What is the Congestion Management Charge?

A20. Congestion Management

Congestion Management consists of the services the CAISO provides by managing and operating inter-zonal congestion markets, including using adjustment bids, taking Firm Transmission Rights ("FTRs") and Existing Contracts into account, and determining the price for mitigating congestion for flows on congested paths. Congestion Management is conducted by the ISO during the scheduling process and results in the economic rationing of transmission service in order to prevent line overloads. This category is intended to provide for only inter-zonal congestion management at this time. Intra-zonal congestion is managed in real-time and is therefore incorporated in the CRS charge.

Q21. What is the billing determinant for Congestion Management?

A21. The Congestion Management Charge is calculated using the absolute value of the net scheduled inter-zonal flow (excluding flows pursuant to Existing Contracts) per path for an SC. The billing determinant is further described in the testimony of Ms. Yap, Exh. No. ISO-3.

Q22. What is the Market Usage Charge?

A22. Market Usage

Market Usage consists of the services the CAISO performs in processing Supplemental Energy and A/S bids, maintaining and controlling the Open-Access

Same-Time Information System ("OASIS"), monitoring market performance, ensuring generator compliance with market protocols, and determining market clearing prices.

Q23. What is the billing determinant for the Market Usage Charge?

A23. The Market Usage Charge is calculated using the absolute value of an SC's market purchases and sales of A/S, Supplemental Energy, Instructed Imbalance Energy, and net Uninstructed Imbalance Energy (with uninstructed deviations netted by settlement interval). The billing determinant is further described in the testimony of Ms. Yap, Exh. No. ISO-3.

Q24. What is the Settlements, Metering, and Client Relations Charge?

A24. Settlements, Metering, and Client Relations

Under SMCR, the CAISO maintains customer account data, provides account information to customers, calculates market charges, processes settlement statements, resolves customer disputes, responds to customer inquiries, and provides customer training. This function includes Settlements, metering, and billing activities as well as client relations.

Q25. What is the billing determinant for SMCR?

A25. The SMCR Charge is a fixed monthly per-Scheduling Coordinator ID fee of $500.00 per SC ID with an invoice value other than $0.00 in the current trade month. Although this fee is insufficient to recover the ISO's costs of providing

these services, it has been set at this level to avoid excessive bill impacts. The shortfall is spread among the other service categories as described in the testimony of Ms. Yap, Exh. No. ISO-3.

II. Comparison with Current GMC

Q26. Does the CAISO's proposed 2004 GMC recover a revenue requirement that includes the same services and functions as prior GMCs?

A26. Yes, it does. The GMC charges continue to recover the CAISO's costs of doing business through provision of the same services. The proposed changes in the rate structure of the GMC components for 2004 involve a further unbundling of charges (and functions) in order to better link usage of services with payment for those services. The number of charges has increased from three to seven, each representing a different service and a billing determinant that better captures the usage pattern that causes the CAISO to incur the related costs.

While the unbundling represents a ground-up re-working of the GMC's service categories, the associated billing determinants used for those categories (or functions), and a complete reassessment of the allocation employed to assign or allocate costs to the categories, the costs themselves are of the same type that have been recovered in past years under the GMC.

Q27. What form has the CAISO's GMC taken in recent years?

A27. During the 2001-2003 period, the rate design included charges to recover the costs of Control Area Services ("CAS"), Congestion Management (also described as Inter-Zonal Scheduling), and Ancillary Services and Real-time Energy Operations ("ASREO") (also described as Market Operations). The rate design was altered slightly over the 2001-2003 period, but maintained the three service category structure. Each charge has been recovered through a volumetric (*i.e.*, per MWh) charge that was designed to recover its cost through related customer usage. In the settlement that resolved the 2002 GMC proceeding in Docket No. ER02-250, a commitment was made to do a more thorough review of the GMC to be filed for 2004. This is discussed in detail in the testimony of Ben Arikawa, Exh. No. ISO-51.

Q28. Will the CAISO perform any new services or functions under its proposed, seven-component GMC rate structure that it is not performing under the existing, three-component rate structure?

A28. No, the services and functions performed by the CAISO under the proposed, seven-component rate structure will not change. Put another way, the costs recovered under the proposed, seven-component GMC rate structure will pay for the same services that are currently paid for by the costs recovered under the existing, three-component GMC rate structure. As I explained above, the additional unbundling contained in the seven-component GMC rate structure re-evaluates and refines the CAISO's GMC cost assignment and recovery process, linking the charges more closely to the actual services provided.

Q29. How do the services or functions performed under the existing, three-component rate structure correspond to the proposed, seven-component GMC rate structure?

A29. The chart below indicates how the services and functions billed under the current, three-component rate structure will be billed under the proposed, seven-component rate structure.

Current Rate Structure		**Proposed Rate Structure**
Control Area Services	to be recovered in	Core Reliability Services (including real-time scheduling)
		ETS (Net Energy)
		E TS (Uninstructed Deviations)
		Forward Scheduling
Inter-Zonal Scheduling	to be recovered in	Congestion Management
Market Operations	to be recovered in	Market Usage Services
		SMCR /1

1/ elements related to Settlements, metering and client relations had been included in all three rate categories, particularly MO/ASREO

A. Cost-of-Service Analysis

Q30. How did you, Ms. Yap, and the CAISO approach the review of the current GMC structure that led to the rate filing being made today?

A30. We performed a traditional cost-of-service analysis. Such an analysis is designed to determine the services provided by the CAISO, to determine the costs incurred by the CAISO in providing those services, and to develop rates or charges to bill those customers who use the particular services, as accurately as possible, for the services they use.

Q31. What steps are included in a cost-of-service analysis?

A31. The steps are:

1. Functionalization,
2. Classification,
3. Allocation, and
4. Rate Design.

I will discuss the functionalization element of this analysis. Ms. Yap will discuss the other elements of the analysis in her testimony, included with this filing as Exh. No. ISO-3.

Q32. What is functionalization?

A32. Functionalization is the process by which the activities of a regulated utility are sorted to reflect the different services provided by the utility. It is the first step in cost-of-service ratemaking. The separated services are called "functions". A function may be subdivided into several sub-functions. This will occur when the services provided under a function have different cost drivers. This means that different types of customer behavior cause the costs associated with each sub-function to be incurred.

Q33. Why would there be two sub-functions as opposed to two different functions?

A33. Separate functions really provide different services. For example, managing the grid is fundamentally different from billing a customer. Managing the grid, however, has two aspects, which I refer to as sub-functions: those activities that occur regardless of the level of activity on the grid in general, and those activities that vary with the level of activity on the grid. Here one function has two sub-functions, each with its own cost driver.

Q34. What sequence of steps follows functionalization?

A34. The second step is classification. This involves determining the basis on which a given function or sub-function is used by a customer and thus its related costs are incurred by the CAISO. This usage pattern will determine how the customer is to be billed. The actual metric used to bill is called a billing determinant. Billing a customer is a necessary part of providing access for the customer to the utility's

services and assuring that the customer pays for the cost of the services. Providing access is one function, and the costs of providing access are related to the number and type of customers. Managing the grid is also a function. The costs incurred to manage the grid are partly related to the need for one Control Area operator to be in charge all of the time and partly related to the intensity of the use of the grid. Thus the billing determinants that are connected to the sub-functions associated with the function of managing the grid are the customer's demand on the system, the customer's usage pattern over time, the amount of transmission and balancing service that the customer uses, and the uninstructed deviations in which the customer engages.

Q35. What comes after classification?

A35. The third step is the cost allocation itself. The CAISO used a cost allocation matrix in previous rate cases. In light of the extensive review involved in the 2004 GMC, however, we used the results from our work to revise that tool, which is now the Cost Allocation Model ("CAM"). We had the results of our investigation into the activities of personnel and the role of the CAISO's systems, which provided new input to the CAM and reduced the costs that had to be assigned indirectly. The CAM is included with this filing as Exh. No. ISO-10. The resulting allocations are being included by cost center and system, in the ISO Tariff in Appendix F, Schedule 1, Part E, as described in the testimony of Ms. Yap, Exh. No. ISO-3.

Q36. What is the next step?

A36. The next step is to design the rates. From the allocation process we had the costs to be assigned to each function and sub-function. From the classification process, we had billing determinants. Rates are produced by dividing the revenue requirement by the billing determinants.

Q37. Do you stop there?

A37. No. In all rate design, one must be sensitive to the impact on customers of changes in rates as methodologies are modified and/or as costs change. Since we were proposing several changes, including new charges, we were concerned whether the implementation of these changes would have an untoward negative impact on any given customer or group of customers. Thus we developed a bill impact model and did extensive bill impact analysis. In the one case (the SMCR charge) where the rate impacts were too severe, we made modifications to the rate to address these impacts. This would allow a larger SMCR charge to be phased in over time, giving customers time to adjust, rather than being imposed all at once in 2004.

Q38. How did you present your results to the stakeholder group and did you seek input from them?

A38. We provided input for many months during our analysis by email and through stakeholder meetings and conference calls. We sought input from stakeholders and used their feedback in our analysis. Some stakeholders sought extensive data from the CAISO Staff during this period, similar to the formal discovery conducted in a

proceeding before FERC. Although we did not always reach agreement with stakeholders, our analysis clearly was influenced by these discussions and exchanges.

B. The Analysis Pursued by B&Y for the CAISO

Q39. Has the CAISO had functionalized rates in the past?

A39. Yes. As I noted earlier, the ISO has had a three-category GMC during the 2001-2003 period. Although there were some changes in the categories over this time period, when a customer used the CAISO in 2003, it paid for services received through these three charges. Costs related to scheduling were included in CAS as well as Market Operations. Costs related to billing, Settlements, and metering were combined into Market Operations (later renamed as the ASREO charge). The charges were designed such that the sum of all the payments under the charges was to add up to the GMC revenue requirement as set forth in the CAISO's budget, which was set to cover the CAISO's costs.

Q40. Why did you do another functionalization for the 2004 GMC?

A40. There were several reasons. First, the CAISO made a commitment to an extensive stakeholder process for the 2004 GMC and an analysis of the possibility of further unbundling. The CAISO decided to do a thorough review, going back to basic principles. It was for that purpose that they hired B&Y as experts in cost-of-service ratemaking. The CAISO's commitment to a re-evaluation of the GMC rate, the Presiding Administrative Law Judge's incorporation of that commitment into the

2001 Initial Decision, and the scope of issues to be reviewed as set-out in the 2002 GMC Settlement Agreement are reviewed in the testimony of Ben Arikawa, which is included with this filing at Exh. No. ISO-51.

Second, the Administrative Law Judge, in her Initial Decision in the 2001 GMC proceeding (and later the Commission in its order on the Initial Decision) had responded to testimony in the proceeding by raising the issue of considering a demand (*i.e.,* a per-MW) charge rather than a volumetric (*i.e.*, a per-MWh) charge for billing certain grid reliability services during the 2004 GMC. This prompted a review of the billing determinants for all the CAISO services to see if the then current per-MWh billing determinants were most appropriate.

Third, while we started with the three functions used in the 2001 GMC, our discussions with CAISO staff and Market Participants indicated to us that these functions could be clarified and redefined. Different services that had been combined in the interest of simplicity were now candidates for unbundling. We also concluded that the functions being used contained sub-functions that were related to different types of CAISO customer behavior that should have different billing determinants.

Q41. How did you proceed in reconsidering the three functions contained in the 2001-2003 GMC in more detail?

A41. We addressed each of the three existing service categories in the 2001-2003 GMC: CAS, Market Operations/ASREO and Congestion Management.

Q42. How did you go about analyzing and proposing changes in the CAS function?

A42. We started with a review of the activities of the CAISO staff. We developed lists of activities from meetings with staff and from a review of the CAISO 2003 Budget Document and the 2002 CAISO Operational Audit. The Operational Audit has a description of the activities of the Control Area operators and related personnel. The budget document also was used to try to assign staff and systems to the CAISO.

CAS had recovered the costs associated with reliability. In reevaluating the activities associated with reliability, we renamed the CAS the "Grid Reliability Services" ("GRS") function. In the course of evaluating the activities performed as part of GRS, we realized that the function really had two aspects. The first we called "core services". These were services that are inherent in and essential to being a Control Area operator. They do not vary with the level of activity in the Control Area, which is, of course, a 24/7 operation. Each hour the CAISO must do checkouts at its interfaces with neighboring Control Areas. It must balance the system. It must provide reliability must run services as needed for voltage support.

We also realized that there were other activities that might vary with the intensity of usage of the ISO Control Area. An example was transmission planning. While some level of transmission planning was essential to being a Control Area operator, the level of activity would vary depending on the content of the utilities' transmission plans, how much construction was anticipated, how much new generation had to be hooked up to the grid over the next several years, etc. We thought of these activities as "scalable services".

Q43. How were ISO Staff involved in your efforts?

A43. We wrote up a description of this subdivision of GRS and sent it out for reaction to Grid Operations senior staff prior to any meetings, to get them to think about it. We made a first attempt at assigning staff and systems to each of these proposed sub-functions within GRS, based on our prior review of the Budget Document and the Operational Audit report.

We asked for written feedback from Grid Operations staff. This required meetings in order to explain fully the sub-fuctionalization we had proposed and why we had assigned staff and systems as we initially had done. We emphasized the need to identify which essential efforts were needed to be a Control Area of roughly the same size, geography, and interconnectedness with neighboring Control Areas as the current CAISO. These were to become the core reliability services. We also emphasized the importance of not overstating the core 24/7 Control Area operator

requirements and thinking hard about what activities would vary depending on system growth and should be considered 'scalable'.

We reviewed the personnel and systems that we had preliminarily associated with core services and scalable services and why we had done so. Since we had done our initial breakout based on written documents, in order to provide a starting point, there was a lively discussion about how well these reflected the managers' and directors' assessment of what actually was done. Then we invited the Grid Operations managers and directors to modify our assignment of staff and systems and went through several iterations with them on the results, challenging them to make the distinctions carefully.

Once we had completed our efforts with the Grid Operations managers and directors, we developed a template for each cost center contained in the budget that was related to Grid Operations for the managers and directors to complete. Each template required the separation of the activities of personnel into the core and scalable activities. We compiled the results of these templates.

Q44. How did you use the separation of the Core and Scalable activities?

A44. It became clear to us that the differences between them really amounted to different sub-functions under GRS, which became CRS and ETS.

Q45. Did you do the same for other parts of the CAISO?

A45. Yes. We went through the same process in our review of Market Operations/ASREO and Congestion Management. We started by writing up a paper on Market Operations and proposed possible changes. We tried to see if the operations of Market Operations likewise were divided into a minimal core functionality and a variable one based on usage of the markets, but decided that this concept did not work for this function. We considered sub-functionalizing Market Operations/ASREO differently. Once again we attempted to assign staff and systems based on our review of the budget documents.

Q46. Did you involve ISO Staff in your efforts?

A46. Yes. We met with Market Operations managers and directors, discussed our paper and our initial breakout of staff and systems, and sought feedback. We explored areas where certain activities bridged Grid Operations and Market Operations and sought input from both Market Operations and Grid Operations as to how they should be divided between the Control Area and market functions. In the course of these discussions, staff pointed out that there was one activity that was not captured in the current (*i.e.*, 2001-2003) breakout. That was scheduling. We began to discuss whether scheduling could be another function or sub-function.

Q47. How did you analyze scheduling and what were the results?

A47. It turned out that inter-SC schedules were not billed for any service. A recent study by the ISO's Market Operations department, however, had shown that more than

half of the schedules being processed were inter-SC. This demonstrated that there was a cost that clearly was being incurred in processing these schedules that was not being paid by the users of the service. Staff was able to quantify the number of trades and the parties to the trades. It also proved possible to break out the scheduling costs. At this point we decided to add a scheduling sub-function to Market Services.

Q48. Did that complete your analysis of this function?

A48. No. There was still another consideration. We needed to determine what the relationship was between forward and real-time scheduling, and under which function each of these types of scheduling belonged. After discussions with both Grid Operations and Market Operations personnel at the CAISO, and review of the activities of each, we decided that real-time scheduling was really a Control Area service, not a market service, and included it in CRS rather than Market Services. Forward Scheduling, a sub-function of Market Services, was restricted to the processing and verification of schedules in the forward markets.

We also had discussions about avoiding disincentives for Market Participants to schedule in the day-ahead market and then revise their schedules in the hour-ahead market, once their needs were better known. We knew that the FERC Staff, in its rebuttal to MID's testimony in ER01-313, had raised this concern in the context of Order No. 888. In order to avoid such a problem, we collectively decided that the only scheduling charge would be for final hour-ahead schedules, which would allow

SCs to update schedules up until then without penalty. There would be no charges for day-ahead schedules that did not become final hour-ahead schedules and there would be no charges for schedules that went to zero by the time of the final hour-ahead.

Q49. Did you make any other changes?

A49. Yes, we did. We and CAISO staff reviewed the A/S and Imbalance Energy markets. We decided in these discussions with CAISO staff that providing and operating markets was a separate function from scheduling. We called that sub-function Market Usage, which consists of operating and monitoring the markets for energy and A/S.

Providing markets includes the acceptance of bids and the merit order stacking of these bids. For example, self-provided A/S would not be charged for Market Usage, since the market had not been used to procure them. Self-provided A/S would be charged for scheduling, settlements, etc., however, since all of these services of the CAISO would continue to be used. A/S purchased from the CAISO market would be charged for Market Services, as well.

We also determined that the market mechanism would include all activities associated with operating the market in the day-ahead and hour-ahead context. It also would include development of the Balancing Energy and Ex-Post Price ("BEEP") stack and certain other activities in preparation for the real-time balancing

operation. The real-time activities would be part of the Control Area function, however. They are performed by the Grid Operations staff as part of their reliability function.

Q50. Did you keep anything unchanged in Market Services?

A50. We kept the Congestion Management function from prior GMCs, but incorporated it as a separate sub-function of Market Services with its own charge. Congestion Management continues to use adjustment bids to determine what electricity flows on congested lines and to charge for eliminating that congestion. We recognized that there will still be costs associated this service, at least until locational marginal pricing ("LMP") is implemented as part of MDO2, the ISO's ongoing market redesign. When the latter occurs, it could be that congestion would be subsumed under market pricing. Until that time, however, congestion management will have its own costs that should be billed to those using it.

Q51. Why did you decide to make Forward Scheduling, Congestion Management, and Market Usage three sub-functions of Market Services rather than separate functions?

A51. We found that these three functions were all performed by the same personnel in Market Operations. The basic function they perform is to provide forward Market Services (as distinct from real-time services, which we associate with reliability), but there are three distinct cost drivers: forward schedules, usage of the forward markets, and congestion management.

Q52. What did you do next?

A52. Once we had completed our work with Market Operations managers and directors in revising the functions and sub-functions, we similarly developed templates for each cost center. These templates were used to separate the activities of personnel into the Forward Scheduling, Market Usage, and Congestion Management sub-functions. We compiled the results of these templates.

Q53. Did you make other changes to the services that had been included in Market Operations/ASREO?

A53. Yes. In the 2001-2003 GMC, much of the billing, settlements, and client relations related costs had been included in Market Operations/ASREO. We recognized that such CAISO activities included what in retail ratemaking traditionally would be considered customer services. Here customer services typically include billing, settlements, customer interactions, metering, etc. These activities are usually associated with providing the customers with access to the services of the utility (in this case the CAISO), rather than providing them with services such as reliability, scheduling, markets for A/S, etc. Thus we recommended that these activities be taken out of Market Operations/ASREO and other parts of the GMC where they were included and place them in a separate function, just as they would be in retail ratemaking.

Q54. You have mentioned your efforts to assign systems to various functions and sub-functions. How did you complete that task?

A54. As noted above, we first made an attempt to assign systems on the basis of what they were designed to do and how they were treated in budget documents. When we began to review this matter with CAISO staff, it became clear that this was quite complicated for certain systems that were used for multiple services. The hardest example was the SA system, which has three subsystems: Ancillary Services Module ("ASM"), Congestion Management Application ("CONG"), and BEEP. This was used by both Grid Operations and Market Operations for different purposes. In the end, we had several meetings with staff from both parts of the CAISO and, after much discussion, got them to agree as to what they believed was an appropriate assignment of the system costs among the functions and sub-functions based on the various uses that were made of the system. We documented the results for cost-of-service purposes. They also were included in the CAM.

Q55. Many CAISO systems have multiple uses and are used by different parts of the organization. How did you go about trying to assign these systems properly to the services they provide?

A55. We began with the systems associated with Control Area operations. We decided to start anew in assigning these systems and not to use the assignments from past years. Again, we began with the Budget Document and the Operational Audit. We then looked at the CAM, which had in the past attempted to break the systems out by the three 2001-2003 functions. We had discussions with CAISO staff in which

we tried to refine the assignment of the systems. There were times when Grid Operations and Market Operations had different perceptions. When this occurred we got them both in a room and facilitated an agreement as to the functionalization of the systems. Once this was done the CAM was updated to reflect the new consensus on how the use of the systems was broken out.

Q56. Have you been able to assign any systems based upon quantitative measures?

A56. Yes, we were able to identify "measures of traffic" for two systems, the SI and SA systems. I will describe each measure separately.

SI processes both schedules and bids for A/S sales and purchases. We took the total number of schedules and A/S bids for the year 2002 and calculated the share that schedules represented out of the combined number of schedules and bids. This percentage share has been used to assign the SI to the Forward Scheduling sub-function with the remainder going to the Market Usage sub-function.

We analyzed the quantified "traffic" on the SA system as a means of separating SA into each of its major three subsystems: ASM, CONG, and BEEP. We looked at the amount of information that is calculated by each subsystem during a specified period of time and determined the percentage share that each system represents of the total calculations that are performed by the entire SA system during the same period of time.

Q57. Does this complete your description of the functionalization process?

A57. Yes.

Q58. What is the next step in the traditional cost-of-service rate-making that you undertook on behalf of the ISO?

A58. The next step is classification. This will be discussed in the testimony of Catherine E. Yap, provided as Exh. No. ISO-3 to this filing.

Q59. Does this conclude your testimony?

A59. Yes, it does.

APPENDIX A

Barbara R. Barkovich, Ph.D

APPEARANCES AS AN EXPERT WITNESS AND PUBLICATIONS

I. Legislative Testimony

Date: 14 August, 1979
Before: California Assembly Resource, Land Use and Energy Committee, Subcommittee on Energy
Subject: Cost and Ratemaking Implications of a Three-Mile Island-Type Incident Occurring in California
On Behalf of: California Public Utilities Commission

Date: 20 July, 1981
Before: California Assembly Committee on Utilities and Energy
Subject: "Report on Changes in Energy Rate Structure Between 1975 and 1981"
On Behalf of: California Public Utilities Commission

Date: 30 November, 1982
Before: California Assembly Committee on Utilities and Energy
Subject: interim hearings on small power producers; statement on avoided costs, standard offers, interconnections, and wheeling
On Behalf of: California Public Utilities Commission

Date: 5 February, 1986
Before: California Assembly Committee on Utilities and Energy
Subject: "Utility Regulation in Flux: the Monopoly Franchise, Private Service, and the Public Interest"
On Behalf of: Self

II. Civil Litigation

Hartman vs. Burlington Northern et al. M087 CA 313, U.S. District Court for West District of Texas, deposition Oct. 25, 1988

POPI vs. PG&E, Judicial Council Coordination Proceeding No. 2654

III: Administrative Testimony

Date: 24 September, 1980
Before: US Environmental Protection Agency: Section 11 Public Hearings
Subject: Conservation and Solar Energy Programs

Date: July, 1980
Before: California Public Utilities Commission
Subject: Review of Aspects of Southern California Gas Company Energy Conservation and Solar Energy Programs in Southern California Gas Company General Rate Case

Date: May or June, 1983
Before: California Public Utilities Commission
Subject: Baseline Rate Design Legislation in Pacific Gas & Electric Company and San Diego Gas & Electric Company General Rate Cases

Date: 18 August, 1988
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Cost Allocation in Pacific Gas and Electric Company Energy Cost Adjustment Clause Proceeding on behalf of California Large Energy Consumers Association (Application No. 88-04-020 88-04-057)

Date: 13 April, 1989
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Marginal Cost and Cost Allocation in Pacific Gas and Electric Company General Rate Case on behalf of California Large Energy Consumers Association (Application No. 88-12-005)

Dates: 24 April, 1989 and 22 May, 1989
Before: California Public Utilities Commission
Subject: Prepared Direct and Supplemental Testimony on Rate Design in Pacific Gas and Electric Company General Rate Case on behalf of California Large Energy Consumers Association (A. 88-12-005)

Date: 29 August, 1990
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Marginal Cost and Cost Allocation in Southern California Edison Company Energy Cost Adjustment Clause Proceeding on behalf of California Large Energy Consumer Association (Application No. 90-06-001)

Date: 14 September, 1990
Before: California Public Utilities Commission

Subject: Prepared Direct Testimony on Marginal Cost and Cost Allocation in Pacific Gas and Electric Company Energy Cost Adjustment Clause Proceeding on behalf of California large Energy Consumers Association (Application No. 90-04-003)

Date: January, 1991
Before: Federal Energy Regulatory Commission
Subject: Rebuttal Testimony on Merger Application of Southern California Edison Company and San Diego Gas & Electric Company (Docket No. EC89-5-000) on Behalf of Southern California Edison Company

Date: 24 July, 1991
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Demand-Side Management Programs of Pacific Gas and Electric Company (PG&E) in PG&E Energy Cost Adjustment Clause Proceeding on behalf of California Large Energy Consumers Association (Application No. 91-04-003)

Date: 8 August, 1991
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Energy Reliability Index for Southern California Edison Company on behalf of California Large Energy Consumers Association (Investigation No. 89-07-004)

Date: 28 August, 1991
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Marginal Cost and Cost Allocation in Southern California Edison Company Energy Cost Adjustment Clause Proceeding on behalf of California Large Energy Consumers Association (Application No. 91-05-050)

Date: 12 September, 1991
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Cost Allocation in Pacific Gas and Electric Company Energy Cost Adjustment Clause Proceeding on behalf of California Large Energy Consumers Association (Application No. 91-04-003)

Date: 28 October, 1991
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Cost Allocation and Rate Design in Southern California Edison Company General Rate Case on behalf of California Large Energy Consumers Association (Application No. 90-12-018)

Date: 18 November, 1991
Before: California Public Utilities Commission
Subject: Comparative Bill Impact Analysis in Southern California Edison Company General Rate Case on behalf of California Large Energy Consumers Association (A. 90-12-018)

Date: 27 November, 1991
Before: California Public Utilities Commission
Subject: Rebuttal Testimony on Cost Allocation and Rate Design in Southern California Edison Company General Rate Case on behalf of California Large Energy Consumers Association (A. 90-12-018)

Date: April, 1992
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Air Quality Improvement and Nox Emission Reduction Projects in Pacific Gas and Electric Company General Rate Case on behalf of the California Large Energy Consumers Association (Application No. 91-11-036)

Date: 21 April, 1992
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Marginal Costs and Cost Allocation in Pacific Gas and Electric Company General Rate Case on behalf of the California Large Energy Consumers Association (A. 91-11-036)

Date: 7 May, 1992
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Demand Side Management and Customer Energy Efficiency in PG&E General Rate Case on behalf of California Large Energy Consumers Association (A. 91-11-036)

Date: 11 June, 1992
Before: California Public Utilities Commission
Subject: Prepared Rebuttal Testimony on Marginal Cost and Cost Allocation in Pacific Gas and Electric Company General Rate Case on behalf of California Large Energy Consumers Association (A. 91-11-036)

Date: 8 July, 1992
Before: California Large Energy Consumers Association
Subject: Prepared Direct Testimony on Energy Reliability Index
in Pacific Gas and Electric Company Energy Cost Adjustment Clause on behalf of California Large Energy Consumers Association (Application No. 92-04-001)

Date: 11 September and 25 September, 1992
Before: California Public Utilities Commission
Subject: Prepared Direct and Update Testimony on Intraclass Revenue Allocation and Rate Design in Pacific Gas and Electric Company General Rate Case on behalf of California Large Energy Consumers Association (A. 91-11-036)

Date: 5 October, 1992
Before: New York Public Service Commission

Subject: Prepared Direct Testimony on Demand Side Management and Proposed Settlement in Niagara Mohawk Power Company General Rate Case on behalf of Pace Energy Project and Natural Resources Defense Council (Case Nos. 92-E-0108, 92-E-0109, 92-G-0110)

Date: August, 1993
Before: California Public Utilities Commission
Subject: Prepared Direct Testimony on Behalf of the California Large Energy Consumers Association in Pacific Gas & Electric Company ECAC Proceeding and Supplemental Testimony on Behalf of the California Large Energy Consumers Association in Support of the Stipulation Between PG&E, DRA, and CLECA (A. 93-04-028)

Date: 28 April, 1994
Before: California Public Utilities Commission
Subject: Prepared Testimony on Behalf of the California Large Energy Consumers Association: Phase One Issues, Southern California Edison Company Test Year 1995 General Rate Case (covers target nuclear capacity factor, nuclear capital additions, demand side management) (Application No. 93-12-025)

Date: 16 and 20 September, 1994
Before: California Public Utilities Commission
Subject: Prepared Testimony on Behalf of the California Large Energy Consumers Association in Southern California Edison Company Application for Non-Generation Performance-Based Ratemaking (PBR) Mechanism (Application No. 93-12-029)

Date: 5 December, 1994
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association, California Manufacturers Association, California State Department of General Services, and Industrial Users in the Preliminary Transition Cost Phase of the Rulemaking and Investigation on Restructuring California's Electric Services Industry and Reforming Regulation (Rulemaking No. 94-04-031 & Investigation No. 94-04-032)

Date: 14 February, 1995
Before: California Public Utilities Commission
Subject: Testimony on Behalf of California Large Energy Consumers Association, California Manufacturers Association, and Industrial Users on the Settlement Agreement of Southern California Edison Company, San Diego Gas and Electric Company, and the Division of Ratepayer Advocates (San Onofre Units 2&3 Settlement)(A. 93-12-025)

Date: July, 1995
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association Regarding Marginal Cost, Revenue Allocation and Rate Design Issues in Southern California Edison Company Test Year 1995 General Rate Case, Phase 2 (Application No. 93-12-025)

Date: 18 August, 1995
Before: California Public Utilities Commission
Subject: Rebuttal Testimony in Phase 2 of Southern California Edison Company Test Year 1995 General Rate Case (A. 93-12-025)

Date: August, 1995
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association in the Pacific Gas & Electric Company ECAC Proceeding (cost of gas and revenue allocation) (A. 95-04-002)

Date: 7 September, 1995
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association in the Southern California Edison Company ECAC Proceeding (cost of gas, marginal energy costs, rate stabilization)(Application No. 95-05-049)

Date: 12 October, 1995
Before: California Public Utilities Commission
Subject: Prepared Testimony on Behalf of the California Large Energy Consumers Association in the 199 and Supplemental Testimony on Behalf of the California Large Energy Consumers Association and the California Industrial Users Concerning Use of a One-Time Refund (A. 95-05-049)

Date: 1 December, 1995
Before: California Public Utilities Commission
Subject: Testimony on Behalf of California Large Energy Consumers Association and California Manufacturers Association in Test Year 1995 Pacific Gas & Electric Company General Rate Case Phase 2: Marginal Cost, Revenue Allocation and Rate Design (Application No. 94-12-005)

Date: 26 January, 1996
Before: California Public Utilities Commission
Subject: Rebuttal Testimony on Behalf of the California Large Energy Consumers Association and California Manufacturers Association In Pacific Gas & Electric General Rate Case Phase 2 (A. 94-12-005)

Date: 29 August, 1996
Before: California Public Utilities Commission
Subject: Testimony in Southern California Edison Company 1996 ECAC Proceeding (Overcollection and Refund)(Application No. 96-05-045)

Date: September, 1996
Before: California Public Utilities Commission
Subject: Testimony on Behalf of California Industrial Users, the California Large Energy Consumers Association, and the California Manufacturers Association on Application of Pacific

Gas & Electric Company to Modify Diablo Canyon Pricing and Adopt a Customer Electric Rate Freeze (Application No.96-03-054)

Date: 12 November, 1996
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Industrial Users, the California Large Energy Consumers Association, and the California Manufacturers Association in Phase One of the Proceeding on Competitive Transition Costs (Application No. 96-08-001 et al)

Date: 14 September, 1998
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association and the California Manufacturers Association on Phase 1 Eligibility Issues (regarding competitive transition costs)

Date: 18 November, 1998
Before: California Public Utilities Commission
Subject: Rebuttal Testimony on Behalf of the California Large Energy Consumers Association and the California Manufacturers Association in the 1998 Revenue Adjustment Proceeding

Date: 2 March, 1999
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association and the California Manufacturers Association on market valuation of retained generation assets

Date: April, 1999
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Large Energy Consumers Association,the California Manufacturers Association, and the California Retailers Association on how to determine the end of the rate freeze and treatment of remaining balances in certain balancing accounts

Date: July, 1999
Before: California Public Utilities Commission
Subject: Testimony on Behalf of the California Industrial Users, the California Large Energy Consumers Association,the California Manufacturers Association, and the California Retailers Association on Post-Tranition Ratemaking

Date: September, 1999
Before: California Public Utilities Commission
Subject: Rebuttal Testimony on Behalf of the California Industrial Users, the California Large Energy Consumers Association,the California Manufacturers Association, and the California Retailers Association on Post-Transition Ratemaking

Date: 12 April, 2001
Before: California Public Utilities Commission
Subject: Testimony on Behalf of California Large Energy Consumers Association and the California Manufacturers and Techology Association on Revenue Allocation and Rate Design Proposal for PG&E and Edison Revenue Increases Authorized Since January 1, 2001

Date: 22 January, 2002
Before: California Public Utilities Commission
Subject: Testimony on Behalf of California Large Energy Consumers Association and California Manufacturers Association on the Proposal of Southern California Edison Company for a Direct Access Exit Fee to Pay for PROACT Recovery

Date: 6 June, 2002
Before: California Public Utilities Commission
Subject: Testimony of Dr. Barbara R. Barkovich and Catherine E. Yap on Behalf of the California Large Energy Consumers Association on Direct Access Exit Fees to Recover DWR Procurement Costs and Related Matters

Date: 21 June, 2002
Before: California Public Utilities Commission
Subject: Testimony of Dr. Barbara R. Barkovich on Behalf of the California Large Energy Consumers Association on Development of a Post-PX Direct Access Credit

Date: 17 July, 2002
Before: California Public Utilities Commission
Subject: Testimony of Dr. Barbara R. Barkovich on Behalf of the California Large Energy Consumers Association on DWR Bond Charges

Date: 27 August, 2002
Before: California Public Utilities Commission
Subject: Testimony of Dr. Barbara R. Barkovich on Behalf of the California Large Energy Consumers Association [on Baseline Rates]

IV. Publications:

Book: *Regulatory Interventionism in the Utility Industry: Fairness, Efficiency, and the Pursuit of Energy Conservation*, published by Quorum Books, April 1989

Article: "The Social Costs of Producing Electric Power from Coal: A First Order Calculation"; Proceedings of the IEEE, 61,1431-1442, October 1973, with M. Granger Morgan and Alan K. Meier.

Article: "Large Power Users: From Cost Allocation to Questioning Costs" in *Electric Utilities Moving into the 21st Century* (PUR, Inc. 1993), with William H. Booth

Article: "Charting a New Course in California"; *IEEE Spectrum*, July 1996 (with Dianne V. Hawk)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

City of San Rafael)
State of California)
)
)

AFFIDAVIT OF WITNESS

I, Barbara R. Barkovich, being duly sworn, depose and say that the statements and exhibits contained in my Direct Testimony on behalf of the California Independent System Operator Corporation in this proceeding are true and correct to the best of my knowledge, information, and belief.

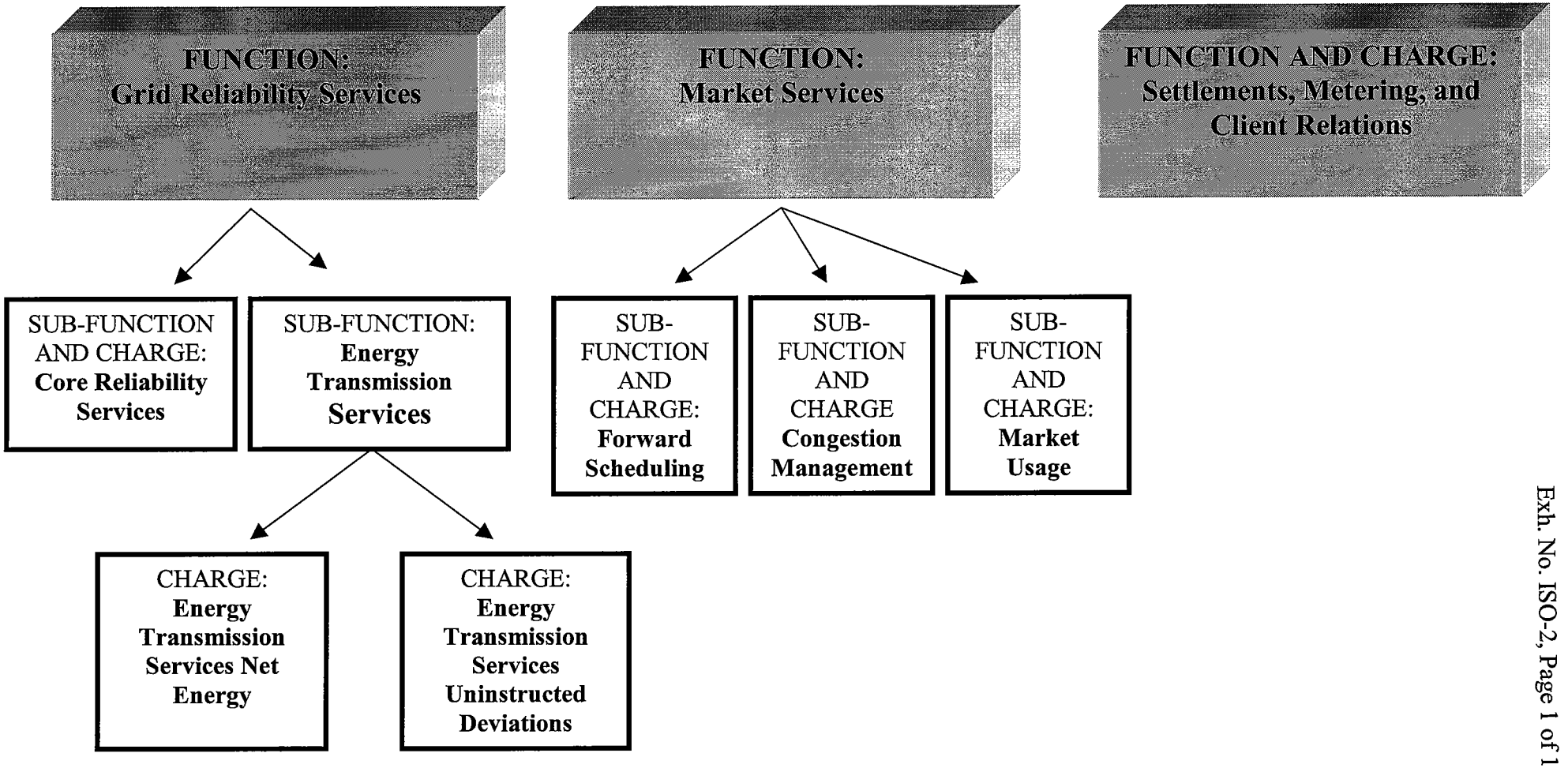
Barbara R. Barkovich

Subscribed and sworn before
me this 24TH day of October, 2003

Larry Howard
Notary Public
State of California
COUNTY of MARIN

LARRY HOWARD
Commission # 1366809
Notary Public - California
Marin County
My Comm. Expires Jul 27, 2006

California Independent System Operator
Grid Management Charge:
Chart of Functions to Charges



UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	))	Docket No.	ER04-___-000

DIRECT TESTIMONY OF CATHERINE E. YAP ON BEHALF OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

I. Introduction and Summary

Q 1. Please state your name and business address.

A 1. My name is Catherine E. Yap and my address is Barkovich & Yap, Inc., P.O. Box 11031, Oakland, CA 94611.

Q 2. Please state your qualifications to offer this testimony.

A 2. I have been a consultant in the utility regulatory area for over fifteen years. During this time, I have directed and/or performed major examinations of cost-of-service requirements, allocation, rate design, and customer bill effects for electric, natural gas, and solid waste utilities. I have testified on numerous occasions before the California Public Utilities Commission ("CPUC") and in civil proceedings. A list of my appearances as an expert witness is attached as Appendix A to this testimony. I have consulted internationally on issues related to natural gas industry structure and marginal cost allocation and rate design.

Q 3. Please state your work experience prior to consulting.

A 3. Prior to my work with Barkovich & Yap, I was employed for nine years by the CPUC. Most recently, I was responsible for managing the Energy Rate Design and Economics Branch of the Public Staff Division ("PSD"). This branch was responsible for developing cost-of-service, rate design, and economic studies, such as sales forecasting and productivity assessment, for both electric and gas utilities. Members of the branch were responsible for presenting expert testimony, developing cost of service studies, and designing unbundled rates for the natural

gas utilities during the CPUC's extensive hearings on gas industry structure and rate design implementation. During this time, I participated extensively in the formulation of policy regarding the appropriate structure for the natural gas industry in California.

Previously, I was the Supervisor of the Gas Supply and Requirements Section of the Fuels Branch of the PSD. I was responsible for directing, and in some cases performing, advanced technical studies that evaluated California gas utility operations and associated contracts, investments, and expenses. I also acted as the highest-level technical representative of the CPUC on natural gas matters and was involved in numerous negotiated settlements involving natural gas pipelines, distribution utilities, producers, and state and federal regulatory agencies.

Prior to that, I was a staff economist in the Policy Division of the CPUC, acting as a consultant to the Executive Director and to various Commissioners. I also testified on numerous occasions as an expert witness regarding a variety of technical, economic, and financial matters related to electric and natural gas utilities.

Q 4. What is your educational background?

A 4. I have a B.A. in chemical physics from the University of California at Santa Cruz, and a M.S. in Energy and Resources from the University of California at Berkeley.

I also have taken course work in finance, accounting, and organization theory from the University of California, Extension, and Golden Gate University.

Q 5. Have you ever testified before the Federal Energy Regulatory Commission ("FERC" or "the Commission")?

A 5. Although I participated in a number of Commission proceedings and submitted written testimony in 1984 in a case involving Pacific Gas and Electric Company, I have never before appeared in front of a Commission Administrative Law Judge.

A. Introduction

Q 6. On whose behalf are you testifying in this proceeding?

A 6. I am testifying on behalf of the California Independent System Operator ("ISO").

Q 7. What is the purpose of your testimony and how does it relate to the other testimony filed on behalf of the ISO in this proceeding?

A 7. I am presenting the ISO's proposed unbundled Grid Management Charge ("GMC") rates, as well as a description of the ratemaking activities that resulted in these rates. My testimony logically follows the testimony of my colleague Dr. Barbara Barkovich, Exh. No. ISO-1. She describes in detail the extensive analysis conducted by Barkovich & Yap, Inc. in conjunction with the ISO staff to develop the appropriate functional categories for ISO costs. I am also aware that Mr. Philip Leiber, Treasurer and Director of Financial Planning at the ISO, testifies to the ISO's overall budget and Section 35.13 cost statements in Exh. No. ISO-24. Lastly I know that Mr. Ben Arikawa, Senior Financial Analyst at the ISO,

describes the stakeholder process that enabled us to obtain input from the stakeholders regarding their preferred ratemaking methods in Exh. No. ISO-51.

Q 8. Will you be using any specialized terms in your testimony?

A 8. Yes. Unless it is otherwise defined in this testimony, when I use a capitalized term I will use it in the sense provided the Master Definitions Supplement, Appendix A to the ISO Tariff.

Q 9. How will your testimony be organized?

A 9. My testimony is organized to address the following topics in turn:

- The classification of costs in each function or subfunction that leads to the development of billing determinants for that function or subfunction.
- The cost allocation model used to determine the final revenue requirement for each function or subfunction.
- Rate design, bill impact analysis, and steps taken to address significant bill impacts in the GMC development process.
- Changes to the ISO's Tariff that reflect the changes in functionalization, classification, cost allocation, and rate design.

Q 10. Are you sponsoring any exhibits?

A 10. Yes, I am sponsoring several exhibits, which include the forecast of billing determinants, the cost allocation model and supporting documentation, the rate tables presenting the GMC charges, charts presenting customer bill impacts, and the proposed changes to the tariff. The exhibits are numbered as follows:

▪	Exh. No. ISO-4	Summary of 2004 ISO Revenue Requirement and 2004 Grid Management Charge Rates
▪	Exh. No. ISO-5	Summary of Cost Allocation Model: Billing Determinant Forecast
▪	Exh. No. ISO-6	Summary of Cost Allocation Model: Detailed Revenue Requirement
▪	Exh. No. ISO-7	Summary of Cost Allocation Model: Functionalization by Cost Center for IS Division
▪	Exh. No. ISO-8	Summary of Cost Allocation Model: Direct Personnel Assignments by Cost Centers for Divisions 1500, 1600, 1700 and Direct Assignments of Temporary/Contract Staff or Consultants
▪	Exh. No. ISO-9	Description of Spread Sheets in Cost Allocation Model / Instructions for Using the Cost Allocation Model
▪	Exh. No. ISO-10	Cost Allocation Model
▪	Exh. No. ISO-11	Allocation Background Document: GMC July 9, 2003 White Paper
▪	Exh. No. ISO-12	Allocation Background Document: Cost Assignment Presentation
▪	Exh. No. ISO-13	Allocation Background Document: Functionalization of Activity Groupings for ISO
▪	Exh. No. ISO-14	Allocation Background Document: Listing of Direct Assignment Cost Centers
▪	Exh. No. ISO-15	Allocation Background Document: Labor Assignment Templates
▪	Exh. No. ISO-16	Allocation Background Document: Labor and Contract Assignment Templates
▪	Exh. No. ISO-17	Allocation Background Document: September 12, 2003 Email From Ben Arikawa to Allen Jaschke Regarding Assistance with GMC Unbundling and Related Spreadsheet Template

▪	Exh. No. ISO-18	Allocation Background Document: September 12, 2003 Email From Ben Arikawa to Eric Whitley Regarding Assistance with GMC Unbundling and Related Spreadsheet Template
▪	Exh. No. ISO-19	Allocation Background Document: October 7, 2003 Email From Ben Arikawa to Steve Meinhofer Regarding Assistance with GMC Unbundling and Related Spreadsheet Template
▪	Exh. No. ISO-20	Proposed Changes to ISO Tariff (clean)
▪	Exh. No. ISO-21	Proposed Changes to ISO Tariff (redlined)
▪	Exh. No. ISO-22	Functional Association of Settlement Charge Types and Bill Impacts Presentation – Non-confidential Version
▪	Exh. No. ISO-23	California Energy Commission: California Energy Demand 2003-2013 Forecast

Q 11. Were you directly involved in these classification, allocation, and rate design activities on behalf of the ISO?

A 11. Yes. I was involved in a number of ways. First, in conjunction with Dr. Barkovich and members of the ISO staff, I established the classification for the various subfunctions, developing alternatives for billing determinants. Second, I directed the development of the cost allocation model that has been used to establish the total revenue requirement for each rate category. I was responsible in conjunction with Dr. Barkovich and members of the ISO staff for establishing the methods for determining direct cost assignment and appropriate allocation factors for use in the model. Third, I developed the rate design model and customer bill impact analysis that has been used to evaluate the customer impacts of the proposed rates in this proceeding. I was responsible in consultation with

Dr. Barkovich and the ISO staff for developing a modified rate design to ameliorate certain significant bill impacts created by the more fully unbundled rate design.

B. Recommendations

Q 12. What recommendations to you have?

A 12. I recommend that the Commission approve the ISO's unbundled GMC rates as proposed. These rates are reasonable. The GMC rates have been developed using widely accepted methods for utility cost allocation and rate design, reflect input from the stakeholder group, and were subject to a rigorous evaluation and refinement process.

II. Classification

Q 13. Please explain what is meant by the classification of costs.

A 13. Classification involves reviewing the activities in each function and subfunction that were described in the testimony of Dr. Barbara Barkovich, Exh. No. ISO-1, to identify the customer services or requirements that are most closely associated with the ISO's incurrence of the costs. Costs are classified to identify the factors that bring them about; these factors are generally referred to as "cost causation factors" or "cost drivers".

Q 14. What do you mean by the term "customer" in your testimony?

A 14. The ISO's customers include all of the ISO's Scheduling Coordinators ("SCs"). The structure of the ISO's FERC-approved open access transmission tariff

establishes a system whereby all Utility Distribution Companies, Metered Sub-Systems, municipal utilities, or other Market Participants take service from the ISO through an SC.

Previously, the ISO employed the term "Other Appropriate Parties" to capture GMC customers other than SCs. Under the proposed GMC structure, however, this term will be discontinued, as I discuss later in my testimony.

Q 15. What is a cost driver?

A 15. A cost driver is the customer requirement for service to which I attribute utility or ISO costs in providing the service. ISO cost drivers include reliability, transmission flows, imbalances, congestion, customer access, and scheduling. Classification requires a fundamental examination of the activities associated with each function/subfunction to determine these cost drivers.

Q 16. How does a cost driver help establish appropriate billing determinants?

A 16. Identifying the customer activity associated with ISO costs provides an important basis for developing billing determinants. The billing determinant establishes the basis for sharing of cost responsibility among the ISO's various customers within each function or subfunction. Therefore, matching the billing determinant to the type of service required spreads costs more fairly among customers. A mismatch between the billing determinant and type of service can lead to some customers paying less than their fair share while others pay more. I will discuss the cost

drivers for each of the unbundled rate categories, which, as described in the Testimony of Dr. Barkovich, Exh. No. ISO-1, are Core Reliability Services ("CRS"), Energy Transmission Services Net Energy("ETS-NE"), Energy Transmission Services Uninstructed Deviations ("ETS-UD"), Forward Scheduling, Congestion Management, Market Usage, and Settlements, Metering, and Client Relations ("SMCR"). I also will explain why I have selected one or more particular billing determinant for that rate category.

A. Control Area Responsibilities

Q 17. How do the costs associated with Control Area responsibilities break down?

A 17. As described more fully in the testimony of Dr. Barkovich, it was determined that the Control Area responsibilities of the ISO were appropriately broken down into two subfunctions: CRS, which corresponds to basic reliability around the clock, and the ETS function, which covers the scalable reliability activities. Scalable activities are those that vary with the amount of customer requirements.

1. Core Reliability Services

Q 18. What is the cost driver for the CRS subfunction?

A 18. The cost driver for the CRS subfunction is each customer's basic reliability requirements.

Q 19. Why is reliability the appropriate cost driver for CRS?

A 19. The CRS subfunction represents the basic reliability requirements common to all ISO customers, *i.e.*, a basic level of reliable operation of a Control Area

surrounded by other Control Areas and achieving minimal disruptions to system operation. This includes ensuring a stable grid and meeting regional and national regulatory requirements. These services must be constantly available in order for the Control Area to operate reliably. The minimum size of these basic Control Area services is defined both by the geographic size of the Control Area and the number of interconnections with other Control Areas.

CRS requirements are not characterized by peaking activities because those activities have been segregated to another subfunction, ETS, which I will discuss next. Customer requirements for reliability occur on a base load, around-the-clock basis for every day of the year. Some customers' demands for reliability are regular, imposing requirements in nearly every hour, while others have sporadic requirements that may be imposed in fewer than half the hours or are marked by periodic, large swings in demands.

Q 20. What is the proper classification for CRS costs?

A 20. CRS, the basic provision of base load reliability services, is properly classified as demand. Thus, CRS costs are appropriately billed through demand charges. The ISO's investment in core infrastructure must be large enough to accommodate its customers' basic instantaneous demands for reliability in each hour of the year. Core infrastructure costs are essentially fixed. Therefore, customers who impose uneven demands would pay less than their fair share should these costs be billed on a volumetric basis.

Q 21. Should the CRS demand charge be coincident or non-coincident?

A 21. The CRS demand charge is properly a non-coincident peak ("NCP") demand charge. This is true because the peaking aspect of reliability services has been removed from the CRS to the ETS subfunction. Therefore, the peaking of the ISO system does not drive the costs in the CRS subfunction; rather, it is the round-the-clock requirement for services that establishes cost parameters. Hence, non-coincident demands are appropriate since these explicitly reflect each customer's maximum contribution to the ISO's hourly requirements. The ISO's recommended billing determinant for CRS is the metered non-coincident peak hourly demand during the month by SC in MW.

Q 22. How have you forecasted the billing determinant for CRS?

A 22. I compiled maximum monthly demands by Scheduling Coordinator Identification Number ("SCID") (where one SC may have more than one SCID) for the 30-month "analysis" period, January 1, 2001 through June 30, 2003. I used least-squares technique to impose a linear trend line on the aggregate data, which produces a downward slope. This downward trend is not surprising given the recessionary period and the residual effect of conservation measures taken in response to the 2000-01 energy crisis. On the other hand, an analysis of the aggregate data for the most recent 18 months shows little slope in the trend line. This suggests a potential for some growth during the test year. I have relied upon the California Energy Commission ("CEC") staff forecast using the CEC's baseline assumptions to determine demand growth rates going forward. The CEC

demand forecast predicts a growth rate of about 1.6% for ISO demands over the next several years. The CEC staff forecast, entitled "California Energy Demand 2003-2013 Forecast, August 2003," is included with this filing as Exh. No. ISO-23. The growth rate referenced above is found in Appendix D, Table D-10 of that document.

I then took the twelve months, July 1, 2002 through June 30, 2003, as the base period, compiling NCPs during this period as the base amount. I applied the 1.6% average annual growth rate to produce the forecasted CRS billing determinants.

Q 23. Why have you relied upon the CEC staff forecast rather than developing your own forecast?

A 23. The CEC is the state agency responsible for assessing the demand requirements of the California electric utilities. The CEC issues periodic staff forecasts and biennial Commission reports. The staff forecasts incorporate detailed examinations of the weather driven end-use requirements of both residential and non-residential customers in addition to econometric assessments of the effect of economic and demographic factors. I believe that it is appropriate to use the CEC forecasted growth rates in projecting billing determinants.

Q 24. Why have you used the forecast for 1-in-2 years weather assumptions rather than some of the alternatives, such as 1-in-10 years or 1-in-40 years weather assumptions?

A 24. The reference to 1-in-10, -40, or -2 years indicates the probability that the weather related demands would materialize. The 1-in-2 years forecast is an average weather year forecast, which is an appropriate basis for developing billing determinants for ratemaking purposes. The extreme event forecasts are used for operational and planning purposes.

2. Energy Transmission Services

Q 25. There are two charges for ETS set forth previously, *i.e.*, ETS-NE and ETS-UD. Do these reflect similar costing characteristics?

A 25. Yes. The two charges are based upon similar costing characteristics; hence, I will initially refer to them both as "ETS".

Q 26. What are the cost drivers for the ETS function?

A 26. The cost driver for ETS is the scalable need for safe, reliable operation of the Control Area assuming everyday (normal and extraordinary) operational requirements in which outages and disruptions (such as weather-related incidents) occur. The ETS activities represent those Control Area activities beyond the base level defined previously as CRS. These are the scalable parts of the Control Area activities needed to respond to the everyday variation in system activity.

Q 27. Why is the scalable demand for reliability services the appropriate cost driver for ETS?

A 27. The level of activity is a function of the intensity of use of the transmission system within the Control Area and the occurrence of system outages and disruptions (*e.g.*, weather-related incidents). This includes the services for simultaneously managing energy imbalances and transmission flows beyond those in a steady state Control Area.

The ETS activities meet customer requirements beyond the basic, around-the-clock reliability needs. These activities are scalable in nature, that is, they vary according to the amount of customer requirements at any point in time.

Q 28. What is the proper classification for ETS costs?

A 28. Since ETS activities are scalable, they vary with the level of activity on the system. Hence, ETS costs are properly classified as energy (variable) costs. They are appropriately billed to customers using variable charges, such as net energy. Using variable charges attributes the costs to those that are using the system and imposing the costs.

Q 29. Do some variable charges better reflect the underlying basis for the scalable costs?

A 29. Yes. Beyond the ISO's provision of basic reliability services, major elements of ISO Control Area services are ensuring transmission flows and addressing energy

imbalances. Thus, these two services are appropriate cost drivers for this subfunction. Furthermore, assigning a portion of ETS costs directly to energy imbalances provides customers with an additional incentive to minimize their imbalances.

Using two separate billing determinants creates two separate charges, ETS-NE and ETS-UD. The ISO's recommended billing determinant for ETS-NE is Metered Control Area Load ("net energy") in MWh, which corresponds to transmission flows. The ISO's recommended billing determinant for ETS-UD is net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval) ("UE") in MWh, which corresponds to energy imbalances.

Q 30. How do you determine the shares of the ETS costs that should charged through the ETS-NE and ETS-UD charges, respectively?

A 30. I multiply the overall ETS costs by 80% to obtain the portion of ETS costs that is assigned to ETS-NE. Similarly, I multiply the overall ETS costs by 20% to obtain the portion of ETS costs that is assigned to ETS-UD.

Q 31. Why are 80% of the ETS costs assigned to net energy while only 20% are assigned to UE?

A 31. UE is subject to much greater fluctuations than is net energy. For example, the standard deviation in the UE billing determinants is nearly four times that of the

standard deviation in the net energy billing determinants. Therefore, the ISO proposes to bill the greatest share of the ETS costs based on net energy.

Q 32. How have you forecasted net energy as a billing determinant for the ETS-NE category?

A 32. I compiled net energy on a monthly basis across all SCIDs for the analysis period. I used least-squares technique to impose a linear trend line on the full 30 months of aggregate data, which produces a downward slope. As discussed previously, the downward trend over this period is not surprising. I then examined the trend line for the most recent 18 months and found that it has flattened out. As in the case of the NCP, I believe that this flattening out is consistent with the view that net energy will grow somewhat during the forecast period. I have relied upon the CEC staff energy forecast (Exh. No. ISO-23) using the CEC's baseline assumptions, which predict a growth rate of about 0.56% for ISO demands over the next several years. This growth rate is found at Appendix B, Table B-10 of Exh. No. ISO-23.

I then took the monthly net energy for the base period, July 1, 2002 through June 30, 2003, to use as the base amount. I then escalated the base amount by the 0.56% annual growth rate.

Q 33. How have you forecasted UE as a billing determinant for ETS-UD?

A 33. I compiled UE monthly by SCID for the analysis period. Using regression techniques, I then examined whether there was any significant correlation between the trends in UE and the trends in net energy. I saw no significant correlation to support a supposition that UE would grow at the rate that energy use is expected to grow. I also considered the fact that the ISO shortly will implement a penalty provision for generators exceeding three percent of their scheduled quantities, which should act to discourage excessive uninstructed deviations. Based upon our analysis, I concluded that it was most appropriate to forecast UE at the same level as they are in the base period.

B. Market Services

Q 34. How do the costs for the Market Services activities break down?

A 34. As described more fully in the testimony of Dr. Barkovich, it was determined that the Market Services activities of the ISO were appropriately broken down into three subfunctions:

- Forward Scheduling, which involves the processing and verification of Schedules in the forward markets;
- Market Usage, which consists of operating and monitoring the markets for energy and Ancillary Services ("AS"); and
- Congestion Management, which uses adjustment bids to determine what electricity flows on congested lines.

1. Forward Scheduling

Q 35. What is the cost driver for the Forward Scheduling subfunction?

A 35. The appropriate cost driver for the Forward Scheduling subfunction is the number of Schedules.

Q 36. Why is the number of Schedules the appropriate cost driver?

A 36. The ISO's costs associated with processing Schedules are driven by the number of Schedules, not by the amount of MWh that are included in each Schedule. The ISO's systems that process the Schedules do not distinguish between Schedules that include a large quantity of electricity and those that include a small quantity. Instead, each Schedule takes about the same system processing and manual verification time regardless of the amount of electricity involved. Thus, the system time and the labor requirements do not vary according the amount of electricity scheduled, but rather the number of Schedules submitted.

Q 37. What is the proper classification for Forward Scheduling costs?

A 37. Forward Scheduling costs are appropriately classified as transactions rather than energy because the cost driver is the number of Schedules and not the number of MWh. Thus, the appropriate billing determinant is Schedules, not MWh of electricity scheduled. The ISO's proposed billing determinant for Forward Scheduling is the number of Schedules submitted to the scheduling infrastructure system ("SI"); specifically, this is the number of load, generation, import, export, inter-SC trade, and awarded AS bids (including self-provided AS) Schedules.

Q 38. What is the appropriate basis for determining the number of Schedules?

A 38. The total number of Schedules is equal to all non-zero Final Hour-Ahead Schedules, including all awarded AS bids. This number then includes all Schedules established in the Day-Ahead context that remain unchanged through the final Hour-Ahead, any Schedules established solely in the Hour-Ahead, and all changes to Day-Ahead Schedules including those made to improve load following. This definition appropriately reflects the Commission's concern that any scheduling charge not be designed so as to in effect discourage customer load following.

Q 39. Does this mean that changes to a Schedule ahead of a Final Hour-Ahead Schedule are not counted as multiple Schedules so customers are not charged for such changes?

A 39. That is correct. Using the Final Hour-Ahead Schedule as the basis for the Forward Scheduling Charge allows a customer to make changes in its Schedule to follow its load without the economic penalty of additional Forward Scheduling charges for doing so.

Q 40. Why should customers be charged for each hourly Schedule even if their Schedule does not vary from hour to hour?

A 40. Customers are correctly charged on a final Hour-Ahead basis because all Final Hour-Ahead Schedules must be verified by the scheduling staff and systems before they can be relied upon in the real-time context. In addition, all accepted AS bids

must be processed through the scheduling system on the final Hour-Ahead basis, before they can be relied upon on a real-time basis. It does not matter whether these AS bids are self-provided or market-provided; they must be verified along with all of the Schedules to ensure that the system is properly balanced before real-time.

Q 41. How have you forecasted the billing determinants for the Forward Scheduling category?

A 41. I have compiled the total number of Final Hour-Ahead Schedules plus awarded AS bids for all SCIDs on a monthly basis for the analysis period. I then used least-squares technique to impose a linear trend line on this aggregate data, which produces a slight upward slope. Since the Forward Scheduling Charge is a new charge, however, there may be some price elasticity effect from imposition of a new charge, which would offset growth in Final Hour-Ahead Schedules. Therefore, I conclude that it is most appropriate to forecast Final Hour-Ahead Schedules at the same level as they are in the base period.

Q 42. Did you check whether there might be a statistical relationship between the numbers of Final Hour-Ahead Schedules and another variable, *e.g.*, Metered Control Area Load?

A 42. Yes, I examined this issue. I determined that there was no significant correlation between the trends in the number of Final Hour-Ahead Schedules and the trends in net energy or NCP using regression techniques. This finding is consistent with the fact that the number of Schedules does not reflect the amount of energy that is

being scheduled. Hence, there is no reason to conclude that the number of Schedules would grow at the rate that energy and demands would grow during the test period. Furthermore, I found only a weak correlation between the number of Schedules and the number of SCIDs. These findings support my earlier determination that the number of Final Hour-Ahead Schedules will remain constant through the forecast period.

2. Market Usage

Q 43. What are the cost drivers for the Market Usage subfunction?

A 43. The costs associated with the Market Usage subfunction arise because the ISO relies upon markets rather than owning facilities to guarantee provision of electricity and ancillary services in the real time context. Each customer is responsible for providing its own energy and AS, which is then turned over to the ISO for Control Area uses. Many customers self-provide their energy and AS requirements, while other customers rely upon the markets to provide some portion of their needs. The cost drivers for Market Usage are the amount of AS and energy that are procured through the markets on an instructed or uninstructed basis.

Q 44. Why is the amount of AS and energy procured through the markets the appropriate cost driver for the Market Usage subfunction?

A 44. The Market Usage subfunction includes only the costs of operating the ISO's markets, *i.e.,* the processing of supplemental energy and Ancillary Service bids, monitoring market performance, posting market information to the Open Access

Same-Time Information System ("OASIS"), and determining market-clearing prices. The costs associated with operating these markets are driven by those customers whose loads are met at least partly through market purchases of power and AS rather than solely through self-provision.

Q 45. What is the proper classification of Market Usage costs?

A 45. Market Usage costs are properly classified as energy (variable) costs. Using a variable billing determinant places the market costs on those that actually use them. The appropriate billing determinants for Market Usage costs, however, track the various uses of the markets, that is, the various components of AS and Imbalance Energy. The ISO's recommended billing determinant is the total of market purchases and sales of AS, Supplemental Energy, Instructed Imbalance Energy ("IE") and net Uninstructed Imbalance Energy (with uninstructed deviations being netted by settlement interval), (the "UE" described earlier), at an SC portfolio level.

Q 46. How have you forecasted the billing determinants for Market Usage?

A 46. I have compiled the total of AS purchases, AS sales, IE, and UE by month across all SCIDs for the analysis period. I used least-squares techniques to impose a linear trend line on the full 30 months of aggregate data, *i.e.*, from January 1, 2001 to June 30, 2003, which produces a downward slope. I also examined the trend for the most recent 18-month period, January 1, 2002 to June 30, 2003, and found that the trend line was virtually flat. Based upon my analysis, I conclude that the

Market Usage billing determinants can best be estimated as remaining constant during the forecast period.

Q 47. Did you perform any other analyses to verify your forecast?

A 47. Using regression techniques, I also established that during the full 30 months under analysis there is no significant correlation between the trends in the Market Usage amounts and the trends in net energy or NCP, which are both escalating during the forecast period. There is some correlation between Market Usage and net energy during the last 18 months of that 30-month period. This reflects, among other things, customers' ability to self-provide AS and energy as an alternative to purchasing them in the markets.

Net energy is projected to grow at 0.56% during the forecast period and, with the previously mentioned correlation, so arguably might Market Usage. There are a number of factors, however, that work against that eventuality. First, the correlation between Net Energy and Market Usage has not persisted through the entire study period and has only moderate quality statistics. Second, there was a sharp fall in Market Usage volumes during the overall period. Third, there is the potential that UE, which is a substantial portion of the Market Usage billing determinant, may decline somewhat in the near future due to the ISO's implementation of a penalty provision for generators exceeding three percent of their scheduled quantities. Taking all of these factors into account, I believe that

projecting no growth in Market Usage during the forecast period is more conservative than projecting 0.56% growth.

3. Congestion Management

Q 48. What is the cost driver for the Congestion Management subfunction?

A 48. The costs associated with the Congestion Management subfunction are driven by the amount of electricity that has been scheduled to flow between zones across congested lines.

Q 49. Why is amount of inter-zonal electricity flow the appropriate cost driver for the Congestion Management subfunction?

A 49. Congestion exists when power flowing on a transmission path exceeds the transmission path capacity. The ISO manages this congestion during the scheduling process, *i.e.,* congestion analysis is performed for a subset of Final Hour-Ahead Schedules. These Schedules must be processed separately to alleviate the congestion through consideration of adjustment bids. The amount of electricity that is scheduled across congested lines, rather than the number of transactions, determines whether the line becomes congested given any set of environmental parameters. Hence, the number of Schedules within the congestion management system is not the appropriate basis for billing.

Q 50. What is the appropriate classification for Congestion Management costs?

A 50. Congestion Management costs are properly classified as energy (variable), but limited to the subset of energy scheduled to be carried across congested lines. Use of this billing determinant directs the cost of Congestion Management to those that are scheduled to use congested lines. The ISO's recommend billing determinant for Congestion Management is the absolute value of the net scheduled inter-zonal flow (excluding flows pursuant to Existing contracts) ("inter-zonal flows") per path in MWh.

Q 51. How have you forecasted the billing determinants for Congestion Management?

A 51. I compiled inter-zonal flows by month across all SCIDs for the analysis period. Using least-squares techniques, I imposed a linear trend line on the aggregate data, which shows a slight upward slope. Based upon this trend line, I would project a small increase for the forecast relative to the base period.

Q 52. Did you perform any other analyses to confirm your findings?

A 52. I used regression techniques to evaluate the relationship between inter-zonal flows and the trends in net energy. This analysis shows no correlation between the two factors for the entire 30 months of data while a strong correlation exists for the final 18 months of that period. Based upon this analysis, I have concluded that the net load growth rate is appropriately applied as the growth rate in inter-zonal flows. I then took the monthly inter-zonal flows for the base period, July 1, 2002

through June 30, 2003, to use as the base amount. I then escalated the base amount by the 0.56% annual growth rate.

C. SMCR

Q 53. What is the cost driver for the SMCR function?

A 53. The costs associated with the SMCR function are driven by the number of active SCIDs each month during the year.

Q 54. Why is the number of active SCIDs each month the appropriate cost driver for SMCR costs?

A 54. The SMCR costs are all associated with providing customer access to the ISO system, that is, metering SC usage of the system, preparing Settlement Statements, and providing SCs with assistance regarding Settlement Statements or ISO systems. These costs are directly attributable to customer needs for access to the ISO system; hence, the number of SCIDs each month is the appropriate cost driver.

Q 55. Why do you use the number of SCIDs rather the number of SCs to forecast this billing determinant?

A 55. Many SCs maintain multiple SCIDs and thus receive billing, metering, and client relations support for each separate SCID. Furthermore, since Settlement Statements are prepared on an SCID basis, all billing determinants must be maintained and projected on this basis.

Q 56. What is the appropriate classification for SMCR costs?

A 56. SCMR costs are properly classified as customer costs. Hence, the appropriate billing determinant for SMCR costs is customer-months. This billing determinant properly takes into account variations in the number of active SCIDs by month.

Q 57. How have you forecasted the SMCR billing determinants?

A 57. I compiled the number of active SCIDs by month for the analysis period. Using least-squares techniques, I imposed a linear trend line on the data, which shows an upward slope. I have applied the long-term annual escalation rate of 8% to the base period quantities to produce the number of customer months for the test year.

Q 58. Does this method of classification yield reasonable billing determinants?

A 58. Yes, it does. The billing determinants for each function and subfunction are presented in Exh. No. ISO-5.

III. Cost Allocation Model

Q 59. Has the ISO prepared a cost allocation model as a part of its rate setting process?

A 59. Yes. The ISO has prepared a detailed cost allocation model ("CAM"), which has been used to develop its proposed rates. This model takes the ISO's 2004 Budget, Financing Budget, and Capital Project Funding and separates each of them to functions and subfunctions. The 2004 Budget presents the ISO's projected Operating and Maintenance ("O&M") Costs for the test year. The Financing

Budget presents those capital items that previously were paid for with the bonds issued by the ISO in 1998 and 2000. Capital Project Funding presents those systems and facilities that will be paid for out of revenues during 2004. Wherever possible, costs are assigned directly to the functions or subfunctions on the basis of detailed cost analyses; otherwise, they are apportioned using allocation factors.

Q 60. What is the difference between direct assignment and allocation?

A 60. Costs can be directly assigned to a function or subfunction if upon completion of a detailed cost study there is evidence that demonstrates the direct connection between the costs and the functional activities. If there is no direct linkage, then the costs are allocated using an allocation factor that best associates the costs with the various functional areas. I will discuss each of these processes below.

Q 61. Were the stakeholders concerned about increasing the amount of costs that were directly assigned rather than allocated?

A 61. Yes. Stakeholders raised concerns early in the process about the large amount of costs that were subject to allocation rather than to direct assignment based upon detailed cost studies.

Q 62. Have you increased the portion of costs that are directly assigned to functions or subfunctions relative to the 2001-2003 GMC structure?

A 62. Yes, I have significantly increased the percentage of directly assigned costs in this CAM relative to the CAMs supporting the GMC filings in previous cases, *i.e.*,

Docket Nos. ER01-313 and ER02-250. Much of the increase in direct assignment comes from incorporating detailed cost assessment of the systems and associated support personnel used in the various functional areas.

Q 63. How will the ISO implement these allocations?

A 63. As I discuss below, the results of the detailed cost allocation process is being put into the ISO Tariff as Part E of Appendix F, Schedule 1. As part of the ISO Tariff, the allocations will form part of the formula rate used to calculate the ISO's GMC.

A. Direct Assignment

Q 64. What types of costs are assigned directly to the functions or subfunctions?

A 64. Direct costs are assigned to the functions or subfunctions. These direct costs are labor (including contractor) and systems costs since these are the elements through which the ISO provides its various services, *i.e.*, reliability, transmission flows, scheduling, etc.

Q 65. Does the CAM track the direct expenses by cost center?

A 65. Yes, in the CAM each individual cost center that involves direct expenses is separately assigned to the various functions or subfunctions.

Q 66. Which cost centers have been directly assigned?

A 66. Labor costs from the following 36 cost centers in the ISO's 2004 Budget have directly assigned:

CC No.	Cost Center Name
1521	Grid Planning
1542	Outage Coordination
1543	Loads and Resources
1544	Real-time Scheduling
1545	Grid Operations
1546	Reliability Coordinators
1547	Engineering and Maintenance - General
1548	OSAT General
1549	Operations Training
1554	Special Projects Engineering
1555	Operations Support
1558	Transmission Maintenance
1559	Operations Applications Support
1561	Operations Engineering South
1562	Operations Engineering North
1563	Operations Coordination
1564	Scheduling Department Director
1565	Scheduling Support
1566	Regional Coordination
1641	Market Analysis
1642	Market Surveillance Committee
1661	Compliance - General
1662	Compliance - Audits
1721	Billing & Settlements
1722	Business Development Support
1723	RMR Settlements
1724	BBS Settlements - Preliminary Settlements
1725	BBS Settlements - Final Settlements
1731	Contracts & Special Projects
1741	Client Relations
1751	Market Operations - General
1752	Manager, Markets
1753	Market Engineering
1755	Business Solutions
1756	Market Quality
1757	Market Integration

Q 67. How have you determined the separate labor assignment factors for the individual cost centers?

A 67. As described in Dr. Barkovich's testimony, I have obtained detailed information by cost center from the managers of the individual cost centers. Through use of a standardized grid, the managers have indicated the number of their personnel and

contract labor whose work corresponds to the definitions of the individual functions or subfunctions. The information for each cost center has been converted to a percentage basis for use in the CAM.

Q 68. Which systems have been directly assigned?

A 68. The following 61 systems from the ISO's Financing Budget and Capital Project Funding have directly assigned costs:

System
ACC Upgrades (Communication between ISO & IOUs)
Ancillary Services Management (ASM) Component of SA
Automated Dispatch System (ADS)
Automated Load Forecast System (ALFS)
Automatic Mitigation Procedure (AMP)
Balance of Business Systems (BBS)
Balancing Energy Ex Post Price (BEEP) Component of SA
Bill's Interchange Schedule (BITS)
Common Information Model (CIM)
Congestion Management (CONG) Component of SA
Congestion Reform-DSOW
Congestion Revenue Rights (CRR)
Dispute Tracking System (Remedy)
Electronic Tagging (Etag)
Energy Management System (EMS)
Engineering Analysis Tools
Evaluation of Market Separation
Existing Transmission Contracts Calculator (ETCC)
FERC Study Software
Firm Transmission Right (FTR) and Secondary Registration System (SRS)
Global Resource Reliability Management Application (GRRMA)
Grid Operations Training Simulator (GOTS)
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,
Integrated Forward Market (IFM)
Interzonal Congestion Management reform - Real Time
Locational Marginal Pricing (LMPM)
Market Transaction System (MTS)
Masterfile
MD 02 Capital
Meter Data Acquisition System (MDAS)
New Resource Interconnection (NRI)
Open Access Same Time Information System (OASIS)
Operational Meter Analysis and Reporting (OMAR)
Oracle Enterprise Manager (OEM)

System
Oracle Licenses
Oracle Market Financials BBS
Out of Sequence Market Operation Settlements Information System (OOS)
Outage Scheduler (OS)
Participating Intermittent Resource Project (PIRP)
Process Information System (PI)
Rational Buyer
Real Time Energy Dispatch System (REDS)
Real Time Nodal Market
Reliability Management System (RMS)
Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)
Resource Register (RR)
RMR Application Validation Engine (RAVE)
Scheduling & Logging for ISO California (SLIC)
Scheduling Architecture (SA)
Scheduling Infrastructure (SI)
Scheduling Infrastructure Business Rules (SIBR)
Security Constrained Economic Dispatch (SCED)
Settlements and Market Clearing
Storage (EMC symmetrix)
System Equipment Buyouts (lease buyouts)
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation
Transmission Map Plotting & Display
Trustee Costs, Interest-Capitalized, User Groups
Wide Area Network (WAN)

Q 69. How have the various systems been assigned to the functions or subfunctions?

A 69. Each system that is directly involved in providing the ISO's services is apportioned to the functions or subfunctions as described in Dr. Barkovich's testimony. The cost of each system has been isolated in the CAM and then individually assigned to the functions and subfunctions using the appropriate factor.

Q 70. Are there any other cost centers that have been directly assigned?

A 70. Yes, the following ten cost centers, nine of which are Information Systems ("IS") and one which is MD02, have been entirely or partially directly assigned because they are directly involved in supporting systems that have been directly assigned:

CC No.	Cost Center Name
1241	MD02
1424	Asset Management
1441	Outsourced Contracts
1433	Network Services
1461	Control Systems
1462	Field Data Acquisition System (FDAS)
1466	Enterprise Applications
1467	Settlement Systems Services
1481	Markets and Scheduling System Services
1482	Market Systems Support Services

Q 71. Which IS cost centers have only been partially directly assigned?

A 71. Only one, 1433, has been partially directly assigned. All costs (about half) associated with the wide area network ("WAN") have been directly assigned, but the remaining costs must be allocated since they are associated with the local area network ("LAN"). Currently, there is insufficient information to support a cost study and a direct assignment of the LAN costs. I am hopeful that the data will become available in the future.

Q 72. How have the personnel involved in IS system support been assigned to the various functions or subfunctions?

A 72. The managers for the cost centers that involve IS system support have identified the systems that they directly support. Managers of cost centers with expenditures that are primarily labor-related (*e.g.*, 1461, 1462, 1481 and 1482) identified the number (or portion) of their employees that support each of the systems that the cost center directly supports. Managers of cost centers with primarily contract expenditures (*e.g.*, cost centers 1424 and 1441) identified their contract expenditures on systems. The cost centers are then broken down percentage-wise to the systems and then these system-support percentages are assigned to functions or subfunctions using the same "system" factors described previously.

B. Allocation

Q 73. What types of costs are allocated?

A 73. Labor costs are allocated if they were not directly involved with the creation of services that the ISO provides. This includes supervisory personnel at the director and officer level as well as personnel in other areas, such as Finance and Human Relations. Costs for systems, such as desktop computers and associated software that are not directly attributable to a specific function or subfunction are allocated.

Q 74. What factors have you used to allocate costs?

A 74. For supervisory personnel, I have used an overall functionalization for the cost centers that they oversee. For example, the cost associated with the Vice President

of Grid Operations is apportioned between CRS and ETS based upon the total of the costs that are assigned those subfunctions from cost centers 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1554, 1555, 1558, 1559, 1561, 1562, 1563, 1564, 1565, and 1566.

Overhead cost centers are allocated using an overhead factor, either based upon the number of full-time employees ("FTEs") or the total costs assigned to each function or subfunction. The costs of systems that are not attributable to a specific function or subfunction also are allocated using a factor, such as FTEs.

Q 75. Are the allocation factors applied on a cost center basis?

A 75. Yes. The characteristics of the specific cost center are considered in determining the appropriate allocation factor. The allocation factor is applied to the cost center total to apportion the costs into the various functions or subfunctions.

Q 76. Which cost centers are allocated?

A 76. The following 27 cost centers are allocated:

CC No	Cost Center Name
1111	Chief Executive Officer
1311	Chief Financial Officer
1321	Accounting
1331	Financial Planning
1351	Facilities
1361	Security & Corporate Services
1411	Chief Information Officer
1422	Corporate & Enterprise Applications
1431	End User Support
1432	Computer Operations and Infrastructure Services
1442	Production Support
1451	Information Security Services

CC No	Cost Center Name
1463	Operations Systems Services
1471	IT Planning
1468	Corporate Application Support and Administration
1469	Analytical and Reporting Applications
1511	Vice President, Grid Operations
1611	General Counsel
1631	Legal and Regulatory
1651	Board of Governors
1711	Vice President, Market Services
1811	VP Corporate and Strategic Development - General
1821	Communications
1831	Strategic Development
1841	Human Resources
1851	Project Office
1861	Regulatory Policy

C. Revenue Requirement

Q 77. Once the 2004 Budget, Financing Budget, and 2004 Capital Project Funding are separated to each of the functions and subfunctions, how is the functionalized test year revenue requirement developed?

A 77. The test year revenue requirement is the total of O&M expenses, debt service requirements, and capital project funding for 2004 offset by the amounts projected under the Expense Recovery Budget and the Operating and Capital Reserve.

Q 78. Are the Expense Recovery Budget and Operating and Capital Reserve amounts separated to each of the functions and subfunctions?

A 78. Yes. The Expense Recovery Budget is assigned to the function or subfunction for which the expenses are recovered, that is, SC Application and Training Fees are assigned to SMCR, while Western Electricity Coordinating Council ("WECC") Reimbursement/North American Electric Reliability Council ("NERC")

Reimbursements are assigned to CRS. The last category of the Expense Recovery Budget is Interest Earnings, which are allocated to the functions or subfunctions based upon their share of the revenue requirement before the application of credits. The Operating and Capital Reserve amounts are allocated to each of the functions and subfunctions.

Q 79. Does this method yield a reasonable separation of revenue requirement to functions and subfunctions?

A 79. Yes, it does. The results from the CAM are presented in Exhibit ISO-6.

IV. Rate Design and Customer Bill Impacts

Q 80. How are cost-of-service rates calculated?

A 80. Cost-of-service rates are calculated when the fully functionalized revenue requirement for each function or subfunction is applied to the appropriate billing determinants. For most functions or subfunctions, 100 percent of the functional revenue requirement is applied to the billing determinants. The ETS subfunction, however, has two separate billing determinants and charges: 80 percent of the ETS revenue requirement is applied to ETS-NE while the remaining 20 percent is applied to ETS-UD.

Q 81. If the fully functionalized revenue requirement for SMCR is applied to the customer-months billing determinant identified for that function, how large is the monthly customer charge?

A 81. The fully functionalized customer charge is in excess of $50,000 per month per SCID. While this charge might be acceptable to the medium- and large-sized SCs, it clearly would be burdensome for the smaller SCs. Furthermore, a fixed monthly charge of this size could have the potential to drive smaller SCs from the market. Hence, the ISO recommends the adoption of a nominal customer charge of $500 per month.

Q 82. Wouldn't a larger customer charge be more reflective of cost-of-service?

A 82. Yes, a larger customer charge would better reflect cost-of-service; however, as explained previously, there are overriding concerns that require the introduction of the customer charge at a very low level. Once the ISO has had experience with the customer charge at this level, it can consider developing a larger customer charge.

Q 83. How is the remainder of the SMCR revenue requirement collected through rates?

A 83. The remainder of the SMCR revenue requirement has been reassigned according to set percentages in the ISO Tariff to the other functions or subfunctions with the exception of the CRS and Froward Scheduling subfunctions. This reassigned revenue requirement then adds to the already functionalized revenue requirement

and the total amount is applied to the billing determinant(s) for the various subfunctions.

Q 84. How did you determine the appropriate level of reassignment to the various subfunctions?

A 84. I used a measure of traffic on the Settlements system to reassign the SMCR revenue requirement to the other subfunctions. This approach was chosen for two reasons. First, the Settlement system makes up the single largest portion of the SMCR functionalized revenue requirement. Second, the measure of traffic provides a quantified means to apportion the revenue requirement among the other subfunctions.

Q 85. Please describe this measure of traffic on the Settlements system.

A 85. I analyzed a compilation of charge types from all monthly Settlement Statements for the period of January 2001 through June 2003. The occurrence of charge types in Settlement Statements is a reasonable measure of the activity in Settlements. I then associated each charge type with one of the three subfunctions, ETS, Congestion Management, and Market Usage. Based on this association, I calculated the percentage share of the total charge types that each subfunction represented. This percentage was used to reassign the remaining SMCR revenue requirement.

Q 86. Why did you exclude the CRS and Forward Scheduling subfunctions from the reassignment of SMCR revenue requirement?

A 86. I excluded these two subfunctions because they are new rate components that by themselves might introduce significant customer bill impacts. Increasing these two rate components by adding the associated SMCR revenue requirement would serve only to exacerbate any bill impacts that they might otherwise generate.

Q 87. How did you associate the various charge types to subfunctions?

A 87. I went through a charge-type-by-charge-type review and attributed them to the functions based upon the nature of the activity underlying the charge. For example, charge types related to the provision of Reliability Must Run ("RMR") plants were attributed entirely to the ETS function because those RMR plants are maintained for reliability purposes. Similarly, charge types related to congestion were assigned solely to Congestion Management.

Q 88. Did you split some of charge types between functions?

A 88. Yes. Some of the charge types were split between the ETS and Market Usage subfunctions. A number of those charge types relate to the provision of AS and Imbalance Energy through the markets.

Q 89. How did you determine the appropriate split between the ETS and Market Usage subfunctions for these charge types?

A 89. In determining the appropriate split, I recognized that the fundamental purpose of maintaining the markets is to supply AS and Imbalance Energy to allow the ISO to maintain reliability. The markets do not exist primarily for the sake of trading but rather the trading exists to enable the ISO to provide reliability. In other words, the ISO provides markets to allow its customers to provide their share of the AS and Imbalance Energy rather than the ISO owning plants that would enable it to provide these services directly. I believe that a 75/25 split between ETS and Market Usage is a reasonable approximation of the sharing of responsibility between the reliability- and market-related subfunctions. The 75% allocation to ETS is then further allocated to the ETS-NE Charge and the ETS-UD Charge using the same 80/20 split, respectively, used to divide the rest of the ETS costs between the two charges.

Q 90. Have you performed any assessment of bill impacts on a customer-by-customer basis?

A 90. Yes, I have evaluated bill impacts for each SCID. There are noticeable bill increases for some SCIDs, particularly for those SCIDs that have been actively trading through the ISO's scheduling infrastructure system, but paying nothing for these services. Under the ISO's proposal, these SCIDs will now pay a Forward Scheduling Charge and an SMCR charge. Other SCIDs that see a significant increase are those that are typically very low load factor customers that have paid

much less for their reliability services than they have received in service. Under the ISO's proposal, these customers now will be paying a CRS demand charge to ensure their fair contribution to ISO reliability services.

Q 91. Do you recommend the adoption of the resulting rates?

A 91. Yes, the rates that I have developed using this methodology are reasonable and should be accepted by the Commission. I have presented the rates in Exh. No. ISO-4.

V. Tariff Changes

Q 92. Please describe the ISO's proposed tariff changes.

A 92. The changes to the ISO Tariff fall into two main categories. First, the ISO is changing the components of the GMC. Second, the ISO is incorporating greater specificity into the provisions of the ISO Tariff to incorporate a formula rate for the GMC. I will discuss each of these in turn. A third area of tariff change, related to the quarterly adjustment mechanism, is discussed by Philip Leiber in his testimony, Exh. No. ISO-24.

Q 93. Which portions of the ISO Tariff have changed to reflect the new GMC rate components?

A 93. Sections 8.2 to 8.5 have been modified to replace the old descriptions of GMC rate components with those of the new GMC rate components. Parallel changes also

are found in Appendix A (the Master Definitions Supplement) and in Appendix F (Rate Schedules).

One element of these changed descriptions is the elimination of the term "Other Appropriate Parties". Because the new GMC structure is based on metered use by SCs, and contains no element for estimation of behind-the-meter load, the "Other Appropriate Parties" concept is no longer a necessary element of the GMC.

Q 94. Will the 2004 GMC be a formula rate?

A 94. Yes. The ISO is proposing to put in the ISO Tariff the specific factors used to allocate the ISO's expenses and capital spending among the seven proposed GMC charge components. The ISO will apply these factors to its approved budget to develop the GMC charges for the budget year. The seven GMC charges will be adjusted automatically each year to reflect the results of this process. This structure enables the ISO to structure the GMC as a formula rate.

Q 95. How many allocation factors are specified?

A 95. The allocation factors are set forth in Tables 1 through 3 in Appendix F, Schedule 1, Part E to the ISO Tariff, Exh. No. ISO-20.. There are 85 sets of allocation factors shown in Table 1, 91 sets of allocation factors shown in Table 2, and 5 allocation factors shown in Table 3.

Q 96. What will the ISO do if cost allocation factors change?

A 96. If the cost allocation factors change significantly, the ISO will file modifications to the table of allocators under Section 205.

Q 97. How does the ISO propose to notify customers about changes in GMC charges?

A 97. The ISO will continue to engage in its annual budgeting process, which will provide information about the ISO's upcoming costs for the next year. The budgeting process includes the publication of a proposed budget, workshops in which the proposed budget is explained to stakeholders, who are given opportunities to ask questions and raise concerns, and adoption of the final budget by the ISO Governing Board in a public session. In addition, the ISO is proposing to make an informational filing with FERC each year on or before December 15 or the first business day thereafter. This filing would contain the information needed to update the ISO's GMC formula rate for the upcoming year, presented in conformance with FERC's uniform system of accounts.

Q 98. What are the benefits of the ISO's proposal to include allocation factors in the ISO Tariff and to employ a formula rate mechanism for GMC charges?

A 98. The cost savings alone, both for the ISO – and therefore its customers – as well as for all of the entities that intervene in rate cases, should be significant. The legal and consultant fees for a rate case that can stretch out over a year and, as in the case of the 2001 GMC, which involved a hearing that was more than a month long,

are sizeable. The overall costs are even greater when the in-house human capital expended, both at the ISO and among the intervening parties, is taken into account.

A further benefit of a formula rate would be to establish clear and consistent rules for the GMC rate and to provide transparency and predictability to the rate setting process. Finally, a formula rate may improve the ISO's prospects for a return to finance-ability through an upgraded debt rating. Rate cases subject to refund that stretch out over long periods subject the ISO to uncertainty that in turn can impact the confidence of lenders and rating companies. A stable formula rate-based GMC would significantly reduce this element of uncertainty.

Q 99. Which portions of the ISO Tariff set forth the ISO's proposed formula rate for its GMC?

A 99. As described previously, Appendix F, Schedule 1 Part E shows a matrix setting forth the functional shares for each cost center and system that the ISO employs to provide its services. Part A of that same schedule provides the formulas for calculating the separate components of the GMC rate using the shares set forth in the matrix. Part C shows the formulas for determining the revenue requirement. Part E shows the formula for determining the portion of the revenue requirement attributed to the SMCR function that is reassigned to the ETS, Congestion Management, and Market Usage subfunctions.

Q 100. Are formula rates commonly used by transmission providing utilities?

A 100. Formula rates are commonly used throughout the electric utility industry by public utilities regulated by FERC, including traditional vertically-integrated utilities, wholesale generating companies, transmission owners, as well as independent system operators and regional transmission owners.

Q 101. What are some examples of independent system operators and regional transmission organizations with formula rates?

A 101. At least three independent system operators and regional transmission organizations employ formula rates to recover their operating costs from transmission customers and market participants:

- PJM's counterpart to the GMC (Schedule 9 to the PJM open access transmission tariff) is a set of formula rates, one adjusting monthly, the others annually, with no provision for an informational filing with FERC. Instead PJM posts its estimates and work papers on its Internet website.

- The Midwest ISO's ISO Cost Recovery Adder (in Schedule 10 to its transmission tariff) has a set of formula rates to recover its operating costs, one adjusting monthly, the other adjusting annually with no information filing with FERC. Instead, Midwest ISO is to notify its customers directly regarding certain narrowly specified changes.

- The New York Independent System Operator also includes formula rate mechanisms in Schedule 1 to its transmission tariff and its market services tariff to recover its administrative costs.

Q 102. Does this conclude your testimony?

A 102. Yes, it does.

Appendix A:
Appearances as an Expert Witness

I. Regulatory Proceedings

A. Before the California Public Utilities Commission:

OII 79: Commission Investigation Regarding Utility Gas Exploration and Development (GEDA) Programs
Written direct testimony recommending discontinuance of GEDA program.

A.60153/A.58545/A.58546: Pacific Gas and Electric Company--General Rate Case
Written direct testimony regarding the research and development program.

A.82-12-048: Pacific Gas and Electric Company--General Rate Case
Written direct testimony regarding the appropriate rate treatment for profit received on sale of coal properties in Utah.

A.82-07-048/A.82-11-056: Pacific Power & Light Company--General Rate Case
Written direct testimony regarding rate treatment for pre licensing expenses.

A.83-07-016: San Diego Gas and Electric Company--Fuel Offset Case and Annual Review of Operations
Oral rebuttal testimony regarding the availability of natural gas for electric operations.

I.84-04-079: Commission Investigation into Natural Gas Transportation Issues
Testimony before the Commission En Banc (January 1986) regarding natural gas industry structure.

A.85-12-050: Pacific Gas and Electric Company--General Rate Case
Written direct testimony regarding total compensation levels.

OII 86-10-001: Commission Investigation Regarding Electric Utility Regulations
Testimony before the Commission En Banc (March 1987) regarding electric rate design for special contracts.

A.91-03-039: Southern California Gas Company--Biennial Cost Allocation Proceeding
Written direct and rebuttal testimony regarding natural gas cost allocation and rate design.

R.88-08-018: Commission Rulemaking Regarding Capacity Brokering--Pacific Gas & Electric Company and Southern California Gas Company

Written direct testimony regarding the implementation of the Commission's November 1991 order.

A.91-11-036: Pacific Gas and Electric Company -- General Rate Case
Written direct testimony regarding rate treatment of employee compensation expenses Written direct and rebuttal testimony regarding electric marginal costs and revenue allocation.

R.88-08-018: Commission Rulemaking Regarding Capacity Brokering--Pacific Gas & Electric Company and Southern California Gas Company
Written direct testimony regarding the need for facilities expansion on Pacific Gas and Electric Company's system.

I.86-06-005: Commission Investigation Into Implementing a Rate Design for Unbundled Gas Utility Services--Pacific Gas & Electric Company and Southern California Gas Company
Written direct testimony regarding the appropriate allocation of costs to each customer class. Written direct testimony regarding the de-averaging of industrial rates by pressure levels.

A.93-05-044: Southern California Edison Company --Fuel Offset Case
Written direct testimony regarding the appropriate calculation of marginal energy costs and the reflection of those costs in an interclass allocation of costs.

A.93-09-006: Southern California Gas Company --Biennial Cost Allocation Proceeding (Phase II)
Written direct testimony regarding the appropriate development of rates for the utility's Wheeler Ridge facilities (Phase II). Written direct testimony regarding rate-of-return, operations, and other elements bearing on the underlying cost of service.

A.93-09-006: Southern California Gas Company --Biennial Cost Allocation Proceeding (Phase III)
Written direct testimony regarding the need for refunds of customer bills given modifications of Commission orders pertaining to interim rates for the Wheeler Ridge facilities.

A.94-05-041: Southern California Edison Company --Fuel Offset Case
Written direct testimony regarding the appropriate calculation of marginal energy costs and the reflection of those costs in an interclass allocation of costs.

A.95-06-002: Southern California Gas Company --Proposed Performance Based Ratemaking Mechanism
Written direct testimony evaluating the utility's proposal for a performance based ratemaking mechanism and developing alternative ratemaking mechanisms.

A.96-12-009: Pacific Gas & Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company—Unbundling of Electric Power Rates
Written direct testimony evaluating the utilities' proposed methods for unbundling electric power rates and proposing alternative methods for completing the rate unbundling in the context of electric industry restructuring in the state of California.

A.96-10-038: Southern California Gas Company and San Diego Gas & Electric Company--Proposed Merger of Pacific Enterprises and Enova Corporation
Written direct testimony evaluating the effect on competition, market structure, and customer rates of a proposed merger between Pacific Enterprises and Enova Corporation, the respective parent companies for the two utilities.

A.97-03-012: Application of MHC Acquisition One for a Certificate of Public Convenience and Necessity and Associated General Rate Case
Written direct testimony evaluating water system costs, including construction, operation, and maintenance, as well as the appropriate basis for allocating revenue responsibility and designing water rates for various classes of customers.

A.97-03-015: Southern California Gas Company-Proposed Long-Term Transmission Contract with Distribuidora de Gas Natural de Mexicali
Written direct testimony evaluating the appropriate rates for long-term transmission service to Mexicali.

A.97-12-048: Southern California Gas Company-Proposed Unbundling of Interstate Charges from Core Rates
Written direct testimony evaluating the appropriate allocation of costs and implication of allocations for changes in electric rates.

A.96-03-031, A.96-04-030: Southern California Gas Company/San Diego Gas & Electric Company Biennial Cost Adjustment Proceeding Rehearing:
Written direct and rebuttal testimony evaluating the appropriate allocation of interstate pipeline reservation costs and implication of allocations for changes in electric rates.

A.96-11-007: Southern California Water Company-Application for Approval to Participate in the State Water Project
Written direct testimony evaluating proposed utility participation in a very expensive project, including assessing supply and ratemaking alternatives.

A.98-07-005, A.98-10-012, A.98-10-031: Southern California Gas Company/San Diego Gas & Electric Company Proposal for Long-term Transmission Contract with CFE and Biennial Cost Adjustment Proceeding
Several sets of written direct and rebuttal testimony presenting an evaluation of the proposed long-term contract with CFE, detailed assessment of proposed cost allocation methods, development of changes to operating procedures and regulations, and an examination of the implication of various proposed allocations for changes in electric rates.

I.99-07-003: Commission Investigation Regarding Revisions to the Regulatory and Market Structure of the Natural Gas Industry in California
Written direct and rebuttal testimony presenting an evaluation of the costs and benefits of several proposed settlements governing proposed changes to the natural gas industry regulatory and market structure in California.

A.99-11-025: Application of Pacific Gas and Electric Company to Obtain a Certificate of Public Convenience and Necessity Authorizing the Construction of the Tri Valley 2002 Capacity Increase Project
Written direct testimony presenting an evaluation of the costs and benefits associated with the various route options for the Pleasanton portion of the Tri Valley project.

A.00-06-032: Application of Southern California Gas Company for Authority to Implement a Rate for Peaking Service
Written direct testimony evaluating proposed rate structure and presenting alternatives.

II.00-11-002: Commission Investigation into the Adequacy of the Southern California Gas Company/San Diego Gas & Electric Company Gas Transmission Systems (Phase I)
Written direct testimony presenting an evaluation of the cost responsibility for expansions in the SoCalGas system in support of expansions in the SDG&E system.

A.01-01-021: Application of Southern California Gas Company and San Diego Gas & Electric Company to Consolidate their Gas Supply Portfolios
Written direct and rebuttal testimony evaluating the proposal to consolidate the core portfolios.

A.00-06-023: Application of Southern California Gas Company Regarding Year Six (1999-2000) Under Its Experimental Gas Cost Incentive Mechanism (Phase II)
Written direct testimony evaluating the SoCalGas GCIM mechanism and recommending modifications.

II.00-11-002: Commission Investigation into the Adequacy of the Southern California Gas Company/San Diego Gas & Electric Company Gas Transmission Systems (Phase II)
Written direct and rebuttal testimony presenting an evaluation of the appropriate criteria for sizing transmission capacity based upon the costs and benefits of potential SoCalGas transmission expansions.

I.01-06-047: Investigation into the Natural Gas Procurement Practices of the Southwest Gas Company.
Written and rebuttal testimony presenting the long-term evolution of CPUC natural gas procurement and storage policies.

A. 01-04-007: Application of Southern California Gas Company to Sell Cushion Gas in its Aliso Canyon and La Goleta Storage Fields.
Written direct and rebuttal testimony regarding the appropriate ratemaking treatment for the sale of the cushion gas.

R.02-01-011: Order Instituting Rulemaking Regarding the Implementation of the Suspension of Direct Access Pursuant to Assembly Bill 1X and Decision 01-09-060.
Jointly with Dr. Barkovich, written direct and rebuttal testimony regarding the appropriate formulation of a Direct Access Exit Fee to recover DWR procurement costs.

A. 02-03-047: Application of Southern California Gas Company and San Diego Gas & Electric Company for Authority to Continue Funding of LEV Programs.
Written direct testimony recommending that ratepayer funding of the LEV programs be discontinued.

R.02-10-001: Rulemaking on the Establishment of a Public Purpose Program Surcharge..
Written direct testimony regarding the establishment of a natural gas public purpose program surcharge.

A.02-05-004: Application of Southern California Edison Company for authority to update electric revenue requirement and rates.
Written direct testimony evaluating proposed marginal costs, cost allocation, and commercial/industrial rate design.

A.02-12-027/028: Applications of Southern California Gas Company and San Diego Gas & Electric Company for authority to update gas revenue requirement and base rates.
Written direct testimony evaluating requested additions to rate base and proposed transmission resource plan.

A.03-06-040: Application of Southern California Gas Company in Compliance with Resolution G-3334 for a System of Firm, Tradable Receipt Point Capacity Rights.
Written direct testimony evaluating propose tariffs implementing Commission decision.

B. Before the Ohio Public Utilities Commission:

C.91-418-EL-AIR: Columbus Southern Power Company
Written direct testimony regarding the appropriate design of residential electric rates.

C. Before the Nevada Public Service Commission:

97-8001: Nevada Power Company
Written direct testimony regarding the appropriate basis for a fundamental unbundling of electric power rates.

D. Before the San Francisco Department of Public Works:

February 2001: Sunset Scavenger Company, Golden Gate Disposal and Recycling Company.
Written and oral direct testimony regarding can-based refuse rates for apartment customers. Testimony presented results of research and a new tariff with rates.

II. Civil Proceedings

A. Natural Gas Regulations and Their Impact on Pipeline Take-or-Pay Issues

Robert Bayless, et al. v. EPNG & BNI
United States District Court for the District of New Mexico
No. CIV 87-0087

Exxon Corporation vs. El Paso Natural Gas Company
United States District Court, Western District of Texas, Midland Division
C.A. No. MO 88-CA-130

J. Walter Duncan, Jr., et. al. vs. El Paso Natural Gas Company
United States District Court, Western District of Oklahoma
No. CIV-87-701

Marlin Oil Corporation vs. El Paso Natural Gas Company
District Court of Beaver County, State of Oklahoma
No. C-87-74

Mewbourne Oil Company vs. El Paso Natural Gas Company
181st District Court, Texas, No.32,713-B
171st District Court, Texas, No.89-3415

Koch Industries vs. El Paso Natural Gas Company
United States District Court for the District of New Mexico
No. CIV-88-0965

B. Natural Gas Anti-Trust Issues

Natural Gas Anti-Trust Cases I, II, III & IV
Superior Court of County of San Diego
J.C.C.P. Nos. 4221, 4224, 4226 & 4228

C. Electric Rate Design

Merritt Peralta Medical Center vs. Kaiser Engineers
Commercial Center Bank vs. Merritt Peralta Medical Center
Superior Court of the State of California, County of Alameda
No. 650373-8

Southwest Marine, Inc. vs. San Diego Gas & Electric Company
Superior Court of the State of California, County of San Diego
No. 609897

D. Interpretation of Natural Gas Supply Contract

Tannehill Oil Company and Solar Turbines Incorporated, et. al.
American Arbitration Association
No. 73-198-0076-92 P

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

City of Oakland)
State of California)
)
)

AFFIDAVIT OF WITNESS

I, Catherine E. Yap, being duly sworn, depose and say that the statements and exhibits contained in my Direct Testimony on behalf of the California Independent System Operator Corporation in this proceeding are true and correct to the best of my knowledge, information, and belief.

Catherine E. Yap

Subscribed and sworn before
me this 27th day of October, 2003

Notary Public
State of California

RAJEEV VERMA
Commission # 1331008
Notary Public - California
Alameda County
My Comm. Expires Nov. 19, 2005

	A	B	C	D	E	F	G	H	I	J	K
1		**California Independent System Operator** **2004 GMC Cost Allocation Model**									
2		Summary of Revenue Requirement and Rates									
3				Core Reliability Services Charge	Energy and Transmission Services Net Energy Charge	Energy and Tranmission Uninstructed Deviations Charge	Forward Scheduling Charge	Congestion Management Charge	Market Usage Charge	Settlements, Metering, and Client Relations Charge	Total
4											
5		Revenue Requirement		$ 85,143,801	$ 22,222,484	$ 5,555,621	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
6				39%	10%	3%	9%	5%	11%	24%	
7		Functional Association of SMCR		$ -	$ 28,865,361	$ 7,216,340	$ -	$ 4,220,407	$ 10,993,378	$ 561,213	$ 51,856,699
8			Percent of SMCR	0.0%	56.3%	14.1%	0.0%	8.2%	21.4%		
9		Adjusted Revenue Requirement		$ 85,143,801	$ 51,087,845	$ 12,771,961	$ 19,747,044	$ 14,900,040	$ 34,030,944	$ 561,213	$ 218,242,849
10				39%	23%	6%	9%	7%	16%	0%	100%
11		Billing Determinants		530,670	243,751,234	18,339,917	13,261,692	92,324,825	42,662,669	1,122	
12			Units	MW-months	MWh	MWh	Schedules	MWh	MWh	customer-months	
13		Rate		$ 160.446	$ 0.210	$ 0.696	$ 1.489	$ 0.161	$ 0.798	$ 500.00	
14											
15			last updated: 10/23/2003								

	A	B	C	D	E	F	G	H
1	California Independent System Operator 2004 GMC Cost Allocation Model Billing Determinant Forecast							
2		Core Reliability Services	Energy & Transmission Services: Energy	Energy & Transmission Services: Deviations	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering & Client Relations
3	**Date**	**NCP by Mo**	**Control Area Metered Load**	**Monthly Net UE**	**Total Sch Count**	**CONG**	**Mkt Usage**	**Cust Mo**
4	Jan-01	62,988	21,020,259	2,911,491		6,506,580	10,894,763	70
5	Feb-01	52,117	19,183,430	3,024,146		5,319,097	9,978,095	74
6	Mar-01	38,655	21,038,733	2,483,998		5,844,512	9,344,004	63
7	Apr-01	55,293	19,760,795	2,114,664		5,780,140	8,161,451	72
8	May-01	46,786	21,378,549	2,278,700		5,794,088	8,400,994	66
9	Jun-01	50,572	21,453,157	2,133,676		6,361,512	7,100,606	79
10	Jul-01	54,428	23,041,969	1,925,623		6,985,699	5,746,227	85
11	Aug-01	53,831	23,648,669	1,837,372		7,284,895	5,561,496	80
12	Sep-01	47,128	20,830,881	1,680,360	939,898	6,376,523	4,787,223	82
13	Oct-01	46,544	19,999,759	1,605,215	1,000,028	6,408,260	4,303,568	69
14	Nov-01	41,383	18,742,663	1,344,346	994,180	6,684,232	3,600,328	82
15	Dec-01	40,347	19,594,018	1,371,277	1,017,915	6,703,725	3,720,998	87
16	Jan-02	39,650	19,762,706	1,271,309	966,442	7,221,308	3,756,413	70
17	Feb-02	38,248	17,493,126	911,266	928,685	6,452,561	3,157,194	73
18	Mar-02	36,879	19,145,884	967,145	1,031,549	6,782,106	3,484,324	74
19	Apr-02	37,773	18,565,485	1,149,512	1,007,846	7,634,142	3,439,526	72
20	May-02	43,702	19,894,564	1,303,706	1,077,546	7,146,983	3,703,240	73
21	Jun-02	50,740	21,410,086	1,528,504	1,068,867	8,391,100	3,996,023	75
22	Jul-02	54,466	23,927,916	1,695,332	1,141,240	9,468,986	4,092,762	78
23	Aug-02	50,045	23,089,531	1,634,715	1,133,562	8,657,460	3,744,858	76
24	Sep-02	50,475	21,611,036	1,682,331	1,135,685	8,016,125	3,804,609	75
25	Oct-02	41,971	19,684,915	1,308,466	1,158,201	7,396,523	3,012,013	72
26	Nov-02	41,102	18,988,767	1,663,907	1,097,196	7,271,549	3,388,105	82
27	Dec-02	39,870	20,025,912	1,606,764	1,105,911	7,094,691	3,467,227	90
28	Jan-03	36,850	19,254,725	1,233,250	1,095,854	7,922,043	3,106,399	84
29	Feb-03	35,120	16,942,271	1,349,006	1,011,712	6,136,275	3,004,778	83
30	Mar-03	37,734	19,349,409	1,723,985	1,137,646	6,922,043	3,658,018	84
31	Apr-03	32,772	18,122,112	1,348,446	1,081,013	7,027,777	3,430,525	95
32	May-03	47,648	19,824,838	1,641,420	1,086,239	7,849,194	3,970,160	95
33	Jun-03	50,389	20,901,763	1,452,295	1,077,433	7,794,004	3,983,216	85
34	Jul-03				1,120,865			
35	Aug-03				1,102,845			
36								
37	**Totals 7-02 to 6-03**	518,443	241,723,194	18,339,917	13,261,692	91,556,671	42,662,669	999
38	Totals 5-02 to 4-03	514,847	242,301,243	18,078,413	13,244,433	91,451,555	42,408,557	967
39	Totals 9-01 to 8-02	526,904	242,456,619	16,462,686	12,307,758	87,927,387	45,786,457	911
40								
41	**Est Escl Factor**	1.57%	0.56%	0.00%	0.00%	0.56%	0.00%	8.08%
42	**Est 7-03 to 6-04**	526,563	243,073,337	18,339,917	13,261,692	92,068,060	42,662,669	1,080
43	**Est 1-04 to 12-04**	530,670	243,751,234	18,339,917	13,261,692	92,324,825	42,662,669	1,122
44	**Est 7-04 to 6-05**	534,810	244,431,022	18,339,917	13,261,692	92,582,306	42,662,669	1,167

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation Model**							
2		**Detailed Revenue Requirement**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4	**Operations and Maintenance**								
5	**1111**	**CEO - General**	$ 394,905	$ 193,041	$ 33,886	$ 41,381	$ 93,766	$ 140,261	$ 897,241
6	**1241**	**MD02**	$ 89,351	$ -	$ 178,118	$ 140,159	$ 364,559	$ 512,601	$ 1,284,788
7	**1311**	**CFO - General**	$ 146,340	$ 71,406	$ 12,041	$ 14,014	$ 34,254	$ 54,216	$ 332,272
8	**1321**	**Accounting**	$ 1,290,074	$ 630,625	$ 110,697	$ 135,185	$ 306,314	$ 458,205	$ 2,931,098
9	**1331**	**Financial Planning and Treasury**	$ 1,528,042	$ 746,950	$ 131,116	$ 160,121	$ 362,817	$ 542,726	$ 3,471,773
10	**1351**	**Facilities**	$ 2,703,870	$ 1,317,599	$ 215,552	$ 241,189	$ 626,284	$ 1,031,805	$ 6,136,300
11	**1361**	**Security & Corporate Services**	$ 1,172,424	$ 571,324	$ 93,465	$ 104,582	$ 271,563	$ 447,401	$ 2,660,758
12	**1411**	**Chief Information Officer**	$ (119,699)	$ (23,714)	$ (36,521)	$ (10,842)	$ (28,103)	$ (100,484)	$ (319,362)
13	**1422**	**Corporate & Enterprise Applications**	$ 105,208	$ 37,607	$ 9,585	$ 12,313	$ 33,575	$ 74,114	$ 272,402
14	**1424**	**Asset Management**	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185	$ 20,455,331
15	**1431**	**End User Support**	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955	$ 6,662,499
16	**1432**	**Computer Operations and Infrastructure**	$ 325,930	$ 90,375	$ 137,002	$ 30,594	$ 81,596	$ 316,759	$ 982,255
17	**1433**	**Network Services**	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426	$ 1,621,981
18	**1441**	**Outsourced Contracts**	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497	$ 10,669,871
19	**1442**	**Production Support**	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368	$ 2,642,634
20	**1451**	**Infrastructure Services**	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980	$ 1,696,047
21	**1461**	**Control Systems**	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253	$ 2,385,558
22	**1462**	**Field Data Acquisition System (FDAS)**	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523	$ 2,547,393
23	**1463**	**Operations Systems Services**	$ 164,980	$ 4,562	$ 22,368	$ 3,207	$ 17,532	$ 134,846	$ 347,495
24	**1466**	**Enterprise Applications**	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331	$ 1,609,967
25	**1467**	**Settlement Systems Services**	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958	$ 1,170,354
26	**1468**	**Corporate Application Support and Administrati**	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
27	**1469**	**Analytical and Reporting Applications**	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
28	**1471**	**IT Planning**	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977	$ 950,115
29	**1481**	**Markets and Scheduling System**	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059	$ 1,516,144
30	**1482**	**Market Systems Support Services**	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368	$ 616,978
31	**1511**	**VP Grid Operations**	$ (103,249)	$ (51,534)	$ -	$ -	$ -	$ -	$ (154,783)
32	**1521**	**Grid Planning**	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -	$ 2,497,543
33	**1542**	**Outage Coordination**	$ 1,816,711	$ 93,500	$ -	$ -	$ -	$ -	$ 1,910,211
34	**1543**	**Loads and Resources**	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -	$ 1,185,612
35	**1544**	**Real-Time Scheduling**	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
36	**1545**	**Grid Operations**	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
37	**1546**	**Security Coordination**	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ 1,368,574
38	**1547**	**Engineering and Maintenance**	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -	$ 576,104

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation Model**							
2		**Detailed Revenue Requirement**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
39	1548	OSAT Group - General	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
40	1549	Operations Training	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
41	1554	Special Projects Engineering	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -	$ 853,958
42	1555	Operations Support Group	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
43	1558	Transmission Maintenance	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -	$ 1,623,755
44	1559	Operations Application Support	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
45	1561	Operations Engineering South	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -	$ 1,241,824
46	1562	Operations Engineering North	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -	$ 1,355,194
47	1563	Operations Coordination	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
48	1564	Operations Scheduling	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
49	1565	Pre-Scheduling and Support	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
50	1566	Regional Coordination - General	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
51	1611	VP General Counsel - General	$ 102,130	$ 62,148	$ 10,632	$ 20,495	$ 48,427	$ 41,484	$ 285,317
52	1631	Legal and Regulatory	$ 5,376,947	$ 2,628,404	$ 461,379	$ 563,441	$ 1,276,697	$ 1,909,768	$ 12,216,636
53	1641	Market Analysis	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515	$ 2,948,963
54	1642	Market Surveillance Committee	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
55	1651	Board of Governors	$ 101,847	$ 49,786	$ 8,739	$ 10,672	$ 24,182	$ 36,174	$ 231,400
56	1661	Compliance - General	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514	$ 1,722,093
57	1662	Compliance - Audits	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880	$ 434,112
58	1711	VP Market Services - General	$ (11,963)	$ (1,694)	$ (6,601)	$ (6,555)	$ (14,201)	$ (28,774)	$ (69,788)
59	1721	Billing and Settlements-General	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066	$ 450,755
60	1722	Business Development Support	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
61	1723	RMR Settlements	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -	$ 992,025
62	1724	BBS - PSS	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
63	1725	BBS - FSS	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
64	1731	Contracts and Special Projects	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838	$ 1,525,676
65	1741	Client Relations	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
66	1751	Market Operations - General	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540	$ 979,523
67	1752	Manager of Markets	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -	$ 2,773,203
68	1753	Market Engineering	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975	$ 1,955,609
69	1755	Business Solutions	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443	$ 1,175,260
70	1756	Market Quality - General	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
71	1757	Market Integration	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706	$ 998,732
72	1811	VP Corporate and Strategic Development - Gene	$ 205,934	$ 100,481	$ 16,932	$ 19,689	$ 48,192	$ 76,347	$ 467,576
73	1821	Communications	$ 372,870	$ 182,269	$ 31,995	$ 39,072	$ 88,534	$ 132,435	$ 847,176

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation Model**							
2		**Detailed Revenue Requirement**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
74	1831	Strategic Development	$ 324,528	$ 158,638	$ 27,847	$ 34,007	$ 77,056	$ 115,265	$ 737,340
75	1841	Human Resources	$ 2,037,915	$ 993,079	$ 162,462	$ 181,785	$ 472,033	$ 777,675	$ 4,624,949
76	1851	Project Office	$ 306,697	$ 149,922	$ 26,317	$ 32,138	$ 72,822	$ 108,932	$ 696,828
77	1861	Regulatory Policy	$ 418,921	$ 204,780	$ 35,946	$ 43,898	$ 99,468	$ 148,791	$ 951,804
78	2111	Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79									
80	Total Operations and Maintenance		$ 62,995,426	$ 24,505,839	$ 10,115,593	$ 6,208,095	$ 14,888,585	$ 33,021,519	$ 151,735,058
81									
82	Financing and Capital Project Budgets								
83		Bond Financed Capital	$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
84		Operating Systems	$ 2,414,155	$ 155,156	$ 278,805	$ 266,718	$ 525,324	$ 1,049,842	$ 4,690,000
85		Facilities/Furniture/Office Furniture	$ 66,095	$ 32,208	$ 5,269	$ 5,896	$ 15,309	$ 25,222	$ 150,000
86		Corporate Systems	$ 2,034,020	$ 271,593	$ 465,393	$ 124,250	$ 514,223	$ 1,750,521	$ 5,160,000
87		MD02	$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	$ 22,000,000
88	Total Financing and Capital Project Budgets		$ 24,332,319	$ 4,790,375	$ 12,134,521	$ 5,632,936	$ 12,453,952	$ 27,270,972	$ 86,615,075
89									
90	Revenue Requirement before application of credits (debits)		$ 87,327,745	$ 29,296,214	$ 22,250,114	$ 11,841,031	$ 27,342,537	$ 60,292,491	$ 238,350,133
91			37%	12%	9%	5%	11%	25%	100%
92	Credits								
93		Expense Recovery Budget	$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
94		Operating and Capital Reserves	$ (563,648)	$ (1,414,862)	$ (2,424,656)	$ (1,119,667)	$ (4,208,609)	$ (8,103,308)	$ (17,834,751)
95	Total Credits		$ (2,183,944)	$ (1,518,109)	$ (2,503,071)	$ (1,161,398)	$ (4,304,971)	$ (8,435,792)	$ (20,107,284)
96									
97	Total Revenue Requirement		$ 85,143,801	$ 27,778,105	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
98		Percent of Total	39%	13%	9%	5%	11%	24%	100%

California Independent System Operator
2004 GMC Cost Allocation Model

Summary of Revenue Requirement

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Operations and Maintenance								
1100	CEO	$ 2,045,221	$ 1,129,620	$ 212,004	$ 181,540	$ 458,325	$ 652,863	$ 4,679,572
1300	Finance	$ 6,840,749	$ 3,337,904	$ 562,872	$ 655,090	$ 1,601,233	$ 2,534,352	$ 15,532,200
1400	Information Services	$ 21,639,687	$ 4,287,103	$ 6,602,375	$ 1,960,100	$ 5,080,520	$ 18,165,968	$ 57,735,753
1500	Grid Operations	$ 19,042,906	$ 9,504,653	$ -	$ -	$ -	$ -	$ 28,547,559
1600	Legal and Regulatory	$ 6,586,443	$ 4,007,951	$ 685,663	$ 1,321,756	$ 3,123,124	$ 2,675,335	$ 18,400,271
1700	Market Services	$ 3,173,554	$ 449,438	$ 1,751,181	$ 1,739,019	$ 3,767,280	$ 7,633,557	$ 18,514,029
1800	Corporate and Strategic Development	$ 3,666,865	$ 1,789,170	$ 301,499	$ 350,590	$ 858,104	$ 1,359,445	$ 8,325,673
2100	Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Operations and Maintenance		$ 62,995,426	$ 24,505,839	$ 10,115,593	$ 6,208,095	$ 14,888,585	$ 33,021,519	$ 151,735,058
	Percent Allocations	42%	16%	7%	4%	10%	22%	100%
Total Financing Budget		$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
	Percent Allocations	33%	8%	15%	5%	9%	29%	100%
Total Capital Project Funding		$ 6,044,270	$ 458,957	$ 3,799,468	$ 2,796,863	$ 7,297,356	$ 11,603,085	$ 32,000,000
	Percent Allocations	19%	1%	12%	9%	23%	36%	100%
Total Expense Recovery Budget		$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
	Percent Allocations	71%	5%	3%	2%	4%	15%	100%
Total Operating and Capital Reserves Credit		$ (563,648)	$ (1,414,862)	$ (2,424,656)	$ (1,119,667)	$ (4,208,609)	$ (8,103,308)	$ (17,834,751)
	Percent Allocations	3%	8%	14%	6%	24%	45%	100%
Total Revenue Requirement		$ 85,143,801	$ 27,778,105	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
	Percent Allocations	39%	13%	9%	5%	11%	24%	100%

Exh No. ISO-6, Page 4 of 4

California Independent System Operator
2004 GMC Cost Allocation Model

Functionalization by Cost Center for IS Division

CC #	Cost Center		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1424	Asset Management		35%	6%	12%	5%	10%	31%
1431	End User Support		37%	14%	10%	4%	9%	26%
1433	Network Services		42%	12%	11%	3%	9%	23%
1441	Outsourced Contracts		41%	11%	12%	3%	9%	25%
1442	Production Support Services		23%	0%	22%	3%	7%	45%
1451	Information Security Services		23%	0%	22%	3%	7%	45%
1461	Control Systems		96%	2%	0%	0%	1%	1%
1462	Field Data Acquisition System (FDAS)		21%	0%	0%	0%	0%	79%
1466	Enterprise Applications		48%	7%	1%	1%	3%	39%
1467	Settlement Systems Services		9%	0%	0%	0%	0%	91%
1468	Corporate Application Support and Administration		44%	21%	4%	4%	10%	17%
1469	Analytical and Reporting Applications		24%	18%	6%	9%	24%	18%
1471	IT Planning		23%	0%	22%	3%	7%	45%
1481	Markets and Scheduling System		45%	3%	27%	3%	17%	6%
1482	Market Systems Support Services		44%	1%	20%	6%	23%	5%

California Independent System Operator
2004 GMC Cost Allocation Model

Direct Personnel Assignments by Cost Center for Divisions 1500, 1600, 1700

CC #	Cost Center	Total	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	100%	63%	38%	0%	0%	0%	0%
1542	Outage Coordination	100%	100%	0%	0%	0%	0%	0%
1543	Loads and Resources	100%	57%	43%	0%	0%	0%	0%
1544	Real-time Scheduling	100%	60%	40%	0%	0%	0%	0%
1545	Grid Operations	100%	68%	32%	0%	0%	0%	0%
1546	Reliability Coordinators	100%	100%	0%	0%	0%	0%	0%
1547	Engineering and Maintenance - General	100%	67%	33%	0%	0%	0%	0%
1548	OSAT General	100%	100%	0%	0%	0%	0%	0%
1549	Operations Training	100%	61%	39%	0%	0%	0%	0%
1554	Special Projects Engineering	100%	50%	50%	0%	0%	0%	0%
1555	Operations Support	100%	56%	44%	0%	0%	0%	0%
1558	Transmission Maintenance	100%	67%	33%	0%	0%	0%	0%
1559	Operations Applications Support	100%	60%	40%	0%	0%	0%	0%
1561	Operations Engineering South	100%	67%	33%	0%	0%	0%	0%
1562	Operations Engineering North	100%	56%	44%	0%	0%	0%	0%
1563	Operations Coordination	100%	80%	20%	0%	0%	0%	0%
1564	Scheduling Department Director	100%	100%	0%	0%	0%	0%	0%
1565	Scheduling Support	100%	77%	23%	0%	0%	0%	0%
1566	Regional Coordination	100%	100%	0%	0%	0%	0%	0%
1641	Market Analysis	100%	20%	22%	0%	16%	33%	9%
1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%
1661	Compliance - General	100%	24%	22%	14%	0%	25%	15%
1662	Compliance - Audits	100%	8%	0%	0%	0%	50%	42%
1721	Billing & Settlements	100%	25%	0%	0%	0%	0%	75%
1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%
1723	RMR Settlements	100%	100%	0%	0%	0%	0%	0%
1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%
1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%
1731	Contracts & Special Projects	100%	50%	0%	0%	0%	0%	50%
1741	Client Relations	100%	0%	0%	0%	0%	0%	100%
1751	Market Operations - General	100%	40%	0%	20%	20%	15%	5%
1752	Manager, Markets	100%	31%	6%	31%	25%	6%	0%
1753	Market Engineering	100%	30%	0%	0%	40%	20%	10%
1755	Business Solutions	100%	7%	0%	57%	14%	14%	7%
1756	Market Quality	100%	0%	0%	0%	0%	72%	28%
1757	Market Integration	100%	8%	0%	33%	33%	17%	8%

California Independent System Operator
2004 GMC Cost Allocation Model

Direct Assignments of Temporary/Contract Staff or Consultants by Cost Center for Divisions 1500, 1600, 1700

CC #	Cost Center	Total	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	100%	0%	100%	0%	0%	0%	0%
1542	Outage Coordination	100%	0%	100%	0%	0%	0%	0%
1543	Loads and Resources	100%	0%	100%	0%	0%	0%	0%
1544	Real-time Scheduling	100%	0%	100%	0%	0%	0%	0%
1545	Grid Operations	100%	0%	100%	0%	0%	0%	0%
1546	Reliability Coordinators	100%	0%	100%	0%	0%	0%	0%
1547	Engineering and Maintenance - General	100%	0%	100%	0%	0%	0%	0%
1548	OSAT General	100%	0%	100%	0%	0%	0%	0%
1549	Operations Training	100%	0%	100%	0%	0%	0%	0%
1554	Special Projects Engineering	100%	0%	100%	0%	0%	0%	0%
1555	Operations Support	100%	0%	100%	0%	0%	0%	0%
1558	Transmission Maintenance	100%	0%	100%	0%	0%	0%	0%
1559	Operations Applications Support	100%	0%	100%	0%	0%	0%	0%
1561	Operations Engineering South	100%	0%	100%	0%	0%	0%	0%
1562	Operations Engineering North	100%	0%	100%	0%	0%	0%	0%
1563	Operations Coordination	100%	0%	100%	0%	0%	0%	0%
1564	Scheduling Department Director	100%	0%	100%	0%	0%	0%	0%
1565	Scheduling Support	100%	0%	100%	0%	0%	0%	0%
1566	Regional Coordination	100%	0%	100%	0%	0%	0%	0%
1641	Market Analysis	100%	0%	40%	0%	33%	27%	0%
1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%
1661	Compliance - General	100%	15%	15%	5%	0%	40%	25%
1662	Compliance - Audits	100%	15%	15%	5%	0%	40%	25%
1721	Billing & Settlements	100%	25%	0%	0%	0%	0%	75%
1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%
1723	RMR Settlements	100%	0%	100%	0%	0%	0%	0%
1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%
1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%
1731	Contracts & Special Projects	100%	0%	50%	0%	0%	0%	50%

1741	Client Relations	100%	0%	0%	0%	0%	0%	100%
1751	Market Operations - General	100%	0%	0%	0%	0%	100%	0%
1752	Manager, Markets	100%	0%	0%	0%	0%	100%	0%
1753	Market Engineering	100%	0%	0%	0%	0%	100%	0%
1755	Business Solutions	100%	0%	0%	0%	0%	100%	0%
1756	Market Quality	100%	0%	0%	0%	0%	0%	100%
1757	Market Integration	100%	0%	0%	0%	0%	100%	0%

CALIFORNIA ISO

October 20, 2003
Instructions for using the GMC spreadsheets contained in the zipped file.

There are 9 files in the zipped files. These are:

1. **Cost Center 1424 assignment.xls** – allocation of costs in cost center 1424 *(about 19 pages printed)*
2. **Cost Center 1441 assignment.xls** – allocation of costs in cost center 1441 *(about 14 pages printed)*
3. **Labor assignments.xls** – Direct labor assignments for cost centers other than Information Services *(about 44 pages printed)*
4. **Contract assignments.xls** – Direct contract staff and consultants assignments for cost centers other than Information Services *(about 40 pages printed)*
5. **IS Cost Center Assignments.xls** – Direct assignments, functionalization of Information Services cost centers *(about 151 pages printed)*
6. **Systems functionalization.xls** – Functionalization of ISO systems *(about 35 pages printed)*
7. **Capital Budget detail.xls** – listing of capital projects (bond financed and expensed) and their functionalization *(about 35 pages printed)*
8. **O&M calculations.xls** – Calculation of operations and maintenance revenue requirement and allocation of reserve credits *(about 80 pages printed)*
9. **Revenue Requirement Summary.xls** – Calculation of total revenue requirement and rates *(about 11 pages printed)*

The first four files have links **to** other spreadsheets, but do not have links **from** the other spreadsheets and will not change as a result of changes in the other spreadsheets. You do not need to have them open if you are making changes in the other files.

The best way to use the files, if you want to make changes, is to have the last five files open simultaneously. Changes in one file will carry through to the others automatically.

Each file has a "Sheet Index" that includes a description of the contents of the file, a listing of the worksheets in the file and with a hyperlink to each sheet. You can print all the sheets in a file at once if you select "File – Print – Entire Workbook" and then OK. The approximate number of pages that will print are identified in the about list.

Some information has been redacted due to confidentiality or security concerns.

Disclaimer: The data in the included files should be considered draft and preliminary and subject to both review and approval.

If you need assistance working with the files, please contact:

Ben Arikawa
California ISO
(916) 608-5958

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Direct Labor Assignments	
2	This spreadsheet takes the labor assignment templates compiled by the various cost centers and summarizes them for use in the newCAM.xls spreadsheet.	
3		
4		
5	**Sheet Index:**	Description
6	Direct %	Summary of direct assignments by cost center. Used in newCAM.xls spreadsheet
7	Direct count	Summary of FTE assignments by cost center. Used in newCAM.xls spreadsheet
8	1521	Template for cost center specified
9	1542	Template for cost center specified
10	1543	Template for cost center specified
11	1544	Template for cost center specified
12	1545G	Template for generation resource dispatchers under 1545
13	1545T	Template for transmission resource dispatchers under 1545
14	1545M&S	Template for management under 1545
15	1546	Template for cost center specified
16	1547	Template for cost center specified
17	1548	Template for cost center specified
18	1549	Template for cost center specified
19	1554	Template for cost center specified
20	1555	Template for cost center specified
21	1558	Template for cost center specified
22	1559	Template for cost center specified
23	1561	Template for cost center specified

Exh. No. ISO- 10, Page 1 of 442

	A	B
24	1562	Template for cost center specified
25	1563	Template for cost center specified
26	1564	Template for cost center specified
27	1565	Template for cost center specified
28	1566	Template for cost center specified
29	1641	Template for cost center specified
30	1642	Template for cost center specified
31	1661	Template for cost center specified
32	1662	Template for cost center specified
33	1721	Template for cost center specified
34	1722	Template for cost center specified
35	1723	Template for cost center specified
36	1724	Template for cost center specified
37	1725	Template for cost center specified
38	1731	Template for cost center specified
39	1741	Template for cost center specified
40	1751	Template for cost center specified
41	1752	Template for cost center specified
42	1753	Template for cost center specified
43	1755	Template for cost center specified
44	1756	Template for cost center specified
45	1757	Template for cost center specified

Exh. No. ISO- 10, Page 2 of 442

	A	B	C	D	E	F	G	H	I
1	California Independent System Operator 2004 GMC Cost Allocation I								
2	**Allocation of Directly Assigned Cost Centers**								
3	**CC#**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4									
5	1521	Grid Planning	63%	38%	0%	0%	0%	0%	100%
6	1542	Outage Coordination	100%	0%	0%	0%	0%	0%	100%
7	1543	Loads and Resources	57%	43%	0%	0%	0%	0%	100%
8	1544	Real-time Scheduling	60%	40%	0%	0%	0%	0%	100%
9	1545	Grid Operations	68%	32%	0%	0%	0%	0%	100%
10	1546	Reliability Coordinators	100%	0%	0%	0%	0%	0%	100%
11	1547	Engineering and Maintenance - General	67%	33%	0%	0%	0%	0%	100%
12	1548	OSAT General	100%	0%	0%	0%	0%	0%	100%
13	1549	Operations Training	61%	39%	0%	0%	0%	0%	100%
14	1554	Special Projects Engineering	50%	50%	0%	0%	0%	0%	100%
15	1555	Operations Support	56%	44%	0%	0%	0%	0%	100%
16	1558	Transmission Maintenance	67%	33%	0%	0%	0%	0%	100%
17	1559	Operations Applications Support	60%	40%	0%	0%	0%	0%	100%
18	1561	Operations Engineering South	67%	33%	0%	0%	0%	0%	100%
19	1562	Operations Engineering North	56%	44%	0%	0%	0%	0%	100%
20	1563	Operations Coordination	80%	20%	0%	0%	0%	0%	100%
21	1564	Scheduling Department Director	100%	0%	0%	0%	0%	0%	100%
22	1565	Scheduling Support	77%	23%	0%	0%	0%	0%	100%
23	1566	Regional Coordination	100%	0%	0%	0%	0%	0%	100%
24	1641	Market Analysis	20%	22%	0%	16%	33%	9%	100%
25	1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
26	1661	Compliance - General	24%	22%	14%	0%	25%	15%	100%
27	1662	Compliance - Audits	8%	0%	0%	0%	50%	42%	100%
28	1721	Billing & Settlements	25%	0%	0%	0%	0%	75%	100%
29	1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
30	1723	RMR Settlements	100%	0%	0%	0%	0%	0%	100%
31	1724	BBS Settlements - Preliminary Settlements	0%	0%	0%	0%	0%	100%	100%
32	1725	BBS Settlements - Final Settlements	0%	0%	0%	0%	0%	100%	100%
33	1731	Contracts & Special Projects	50%	0%	0%	0%	0%	50%	100%

Exh. No. ISO- 10, Page 3of 442

	A	B	C	D	E	F	G	H	I
1	California Independent System Operator 2004 GMC Cost Allocation I								
2	**Allocation of Directly Assigned Cost Centers**								
3	**CC#**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
34	1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
35	1751	Market Operations - General	40%	0%	20%	20%	15%	5%	100%
36	1752	Manager, Markets	31%	6%	31%	25%	6%	0%	100%
37	1753	Market Engineering	30%	0%	0%	40%	20%	10%	100%
38	1755	Business Solutions	7%	0%	57%	14%	14%	7%	100%
39	1756	Market Quality	0%	0%	0%	0%	72%	28%	100%
40	1757	Market Integration	8%	0%	33%	33%	17%	8%	100%
41									

Exh. No. ISO- 10, Page 4 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Allocation of Directly Assigned Cost Centers

CC#	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1521	Grid Planning	10.0	6.0	-	-	-	-	16.0
1542	Outage Coordination	12.0	-	-	-	-	-	12.0
1543	Loads and Resources	4.0	3.0	-	-	-	-	7.0
1544	Real-time Scheduling	12.0	8.0	-	-	-	-	20.0
1545	Grid Operations	34.0	16.0	-	-	-	-	50.0
1546	Reliability Coordinators	8.0	-	-	-	-	-	8.0
1547	Engineering and Maintenance - General	2.0	1.0	-	-	-	-	3.0
1548	OSAT General	2.0	-	-	-	-	-	2.0
1549	Operations Training	11.0	7.0	-	-	-	-	18.0
1554	Special Projects Engineering	2.0	2.0	-	-	-	-	4.0
1555	Operations Support	5.0	4.0	-	-	-	-	9.0
1558	Transmission Maintenance	6.0	3.0	-	-	-	-	9.0
1559	Operations Applications Support	3.0	2.0	-	-	-	-	5.0
1561	Operations Engineering South	5.0	2.5	-	-	-	-	7.5
1562	Operations Engineering North	5.0	4.0	-	-	-	-	9.0
1563	Operations Coordination	3.2	0.8	-	-	-	-	4.0
1564	Scheduling Department Director	2.0	-	-	-	-	-	2.0
1565	Scheduling Support	10.0	3.0	-	-	-	-	13.0
1566	Regional Coordination	3.0	-	-	-	-	-	3.0
1641	Market Analysis	3.3	3.5	-	2.5	5.3	1.5	16.0
1642	Market Surveliance Committee	0.3	0.3	-	0.3	0.3	-	1.0
1661	Compliance - General	2.4	2.2	1.4	-	2.5	1.5	10.0
1662	Compliance - Audits	0.3	-	-	-	1.5	1.3	3.0
1721	Billing & Settlements	0.8	-	-	-	-	2.3	3.0
1722	Business Development Support	-	-	-	-	-	5.0	5.0
1723	RMR Settlements	7.0	-	-	-	-	-	7.0
1724	BBS Settlements - Preliminary Settlements	-	-	-	-	-	9.0	9.0
1725	BBS Settlements - Final Settlements	-	-	-	-	-	9.0	9.0
1731	Contracts & Special Projects	4.5	-	-	-	-	4.5	9.0
1741	Client Relations	-	-	-	-	-	17.0	17.0

Exh. No. ISO- 10, Page 5 of 442

	A	B	C	D	E	F	G	H	I
1	California Independent System Operator 2004 GMC Cost Allocation								
2	**Personnel Allocation of Directly Assigned Cost Centers**								
3	**CC#**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
35	1751	Market Operations - General	1.2	-	0.6	0.6	0.5	0.2	3.0
36	1752	Manager, Markets	5.3	1.1	5.3	4.3	1.1	-	17.0
37	1753	Market Engineering	3.0	-	-	4.0	2.0	1.0	10.0
38	1755	Business Solutions	0.5	-	4.0	1.0	1.0	0.5	7.0
39	1756	Market Quality	-	-	-	-	13.0	5.0	18.0
40	1757	Market Integration	0.5	-	2.0	2.0	1.0	0.5	6.0
41		Total	168.1	69.3	13.3	14.6	28.0	58.2	351.5

Exh. No. ISO- 10, Page 6 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1521	
	Grid Planning	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	1)PTO's expansion plans: FERC expects that the ISO will review all PTOs expansion plans and determines which ones are really needed. 2) RMR determinations: We make the decision on where we have local reliability criteria violations as part of the RMR process 3)Regional/National work on Planning Issues: We are heavily involved in providing input and do work for NERC, WECC, SSG-WI, San Francisco and other groups 4) Generator Interconnection Studies: We make studies to determine that grid reliability is not affected when a new generator is interconnected.	10	Director, Grid Planning, Administrative Assistant, Manager, Regional Transmission (2), Lead Grid Planning Engineer (2), Sr. Grid Planning Engineer (2), Grid Planning Engineer (2)	Any proposed transmission additions will have a direct impact on the functioning of the grid. The ISO has to have the capability to ensure that the transmission additions are incorporated in a manner that maintains and/or enhances the reliability of the grid. The ISO has to consider what RMR is required to maintain local area reliability. Every control area within a regional reliability coordination council has to do planning to ensure that all of the control areas together meet the council's requirements for reliability.
Energy and Transmission Services Activities	These are additional activities to address transmission planning, generator interconnection, and RMR as a result of the ISO being a large control area with substantial load growth.	6	Sr. Grid Planning Engineer (4), Grid Planning Engineer (2)	Because the control area load is growing there is a lot of generation and transmission planning and development going on and more complex RMR studies are required. So additional people are needed to staff these activities.
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		16		

completed by:	Amey Perez
Date:	17-Sep-03

Exh. No. ISO- 10, Page 7 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1542	
	Outage Coordination	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Pre-planning and preparation of generations and transmission outages, record tracking and outage database management, onsite generation outage inspections and forced outage investigations, outage reporting, and supply of outage information for OASIS postings	12	1 Manager, 2 lead Outage Coordinators, 8 Outage Coordinators, and 1 Administrative Assistant	The Tariff requires the ISO to coordinate outages with Participating Transmission Owners and Generators, as well as with other control areas and transmission providers. FERC orders and State law require reporting of questionable outages and interface with regulatory agencies relative to outage information and reporting.
Energy and Transmission Services Activities				
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		12		

completed by:	G. P. Van Pelt, Manager of Outage Coordination
Date:	22-Aug-03

Exh. No. ISO- 10, Page 8 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1543			
6			Loads and Resources			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	1. Preparing control area and local area load and resource adequacy assessments; publish CAISO Summer and Winter Assessment Reports (1FTE) 2. Support for EMS Network Model and Applications (3 FTES)	4		1. NERC/WECC require seasonal and periodic evaluation of load and generation forecast. CEC/CPA require active particiaption in development and support of resource estimates. 2. EMS/Advanced Applications require ongoing support and updating of models and data included n the various tools. These tools are a part of our EMS system and are required in MD02.
10		**Energy and Transmission Services Activities**	2. Supporting EMS Advance Applications based on the number of systems changes and need for tool enhancement. (1FTE) 3. Engineering support for envcironmental issues impacting control area resources; based on the number of generating units that have potential environmental limitations. Providing support for Existing Contract, MSS and System Units, and other Scheduling issues; Providing engineering support for ISO contracts issues (e.g., RMR contract, Participating Generator Agreement ("PGA") etc.) (1FTE) 4. Manager required based on the number of employees . (1 FTE)	3		
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		7		
16						
17						
18		**completed by:**	Ron Calvert			
19		**Date:**	08/26/03			

Exh. No. ISO- 10, Page 9 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1544				
	Real-time Scheduling				
	Description of Activities	**# of People**	**Position descriptions**	**Justification**	
Core Reliability Services Activities	Many activities of real-time intertie scheduling is dictated by NERC and WECC rules and existing transmission contracts. They include: hourly tie checkouts for actual and scheduled energy, validation of E-tagging of schedules, scheduling of both ETC and Non-ETC schedules	12	total of 2 schedulers per shift (1 Alhambra and 1 Folsom) or 10 FTEs, 1 lead real-time scheduler and 1 manager for a total of 13 FTEs.	The ISO has 31 different branchgroups that it schedules across. Schedules on all these branchgroups must be checked hourly as well as the actual power flows and E-tags associated with the schedules, which average between 460 to 700 per day. Tie ratings usually change due to contingencies. However some tie ratings change with generation requirements and/or system loads. This can be both internal and external to the ISO system. Regardless, it must be dealt with per WECC, NERC and ISO rules. Additionally, at least one scheduler must be at each facility for control back-up requirements.	
Energy and Transmission Services Activities	All the activities listed for core except increased volumes with the exception of branchgroup hourly checkouts.	8	1 additional scheduler per shift at Folsom plus 2 additional schedulers to supplement the 2 folsom desks, plus 3 additional schedulers at Alhambra to supplement the 1 scheduling desk during periods of high activities or 8 additional FTEs.	During periods of heavy peak load and off peak over generation the scheduling activities increase. Additionally, checkouts with adjacent control areas become timely when numbers do not match (WECC and NERC require checkouts to agree prior to beginning schedules). Also, do to computer failures, all the activities listed must be done by hand work arounds and the data bases updated once they become operational again. During periods of some contingencies the work load can double or triple easily. These also take into account coverage for vacations, sick time and training.	
Forward Scheduling Activities					
Congestion Management Activities					
Market Usage Activities					
Settlements, Metering and Client Relations					
Totals		20			
completed by:	Lonnie J. Rush				
Date:	4-Sep-03				

Exh. No. ISO- 10, Page 10 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1545	
	Grid Operations - Generation Dispatcher	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Monitors the day to day functions as required to maintain stability and reliability of the electrical system under the ISO. Operates to meet all interie obligations, emergencies and WECC and NERC requirements. Dispatches energy within Operating procedure guidelines to maintain proper Area Control Error and scheduled frequency. Forecasts future electricity needs, plans to meet these needs and procures energy necessary to meet this obligation. Exercises independent judgment during emergency conditions.	10		This amount of personnel would be the minimum required to meet the daily real-time functions and assumes that everything operates without SC troubles, Generator compliance issues or a major system disturbance. The above amount is made up of 5 Real-time Generation Dispatchers in Folsom and 5 in Alhambra. One is needed in each location per shift (5 shifts)
Energy and Transmission Services Activities	Activities are exact as Core, except that an additional person is needed per shift (5) to keep up with monitoring of generators, logging, system emergencies and line mitigation. An additional 2 people are used on days for support, new projects, training and shift coverage during vacations and sick days.	7		With a system as dynamic, complex and large as the ISO's, extra people are needed to maintain system reliability and to meet WECC and NERC requirements. The ISO is in such a state of flux that people are required for many functions other that what is listed on their job description. These would include MD02, NSLIC, computer system upgrades and training on all of the same subjects.
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		17		

completed by:	
Date:	

Exh. No. ISO- 10, Page 11 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1545			
6			Grid Operations - Transmission Dispatcher			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Directs transmission grid operations according to ISO procedures and WECC and NERC guidelines under both normal and emergency conditions. Controls the transmission system and monitors transmission lines and voltages. Maintains communication with all PTO's and Control Areas to coordinate all switching and outages for reliable system operation. Implements all ETC rights. Works with other ISO personnel (OE, Generation, MO and Scheduling) during line overloads to mitigate congested conditions. Maintains accurate logs of all recordable events.	15		The break down of this position is - 2 positions in Folsom and 1position in Alhambra per shift (5 shifts). This assumes that there would be minimal work load and that system emergencies would occur on a very limited basis. Logging, outages (planned and forced), congestion overload and voltage requirements would all function at a level much below what is routinely experienced.
10		**Energy and Transmission Services Activities**	Activities are same as Core, except that an additional person is needed per shift (5) to keep up with system monitoring (line loading, voltages, outages, etc). It is necessary to have an additional person on shift to keep up with the large volume of logging, emergency events, communications with other dispatchers in the ISO control room, with the PTO's and other Control Areas. There is also an additional 2 people - 1 in Ahambra and 1 in Folsom on straight days to cover training, sick leave usage, map board maintenance	6		With a system as dynamic, complex and large as the ISO's, extra people are needed to maintain system reliability and to meet WECC and NERC requirements. The ISO is in such a state of flux that people are required for many functions other that what is listed on their job description. These would include MD02, NSLIC, computer system upgrades and training on all of the same subjects.
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		21		
16						
17						
18		**completed by:**				
19		**Date:**				

Exh. No. ISO- 10, Page 12 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center: 1545
Grid Operations - Management & Support

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Management: Duties range from the overall success of ISO Grid Operations to managing facilities. Grid Operations management is responsible for the operation of the ISO in a safe and reliable manner within ISO operating procedures and in compliance with NERC policies and WECC criteria. They act as liaison between real-time shift personnel and other ISO managers and departments. Works with all other Control Areas, SCs, PTOs and Market participants. Support: Duties include administrative work, travel scheduling, meeting minutes, scheduling meetings and conferences, order of office supplies and in general keeps the Grid Operations floor running in an efficient manner. They also track budget and other fiscal expenditures and make reports indicating such. Verify vacation usage, expense reports and other duties as necessary.	9		Management: This includes 1 Director, 1 Alhambra manager and 5 Shift Managers. This is the absolute minimum required to meet day to day operations and would not include extra work load created by additional meetings, travel, training and projects. Additional help would be required during times of higher workload such as to operate the system in a significantly abnormal condition or configuration and for emergency events. Support: Positions include 1 Administrative Assistant to the Director of Grid Operations and 1 Operations Analyst. Work load would be heavy and in states of emergency and abnormalities, some work would not be done in a timely manner.
Energy and Transmission Services Activities	Management: Activities are same as Core, except that 2 additional persons are needed as support on dayshift to cover additional work load created by projects, training, and system emergencies. Also committees participation within NERC and WECC add an additional work load to directors and managers within Grid Operations and require extra support. Support: Duties would remain the same only the extra person would be responsible for the increase work load created by projects and emergency situations.	3		Management: With the ever changing complexity of the ISO, additional people are required to make sure that ISO Grid Operations is represented to the standards needed to ensure a reliable and safely operated control area and meet the requirements of all ISO Operating procedures, NERC policies and WECC criteria. Support: Due to the complexity of the work in Grid Operations, extra Administrative support is needed to keep up with the daily work generated by this complexity. This would include, listening to tapes, report and data gathering, databases, paperwork and building and maintaining tracking tools, reports,etc.
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		12		

completed by:

Date:

Exh. No. ISO- 10, Page 13 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	**1546**			
6			**Reliability Coordinators**			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Reliability Coordination for Calif.-Mexico Subregion - one of three Reliability Coordination Centers for the Western Interconnection	8		NERC and WECC Requirement - the majority of expenses associated with this function are reimbursed by WECC
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		8		
16						
17						
18		**completed by:**				
19		**Date:**				

Exh. No. ISO- 10, Page 14 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1547 Engineering and Maintenance - General			
6						
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	1. Provides guidance direction of OE&M. Includes technical direction on engineering issues and solutions including activities in engineering, maintenance, loads and forecasting; supports numerous corporate issues. 3. Provides office support for typing, filing, scheduling meetings, taking meeting minutes, scheduling travel arrangements and general office support.	2		1. Required work to support shift personnel with technical tools and engineering solutions.
10		**Energy and Transmission Services Activities**	2. Same as core. Scalable based on the number of department employees supported. (1FTE)	1		
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		3		
16						
17						
18		**completed by:**	Pam Moore			
19		**Date:**	08/25/03			

Exh. No. ISO- 10, Page 15 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1548	
	OSAT Director	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Manages the entire OSAT department and budget. Managers of Operations Support, Training, Coordination and Applications Support report to the department director. The department responsibilities include: overseeing preparation and administration of training across all operations groups, other groups in the ISO, and Market Participants; providing support for ISO efforts to interface with and incorporate markets and deregulation from an operations perspective as they develop inside and outside the ISO; updating, creating and maintaining all ISO Operating Procedures, Contingency Procedures and the Business Continuity Plan; implementing Emergency Response programs and procedures within the ISO and in coordination with state and federal external agencies; and providing final operations approval of revised and newly developed EMS Displays as required and requested by Control Room personnel. OSAT provides training and support to all groups within the Grid Operations Division, to other departments within the ISO (particularly Market Operations) and to Market Participants to ensure and enhan workably competitive markets.	2		The staffing level above reflects the director of OSAT and one Administrative Assistant, who supports the director and provides secondary and backup support for all other OSAT business units. OSAT provides support to all departments within the Grid Operations Division, including the development of training programs, real-time operations support, development of procedures and tools for operations, and coordination of internal and external activities impacting operations. All aspects of support and training provided by this group facilitate safe and reliable operation of the CAISO control area, CAISO control area obligation to the Western Interconnection, and compliance with NERC and WECC standards and policies.
Energy and Transmission Services Activities	N/A	0		N/A
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		2		

completed by:	Deane Lyon
Date:	17-Sep-03

Exh. No. ISO- 10, Page 16 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1549	
	Operations Training	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Preparing and managing the training budget; Manage the activities of the staff responsible for development and delivery of Operations Training, the Operator-In-Training Program (OITP), the Continuous Learning Program and the Grid Operations Training Simulator (GOTS); Assure appropriate material and processes are created to accomplish training for Grid and Market Operations and other ISO groups; Manage support functions to assure training on procedures, tools and other training needs are met for all operations groups, other ISO departments, and external entities; Managing vendor relationships and maintaining accountability for work performed. The department requires considerable administrative support in order to meet the needs of the ISO; therefore one Administrative Assistant has been included in this section.	11	Training Manager; Trainers; Analyst; Technician; Admin.	The Operations Training group is responsible for identifying, creating, developing, facilitating and delivering appropriate training material for Grid Operations, Market Operations, Scheduling, and other ISO groups. The provision of this training and associated activities is essential to the core function of the CAISO, which is to reliably and safely operate the CAISO control area, meet the control area obligation to the Western Interconnection and comply with WECC and NERC standards and policies; Due to ongoing changes in the industry and the high turnover rate of System Operators, there is a need to maintain the OIT Program, which requires recruiting, testing and hiring, creation and maintenance of training modules; use of an off-site simulator and pertinent field visits; Procurement and implementation of necessary hardware and software to accomplish this training; Monitor the activities of various groups, including Operations Support, Operations Engineering, Grid and Market Operations personnel, NERC & WECC to support various operations training needs including procedures, reports, EMS
Energy and Transmission Services Activities	Control room Job/Task Analysis; Support for the Learning Management System or its successor system; Training development and administration support for the MD02 and SLIC projects; Plant Information (PI) system training; Operations Training Advisory Committee facilitation and management; Represent the ISO in WECC, NERC and other industry related training and personnel management forums as required; Outreach Program; Administration of TRACCESS.	7	Operators-in-Training	Note: The above staffing number includes 7 additional Operator-In-Training (OIT) positions not included in the "Core Activities" section. The OITs represents a pool of qualified candidates who can fill the vacant ISO Control Room positions as required. The JTA project started in 2001, and the maintenance phase began in 2002. Maintenance consists of adding processes/positions as they occur, updating the existing processes and all corresponding information as processes change based on evolvement of the Energy Management System (EMS) and maintenance of the Course Plan, Module Development, and the Skill/Knowledge Gap Analysis. PI, a historical data information retention and management system, is nearly as essential as the EMS. Demand for additional PI training indicates the need to continue it. The Outreach program is designed to educate interested internal and external parties who are non-operations oriented on the basic operations of
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		18		

completed by:	Sanjay Dutta
Date:	17-Sep-03

Exh. No. ISO- 10, Page 17 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	**1554**			
6			**Special Projects Engineering**			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Special Projects Engineering provides special reports to FERC, NERC and WECC on Control Area Operations. The primary role of Special Project Engineering is to provide Operations personnel with the best technology, tools and advanced applications that solve operating problems, improve grid reliability and facilitate the accurate and timely reporting to various regional reliability organizations and government agencies.	2		Specific roles and responsibilities include: Analysis of Operating Problems, Wind Generation forecasting tools, Creation of Transmission Maps, Coordination of R&D programs, Participating in NERC and WECC Committees and working groups; and development of control practices for Wind Generation and Distributed Generation
10		**Energy and Transmission Services Activities**	Number of operating issues to be analyzed, number of transmission maps to maintain, number of DG and Intermittent Resources in the control area.	2		As the size of the control area varies, the number of maps to be maintained changes. As the amount of transmission, generation, intermittent resources and DG in the control area varies, the amount of people required to track and analyze these resources vary.
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		4		
16						
17						
18		**completed by:**				
19		**Date:**				

Exh. No. ISO- 10, Page 18 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1555	
	Operations Support	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Business Unit Management; Operating Procedure Program Management; Emergency Management; RMR and general PGA Unit Ancillary Service and PMax Testing and Certification; Contingency Procedure and Business Continuity Plan Management; Engineering Support, including Interconnected Control Area, UDC, PTO, MSS and Dynamic Schedules agreement research, development and implementation; RMS and NERC/WECC Compliance Tracking and Reporting; New Resource Interconnection (NRI) Committee representation	5		The Operations Support Group is responsible for supporting the various Grid and Market Operations needs of the ISO Real Time operations control room and the Grid and Market Operations Divisions, which are essential for reliable interconnected system operations. Included in these core support functions are emergency preparedness and response coordination and communications and Emergency event notification, internally and to variety of state and federal agencies (collectively known as ERC duties); interconnected control area, UDC, PTO and MSS agreement development and implementation; Coordination and collaboration as a participant on the NRI Committee which manages the interconnection of new generating units and transmission lines within the CAISO control area; Generating Unit Ancillary Services, RMR and Pmax testing and certification is required to determine unit response capability and capacity; Managing the development, creation, maintenance, tracking and internal/external distribution of
Energy and Transmission Services Activities	Grid and Market Operations drill and exercise coordination and management; EOC activation and management; TEMS maintenance; Emergency contact maintenance; OSAT budget analysis and tracking; NRI Team representation; Daily Operations Report; Daily Scorecard; Critical Event Recorder; Representing the ISO on various committees and managing communication with external agencies, including SWEPC, CESA, FEMA, CUEA, OES; Technichal Writing support; Public and Market Participant outreach; Special projects managment and participation	4		Drills and exercises prepare control room personnel and the Emergency Response Team for system emergency manangement and communication. The Tactical Emergency Management System, or TEMS, helps to facilitate the tracking and non-vocal communication and coordination of corporate emergency management and response. Represent the ISO in WECC, NERC and other forums as required; Identifying and managing changes in the tariff, protocols, and market design that would improve market and grid operations; State and federal agency and intra-control area entity communications interdependency support; Technical writing support for Grid and Market Operations, and other CAISO departments as necessary and as available.
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		9		

completed by:	Tami Elliott
Date:	25-Aug-03

Exh. No. ISO- 10, Page 19 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1558	
	Transmission Engineering and Maintenance	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	1. Manage the development, monitoring and control activities associated with the ISO's Maintenance Standards. Includes review of the forced outages, trends and PTO Transmission Line Availability measures. (3FTE) 2. Develop, maintain and manage the Transmission Register. Review new technology, engineering decisions, standards and associated processes to ensure they support grid reliability. (1FTE) 3. Develop and oversee processes and data to track, and ensure the ISO is ready to Operate new generation connections and PTO Transmission System modifications. (1FTE) 4. Develop, monitor and control activities associated with the ISO's Protection and Interconnection Standards (1FTE)	6		1. Required by AB1890, ISO Tariff, and TCA. 2. Same as above. 3 and 4. Required by TCA, ISO Tariff, and AB 970
Energy and Transmission Services Activities	1. Same as core, but scalable based on the number of PTO's, major events, forced outages and performance trends, and number of protection related problems. (1FTE) 3. Same description as core, but scalable based on number of new conections and PTO projects (2 FTEs). 5. Manager support required based on the number of employees. (3FTE).	3		
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		9		

completed by:	Tom French
Date:	19-Aug-03

Exh. No. ISO- 10, Page 20 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1559	
	Operations Applications Support	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Manage the budget and daily activities of the Operations Applications Support department. Provide applications support to Grid Operations, Scheduling, Security Coordination, Engineering and Maintenance, and Market Operations personnel. Provides end user support for many new and existing applications, including PI Processbook Display management issues, PI data quality issues, RMS database, Operations Event Tracker (ET), Generation Ramp Planning Tool, EMS Network Applications, Today's Outlook web page, Pro Rata Application, Hourly Load Log, FRR tracking & reporting, resolution of EMS Display/Data presentation issues, SLIC Variance tracking and resolution, MD02 requirements and creation of SLIC-to-Outage Scheduler conversion database, Transmission Registry redesign support, and response to data requests for information from EMS, PI, SLIC, and other applications.	3		Current staffing level is necessary to provide development, enhancement and support of specialized applications and systems designed to improve the efficiency and effectiveness of ISO real-time operations. This includes communication with other business units to insure that the Operations Systems group can maintain the support and functionality of existing processes and changes to interconnected systems; During project implementation, develop levels of expertise for Operations Applications support staff and assure vendor compliance to project design specifications; Develop standards and procedures for the testing of delivered products to assure they meet all requirements of the original specifications; Provide improvements or modifications to existing systems and applications to support end user requirements through project design, product development, and coordination of comprehensive testing of deliverables to assure all requirements of the original specifications have been
Energy and Transmission Services Activities	Support and further development of the Operations High Track Application, which tracks high-profile Grid Operations issues and processes and includes Grid Operations division metrics data; Development of web-based applications and, in particular, conversion of exisitng stand-alone and network applications to web-based applications. Provide coordination of Operations Systems and ISO business units to direct the acquisition of new systems and applications to meet end user requirements; Actively seek the replacement of existing systems as necessary by providing specifications for RFP's and bid proposals to implement changes to development, test and production environments; Coordinate the development of specifications and bids for the procurement of new, and provide improvements or modifications to existing systems and applications.	2		The workload in this department has increased but is managable with the current FTE positions and budget.
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		5		

completed by:	Michael Iverson
Date:	20-Aug-03

Exh. No. ISO- 10, Page 21 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center: 1561

Operations Engineering South

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	1. Southern Area Operations Engineering is responsible for the engineering/technical support of the Southern California portions of the area operation in addition to support the entire CAISO Bulk (500 kV) system operations. 2. Coordinate/cooperate with surrounding control area operators in engineering issues and supports the WECC Reliability Coordinators. 3. Conduct seasonal operating studies, establish seasonal OTCs. 4. Develop/maintain/update ISO operating procedures. 5. Support Outage Coordination in the analysis of Transmission and Generation clearances. 6. Seasonal local area operating assessments (including proposing and managing short-term projects). 7. Support the Real Time Operation and provide on-call services. 8. Review and provide input on regional and PTOs transmission plans and projects. Review and provide input on new generation/transmission projects.	5		1-8 Required functions in support of real time operations.
Energy and Transmission Services Activities	1-2 Provide backup and support for bulk work and coordination with surrounding control area engineering works (1FTE) 3-8 Scalable based on volume of clearances and the number of new generation, transmission projects, congestion issues and operating issues (1FTE). Provide engineering support for ISO contracts issues (e.g., RMR contract, Participating Generator Agreement ("PGA"), etc.). Participate in the Grid Planning process -- LARS, Expansion Plans. Prepare disturbance reports for the bulk system and local	2.5		
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		7.5		

completed by: Chuck-yan Wu

Date: 08/22/03

Exh. No. ISO- 10, Page 22 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1562	
	Operations Engineering North	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	1. Conduct seasonal operating studies, establish seasonal OTCs. 2. Develop/maintain/update ISO operating procedures. 3. Support Outage Coordination in the analysis of Transmission and Generation clearances. 4. Seasonal local area operating assessments (including proposing and managing short-term projects). 5. Support the Real Time Operation and provide on-call services. 6. Review and provide input on PTOs transmission plans and projects. Review and provide input on new generation interconnection.	5		1-6 Required functions in support of real time operations.
Energy and Transmission Services Activities	1-6 Scalable based on volume of clearances and the number of new generation projects (1FTE). Provide engineering support for ISO contracts issues (e.g., RMR contract, Participating Generator Agreement ("PGA"), etc.). Participate in the Grid Planning process -- LARS, Expansion Plans. Prepare disturbance reports for the bulk system and local areas. Participate in WECC working groups and related activities. (1FTE).	4		
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		9		

completed by:	Ty Larson
Date:	08/25/03

Exh. No. ISO- 10, Page 23 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1563	
	Operations Coordination	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Manage the budget and daily activities of the Operations Coordination department. Responsible for overseeing the ISO interface activities with different outside entities and coordinating various internal and external activities and efforts that have an impact on real-time operations. Identify issues that impact efficient, reliable grid operations and develop enterprise wide solutions for the benefit of reliable Grid Operations and the CAISO. Coordinate Grid Operations responses on data requests resulting from various legal proceedings and investigations. Manages Grid Operations input and participation in the MD02 project. Provides primary Grid Operations input on Tariff changes, compliance with FERC rulings, and new or revised NERC and WECC policies and standards development. Provide Grid Operations liaison with internal departments including Operations Engineering, Market Operations, Market Quality, OSAT, Scheduling and Outage Coordination, Settlements, Legal & Regulatory, and Compliance. Coordinates and manages the annual	3		The primary objective of this group is to represent the interests and concerns of Grid Operations on legal, regulatory and policy matters and to ensure, working with the Legal and Regulatory Division, that Operations requirements are communicated to FERC, CPUC, EOB and CEC so that resulting changes do not negatively impact reliable grid operations. Without the efforts of this group, Grid Operations interests would be represented to a lesser degree and it is likely that key issues affecting them would be overlooked. The group also plays the key role for Grid Operations in MD02 development and implementation, providing expert input from the perspective of the division.
Energy and Transmission Services Activities	The group has in the past managed projects resulting from legal proceedings, investigations, data requests, etc., requiring specialized grid and market operations data research and will continue to do so periodically. This, however, is not a Core Activity.	1		The group currently is staffed at the appropriate level for Core Activities, and employs one contract position for administrative support. This position could conceiveably be identified as scalable, but the group requires a significant amount of administrative support due to the scope and nature of its responsibilities, i.e., the numerous internal departments and external entities with which it interfaces on an ongoing
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations				
Totals		4		

completed by:	Deane Lyon/Kevin Graves
Date:	17-Sep-03

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1564			
6			Scheduling Department Director			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Manages entire department. Ensures the ISO is represented at NERC, WECC, and other functions to ensure rules, lawa and regulations are adhered to as well as changes to these rules and regulations are coordinated. Works with other ISO departments, PTO, and SCs to ensure coordinated scheduling practices are in place. Responsible for all Scheduling Department personnel to adhere to rules, laws and regulations mandated by various agencies. Helps create corporate policy, and gives direction	2	1 Director (1 FTE) 1 administrative assistant. The two administrative assistants accounted for previously in Outage Coordination and Scheduling support also serve as my assistants.	SEE ABOVE
10		**Energy and Transmission Services Activities**	These core functions remain the same basically.	0	0 increase	Core functions remain the same regardless of the number of personnel. Although core functions stay the same, some increase in volume of time spent for personnel issues requires longer hours but not additional management.
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		2		
16						
17						
18		**completed by:**	Tracy R. Bibb			
19		**Date:**	4-Sep-03			

Exh. No. ISO- 10, Page 25 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1565			
6			Scheduling Support			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Prescheduling energy on interties, Approving E-tags for schedules, Control Area checkouts, Calculation of ETCs for DA market. After-the-Fact Scheduling responsible for energy accounting checkouts with control Areas and SCs, inadvertent accounting and reports, Various other WECC and NERC reporting. (This assumes vacations, sick leave, training, etc will be covered by overtime)	10	4 preschedulers (two per shift, days only, 7 days a week) and 3 After-the-Fact staff, 1 Lead pre-scheduler, 1 Lead After-Fact-Staff, plus one manager for the entire Scheduling Support Group a total of 10 FTEs.	The ISO has 30 different branchgroups that it schedules across. Preschedules on all these branchgroups must be checked as well as the E-tags associated with the schedules, this averages between 460 to 700 per day. ETCs must be calculated daily before the DA market runs. Failure to do so will result in ETC holders not receiving their entitlements. The ISO runs markets 7 days a week, so coverage is required. After-the-Fact personal check accounting with SCs and others. This practice is recognized by nearly all entities as a requirement (no change from pre-deregulation days). Reports to WECC and NERC from After-the-Fact are mandated by their rules.
10		**Energy and Transmission Services Activities**	All the activities listed under Core except with higher volumes and activities related to procedure, protocol, or tariff changes that require front end preparation for implementation.	3	2 preschedulers (3 per shift, days only, 7 days a week) plus 1 additional After-the-Fact staff. Total FTEs 13.	After-the-Fact work load varies with activities that are tied to real-time and forward markets. So periods of high loads or over generation creates additional work. Contingencies(not included in core activities) create heavy work loads to balance accounts affected by the contingencies. The additional preschedulers are a direct result of increased schedules and E-tags for heavy load periods and programmed outages. With 12 total FTEs a manager is required for coordination of tasks, implementing new rules, participating in regional activities required by WECC and other agencies. these additonal FTEs are used for vacation, sick time and training coverage also to minimize premimum
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		13		
16						
17						
18		**completed by:**	Robert E. Sullivan			
19		**Date:**	8-Sep-03			

Exh. No. ISO- 10, Page 26 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	**1566**			
6			**Regional Coordination**			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Coordinate representation and oficial positions of the CAISO at NERC, NAESB, WECC and ISO/RTO Council committees, subcommittees, work groups, task forces, and standards development efforts. Represent the CAISO on BAD, CSIC, and other Seams Working Groups	3		The fact that CAISO is an ISO requires us to participate on these Regional and National committees and working groups that set the operating and business practices standards for the industry. FERC has ordered the CAISO to participate in western seams iss
10		**Energy and Transmission Services Activities**	No scalable activities	0		
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		3		
16						
17						
18		**completed by:**				
19		**Date:**				

Exh. No. ISO- 10, Page 27 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1641			
6			Market Analysis			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	1) Review and recommend changes to ISO rules and protocols to enhance system reliability; 2) Analyze intra-zonal congestion issues and recommend changes in practices as necessary; 3) Review RMR performance and recommend changes as necessary; 4) Support Market Surveillance Committee by completing special analysis to support MSC recommendations	3.25	1.5 Principal Economists, .5 Manager, .25 MSC Liaison, .25 Director and .75 Support Staff	Promotes reliable operation and effective coordination with other control areas.
10		**Energy and Transmission Services Activities**	1) Perform economic evaluation of transmission capacity expansion; 2) Promote open access to the grid; 3) Support Market Surveillance Committee by completing special analysis to support MSC recommendations	3.5	1.75 Principal Economists, .5 Manager, .25 MSC Liaison, .25 Director and .75 Support Staff	Promotes reliable operation and effective coordination with other control areas.
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**	1) Monitor and report on congestion management market performance; 2) Analyze market rules to identify potential inefficiencies or opportunities for gaming and market power; 3) Recommend changes to market design and market rules to enhance market efficiency; 4) Support Market Surveillance Committee by completing special analysis to support MSC recommendations	2.5	.75 Principal Economist, .5 Manager, .25 Director, .25 MSC Liaison and .75 Support Staff	Leads to more effective and efficient market structures that promote competitive outcomes.
13		**Market Usage Activities**	1) Monitor and report on market performance; 2) Investigate and report on potential gaming and market abuses; 3) Perform special studies on market efficiency, bidding behavior; 4) Design and develop market monitoring systems; 5) Develop new market rules or changes to market rules in response to market behavior; 6) Prepare and provide reports to regulatory authorities; 7) Support Market Surveillance Committee by completing special analysis to support MSC recommendations	5.25	3 Principal Economists, 1 Manager, .25 Director, .25 MSC Liaison and .75 Support Staff	Satisfies FERC requirement for monitoring market performance. Leads to more effective and efficient market structures that promote competitive outcomes.
14		**Settlements, Metering and Client Relations**	1) Respond to customer inquiries; 2) Provide input to settlements processes	1.5	1 Principal Economist, .5 Manager	Enhances customer relations
15		**Totals**		16		
16						
17						
18		**completed by:**	Greg Cook/Pearl O'Connor			
19		**Date:**	26-Aug-03			

Exh. No. ISO- 10, Page 28 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Market Surveillance Committee			
6			1642			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**		0.25		
10		**Energy and Transmission Services Activities**		0.25		
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**		0.25		
13		**Market Usage Activities**		0.25		
14		**Settlements, Metering and Client Relations**				
15		**Totals**		1		
16						
17						
18		**completed by:**	Greg Cook/Pearl O'Connor			
19		**Date:**	26-Aug-03			

Exh. No. ISO- 10, Page 29 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Compliance - General			
6			1661			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Monitor performance of Generating Units scheduled to provide Regulation; define and monitor Regulation performance metrics; investigate potential non-compliance events identified by Grid Operations and others; monitor compliance with the must-offer obligation or any successor capacity obligation; implement measures such as Uninstructed Deviation Penalty to provide high quality Imbalance Energy service in real time; monitor and enforce compliance with operating orders; cost-effectively automate	2.4		Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
10		**Energy and Transmission Services Activities**	[Same as core reliability services, greater intensity]	2.2		Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
11		**Forward Scheduling Activities**	Monitor consistency of Ancillary Service schedules with certified ramp rates; assess Ancillary Service certification process and need for changes; evaluate the need for unannounced testing of scheduled Ancillary Services, and design of other measures to assure that scheduled Ancillary Services are available and capable of performing; monitor scheduled and metered deviations by Metered Subsystems and determine penalties.	1.4		Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
12		**Congestion Management Activities**				
13		**Market Usage Activities**	Assist in MD02 design and implementation (e.g., Market Transaction System); develop a comprehensive Oversight and Investigation program as a back stop to efficient market design; implement penalty programs within the ISO's authority; develop special purpose protocols and rules as required (e.g., Participating Intermittent Resource Protocol, Enforcement Protocol, Settlement rules); design and verify performance of demand programs; resolve disputes; support market investigations and respond to subpoenas; provide briefings on compliance matters and support legislative strategy; manage projects and people. Develop and implement Rules of Conduct for all Market Participants. Develop and administer programs for investigation, enforcement, and information sharing with other oversight and enforcement agencies consistent with available authority. Cost-effectively automate rules and processes for investigation and enforcement.	2.5		Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
14		**Settlements, Metering and Client Relations**	Calculate compliance related charges, establish and maintain documentation of SAS 70 Type 2 level of process and controls for Compliance Programs that lead to settlement charges, including the Uninstructed Deviation	1.5		Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
15		**Totals**		10		
16						
17						
18		**completed by:**	Eric Leuze / Glen Perez			
19		**Date:**	23-Sep-03			

Exh. No. ISO- 10, Page 30 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Compliance - Audits			
6			1662			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Assist in establishing new UDCs and in meter data issues for Metered Subsystems.	0.25		Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**	Investigate compliance issues, coordinate the implementation of the Information Release Program, and develop the policy and procedures for monitoring, tracking, and analyzing potential violations of market rules in consideration of any relevant mitigating factors, and recommending penalties or other consequences based on available ISO authority.	1.5		Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
14		**Settlements, Metering and Client Relations**	Oversee and provide quality assurance on Scheduling Coordinator self-audits, and prepare reports on best practices; monitor and correct UFE and under-reported Load; administer late meter data program; support SAS 70 Type 2 audit; assist in designing, performing data analysis and auditing demand programs; assist state agencies in planning and evaluating demand programs;	1.25		Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
15		**Totals**		3		
16						
17						
18		**completed by:**	Eric Leuze / Glen Perez			
19		**Date:**	23-Sep-03			

Exh. No. ISO- 10, Page 31 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	**Settlements, Director**	
	1721	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Timely and accurate monthly invoice production. Supporting internal ISO initiatives including MDO2, phase 1B, 2, and 3, FERC mandated re-runs.	0.75	Director, Administrative Assistant	Deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC, the state of California or ISO leadership (or its Board).
Energy and Transmission Services Activities				
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities				
Settlements, Metering and Client Relations	Timely and accurate daily Settlement statement production. Processing of settlement disputes. Responding to legal data and discovery requests. Supporting internal ISO initiatives including SAS 70, FERC mandated re-runs and ad-hoc information requests.	2.25	Director, Administrative Assistant	Daily deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC, the state of California or ISO leadership (or its Board).
Totals		3		

completed by:	
Date:	

Exh. No. ISO- 10, Page 32 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	**Business Development Support**			
6			**1722**			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**				
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**	Provide support to other Settlements' and ISO teams to ensure: -timely production of Settlement statements -timely production of Invoices -disputes and inquiries Design and implement Settlements Business process and software business requirements. Provide technical support for ISO Tariff Language development. Ensure ISO Settlements systems' business rules and functionality are compliant with ISO Tariff and business policy.	5	Manager, Lead Senior Settlement Analyst, Senior Settlement Analyst, Settlement Analyst	Required to support the FERC Tariff and Settlements and Billing Protocols.
15		**Totals**		5		
16						
17						
18		**completed by:**	Christine Vangelatos			
19		**Date:**	3-Sep-03			
20						
21			# of People includes Contractor to support Development			

Exh. No. ISO- 10, Page 33 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Tariff and Contract Implementation			
6			1723			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Timely validation of Reliability Must Run (RMR) & Summer Reliability Agreement (SRA) Invoices. Timely processing of RMR & SRA Invoices for Payment.	7	Manager, Lead Senior Settlements Analyst, Senior Settlements Analyst & Settlements Analyst	Required under Must Run Service Agreement & Summer Reliability Agreement.
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**				
15		**Totals**		7		
16						
17						
18		**completed by:**	Catherine Bodine			
19		**Date:**	13-Aug-03			

Exh. No. ISO- 10, Page 34 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Settlements and Billing - Preliminary Settlements			
6			1724			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**				
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**	Timely and accurate daily Settlement statement and monthly invoice production. Processing of settlement disputes. Responding to legal data and discovery requests. Supporting internal ISO initiatives including SAS 70, FERC mandated re-runs and ad-hoc information requests. Market design activities including participation in MD02 core design activities, tariff write up, system and integration tests, market simulation and implementatio	9	Manager, Lead Senior Settlements Analyst, Senior Settlement Analysts & Settlement Analysts, Contractor	Daily deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC.
15		**Totals**		9		
16						
17						
18		**completed by:**	Masoud Shafa			
19		**Date:**	18-Aug-03			

Exh. No. ISO- 10, Page 35 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Settlements and Billing - Final Settlements			
6			1725			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**				
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**	Timely and accurate daily Settlement statement production. Processing of settlement disputes. Responding to legal data and discovery requests. Supporting internal ISO initiatives including SAS 70, FERC mandated re-runs and ad-hoc information requests. Supporting internal ISO initiatives including MDO2, phase 1B, 2, and 3, FERC mandated re-runs.	9	Manager, Lead Senior Settlements Analyst, Senior Settlement Analysts & Settlement Analysts, Contractor	Daily deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC, the state of California or ISO leadership (or its' Board).
15		**Totals**		9		
16						
17						
18		**completed by:**	Brad Bouillon			
19		**Date:**	13-Aug-03			

Exh. No. ISO- 10, Page 36 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1731			
6			Contracts and Special Projects			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	Administer Reliability Must-Run Service Agreements (RMR Agreements) including assisting Operations with implementation and dispatch instructions to meet ISO Control Area reliability; assist in validating RMR costs; negotiate new RMR Agreements needed for reliability; negotiate and administer rates and disputes for RMR Agreements.	4.5	Manager, Reliability Contracts Senior Reliability Contracts Engineer Senior Contracts Analyst Reliability Contracts Analyst Director (portion) Administrative Assistant (portion)	RMR is an essential aspect needed to support a functioning control area. Without RMR, the ISO Control Area can not be reliably operated.
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**	Develop, negotiate and administer contracts with Market Participants for participation in the ISO's markets and structure. Facilitate, support and provide testimony for FERC filings, litigation, data requests and investigations. Special projects as assigned by the Officers (i.e. GMC, Access Charge, Distributed Generation, Existing Contract issues, market design, governmental entity issues, etc.).	4.5	Manager, Contracts Senior Contracts Engineer Contracts Analyst Director (portion) Administrative Assistant (portion)	Contracts are needed to bind each Market Participant to pertinent sections of the ISO Tariff. Contracts provides leadership and support on FERC filings, litigation, data requests and investigations. (The ISO has averaged a subpoena a day in 2002.) Special Projects assignments are based on need and expertise in the Department.
15		**Totals**		9		
16						
17						
18		**completed by:**	Debi Le Vine			
19		**Date:**	3-Sep-03			

Exh. No. ISO- 10, Page 37 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	1741			
6			Client Relations			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**				
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**				
13		**Market Usage Activities**				
14		**Settlements, Metering and Client Relations**	Provide ISO Tariff, Systems, Market and Settlements guidance to market participants, Communicate scheduled events to market participants, Communicate Market information, Develop training curriculum, Provide training to Market Participants (Settlements, System Infrastructure, Market Design), Facilitate stakeholder process, Facilitate resolution of Market Participant issues, Develop and implement CR procedures, Participate in special projects, e.g., EAL process, UDC MSS Agreements, MD02, etc.,	17	4 Senior Client Relations Reps, 2 Client Relations Reps, 1 Technical Assistant, 1 Administrative Assistant, 2 Managers, 1 Director, 6 Account Managers	The seventeen positions are required to complete the activities identified above. The Client Relations activities are key to achieving the following ISO Corporate Goals: 3 (a) Improve External Relationships through various outreach programs; 3 (b) Provide customer oriented services such that we retain or improve participation by the various Market Participants; 11 (c) Increase market liquidity with participation by interties as compared to 2002 ; 2b – Implement Next Generation Network; and, 1d – "Successfully implement approved market design changes that are responsive to current market conditions in California and the West.
15		**Totals**		17		
16						
17						
18		**completed by:**	Dave Timson / Jacquie DeRosa			
19		**Date:**	20-Aug-03			

Exh. No. ISO- 10, Page 38 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1751				
	Market Operations, Director				
	Description of Activities	**# of People**	**Position descriptions**	**Justification**	
Core Reliability Services Activities	Director reviews DA and HA MAPE percentages which reflect the deltas between forecast and actual load data. In addition, the director will review all OOS and OOM transactions which indicate how the markets are working in relation to the real-time operation of the Grid. In review of RT energy trends the director can recognize situations which might impact RT operations and discuss these concerns with the Director of Grid Operations. Monitor Operating Reserve procurement and congestion allocation.	1.2		One of the main concerns for the Director of Market Operations is to ensure that the functioning of the Markets compliments the smooth functioning of RT operations and has no detrimental impacts.	
Energy and Transmission Services Activities					
Forward Scheduling Activities	Director review MO Daily Report for Rational Buyer results and how many hours the system implemented AMP. Monitor Market behavior and approve design changes. Monitor bidding and scheduling practices and provide policy	0.6		The proper functioning of AMP is necessary for facilitating an open market for all entities. The procurement of A/S as impacted by Rational Buyer is a major factor in an efficient A/S procurement process.	
Congestion Management Activities	Director reviews MO Daily Report for ETCs. Reviews deviations in OTC and ATC data as it relates to congestion.	0.6		Ensuring that the proper data is being used in the Congestion management process is the key to a successful open access transmission system.	
Market Usage Activities	Director reviews the results of the closing of the DA and HA markets and reviews A/S purchases as well as Regulation performance in relation to MORC. In addition, review is done on the performance of the OASIS data pushes.	0.45		Having an accurate and reliable market system promotes confidence in the market results and encourages participation.	
Settlements, Metering and Client Relations	Provide direction on Market related issues.	0.15			
Totals		3			
completed by:	Shelley Groom	JMc			
Date:	10-Sep-03				

Exh. No. ISO- 10, Page 39 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center: Manager, Markets 1752

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities	Control room operations. With the DA and HA GRCs they spend a portion of their time runniing the AS markets which are required for Grid reliability. In addition the RT GRCs executes the Balancing Energy and Ex Post Price (BEEP) software module to produce the Market Commodities Report (MCR) from which Pre-Dispatched resources are identified and dispatched; executes the BEEP software during each operating hour to produce a list of generating units and/or Dispatchable Loads to be dispatched, as determined by the Folsom primary Generation Dispatcher, and for intertie resources to be Pre-Dispatched by the Real Time Schedulers. The RT GRC is also responsible for logging resources that are verbally dispatched as OOS and OOM into the Out-of-Sequence Market Operation Settlement Information System (OSMOSIS) and logging resources otherwise dispatched out-of-merit order on the MCR.	5	The services performed by the GRCs in procurring AS and the running of the imbalance energy market are essential to the reliable operation of the Control Area.	One of the main concerns for the Director of Market Operations is to ensure that the functioning of the Markets compliments the smooth functioning of RT operations and has no detrimental impacts.
Energy and Transmission Services Activities	The Senior GRC is responsible for the Load forecast function, using the Automatic Load Forecasting System (ALFS) application. In addition the Senior GRC's handle overflow and problems that might arise that are of an unusual nature or that might not be seen on a day-to-day	1	Depending upon the requirements of the Control Area at any particular time it can become necessary to have a senior GRC step in to assist in the running of the markets during times of heavy usage.	
Forward Scheduling Activities	The DA and HA GRCs operate the markets through which the SCs schedule with the ISO. The DA GRC determines the DA A/S requirements (upward and downward Regulation, Spinning and Non-Spinning and Replacement Reserves) to be procured in the DA Market; executes the Congestion Management application (CONG) in connection with the DA market; and procures DA A/S. He/she is also responsible for the Load forecasting function on weekends. The HA GRC updates the Load forecasts through ALFS and determines the HA A/S requirements; executes CONG in connection with the HA Market and procures HA A/S. He/she also informs Real Time personnel of the effects to the HA Market of transmission curtailments due to	5	The majority of the DA and HA GRCs time is spent processing the submitted schedules through SI and SA and ensuring comformance with scheduling protocols.	The proper functioning of AMP is necessary for facilitating an open market for all entities. The procurement of A/S as impacted by Rational Buyer is a major factor in an efficient A/S procurement process.
Congestion Management Activities	During the DA and HA market processes CONG is run by the GRCs to provide for the most efficient and reliable use of the Control Area Transmission system.	4	In addition to the bilateral markets run through SI and SA the DA, HA and RT GRCs also run the A/S (DA & HA) and imbalance energy markets (mainly RT).	Ensuring that the proper data is being used in the Congestion management process is the key to a successful open access transmission system.
Market Usage Activities	As market participants require training in the use of the systems that are used the GRCs are often asked for assistance to make sure that schedules and bids are submitted properly so as to not hold up the closing of the running of the markets.	1	Training is an integral part of any market structure in which interfaces are required between the ISO and the market participants.	Having an accurate and reliable market system promotes confidence in the market results and encourages participation.
Settlements, Metering and Client Relations				
Totals		17		

Completed by: Jack Bellnap JMc

Date: 17-Sep-03

Exh. No. ISO- 10, Page 40 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Market Engineering			
6			1753			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	The Market Engineering team provides on call support, provide business support for Market applications which can directly affect Core Reliability Services. These applications include ALFS, ADS, real-time market (BEEP), RMR (Real Time Client), and Osmosis.	3		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Market Engineering team performs the day-to-day maintenance tasks such as ALFS load forecasting area changes, ADS / RMR resource name and SC ID changes, and Osmosis system settings that affect the MOW / OOS / OOM processes. Without such maintenance tasks, ADS. RMR (Real Time Client) and Osmosis would not function
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**				
12		**Congestion Management Activities**	The Market Engineering team provides on call support, provide business support for Market applications which includes SA (CONG) -- the primary tool used in the Congestion Management process. In addition, the Market Engineering supports and runs the FTR auction and SRS systems which are integral in the determination of congestion	4		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Market Engineering team performs the day-to-day maintenance tasks such as maintains the SA network model, runs the FTR auction and maintains the SRS systems with the correct SC's, resources and Branch Group information. Without such maintenance tasks, SA (CONG) , FTR and SRS would not function correctly.
13		**Market Usage Activities**	The Market Engineering team provides on call support, system and configuration maintenance for SA (ASM) -- the primary tool used to determine A/S bids and A/S requirements including self provision, Rational Buyer and run the supplemental market.	2		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Market Engineering team performs the day-to-day maintenance tasks such as TCUC Static Res table changes and BEEP stack montioring. Without such maintenance tasks, SA (ASM) would not function correctly. Maintains Rational Buyer algorithm, self provision rules and A/S auction.
14		**Settlements, Metering and Client Relations**	A system is only as good as its users are aware and capable of its features and operations. External support is often performed by Market Engineering personnel.	1		The Business Solutions team assists SC's and Facilities owners with issues related to SA, ADS, RMR (Real Time Client) and ALFS.
15		**Totals**		10		
16						
17						
18		**completed by:**	Brian Rahman	JMc		
19		**Date:**	17-Sep-03			

Exh. No. ISO- 10, Page 41 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Business Solutions			
6			1755			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	The Business Solutions team provides on call support, and business support for applications which can directly affect Core Reliability Services. These applications include Scheduling and Logging (SLIC), Interchange Scheduling (BITS), and the IntraZonal (IZ) Tool.	0.5		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Business Solutions team performs the day-to-day business support tasks such as BITS system settings (including republishing), SLIC resource / SC changes, and IZ Tool mitigation system changes. Without such maintenance tasks, SLIC, ALFS, BITS, and the IZ Tool would not function correctly.
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**	The Business Solutions team provides on call support, provide business support and ensure correct schedule validation for all energy bids for all Markets. This includes SI, SI Operator, Rational Buyer, -- the primary tools used in the market scheduling process.	4		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Business Solutions team performs the day-to-day maintenance tasks such as SC ID changes, SC access via Netscape, resource ownership changes, and SI Operator process maintenance, and Rational Buyer results monitoring.
12		**Congestion Management Activities**	The Business Solutions team provides on call support, provide business support to schedule and validate existing contracts which determines available transmission used in the determination of congestion.	1		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Business Solutions team performs the day-to-day ETC maintenance tasks resource, branch group and contract changes which affect the determination of ATCs.
13		**Market Usage Activities**	The Business Solutions team provides on call support. Maintain OASIS site and data integrity.	1		In addition to on-call support in the event of Sev 1 or Sev 2 problem, the Business Solutions team performs the day-to-day maintenance which includes the re-publishing of Oasis data when necessary.
14		**Settlements, Metering and Client Relations**	A system is only as good as its users are aware and capable of its features and operations. External support is often performed by Business Solutions personnel.	0.5		The Business Solutions team assists SC's and Facilities owners with issues related to SLIC, ALFS, BITS, IZ Tool, Osmosis, SI, ADS, RMR (Real Time) and Oasis.
15		**Totals**		7		
16						
17						
18		**completed by:**	Benik DerGevorgian	JMc		
19		**Date:**	17-Sep-03			

Exh. No. ISO- 10, Page 42 of 442

California Independent System Operator
2004 GMC Cost Allocation

Personnel Assignment of Directly Assigned Cost Centers

For Cost Center:	1756	
	Market Quality	

	Description of Activities	# of People	Position descriptions	Justification
Core Reliability Services Activities				
Energy and Transmission Services Activities				
Forward Scheduling Activities				
Congestion Management Activities				
Market Usage Activities	Validation, verification and correction of transactional Market operations, Grid operations, metering and contract data that could affect the settlement of Market Participants. Post process design and development that provide the link between market and settlement system designs. Root Cause analysis of issues identified internally and externally. Design, development and maintenance of the Master File application and database.	13	1 Manager, 1 Sr. Design Engineer, 1 Design Engineer, 3 Sr. Engineering Analysts, 5 Engineering Analysts and 1 Technical Assistant.	Identifying area where the company can improve on it's core functions and developing solutions temporary and permanent to ensure the quality of the core business transactions. Due to the amount of changes that the core systems have had to endure since start-up, focus was placed, via Market Quality, on the identification and resolution of long standing and newly identified issues in relation to the core functions and thier effect on settlements. Prior to the formation Market Quality these issue were handled through the client dispute process and not addressed or resolved at the root cause. Market Quality addresses these issues up stream through validation processes, root cause analysis and data correction processes to ensure quality transactional data prior to the settlement process. The majority of Market Quality's efforts are transparent to the customer and provide quality transactional data for settlement purposes.
Settlements, Metering and Client Relations	Dispute analysis and resolution	5	1 Manager, 1 Sr Engineering Analyst, 3 Engineering Analyst	Per the ISO Tariff, each Scheduling Coordinator has the right to dispute specific charges on their preliminary settlement statement, adjustments due to settlement additions on their final settlement statement and adjustments due to re-run or retrospective settlements. Market Quality is assigned any disputes that do not already have a standard response or are a know policy issue awaiting resolution through and external process. The Market Quality team researches each dispute that is assigned to determine it's validity. Each dispute is also excepted or denied with an explanation of the situation leading the the decision. All valid disputes are addressed with the broader departmental team to determine root cause and resolution. 90+ percent of the disputes handled by Marekt Quality are invalid and provide validation and education for the client.
Totals		18		

completed by:	Nancy Traweek
Date:	12-Sep-03

Exh. No. ISO- 10, Page 43 of 442

	A	B	C	D	E	F
1		California Independent System Operator 2004 GMC Cost Allocation				
2		**Personnel Assignment of Directly Assigned Cost Centers**				
3						
4						
5		**For Cost Center:**	Market Integration			
6			1757			
7						
8			**Description of Activities**	**# of People**	**Position descriptions**	**Justification**
9		**Core Reliability Services Activities**	The Market Integration team regression tests and integration tests all changes, enhancements and fixes to SLIC, ALFS, BITS, IZ Tool and Osmosis -- applications which can affect Reliability Services. In addition, the team tests ADS, which communicates supplemental requirements to SC's and RMR (Real Time Client) which communicates Real time RMR contract information.	0.5		The Market Integration Test team assures these applications perform as intended. Incorrect SLIC operation affects system outages. Incorrect ALFS operation affects load forecasting. Incorrect BITS operation affects interchange scheduling. Incorrect IZ Tool operation affects intra-zonal congestion in real time. Incorrect Osmosis operation affects the Grid Operations MOW / OOS / OOM processes. Incorrect ADS operation affects the communicaation of imbalance energy to SCs. Incorrect RMR (Real Time Client) affects the communication of RMR resources under contract in real time.
10		**Energy and Transmission Services Activities**				
11		**Forward Scheduling Activities**	The Market Integration team regression tests and integration tests all changes, enhancements and fixes to SI (including AMP), SI Operator, Rational Buyer, -- the primary tools used in the market scheduling process.	2		The Market Integration Test team assures these applications perform as intended. Incorrect SI operations directly and instantly affects Market Scheduling. In correct AMP operation affects mandated bid caps. Incorrect SI Operator operation affects the GRC's ability to facilitate the DA and HA markets. Incorrect Rational Buyer affects the procurement order of
12		**Congestion Management Activities**	The Market Integration team regression test and integration tests all changes, enhancements and fixes to SA (CONG) -- the primary tool used in the Congestion Management process. In addition, ETCs, FTR / SRS are taken into account into the determination of congestion	2		The Market Integration Test team assures these applications perform as intended. Incorrect CONG operation directly and instantly affects the calculation of congestion in all markets. Incorrect ETC's affect the determination of ATCs. Incorrect FTR/SRS operation affects daily owner, SC, and Branch group FTR information.
13		**Market Usage Activities**	The Market Integration team develops and integration tests all changes, enhancements and fixes to SA (ASM) -- the primary tool used to determine A/S bids and run the supplemental market. Oasis, the primary open access tool.	1		The Market Integration Test team assures these applications perform as intended. Incorrect ASM operation affects A/S bids. Incorrect Oasis operations affects SC's ability to schedule in the markets as well as impacts the ISO primary tenet of open access.
14		**Settlements, Metering and Client Relations**	A system is only as good as its users are aware and capable of its features and operations. The Market Integration team leads all Market Operations Simulations designed to educate participants on systems operations and changes.	0.5		The Market Integration Team is responsible for leading Market Simulations on SLIC, ALFS, BITS, IZ Tool, Osmosis, SI, (SI - AMP), SA, ADS, RMR (Real Time) and Oasis.
15		**Totals**		6		
16						
17						
18		**completed by:**	Steve Auradou	JMc		
19		**Date:**	12-Sep-03			

Exh. No. ISO- 10, Page 44 of 442

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Direct Assignments of Temporary/Contract Staff and Consultants	
2	This spreadsheet takes temporary/contract staff and consultant assignment templates by cost center and summarizes them for use in the newCAM.xls spreadsheet.	
3		
4		
5	**Sheet Index:**	Description
6	Direct %	Summary of direct assignments by cost center. Used in newCAM.xls spreadsheet
7	1521	Template for cost center specified
8	1542	Template for cost center specified
9	1543	Template for cost center specified
10	1544	Template for cost center specified
11	1545	Template for cost center specified
12	1546	Template for cost center specified
13	1547	Template for cost center specified
14	1548	Template for cost center specified
15	1549	Template for cost center specified
16	1554	Template for cost center specified
17	1555	Template for cost center specified
18	1558	Template for cost center specified
19	1559	Template for cost center specified
20	1561	Template for cost center specified
21	1562	Template for cost center specified
22	1563	Template for cost center specified
23	1564	Template for cost center specified

Exh. No. ISO- 10, Page 45 of 442

	A	B
24	1565	Template for cost center specified
25	1566	Template for cost center specified
26	1641	Template for cost center specified
27	1642	Template for cost center specified
28	1661	Template for cost center specified
29	1662	Template for cost center specified
30	1721	Template for cost center specified
31	1722	Template for cost center specified
32	1723	Template for cost center specified
33	1724	Template for cost center specified
34	1725	Template for cost center specified
35	1731	Template for cost center specified
36	1741	Template for cost center specified
37	1751	Template for cost center specified
38	1752	Template for cost center specified
39	1753	Template for cost center specified
40	1755	Template for cost center specified
41	1756	Template for cost center specified
42	1757	Template for cost center specified

Exh. No. ISO- 10, Page 46 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Temporary/Contract Staff and Consultants by Cost Center

CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1521	Grid Planning	0%	100%	0%	0%	0%	0%	100%
1542	Outage Coordination	0%	100%	0%	0%	0%	0%	100%
1543	Loads and Resources	0%	100%	0%	0%	0%	0%	100%
1544	Real-time Scheduling	0%	100%	0%	0%	0%	0%	100%
1545	Grid Operations	0%	100%	0%	0%	0%	0%	100%
1546	Reliability Coordinators	0%	100%	0%	0%	0%	0%	100%
1547	Engineering and Maintenance - General	0%	100%	0%	0%	0%	0%	100%
1548	OSAT General	0%	100%	0%	0%	0%	0%	100%
1549	Operations Training	0%	100%	0%	0%	0%	0%	100%
1554	Special Projects Engineering	0%	100%	0%	0%	0%	0%	100%
1555	Operations Support	0%	100%	0%	0%	0%	0%	100%
1558	Transmission Maintenance	0%	100%	0%	0%	0%	0%	100%
1559	Operations Applications Support	0%	100%	0%	0%	0%	0%	100%
1561	Operations Engineering South	0%	100%	0%	0%	0%	0%	100%
1562	Operations Engineering North	0%	100%	0%	0%	0%	0%	100%
1563	Operations Coordination	0%	100%	0%	0%	0%	0%	100%
1564	Scheduling Department Director	0%	100%	0%	0%	0%	0%	100%
1565	Scheduling Support	0%	100%	0%	0%	0%	0%	100%
1566	Regional Coordination	0%	100%	0%	0%	0%	0%	100%
1641	Market Analysis	0%	40%	0%	33%	27%	0%	100%
1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
1661	Compliance - General	15%	15%	5%	0%	40%	25%	100%
1662	Compliance - Audits	15%	15%	5%	0%	40%	25%	100%
1721	Billing & Settlements	25%	0%	0%	0%	0%	75%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	0%	100%	0%	0%	0%	0%	100%
1724	BBS Settlements - Preliminary Settlements	0%	0%	0%	0%	0%	100%	100%
1725	BBS Settlements - Final Settlements	0%	0%	0%	0%	0%	100%	100%

	A	B	C	D	E	F	G	H	I
1	California Independent System Operator 2004 GMC Cost Allocation								
2	**Allocation of Temporary/Contract Staff and Consultants by Cost Center**								
3	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
33	1731	Contracts & Special Projects	0%	50%	0%	0%	0%	50%	100%
34	1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
35	1751	Market Operations - General	0%	0%	0%	0%	100%	0%	100%
36	1752	Manager, Markets	0%	0%	0%	0%	100%	0%	100%
37	1753	Market Engineering	0%	0%	0%	0%	100%	0%	100%
38	1755	Business Solutions	0%	0%	0%	0%	100%	0%	100%
39	1756	Market Quality	0%	0%	0%	0%	0%	100%	100%
40	1757	Market Integration	0%	0%	0%	0%	100%	0%	100%
41									

Exh. No. ISO- 10, Page 48 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1521		
6			Grid Planning		
7					
8					
9			**Description of Activities**	**Percent of Contract**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Armey Perez		
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 49 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1542		
6			Outage Coordination		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	G. P. Van Pelt, Manager of Outage Coordination		
19		**Date:**	22-Aug-03		

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1543		
6			Loads and Resources		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Ron Calvert		
19		**Date:**	08/26/03		

Exh. No. ISO- 10, Page 51 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1544		
6			Real-time Scheduling		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18					
19					
20					
21		**completed by:**	Lonnie J. Rush		
22		**Date:**	4-Sep-03		

Exh. No. ISO- 10, Page 52 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1545		
6			Grid Operations		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 53 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1546		
6			Reliability Coordinators		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 54 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1547		
6			Engineering and Maintenance - General		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Pam Moore		
19		**Date:**	08/25/03		

Exh. No. ISO- 10, Page 55 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1548		
6			OSAT Director		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Deane Lyon		
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 56 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1549		
6			Operations Training		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Sanjay Dutta		
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 57 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1554		
6			Special Projects Engineering		
7					
8					
9			**Description of Activities**	**Percent of Contract**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18					
19					
20		**completed by:**			
21		**Date:**			

Exh. No. ISO- 10, Page 58 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1555		
6			Operations Support		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Tami Elliott		
19		**Date:**	25-Aug-03		

Exh. No. ISO- 10, Page 59 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1558		
6			Transmission Engineering and Maintenance		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Tom French		
19		**Date:**	19-Aug-03		

Exh. No. ISO- 10, Page 60 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1559		
6			Operations Applications Support		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Michael Iverson		
19		**Date:**	20-Aug-03		

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1561		
6			Operations Engineering South		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Chuck-yan Wu		
19		**Date:**	08/22/03		

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1562		
6			Operations Engineering North		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Ty Larson		
19		**Date:**	08/25/03		

Exh. No. ISO- 10, Page 63 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1563		
6			Operations Coordination		
7					
8					
9			**Description of Activities**	**Percent of Contract**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Deane Lyon/Kevin Graves		
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 64 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1564		
6			Scheduling Department Director		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Tracy R. Bibb		
19		**Date:**	4-Sep-03		

Exh. No. ISO- 10, Page 65 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1565		
6			Scheduling Support		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Robert E. Sullivan		
19		**Date:**	8-Sep-03		

Exh. No. ISO- 10, Page 66 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1566		
6			Regional Coordination		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 67 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1641		
6			Market Analysis		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		40%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**		33%	
14		**Market Usage Activities**		27%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Greg Cook/Pearl O'Connor		
19		**Date:**	26-Aug-03		

Exh. No. ISO- 10, Page 68 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1642		
6			Board of Governors		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**	1) Review and recommend changes to ISO rules and protocols to enhance system reliability; 2) Analyze intra-zonal congestion issues and recommend changes in practices as necessary; 3) Review RMR performance and recommend changes as necessary	25%	Promotes reliable operation and effective coordination with other control areas.
11		**Energy and Transmission Services Activities**	1) Perform economic evaluation of transmission capacity expansion; 2) Promote open access to the grid	25%	Promotes reliable operation and effective coordination with other control areas.
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**	1) Monitor and report on congestion management market performance; 2) Analyze market rules to identify potential inefficiencies or opportunities for gaming and market power; 3) Recommend changes to market design and market rules to enhance market efficiency	25%	Leads to more effective and efficient market structures that promote competitive outcomes.
14		**Market Usage Activities**	1) Monitor and report on market performance; 2) Investigate and report on potential gaming and market abuses; 3) Perform special studies on market efficiency, bidding behavior; 4) Design and develop market monitoring systems; 5) Develop new market rules or changes to market rules in response to market behavior; 6) Prepare and provide reports to regulatory authorities	25%	Satisfies FERC requirement for monitoring market performance. Leads to more effective and efficient market structures that promote competitive outcomes.
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 69 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1661		
6			Compliance - General		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**	Develop business rules and provide analysis supporting reliability services.	15%	Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
11		**Energy and Transmission Services Activities**	Develop business rules and provide analysis supporting reliability services.	15%	Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
12		**Forward Scheduling Activities**	Develop and maintain business rules required to monitor and analyze schedules.	5%	Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
13		**Congestion Management Activities**			
14		**Market Usage Activities**	Develop business rules and procedures required to document investigations and publish compliance reports.	40%	Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
15		**Settlements, Metering and Client Relations**	Develop business rules and applications required to document investigations and publish compliance reports.	25%	Delivery of reliability services and fulfillment of other obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 70 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1662		
6			Compliance Audits		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**	Same as 1661	15%	
11		**Energy and Transmission Services Activities**		15%	
12		**Forward Scheduling Activities**		5%	
13		**Congestion Management Activities**			
14		**Market Usage Activities**		40%	
15		**Settlements, Metering and Client Relations**		25%	
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 71 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1721		
6			Billing and Settlements		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**		25%	
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		75%	
16					
17					
18		**completed by:**			
19		**Date:**			

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	**Business Development Support**		
6			**1722**		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		**100%**	
16					
17					
18		**completed by:**	Christine Vangelatos		
19		**Date:**	3-Sep-03		

Exh. No. ISO- 10, Page 73 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1723		
6			Tariff and Contract Implementation		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		100%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Catherine Bodine		
19		**Date:**	13-Aug-03		

Exh. No. ISO- 10, Page 74 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1724		
6			Settlements and Billing - Preliminary Settlements		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		100%	
16					
17					
18		**completed by:**	Masoud Shafa		
19		**Date:**	13-Aug-03		

Exh. No. ISO- 10, Page 75 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1725		
6			Settlements and Billing - Final Settlements		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		100%	
16					
17					
18		**completed by:**	Brad Bouillon		
19		**Date:**	13-Aug-03		

Exh. No. ISO- 10, Page 76 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1731		
6			Contracts and Special Projects		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**		50%	
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		50%	
16					
17					
18		**completed by:**	Debi Le Vine		
19		**Date:**	3-Sep-03		

Exh. No. ISO- 10, Page 77 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1741		
6			Client Relations		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		100%	
16					
17					
18		**completed by:**	Dave Timson / Jacquie DeRosa		
19		**Date:**	20-Aug-03		

Exh. No. ISO- 10, Page 78 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1751		
6			Market Operations - Director		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**		100%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**			
19		**Date:**			

Exh. No. ISO- 10, Page 79 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1752		
6			Manager, Markets		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**		100%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**Completed by:**	Jack Bellnap	JMc	
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 80 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1753		
6			Market Engineering		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**		100%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Brian Rahman	JMc	
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 81 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1755		
6			Business Solutions		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**		100%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Benik DerGevorgian	JMc	
19		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 82 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1756		
6			Market Quality		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**			
15		**Settlements, Metering and Client Relations**		100%	
16					
17					
18		**completed by:**	Nancy Traweek		
19		**Date:**	12-Sep-03		

Exh. No. ISO- 10, Page 83 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Assignment of Temporary/Contract Staff and Consultants to Cost Center**			
3					
4					
5		**For Cost Center:**	1757		
6			Market Integration		
7					
8					
9			**Description of Activities**	**Percent of Contract Costs**	**Justification**
10		**Core Reliability Services Activities**			
11		**Energy and Transmission Services Activities**			
12		**Forward Scheduling Activities**			
13		**Congestion Management Activities**			
14		**Market Usage Activities**		100%	
15		**Settlements, Metering and Client Relations**			
16					
17					
18		**completed by:**	Steve Auradou	JMc	
19		**Date:**	12-Sep-03		

Exh. No. ISO- 10, Page 84 of 442

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses	
2	This spreadsheet allocates expenditures in cost center 1424 to systems, utilizing detailed analysis of expenditures for hardware, leases, software maintenance and system use.	
3		
4		
5	**Sheet Index:**	Description
6	Summary	Summary of allocations to systems
7	1424-GMC	Detailed allocation of expenditures to systems
8	hw mtc - ongoing annual est.	Worksheet showing estimated annual cost of hardware maintenance
9	hw mtc end of lease	Worksheet showing estimated cost of hardware lease buyouts
10	Leases	Worksheet showing estimated lease buyout costs
11	software maint.	Worksheet showing software maintenance costs
12	Talarian-TIBCO sw	Worksheet showing allocation of programming software costs to systems
13	EMC Storage Allocation	Worksheet showing allocation of EMC costs to systems

Exh. No. ISO- 10, Page 85 of 442

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses		
2		Allocation of Cost Center Activities to Systems		
3				
4		Cost Center Name	Asset Management	
5		Cost Center Number	1424	
6				
7			Description of Activities	Percent of total activity
8		ACC Upgrades (Communication between ISO & IOUs)		0.00%
9		Ancillary Services Management (ASM) Component of SA		0.00%
10		Application Development Tools		1.40%
11		Automated Dispatch System (ADS)		1.47%
12		Automated Load Forecast System (ALFS)		0.33%
13		Automatic Mitigation Procedure (AMP)		0.00%
14		Backup systems (Legato/Quantum)		2.75%
15		Balance of Business Systems (BBS)		9.23%
16		Balancing Energy Ex Post Price (BEEP) Component of SA		0.00%
17		Bill's Interchange Schedule (BITS)		0.48%
18		CaseWise (process modeling tool)		0.15%
19		CHASE		3.57%
20		Common Information Model (CIM)		0.00%
21		Compliance (Blaze)		0.33%
22		Congestion Management (CONG) Component of SA		0.00%
23		Congestion Reform-DSOW		0.00%
24		Congestion Revenue Rights (CRR)		0.00%
25		DataWarehouse		5.55%
26		Dept. of Market Analysis Tools (SAS/MARS)		1.06%
27		Dispute Tracking System (Remedy)		0.00%
28		Documentum		1.45%
29		Electronic Tagging (Etag)		1.02%
30		Energy Management System (EMS)		10.18%
31		Engineering Analysis Tools		0.15%
32		Evaluation of Market Separation		0.00%
33		Existing Transmission Contracts Calculator (ETCC)		0.00%
34		FERC Study Software		0.00%
35		Firm Transmission Right (FTR) and Secondary Registration System (SRS)		2.89%
36		Global Resource Reliability Management Application (GRRMA)		0.05%
37		Grid Operations Training Simulator (GOTS)		0.00%
38		Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%
39		Human Resources		0.68%
40		IBM Contract		0.00%

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses		
2		Allocation of Cost Center Activities to Systems		
3				
4		Cost Center Name	Asset Management	
5		Cost Center Number	1424	
6				
7			Description of Activities	Percent of total activity
41		Integrated Forward Market (IFM)		0.00%
42		Internal Development		0.00%
43		Interzonal Congestion Management reform - Real Time		0.00%
44		Land and Building Costs		0.00%
45		Local Area Network (LAN)		0.00%
46		Locational Marginal Pricing (LMPM)		0.10%
47		Market Transaction System (MTS)		0.00%
48		Masterfile		0.00%
49		MD 02 Capital		0.00%
50		Meter Data Acquisition System (MDAS)		1.14%
51		Miscellaneous (2004 related capital)		18.36%
52		Monitoring (Tivoli)		0.60%
53		New Resource Interconnection (NRI)		0.00%
54		New System Equipment (replacement of owned equipment)		0.00%
55		NT/web servers		1.27%
56		NT-servers		0.55%
57		Oracle Enterprise Manager (OEM)		0.00%
58		Office Automation - desktop/laptop (OA)		13.01%
59		Office equipment (scanner, printer, copier, fax, Communication Equip.)		1.42%
60		Open Access Same Time Information System (OASIS)		3.12%
61		Operational Meter Analysis and Reporting (OMAR)		1.50%
62		Oracle Corporate Financials		0.19%
63		Oracle Licenses		3.79%
64		Oracle Market Financials BBS		0.00%
65		Out of Sequence Market Operation Settlements Information System (OOS)		0.00%
66		Outage Scheduler (OS)		0.00%
67		Participating Intermittent Resource Project (PIRP)		0.00%
68		Physical Facilities Software Application/Furniture/Leasehold Improvements		0.02%
69		Process Information System (PI)		0.66%
70		Rational Buyer Component of ASM		0.00%
71		Real Time Energy Dispatch System (REDS)		0.00%
72		Real Time Nodal Market		0.00%
73		Reliability Management System (RMS)		0.00%

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses		
2		Allocation of Cost Center Activities to Systems		
3				
4		Cost Center Name	Asset Management	
5		Cost Center Number	1424	
6				
7			Description of Activities	Percent of total activity
74		Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)		0.39%
75		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)		0.16%
76		Resource Register (RR)		0.00%
77		RMR Application Validation Engine (RAVE)		0.15%
78		Scheduling & Logging for ISO California (SLIC)		0.40%
79		Scheduling Architecture (SA)		1.23%
80		Scheduling Infrastructure (SI)		2.97%
81		Scheduling Infrastructure Business Rules (SIBR)		0.00%
82		Security Constrained Economic Dispatch (SCED)		1.99%
83		Security- External/Physical		0.15%
84		Security-ISS (CUDA)		2.68%
85		Settlements and Market Clearing		0.00%
86		Sign Board (Symon Board maint.)		0.02%
87		Startup Costs through 3/31/98, Working Capital-3 months		0.00%
88		Storage (EMC symmetrix)		0.00%
89		System Equipment Buyouts (lease buyouts)		0.00%
90		Telephone/PBX		0.00%
91		Training Systems		0.05%
92		Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation		0.00%
93		Transmission Map Plotting & Display		0.04%
94		Trustee Costs, Interest-Capitalized, User Groups		0.00%
95		Utilities - System i.e. Print drivers		0.13%
96		Vitria (Middleware)		0.27%
97		Wide Area Network (WAN)		0.87%
98				100.00%

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1424 Expenses

Allocation of Cost Center Activities to Systems

	B	C	D	E	F	G	H	I	J	K	L	M
3	Cost Center Name	Asset Management										
4	Cost Center #	1424										
5												
6		Equipment Leases	Hardware Maintenance Ongoing	- eol/eol	- capital projects	Software Maintenance	Software	Hardware	Oracle	Storage EMC	Totals	Percent of Total
7				$6,618,000					Reallocation	Reallocation		
8	$ in annual costs for 2004	$3,615,000	$3,279,350	$2,600,000	$1,250,000	$8,360,743	$171,808	$131,873			$19,408,774	100.0%
9	Ancillary Services Management (ASM) Part of SA											0.0%
10	App Development Tools		$ 10,144.73			$261,495					$271,640	1.4%
11	Automated Dispatch System (ADS)	$2,735	$ 226,365.57	$ 6,430.50		$37,109				$12,480	$285,120	1.5%
12	Automated Load Forecast System (ALFS)	$8,967		$ 2,693.02		$21,600				$31,200	$64,460	0.3%
13	Automatic Mitigation Procedure (AMP)											0.0%
14	Backup systems (Legato/Veritas)	$78,219	$ 118,629.88	$ 55,433.69		$281,735					$534,018	2.8%
15	Balance of Business Systems (BBS)	$172,937	$ 121,283.67	$ 113,351.97		$386,315				$998,408	$1,792,296	9.2%
16	Balancing Energy Ex Post Price (BEEP) Part of SA											0.0%
17	Bill's Interchange Schedule (BITS)		$ 43,003.02			$30,078				$19,968	$93,049	0.5%
18	CaseWise (process modeling tool)					$29,300					$29,300	0.2%
19	CHASE					$692,500					$692,500	3.6%
20	Compliance (Blaze)					$64,072					$64,072	0.3%
21	Congestion Management (CONG) Part of SA											0.0%
22	Congestion Revenue Rights (CRR)											0.0%
23	DataWarehouse	$1,221	$ 15,394.40			$162,425				$898,567	$1,077,607	5.6%
24	Dept. of Market Analysis Tools (SAS/MARS)	$46,247	$ 39,800.00	$ 42,027.76		$78,525					$206,599	1.1%
25	Dispute Tracking System (Remedy)											0.0%
26	Documentum		$ 34,414.87			$119,000				$128,961	$282,376	1.5%
27	Electronic Tagging (Etag)	$9,654	$ 90,620.88	$16,909		$80,000					$197,184	1.0%
28	Energy Management System (EMS)	$283,468	$ 27,485.20	$ 596,099.39		$1,069,340					$1,976,392	10.2%
29	Engineering Analysis Tools					$14,800				$14,976	$29,776	0.2%
30	Existing Transmission Contracts Calculator (ETCC)											0.0%
31	Firm Transmission Right (FTR) and Secondary Registration System (SRS)		$ 539,712.50							$20,800	$560,513	2.9%
32	Global Resource Reliability Management Application (GRRMA)					$8,984					$8,984	0.0%
33	Grid Operations Training Simulator (GOTS)											0.0%
34	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,											0.0%
35	Human Resources	$3,891	$ 7,937.04	$ 9,240.15		$110,000					$131,068	0.7%
36	Integrated Forward Market (IFM)											0.0%
37	Local Area Network (LAN)											0.0%
38	Locational Marginal Pricing (LMPM)					$18,810					$18,810	0.1%
39	Market Transaction System (MTS)											0.0%
40	Masterfile											0.0%
41	Meter Data Acquisition System (MDAS)		$ 87,497.32	$756		$133,540					$221,793	1.1%
42	Miscellaneous	($62,744)	$ 459,456.77	$773,832	$1,250,000	$838,881	$171,808	$131,873			$3,563,107	18.4%
43	Monitoring (Tivoli)		$ 13,004.60			$102,900					$115,905	0.6%
44	NT/web servers		$ 113,609.08			$132,510					$246,119	1.3%
45	NT-servers	$27,592	$ 51,981.70	$13,848		$12,950					$106,372	0.5%
46	OEM											0.0%
47	Office Automation - desktop/laptop (OA)	$257,578	$ 609,237.66	$142,950		$829,795				$686,405	$2,525,966	13.0%
48	Office equipment (scanner, printer, copier, fax)	$142,103	$ 92,693.04	$ 40,601.49							$275,398	1.4%
49	Open Access Same Time Information System (OASIS)	$5,390	$ 213,708.70	$7,204		$174,956				$203,842	$605,100	3.1%
50	Operational Meter Analysis and Reporting (OMAR)	$101,550				$39,240				$149,761	$290,551	1.5%
51	Oracle Corporate Financials		$ 36,934.79								$36,935	0.2%
52	Oracle Licenses					$736,500					$736,500	3.8%

Exh. No. ISO- 10, Page 89 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1424 Expenses

Allocation of Cost Center Activities to Systems

Cost Center Name: Asset Management
Cost Center #: 1424

	B	C	D	E	F	G	H	I	J	K	L	M
6		Equipment Leases	Hardware Maintenance Ongoing - eol/eol - capital projects			Software Maintenance	Software	Hardware	Oracle	Storage EMC	Totals	Percent of Total
7			$6,618,000						Reallocation	Reallocation		
53	Oracle Market Financials BBS											
54	Out of Sequence Market Operation Settlements Information System (OOS)											0.0%
55	Outage Scheduler (OS)											0.0%
56	Physical Facilities Software Application					$3,727					$3,727	0.0%
57	Process Information System (PI)	$14,738	$ 27,206.40	$ 19,026.60		$67,145					$128,116	0.7%
58	Rational Buyer											0.0%
59	Real Time Nodal Market											0.0%
60	Reliability Management System (RMS)										$0	0.0%
61	Remedy	$8,494	$ 55,361.57	$ 3,426.20		$8,470					$75,751	0.4%
62	Remote Intelligence Gateway (RIG) & DPG's					$30,225					$30,225	0.2%
63	RMR Application Validation Engine:(RAVE)	$3,782	$ 3,393.11	$8,894		$13,500					$29,569	0.2%
64	Scheduling & Logging for ISO California (SLIC)	$29,562		$ 22,271.96		$10,000				$16,640	$78,474	0.4%
65	Scheduling Architecture (SA)		$ 47,643.67			$175,000				$16,640	$239,284	1.2%
66	Scheduling Infrastructure (SI)		$ 47,643.67			$175,000				$353,603	$576,246	3.0%
67	Scheduling Infrastructure Business Rules (SIBR)											0.0%
68	Security Constrained Economic Dispatch (SCED)									$386,883	$386,883	2.0%
69	Security- External/Physical					$30,000					$30,000	0.2%
70	Security-ISS (CUDA)	$1,756	$ 145,186.18	$ 4,692.81		$368,530					$520,165	2.7%
71	Settlements and Market Clearing											0.0%
72	Sign Board (Symon Board maint.)					$4,400					$4,400	0.0%
73	Storage (EMC symmetrix)	$2,367,941		$667,682		$981,720				($4,017,343)	$0	0.0%
74	Telephone/PBX											0.0%
75	Training Systems					$10,090					$10,090	0.1%
76	Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation											0.0%
77	Transmission Map Plotting & Display					$8,300					$8,300	0.0%
78	Utilities - System ie Print drivers									$24,960	$24,960	0.1%
79	Vitria (Middleware)									$53,248	$53,248	0.3%
80	Wide Area Network (WAN)	$109,920		$ 52,629.53		$7,275					$169,825	0.9%
81												
82		$3,615,000	$ 3,279,350.00	$2,600,000	$1,250,000	$8,360,743	$171,808	$131,873		$0	$19,408,774	100.0%
83												
84	completed by:											
85	Date:											

	B	G	H	S	T	U
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Hardware Maintenance Expenditure Worksheet				
3		SYSTEM	Description			
4	032	ADS		$ 32,498.47		
5	055	ADS		$ 6,016.00		
6	027	ADS		$ 11,064.51		
7	035	ADS		$ 168,470.59		
8	054	ADS		$ 8,316.00	$ 226,365.57	
9	002	BACKUP		$ 38,400.00		
10	026	BACKUP		$ 1,932.80		
11	079	BACKUP		$ 19,459.79		
12	080	BACKUP		$ 43,462.80		
13	100	BACKUP		$ 498.20		
14	196	BACKUP		$ 14,876.29	$ 118,629.88	
15	003	BBS		$ 78,000.00		
16	004	BBS		$ 9,541.20		
17	103	BBS		$ 4,240.00		
18	010	BBS		$ 23,821.83		
19	036	BBS		$ 5,680.64	$ 121,283.67	
20	108	BITS		$ 28,137.07		
21	109	BITS		$ 14,865.95	$ 43,003.02	
22	001	DMA		$ 39,000.00		
23	005	DMA		$ 800.00	$ 39,800.00	
24	072	DOC		$ 19,910.75		
25	073	DOC		$ 10,940.52		
26	083	DOC		$ 1,574.80		
27	116	DOC		$ 1,061.20		
28	031	DOC		$ 927.60	$ 34,414.87	
29	136	DW		$ 15,394.40	$ 15,394.40	
30	008	EMS		$ 24,302.04		
31	094	EMS		$ 3,183.16	$ 27,485.20	
32	084	ETAG		$ 5,440.40		
33	085	ETAG		$ 4,192.39		
34	117	ETAG		$ 10,720.73		
35	118	ETAG		$ 5,360.36		
36	119	ETAG		$ 21,314.60		
37	120	ETAG		$ 11,143.60		
38	121	ETAG		$ 5,177.80		
39	122	ETAG		$ 5,177.80		
40	125	ETAG		$ 2,225.40		
41	143	ETAG		$ 10,410.00		
42	144	ETAG		$ 9,457.80	$ 90,620.88	
43	111	FINANCIAL		$ 17,438.41		
44	112	FINANCIAL		$ 6,846.83		
45	113	FINANCIAL		$ 12,649.56	$ 36,934.79	
46	081	HR		$ 2,694.20		
47	086	HR		$ 5,242.84	$ 7,937.04	
48	095	MDAS		$ 476.80		
49	010	MDAS		$ 23,821.83		
50	037	MDAS		$ 8,713.40		
51	019	MDAS		$ 8,899.40		
52	042	MDAS		$ 26,184.63		
53	048	MDAS		$ 12,265.77		
54	053	MDAS		$ 7,135.49	$ 87,497.32	
55	024	MONITOR		$ 13,004.60	$ 13,004.60	
56	040	NT		$ 7,448.80		
57	068	NT		$ 19,165.00		
58	126	NT		$ 2,023.20		
59	140	NT		$ 7,420.40		
60	017	NT		$ 10,050.50		
61	050	NT		$ 3,157.60		
62	082	NT		$ 1,885.20		

	B	G	H	S	T	U
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Hardware Maintenance Expenditure Worksheet				
3		SYSTEM	Description			
63	160	NT		$ 413.40		
64	161	NT		$ 417.60	$ 51,981.70	
65	007	NT/WEB		$ 75,303.50		
66	057	NT/WEB		$ 1,533.00		
67	069	NT/WEB		$ 14,485.69		
68	070	NT/WEB		$ 14,485.69		
69	133	NT/WEB		$ 2,924.00		
70	134	NT/WEB		$ 2,924.00		
71	101	NT/WEB		$ 1,953.20	$ 113,609.08	
72	014	OA		$ 87,475.00		
73	062	OA		$ 29,502.00		
74	063	OA		$ 12,459.00		
75	076	OA		$ 94,688.20		
76	012	OA		$ 15,231.60		
77	058	OA		$ 853.60		
78	087	OA		$ 26,846.70		
79	043	OA		$ 19,676.00		
80	047	OA		$ 17,376.40		
81	097	OA		$ 17,575.00		
82	099	OA		$ 49,460.00		
83	060	OA		$ 15,242.80		
84	061	OA		$ 8,897.40		
85	132	OA		$ 42,389.60		
86	141	OA		$ 4,015.00		
87	146	OA		$ 63,662.60		
88	147	OA		$ 30,422.40		
89	148	OA		$ 25,448.92		
90	149	OA		$ 13,001.76		
91	164	OA		$ 18,810.00		
92	165	OA		$ 11,099.48		
93	139	OA		$ 1,498.60		
94	025	OA		$ 3,605.60	$ 609,237.66	
95	092	OASIS		$ 15,359.04		
96	093	OASIS		$ 7,679.52		
97	090	OASIS		$ 40,400.89		
98	091	OASIS		$ 22,384.65		
99	104	OASIS		$ 60,628.00		
100	105	OASIS		$ 60,628.00		
101	127	OASIS		$ 643.20		
102	131	OASIS		$ 5,985.40	$ 213,708.70	
103	016	OFFICE		$ 9,275.20		
104	049	OFFICE		$ 3,041.00		
105	051	OFFICE		$ 7,627.04		
106	056	OFFICE		$ 3,480.00		
107	052	OFFICE		$ 9,269.20		
108	074	OFFICE		$ 13,901.00		
109	077	OFFICE		$ 12,717.00		
110	088	OFFICE		$ 4,349.80		
111	098	OFFICE		$ 4,816.00		
112	106	OFFICE		$ 14,901.80		
113	130	OFFICE		$ 459.00		
114	135	OFFICE		$ 459.00		
115	137	OFFICE		$ 8,397.00	$ 92,693.04	
116	102	Development		$ 7,183.33	Oracle Database Management	
117	107	Development		$ 1,361.40		
118	114	Development		$ 1,600.00	$ 10,144.73	
119	018	PI		$ 7,821.00		
120	044	PI		$ 11,867.40		
121	096	PI		$ 7,518.00	$ 27,206.40	

	B	G	H	S	T	U
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Hardware Maintenance Expenditure Worksheet				
3		SYSTEM	Description			
122	078	RAVE		$ 3,393.11	$ 3,393.11	
123	075	REMEDY		$ 1,587.43		
124	038	REMEDY		$ 25,458.03		
125	039	REMEDY		$ 23,243.29		
126	192	REMEDY		$ 3,615.42		
127	129	REMEDY		$ 1,457.40	$ 55,361.57	
128	010	SA		$ 47,643.67	$ 47,643.67	
129	020	SECURITY		$ 12,646.40		
130	033	SECURITY		$ 36,669.30		
131	034	SECURITY		$ 18,946.27		
132	045	SECURITY		$ 4,838.60		
133	046	SECURITY		$ 3,591.80		
134	071	SECURITY		$ 7,617.30		
135	089	SECURITY		$ 5,689.00		
136	015	SECURITY		$ 50,538.77		
137	115	SECURITY		$ 4,648.74	$ 145,186.18	
138	010	SI		$ 47,643.67	$ 47,643.67	
139	128	SRS		$ 643.20		
140	011	SRS		$ 146,693.04		
141	013	SRS		$ 20,612.18		
142	021	SRS		$ 34,272.50		
143	022	SRS		$ 32,841.61		
144	028	SRS		$ 14,269.27		
145	029	SRS		$ 33,079.87		
146	030	SRS		$ 16,213.15		
147	066	SRS		$ 82,539.86		
148	067	SRS		$ 158,547.83	$ 539,712.50	
149				$ 2,819,893.23	$ 2,819,893.23	
150				$ 459,456.77	unallocated O&M budgeted for	
151				$ 3,279,350.00		

	A	B	E	F	G	P	U
1			California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		**Compaq / Digital Financial Services Lease Refresh Schedule**					
3							
4	Schedule		Total Sch. Amt	Sch. Rate	System	Projected maintenance on lease buyout based on annual renewal @ 15% of orig equip cost (col E)	
5	6741800-	155	$ 42,870.00	2.9600%	ADS	$ 6,430.50	$ 6,430.50
6	6741800-	191	$ 8,976.73	3.9287%	ALFS	$ 1,346.51	
7	6741800-	198	$ 8,976.73	3.9287%	ALFS	$ 1,346.51	$ 2,693.02
8	6741800-	193	$ 25,148.00	3.9286%	BACKUP	$ 3,772.20	
9	6741800-	194	$ 45,666.40	3.9287%	BACKUP	$ 6,849.96	
10	6741800-	195	$ 49,786.55	3.9287%	BACKUP	$ 7,467.98	
11	6741800-	199	$ 37,624.61	3.9287%	BACKUP	$ 5,643.69	
12	6741800-	200	$ 211,332.40	3.9287%	BACKUP	$ 31,699.86	$ 55,433.69
13	6741800-	167	$ 85,596.58	3.0392%	BBS	$ 12,839.49	
14	6741800-	168	$ 106,585.00	3.0905%	BBS	$ 15,987.75	
15	6741800-	172	$ 106,585.00	3.0905%	BBS	$ 15,987.75	
16	6741800-	173	$ 92,967.58	3.0392%	BBS	$ 13,945.14	
17	6741800-	171	$ 40,593.11	3.0915%	BBS	$ 6,088.97	
18	6741800-	202	$ 191,305.10	3.8919%	BBS	$ 28,695.77	
19	6741800-	176	$ 35,968.00	3.0915%	BBS	$ 5,395.20	
20	6741800-	177	$ 96,079.42	3.0392%	BBS	$ 14,411.91	$ 113,351.97
21	6741800-	169	$ 123,248.06	3.0393%	DMA	$ 18,487.21	
22	6741800-	170	$ 156,937.00	3.0829%	DMA	$ 23,540.55	$ 42,027.76
23	6741800-	159	$ 3,947,895.90	3.0312%	EMS	$ 592,184.39	
24	6741800-	207	$ 26,100.00	3.8390%	EMS	$ 3,915.00	$ 596,099.39
25	6741800-	142	$ 91,707.79	2.9310%	ETAG	$ 13,756.17	
26	6741800-	205	$ 21,022.00	3.4093%	ETAG	$ 3,153.30	$ 16,909.47
27	6741800-	182	$ 5,038.00	2.9981%	MDAS	$ 755.70	$ 755.70
28	6741800-	150	$ 61,601.00	2.9309%	HR	$ 9,240.15	$ 9,240.15
29	6741800-	189	$ 9,678.00	3.8390%	NT	$ 1,451.70	
30	6741800-	184	$ 11,319.00	2.9984%	NT	$ 1,697.85	
31	6741800-	163	$ 4,220.00	2.9620%	NT	$ 633.00	
32	6741800-	208	$ 12,668.40	3.9287%	NT	$ 1,900.26	
33	6741800-	209	$ 6,334.20	3.9287%	NT	$ 950.13	
34	6741800-	210	$ 19,124.96	3.9287%	NT	$ 2,868.74	
35	6741800-	181	$ 28,977.00	2.9981%	NT	$ 4,346.55	$ 13,848.23
36	1350450-	001	$ 96,492.00	3.1920%	OA	$ 14,473.80	
37	514	002	$ 182,595.00	3.4590%	OA	$ 27,389.25	
38	514	007	$ 64,150.00	3.5682%	OA	$ 9,622.50	
39	1350450-	002	$ 82,140.00	3.3236%	OA	$ 12,321.00	
40	6741800-	219	$ 196,650.00	3.5156%	OA	$ 29,497.50	
41	1350450-	003	$ 80,250.00	3.3271%	OA	$ 12,037.50	
42	6741800-	178	$ 56,176.55	3.3371%	OA	$ 8,426.48	
43	6741800-	179	$ 76,550.00	3.4206%	OA	$ 11,482.50	
44	6741800-	183	$ 43,695.35	3.4494%	OA	$ 6,554.30	
45	6741800-	185	$ 74,300.00	3.4208%	OA	$ 11,145.00	$ 142,949.84
46	6741800-	187	$ 48,025.21	3.4718%	OASIS	$ 7,203.78	$ 7,203.78
47	6741800-	151	$ 24,339.00	2.9600%	OFFICE	$ 3,650.85	
48	6741800-	152	$ 5,763.00	2.9603%	OFFICE	$ 864.45	
49	6741800-	153	$ 21,225.60	2.9599%	OFFICE	$ 3,183.84	
50	6741800-	156	$ 63,960.00	2.9601%	OFFICE	$ 9,594.00	
51	6741800-	188	$ 2,295.00	3.4678%	OFFICE	$ 344.25	
52	6741800-	166	$ 108,940.00	3.0737%	OFFICE	$ 16,341.00	
53	6741800-	201	$ 19,749.00	3.4678%	OFFICE	$ 2,962.35	
54	6741800-	206	$ 19,749.00	3.4678%	OFFICE	$ 2,962.35	
55	6741800-	180	$ 4,656.00	2.9981%	OFFICE	$ 698.40	$ 40,601.49
56	6741800-	157	$ 47,146.00	2.9310%	PI	$ 7,071.90	

	A	B	E	F	G	P	U
1			California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		**Compaq / Digital Financial Services Lease Refresh Schedule**					
3							
4	Schedule		Total Sch. Amt	Sch. Rate	System	Projected maintenance on lease buyout based on annual renewal @ 15% of orig equip cost (col E)	
57	6741800-	204	$ 12,200.00	3.9707%	PI	$ 1,830.00	
58	6741800-	158	$ 13,992.00	2.9452%	PI	$ 2,098.80	
59	6741800-	190	$ 53,506.00	3.4093%	PI	$ 8,025.90	$ 19,026.60
60	6741800-	154	$ 59,292.00	2.9600%	RAVE	$ 8,893.80	$ 8,893.80
61	6741800-	197	$ 22,841.35	3.9287%	REMEDY	$ 3,426.20	$ 3,426.20
62	6741800-	162	$ 12,024.00	3.0667%	Security	$ 1,803.60	
63	6741800-	145	$ 19,261.39	2.7201%	Security	$ 2,889.21	$ 4,692.81
64	6741800-	174	$ 61,512.00	3.0737%	SLIC	$ 9,226.80	
65	6741800-	175	$ 86,967.75	3.0737%	SLIC	$ 13,045.16	$ 22,271.96
66	12033-	001	$ 1,671,010.00	2.0142%	STORAGE		
67	12033-	002	$ 1,628,990.00	2.0142%	STORAGE		
68	12033-	003	$ 35,372.00	2.1712%	STORAGE		
69	12033-	004	$ 15,600.00	2.1667%	STORAGE		
70	12033-	005	$ 35,000.00	2.2800%	STORAGE		
71	12033-	006	$ 35,000.00	2.2800%	STORAGE		
72	12033-	007	$ 190,000.00	2.4274%	STORAGE		
73	12033-	008	$ 190,000.00	2.4274%	STORAGE		
74	12033-	009	$ 144,400.00	2.5727%	STORAGE		
75	12033-	010	$ 235,600.00	2.5730%	STORAGE		
76	12033-	011	$ 473,899.00	2.6647%	STORAGE	$ 71,084.85	
77	12033-	012	$ 350,641.00	2.6648%	STORAGE	$ 52,596.15	
78	12033-	013	$ 167,200.00	2.8212%	STORAGE	$ 25,080.00	
79	12033-	014	$ 70,000.00	3.0914%	STORAGE	$ 10,500.00	
80	12033-	015	$ 1,213,589.00	2.8950%	STORAGE	$ 182,038.35	
81	12033-	016	$ 1,352,060.00	2.8950%	STORAGE	$ 202,809.00	
82	12033-	017	$ 13,760.00	3.0814%	STORAGE	$ 2,064.00	
83	12033-	018	$ 58,400.00	3.5582%	STORAGE	$ 8,760.00	
84	12033-	019	$ 119,231.00	3.5452%	STORAGE	$ 17,884.65	
85	12033-	020	$ 194,000.00	3.3680%	STORAGE	$ 29,100.00	
86	12033-	021	$ 225,000.00	3.3400%	STORAGE	$ 33,750.00	
87	12033-	023	$ 18,100.00	3.7569%	STORAGE	$ 2,715.00	
88	12033-	024	$ 18,100.00	3.7569%	STORAGE	$ 2,715.00	
89	514	001	$ 177,232.00	2.9989%	STORAGE	$ 26,584.80	$ 667,681.80
90	6741800-	203	$ 24,667.50	4.0593%	WAN	$ 3,700.13	
91	6741800-	186	$ 326,196.00	3.3043%	WAN	$ 48,929.40	$ 52,629.53
92						$ 1,826,167.68	$ 1,826,167.68

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1424 Expenses

Compaq / Digital Financial Services Lease Refresh Schedule

	A	B	G	H	O	P	Q	U
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)	2004: Lease payment assuming CAP buyout at end of lease (potential expense through end of lease.)	
5	6741800-	155	ADS		2/28/2004	$ 8,574.00	$ 2,734.59	$ 2,734.59
6	6741800-	191	ALFS		5/31/2004	$ 1,795.35	$ 1,908.80	
7	6741800-	198	ALFS		5/31/2004	$ 1,795.35	$ 1,899.98	
8	514	008	ALFS		3/31/2005	$ 2,605.20	$ 5,158.20	$ 8,966.98
9	6741800-	193	BACKUP		5/31/2004	$ 5,029.60	$ 5,322.72	
10	6741800-	194	BACKUP		5/31/2004	$ 9,133.28	$ 9,665.61	
11	6741800-	195	BACKUP		5/31/2004	$ 9,957.31	$ 10,537.65	
12	6741800-	199	BACKUP		5/31/2004	$ 7,524.92	$ 7,963.51	
13	6741800-	200	BACKUP		5/31/2004	$ 42,266.48	$ 44,729.96	$ 78,219.45
14	6741800-	167	BBS		5/31/2004	$ 17,119.32	$ 14,015.16	
15	6741800-	168	BBS		5/31/2004	$ 21,317.00	$ 17,746.61	
16	6741800-	172	BBS		5/31/2004	$ 21,317.00	$ 17,828.96	
17	6741800-	173	BBS		5/31/2004	$ 18,593.52	$ 15,292.68	
18	6741800-	171	BBS		5/31/2004	$ 8,118.62	$ 6,792.35	
19	6741800-	202	BBS		5/31/2004	$ 38,261.02	$ 40,111.66	
20	6741800-	176	BBS		6/30/2004	$ 7,193.60	$ 7,188.75	
21	6741800-	177	BBS		6/30/2004	$ 19,215.88	$ 18,877.86	
22	6741800-	211	BBS		1/31/2005	$ 6,481.60	$ 12,973.57	
23	6741800-	212	BBS		1/31/2005	$ 6,480.10	$ 13,030.92	
24	6741800-	222	BBS		6/30/2005	$ 4,237.62	$ 9,078.67	$ 172,937.20
25	6741800-	223	DW		6/30/2005	$ 615.20	$ 1,220.85	$ 1,220.85
26	6741800-	169	DMA		5/31/2004	$ 24,649.61	$ 20,181.05	
27	6741800-	170	DMA		5/31/2004	$ 31,387.40	$ 26,065.64	$ 46,246.70
28	6741800-	159	EMS		3/31/2004	$ 789,579.18	$ 280,228.86	
29	6741800-	207	EMS		3/31/2004	$ 5,220.00	$ 3,238.89	$ 283,467.75
30	6741800-	142	ETAG		2/28/2004	$ 18,341.56	$ 5,792.53	
31	6741800-	205	ETAG		5/31/2004	$ 4,204.40	$ 3,861.24	$ 9,653.77
32	6741800-	182	MDAS		8/31/2004	$ 1,007.60	$ 1,302.02	
33	6741800-	226	MDAS/OMAR		8/31/2005	$ 16,758.15	$ 32,250.92	
34	6741800-	227	MDAS/OMAR		8/31/2005	$ 1,179.20	$ 2,394.19	
35	6741800-	225	MDAS/OMAR		10/31/2005	$ 34,246.50	$ 65,602.42	$ 101,549.56
36	6741800-	150	HR		2/28/2004	$ 12,320.20	$ 3,890.81	$ 3,890.81
37	6741800-	189	NT		2/28/2004	$ 1,935.60	$ 800.67	
38	6741800-	184	NT		2/28/2004	$ 2,263.80	$ 731.39	
39	6741800-	163	NT		3/31/2004	$ 844.00	$ 404.06	
40	6741800-	208	NT		5/31/2004	$ 2,533.68	$ 2,681.36	
41	6741800-	209	NT		5/31/2004	$ 1,266.84	$ 1,346.90	
42	6741800-	210	NT		5/31/2004	$ 3,824.99	$ 4,047.92	
43	6741800-	181	NT		7/31/2004	$ 5,795.40	$ 6,552.67	
44	6741800-	213	NT		1/31/2005	$ 677.60	$ 1,344.85	
45	514	005	NT		2/28/2005	$ 945.60	$ 1,823.13	$ 19,732.94
46	6741800-	215	NT/WEB		5/31/2005	$ 422.28	$ 904.71	
47	6741800-	217	NT/WEB		6/30/2005	$ 3,390.00	$ 6,954.01	$ 7,858.72
48	1350450-	001	OA		5/31/2004	$ 19,298.40	$ 16,593.50	
49	514	002	OA		8/31/2004	$ 36,519.00	$ 54,498.00	
50	514	007	OA		9/30/2004	$ 12,830.00	$ 22,197.58	
51	1350450-	002	OA		10/31/2004	$ 16,428.00	$ 29,415.75	
52	6741800-	219	OA		11/30/2004	$ 39,330.00	$ 81,942.26	
53	1350450-	003	OA		12/31/2004	$ 16,050.00	$ 34,523.10	
54	6741800-	178	OA		2/28/2004	$ 11,235.31	$ 4,039.91	
55	6741800-	179	OA		2/28/2004	$ 15,310.00	$ 5,642.87	
56	6741800-	183	OA		2/28/2004	$ 8,739.07	$ 3,248.11	

	A	B	G	H	O	P	Q	U
2	**Compaq / Digital Financial Services Lease Refresh Schedule**							
3								
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)	2004: Lease payment assuming CAP buyout at end of lease (potential expense through end of lease.)	
57	6741800-	185	OA		2/28/2004	$ 14,860.00	$ 5,477.29	$ 257,578.37
58	6741800-	187	OASIS		3/31/2004	$ 9,605.04	$ 5,389.71	$ 5,389.71
59	6741800-	151	OFFICE		2/28/2004	$ 4,867.80	$ 1,552.53	
60	6741800-	152	OFFICE		2/28/2004	$ 1,152.60	$ 367.64	
61	6741800-	153	OFFICE		2/28/2004	$ 4,245.12	$ 1,353.90	
62	6741800-	156	OFFICE		2/28/2004	$ 12,792.00	$ 4,080.08	
63	6741800-	188	OFFICE		3/31/2004	$ 459.00	$ 257.26	
64	6741800-	166	OFFICE		4/30/2004	$ 21,788.00	$ 14,431.83	
65	6741800-	201	OFFICE		5/31/2004	$ 3,949.80	$ 3,706.81	
66	6741800-	206	OFFICE		5/31/2004	$ 3,949.80	$ 3,689.69	
67	6741800-	180	OFFICE		7/31/2004	$ 931.20	$ 1,052.88	
68	514	004	OFFICE		2/28/2005	$ 4,348.80	$ 9,206.16	
69	6741800-	214	OFFICE		3/31/2005	$ 2,547.00	$ 5,225.88	
70	514	006	OFFICE		3/31/2005	$ 15,290.00	$ 29,338.17	
71	514	009	OFFICE		4/30/2005	$ 3,949.80	$ 8,465.88	
72	6741800-	216	OFFICE		5/31/2005	$ 1,399.00	$ 2,836.32	
73	6741800-	218	OFFICE		5/31/2005	$ 3,100.00	$ 6,285.01	
74	514	010	OFFICE		5/31/2005	$ 964.44	$ 2,055.87	
75	6741800-	220	OFFICE		6/30/2005	$ 4,747.80	$ 9,702.54	
76	6741800-	221	OFFICE		7/31/2005	$ 10,587.80	$ 21,564.52	
77	6741800-	224	OFFICE		7/31/2005	$ 8,271.00	$ 16,930.32	$ 142,103.32
78	6741800-	157	PI		2/28/2004	$ 9,429.20	$ 2,977.89	
79	6741800-	204	PI		2/28/2004	$ 2,440.00	$ 1,043.93	
80	6741800-	158	PI		2/28/2004	$ 2,798.40	$ 888.05	
81	6741800-	190	PI		5/31/2004	$ 10,701.20	$ 9,827.83	$ 14,737.70
82	6741800-	154	RAVE		2/28/2004	$ 11,858.40	$ 3,782.11	$ 3,782.11
83	6741800-	197	REMEDY		5/31/2004	$ 4,568.27	$ 4,834.54	
84	514	003	REMEDY		2/28/2005	$ 1,912.50	$ 3,659.19	$ 8,493.73
85	6741800-	162	Security		3/31/2004	$ 2,404.80	$ 1,191.94	
86	6741800-	145	Security		1/31/2004	$ 3,852.28	$ 564.53	$ 1,756.48
87	6741800-	174	SLIC		6/30/2004	$ 12,302.40	$ 12,279.97	
88	6741800-	175	SLIC		6/30/2004	$ 17,393.55	$ 17,281.63	$ 29,561.60
89	12033-	001	STORAGE		10/31/2004	$ -	$ 362,664.95	
90	12033-	002	STORAGE		10/31/2004	$ -	$ 355,179.08	
91	12033-	003	STORAGE		10/31/2004	$ -	$ 8,275.20	
92	12033-	004	STORAGE		10/31/2004	$ -	$ 13,658.85	
93	12033-	005	STORAGE		10/31/2004	$ -	$ 8,598.45	
94	12033-	006	STORAGE		10/31/2004	$ -	$ 8,638.35	
95	12033-	007	STORAGE		10/31/2004	$ -	$ 49,694.30	
96	12033-	008	STORAGE		10/31/2004	$ -	$ 49,924.90	
97	12033-	009	STORAGE		10/31/2004	$ -	$ 40,214.88	
98	12033-	010	STORAGE		10/31/2004	$ -	$ 65,318.05	
99	12033-	011	STORAGE		10/31/2004	$ 94,779.80	$ 136,066.70	
100	12033-	012	STORAGE		10/31/2004	$ 70,128.20	$ 101,148.80	
101	12033-	013	STORAGE		10/31/2004	$ 33,440.00	$ 51,028.30	
102	12033-	014	STORAGE		10/31/2004	$ 14,000.00	$ 23,317.10	
103	12033-	015	STORAGE		10/31/2004	$ 242,717.80	$ 380,314.73	
104	12033-	016	STORAGE		10/31/2004	$ 270,412.00	$ 421,755.05	
105	12033-	017	STORAGE		10/31/2004	$ 2,752.00	$ 4,568.60	
106	12033-	018	STORAGE		10/31/2004	$ 11,680.00	$ 22,494.35	
107	12033-	019	STORAGE		10/31/2004	$ 23,846.20	$ 45,545.93	
108	12033-	020	STORAGE		10/31/2004	$ 38,800.00	$ 70,730.55	
109	12033-	021	STORAGE		10/31/2004	$ 45,000.00	$ 80,974.13	
110	12033-	023	STORAGE		10/31/2004	$ 3,620.00	$ 7,361.00	
111	12033-	024	STORAGE		10/31/2004	$ 3,620.00	$ 7,327.00	
112	514	001	STORAGE		11/30/2004	$ 35,446.40	$ 63,142.20	$ 2,367,941.43
113	6741800-	203	WAN		5/31/2004	$ 4,933.50	$ 5,394.68	

	A	B	G	H	O	P	Q	U
2	**Compaq / Digital Financial Services Lease Refresh Schedule**							
3								
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)	2004: Lease payment assuming CAP buyout at end of lease (potential expense through end of lease.)	
114	6741800-	186	WAN		9/30/2004	$ 65,239.20	$ 104,525.41	$ 109,920.09
115							$ 3,677,743.85	$ 3,677,743.85
116							$ 3,615,000.00	
117							$ (62,743.85)	
118	This sheet shows leased servers by th							

	B	C	D	E	F
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Software Maintenance Expenditure Worksheet			
3	SYSTEM	SOFTWARE	$		NOTES
4	ADS (Automated Dispatch System)		37,109	37,109	Middleware Software for Marketing Software support.
5	BITS		30,078	30,078	Middleware Software for Marketing Software support.
6	GRRMA Pre-Dispatch		8,984	8,984	Middleware Software for Marketing Software support.
7	ALFS		21,600	21,600	
8	BACKUP		165,000		Back Up Software Annual support
9	BACKUP		360		
10	BACKUP		4,975		
11	BACKUP		4,975		
12	BACKUP		6,425		
13	BACKUP		100,000	281,735	
14	BBS		1,165		Compiler for Settlements.
15	BBS		8,200		EDI Gateway for Billing
16	BBS		15,000		
17	BBS		300,000		
18	BBS		30,450		
19	BBS		31,500	386,315	
20	CASEWISE		1,550		Modeling Software support.
21	CASEWISE		3,650		Modeling Software support.
22	CASEWISE		24,100	29,300	Support for Casewise Modeling
23	CAP(Compliance Automation Project)		13,672		Middleware Software for Marketing Software support.
24	CMPL		50,400	64,072	Business Rules Software Support for Mark Myers
25	COMM		4,400	4,400	Communication sign board software support.
26	CRR		300,000		
27	DEVELOPMENT		810		
28	DEVELOPMENT		3,025		
29	DEVELOPMENT		6,110		
30	DEVELOPMENT		8,400		
31	DEVELOPMENT		12,175		
32	DEVELOPMENT		14,000		
33	DEVELOPMENT		16,600		
34	DEVELOPMENT		30,675		
35	DEVELOPMENT		43,000		
36	DEVELOPMENT		68,950		
37	DEVELOPMENT		1,500		
38	DEVELOPMENT		3,000		
39	DEVELOPMENT		30,000		Tool for Oracle Application Development
40	DEVELOPMENT		10,000		Looking at Unix data from NT Machines
41	DEVELOPMENT		12,800		JBuilder Application Development Tool
42	DEVELOPMENT		450	261,495	
43	DMA		63,525		SAS Analytical Software Support.
44	DMA		15,000	78,525	
45	DOC		23,000		Documentum Software Support
46	DOC		96,000	119,000	Documentum Software Support
47	DW		1,000		
48	DW		28,100		
49	DW		30,000		
50	DW		30,725		
51	DW		72,600	162,425	
52	EMS		460,000		
53	EMS/HP		390,000		HP operating system licenses (non-EMS equip)
54	EMS		4,000		
55	EMS		85,340		
56	EMS		400,000		Major EMS Software support.
57	EMS		190,000	1,069,340	
58	ENGRG		10,000		Mathworks mathmatical/analytical tool software support.
59	ENGRG		4,800	14,800	
60	LMP		18,810	18,810	
61	ETAG		80,000	80,000	
62	FAC		120		Physical Facilities software & support
63	FAC		302		Physical Facilities software & support
64	FAC		1,325		Facilities/AutoCad software Support
65	FAC		1,980	3,727	

software maint.

	B	C	D	E	F
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Software Maintenance Expenditure Worksheet			
3	SYSTEM	SOFTWARE	$		NOTES
66	HR		50,000		HR Module Licenses from Oracle
67	HR		60,000	110,000	HR Security Licenses from Oracle
68	IFM/LMP		300,000		
69	MDAS		2,000		MDViewer Site License Annual Support
70	MDAS		2,240		
71	MDAS		129,300	133,540	FDAS Primary Software Annual Support
72	monitoring		10,000		
73	monitoring		92,900	102,900	
89	NT		600		Web Support for Bob Breedlove
90	NT		3,200		
91	NT		2,150		
92	NT		7,000	12,950	
93	NT/WEB		300		Web/PDF Support for Bob Breedlove
94	NT/WEB		300		
95	NT/WEB		5,000		
96	NT/WEB		2,910		Web Support for Bob Breedlove
97	NT/WEB		29,000		Web Support for Bob Breedlove
98	NT/WEB		10,000		
99	NT/WEB		5,000		OA Spam Filtering Software
100	NT/WEB		80,000	132,510	
101	OA		800,000		OA Microsoft Procured Licenses
102	OA		1,005		
103	OA		3,290		UNIX box Inventory Tool, summarizes software products deployed on Svrs.
104	OA		8,000		PC Inventory Tool, summarizes software products deployed on PCs.
105	OA		17,500	829,795	
106	OASIS		4,800		
107	OASIS		20,000		OASIS reporting Software support.
108	OASIS		30,000		OASIS QA/QC Software support.
109	OASIS		10,156		Middleware Software for Marketing Software support.(from Talarian tab)
110	OASIS		110,000	174,956	OASIS Production Software support.
111	OMAR		3,000		
112	OMAR		4,000		
113	OMAR		9,570		
114	OMAR		22,670	39,240	
115	ORACLE		65,000		
116	ORACLE		113,000		
117	ORACLE		181,000		Original Purchase Database and Developer Licenses
118	ORACLE		377,500	736,500	Amendment to Orig Purchase to True-Up first year Oracle Licenses.
119	PI		67,145	67,145	NSI Software Support for all of PI reporting system.
120	RAVE		13,500	13,500	
121	REMEDY		8,470	8,470	
122	Chase		692,500	692,500	All Remedy/Chase Licenses
123	RIG		2,125		
124	RIG		28,100	30,225	
125	SA/SI		300,000		
126	SECURITY -EXT		30,000	30,000	Physical Facilities Access Control software & support
127	Security-ISS		6,980		
128	Security-ISS		1,250		
129	Security-ISS		1,550		
130	Security-ISS		1,800		
131	Security-ISS		5,625		Funk Steel Belted Radius - Security software support.
132	Security-ISS		6,000		
133	Security-ISS		6,000		
134	Security-ISS		6,600		
135	Security-ISS		8,000		
136	Security-ISS		8,000		
137	Security-ISS		8,360		
138	Security-ISS		19,000		
139	Security-ISS		19,700		
140	Security-ISS		22,925		
141	Security-ISS		43,440		CheckPoint - Security Monitoring software support.
142	Security-ISS		49,000		Tripwire - Security Monitoring software support.

	B	C	D	E	F
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses				
2		Software Maintenance Expenditure Worksheet			
3	SYSTEM	SOFTWARE	$		NOTES
143	Security-ISS		60,000		Enterprise Security Manager support.
144	Security-ISS		94,300	368,530	Primary Encryption Software support.
145	SA		175,000	175,000	Major Marketing Software support.
146	SI		175,000	175,000	
147	SLIC		10,000	10,000	
148	STORAGE		0		NT Storage Software Annual Support
149	STORAGE		0		
150	STORAGE		6,720		
151	STORAGE		10,000		NT Storage Software Annual Support
152	STORAGE		36,000		
153	STORAGE		42,000		
154	STORAGE		49,000		
155	STORAGE		65,000		
156	STORAGE		82,000		
157	STORAGE		226,000		Primary ISO Data Storage works
158	STORAGE		465,000	981,720	Primary ISO Data Storage works
159	transmission/plotting		3,600		Mapping system software support.
160	transmission/plotting		4,700	8,300	Mapping system software support.
161	Training		1,100		
162	Training		8,990	10,090	
163	WAN		1,600		Hummingbird
164	WAN		5,675	7,275	
165					
166				7,521,862	
167				838,881	
168		This sheet contains budgeted expenditures on software maintenance by type of system.			

	A	B	O
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses	
2		MiddleWare Expenditure Worksheet	
3		PRODUCTION	
4		**Application Name**	
5		ADS (Automated Dispatch System)	$ 33,593.75
6		CAP(Compliance Automation Project)	$ 13,671.88
7		OASIS	$ 10,156.25
8		Miscellaneous	$ 3,515.63
9		BITS	$ 30,078.13
10		GRRMA Pre-Dispatch	$ 8,984.38
11			$100,000.00
12			
13		**Total Production**	
14		**Total Development-QA**	
15			
16		**Total**	
17			
18		**DEVELOPMENT**	
19		**Application Name**	
20		ADS (Automated Dispatch System)	
21		CAP(Compliance Automation Project)	
22		OASIS	
23		Miscellaneous	
24		BITS	
25		GRRMA Pre-Dispatch	
26			
27			
28		**Total Development-QA**	
29			
30			
31		This sheet shows budgeted expenditures by system for middleware. Middleware expenditure is used on the software maint. worksheet.	

	A	B	C	D	E	F	G
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1424 Expenses					
2							
3		**EMC STORAGE Allocated (Usable)**					
4			**Alhambra**	**Folsom**		% of storage	Budgeted amt
5		**Subsystem**	**Allocated (GB)**				**$4,017,343**
6		ADS	30	30	60	0.3107%	$12,480.10
7		ALFS	100	50	150	0.7766%	$31,200.24
8		BBS	800	800	1600	8.2841%	$332,802.59
9		MHAP (settlements)	380	380	760	3.9350%	$158,081.23
10		MHAP (SRDF)	70	70	140	0.7249%	$29,120.23
11		Settlements	60		60	0.3107%	$12,480.10
12		Settlements - Folierun1		900	900	4.6598%	$187,201.46
13		Settlements - Folierun2		900	900	4.6598%	$187,201.46
14		Development - Foliapp82		240	240	1.2426%	$49,920.39
15		Development - Foliapp83		200	200	1.0355%	$41,600.32
16		BITS	48	48	96	0.4970%	$19,968.16
17		DW	2000	2000	4000	20.7104%	$832,006.47
18		DW (SRDF)	160	160	320	1.6568%	$66,560.52
19		Documentum	310	310	620	3.2101%	$128,961.00
20		MOOSE-SA	80		80	0.4142%	$16,640.13
21		MOOSE-SI	340		340	1.7604%	$70,720.55
22		SI Workspace (MD02)	680	680	1360	7.0415%	$282,882.20
23		OA	800	2500	3300	17.0861%	$686,405.34
24		OASIS	670	310	980	5.0740%	$203,841.58
25		OEM	48	24	72	0.3728%	$14,976.12
26		OMAR	360	360	720	3.7279%	$149,761.16
27		SCED(MD02) production	620	620	1240	6.4202%	$257,922.00
28		SCED(MD02) stagging		620	620	3.2101%	$128,961.00
29		SLIC	40	40	80	0.4142%	$16,640.13
30		SRS	50	50	100	0.5178%	$20,800.16
31		Utilities	60	60	120	0.6213%	$24,960.19
32		Vitria App	48	48	96	0.4970%	$19,968.16
33		Vitria DB	90	20	110	0.5695%	$22,880.18
34		Vitria Test		50	50	0.2589%	$10,400.08
35							
36		**Single server (no replication)**		0			
37		**TOTAL USABLE Storage (GB)**	**7844**	**11470**	**19314**	100.0000%	$4,017,343.23
38							
39							
40		**This sheet contains a snapshot of the usage of EMC storage at both Alhambra and Folsom. This shows systems and the amount of data stored at both locations. The cost of EMC storage is allocated to systems proportional to the data stored by system.**					
41							
42							

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses	
2	This spreadsheet allocates expenditures in cost center 1441 to systems, utilizing detailed analysis of expenditures for software maintenance and internal and external use of WAN.	
3		
4		
5	**Sheet Index:**	Description
6	Summary	Summary of allocations to systems
7	1441	Detailed allocation of expenditures to systems
8	Software Mtc	Worksheet showing software maintenance costs
9	WAN - Internal Ntwk	Worksheet showing estimated internal use of WAN for traffic between Folsom and Alhambra as a function of data
10	WAN - External Ntwk	Worksheet showing number of connected entities on external WAN and type of connection. Connections are single use.

Exh. No. ISO- 10, Page 104 of 442

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses		
2		System Allocation for Cost Center 1441		
3				
4		Cost Center Name	Outsourced contracts	
5		Cost Center Number	1441	
6				
7			Description of Activities	Percent of total activity
8		ACC Upgrades (Communication between ISO & IOUs)		0.00%
9		Ancillary Services Management (ASM) Component of SA		0.00%
10		Application Development Tools		0.00%
11		Automated Dispatch System (ADS)		0.11%
12		Automated Load Forecast System (ALFS)		0.37%
13		Automatic Mitigation Procedure (AMP)		0.00%
14		Backup systems (Legato/Quantum)		0.00%
15		Balance of Business Systems (BBS)		3.44%
16		Balancing Energy Ex Post Price (BEEP) Component of SA		0.00%
17		Bill's Interchange Schedule (BITS)		0.18%
18		CaseWise (process modeling tool)		0.00%
19		CHASE		0.00%
20		Common Information Model (CIM)		0.00%
21		Compliance (Blaze)		0.00%
22		Congestion Management (CONG) Component of SA		0.00%
23		Congestion Reform-DSOW		0.00%
24		Congestion Revenue Rights (CRR)		0.00%
25		DataWarehouse		0.59%
26		Dept. of Market Analysis Tools (SAS/MARS)		0.00%
27		Dispute Tracking System (Remedy)		0.00%
28		Documentum		1.15%
29		Electronic Tagging (Etag)		0.00%
30		Energy Management System (EMS)		15.08%
31		Engineering Analysis Tools		0.00%
32		Evaluation of Market Separation		0.00%
33		Existing Transmission Contracts Calculator (ETCC)		0.00%
34		FERC Study Software		0.00%
35		Firm Transmission Right (FTR) and Secondary Registration System (SRS)		0.18%
36		Global Resource Reliability Management Application (GRRMA)		0.00%
37		Grid Operations Training Simulator (GOTS)		0.00%
38		Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%
39		Human Resources		0.00%
40		IBM Contract		0.00%

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses		
2		System Allocation for Cost Center 1441		
3				
4		Cost Center Name	Outsourced contracts	
5		Cost Center Number	1441	
6				
7			Description of Activities	Percent of total activity
41		Integrated Forward Market (IFM)		0.00%
42		Internal Development		0.00%
43		Interzonal Congestion Management reform - Real Time		0.00%
44		Land and Building Costs		0.00%
45		Local Area Network (LAN)		7.78%
46		Locational Marginal Pricing (LMPM)		0.00%
47		Market Transaction System (MTS)		0.00%
48		Masterfile		0.00%
49		MD 02 Capital		0.00%
50		Meter Data Acquisition System (MDAS)		8.62%
51		Miscellaneous (2004 related capital)		5.95%
52		Monitoring (Tivoli)		0.00%
53		New Resource Interconnection (NRI)		0.00%
54		New System Equipment (replacement of owned equipment)		0.00%
55		NT/web servers		0.00%
56		NT-servers		0.00%
57		Oracle Enterprise Manager (OEM)		0.18%
58		Office Automation - desktop/laptop (OA)		2.96%
59		Office equipment (scanner, printer, copier, fax, Communication Equip.)		0.00%
60		Open Access Same Time Information System (OASIS)		2.48%
61		Operational Meter Analysis and Reporting (OMAR)		0.00%
62		Oracle Corporate Financials		0.00%
63		Oracle Licenses		0.00%
64		Oracle Market Financials BBS		0.00%
65		Out of Sequence Market Operation Settlements Information System (OOS)		0.00%
66		Outage Scheduler (OS)		0.00%
67		Participating Intermittent Resource Project (PIRP)		0.00%
68		Physical Facilities Software Application/Furniture/Leasehold		0.00%
69		Process Information System (PI)		0.00%
70		Rational Buyer Component of ASM		0.00%
71		Real Time Energy Dispatch System (REDS)		0.00%
72		Real Time Nodal Market		0.00%
73		Reliability Management System (RMS)		0.00%

	A	B	C	D
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses		
2		System Allocation for Cost Center 1441		
3				
4		Cost Center Name	Outsourced contracts	
5		Cost Center Number	1441	
6				
7			Description of Activities	Percent of total activity
74		Remedy (related to Transmission Registry, New Resource Interconnection		0.00%
75		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)		0.00%
76		Resource Register (RR)		0.00%
77		RMR Application Validation Engine (RAVE)		0.00%
78		Scheduling & Logging for ISO California (SLIC)		0.15%
79		Scheduling Architecture (SA)		0.02%
80		Scheduling Infrastructure (SI)		0.00%
81		Scheduling Infrastructure Business Rules (SIBR)		8.09%
82		Security Constrained Economic Dispatch (SCED)		2.29%
83		Security- External/Physical		0.00%
84		Security-ISS (CUDA)		0.00%
85		Settlements and Market Clearing		0.00%
86		Sign Board (Symon Board maint.)		0.00%
87		Startup Costs through 3/31/98, Working Capital-3 months		0.00%
88		Storage (EMC symmetrix)		0.00%
89		System Equipment Buyouts (lease buyouts)		0.00%
90		Telephone/PBX		36.30%
91		Training Systems		0.00%
92		Transmission Constrained Unit Commitment (TCUC) Must Offer		0.00%
93		Transmission Map Plotting & Display		0.00%
94		Trustee Costs, Interest-Capitalized, User Groups		0.00%
95		Utilities - System i.e. Print drivers		0.00%
96		Vitria (Middleware)		0.51%
97		Wide Area Network (WAN)		3.58%
98				100.00%

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1		California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses														
2		Allocation of Budget to Systems														
3																
4																
5		Cost Center Name	Outsourced Contracts													
6		Cost Center Number	1441/20041													
7								Other Cost in Cost Center								
8			Acct 416 - Enterprise MGMT WAN		Acct 417	Acct 667		Acct 440	Acct 445	Acct 665	Acct 666	616				
9			Enterprise Management	Transition/ Transformation	WAN	Voice Services		Hardware Maintenance	Software Maintenance	Telephone	Internet	Hardware			Used to allocator Enterprise Mgmt and Transition/Transformation	
10			Information redacted due to contract confidentiality provisions					$1,209,000	$164,500	$1,405,200	$352,000	$85,000	Total	Percent of Total	$7,341,527	100.000%
11		ACC Upgrades (Communication between ISO & IOUs)											$0	0.00%	$0	0.000%
12		Ancillary Services Management (ASM) Component of SA											$0	0.00%	$0	0.000%
13		Application Development Tools											$0	0.00%	$0	0.000%
14		Automated Dispatch System (ADS)											$11,528	0.11%	$8,143	0.111%
15		Automated Load Forecast System (ALFS)											$38,426	0.37%	$27,144	0.370%
16		Automatic Mitigation Procedure (AMP)											$0	0.00%	$0	0.000%
17		Backup systems (Legato/Quantum)											$0	0.00%	$0	0.000%
18		Balance of Business Systems (BBS)											$357,363	3.44%	$252,436	3.438%
19		Balancing Energy Ex Post Price (BEEP) Component of SA											$0	0.00%	$0	0.000%
20		Bill's Interchange Schedule (BITS)											$18,445	0.18%	$13,029	0.177%
21		CaseWise (process modeling tool)											$0	0.00%	$0	0.000%
22		CHASE											$0	0.00%	$0	0.000%
23		Common Information Model (CIM)											$0	0.00%	$0	0.000%
24		Compliance (Blaze)											$0	0.00%	$0	0.000%
25		Congestion Management (CONG) Component of SA											$0	0.00%	$0	0.000%
26		Congestion Reform-DSOW											$0	0.00%	$0	0.000%
27		Congestion Revenue Rights (CRR)											$0	0.00%	$0	0.000%
28		DataWarehouse											$61,482	0.59%	$43,430	0.592%
29		Dept. of Market Analysis Tools (SAS/MARS)											$0	0.00%	$0	0.000%
30		Dispute Tracking System (Remedy)											$0	0.00%	$0	0.000%
31		Documentum											$119,121	1.15%	$84,145	1.146%
32		Electronic Tagging (Etag)											$0	0.00%	$0	0.000%
33		Energy Management System (EMS)											$1,566,769	15.08%	$1,106,743	15.075%
34		Engineering Analysis Tools											$0	0.00%	$0	0.000%
35		Evaluation of Market Separation											$0	0.00%	$0	0.000%
36		Existing Transmission Contracts Calculator (ETCC)											$0	0.00%	$0	0.000%

Exh. No. ISO- 10, Page 108 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

Allocation of Budget to Systems

Cost Center Name	Outsourced Contracts														
Cost Center Number	1441/20041														
						Other Cost in Cost Center									
	Acct 416 - Enterprise MGMT WAN		Acct 417	Acct 667		Acct 440	Acct 445	Acct 665	Acct 666	616					
	Enterprise Management	Transition/ Transformation	WAN	Voice Services		Hardware Maintenance	Software Maintenance	Telephone	Internet	Hardware					Used to allocator Enterprise Mgmt and Transition/Transformation
	Information redacted due to contract confidentiality provisions					$1,209,000	$164,500	$1,405,200	$352,000	$85,000	Total	Percent of Total	$7,341,527	100.000%	
FERC Study Software											$0	0.00%	$0	0.000%	
Firm Transmission Right (FTR) and Secondary Registration System (SRS)											$19,213	0.18%	$13,572	0.185%	
Global Resource Reliability Management Application (GRRMA)											$0	0.00%	$0	0.000%	
Grid Operations Training Simulator (GOTS)											$0	0.00%	$0	0.000%	
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,											$0	0.00%	$0	0.000%	
Human Resources											$0	0.00%	$0	0.000%	
IBM Contract											$0	0.00%	$0	0.000%	
Integrated Forward Market (IFM)											$0	0.00%	$0	0.000%	
Internal Development											$0	0.00%	$0	0.000%	
Interzonal Congestion Management reform - Real Time											$0	0.00%	$0	0.000%	
Land and Building Costs											$0	0.00%	$0	0.000%	
Local Area Network (LAN)						$500,000	$71,000				$808,341	7.78%	$571,000	7.778%	
Locational Marginal Pricing (LMPM)											$0	0.00%	$0	0.000%	
Market Transaction System (MTS)											$0	0.00%	$0	0.000%	
Masterfile											$0	0.00%	$0	0.000%	
MD 02 Capital											$0	0.00%	$0	0.000%	
Meter Data Acquisition System (MDAS)											$895,730	8.62%	$632,730	8.619%	
Miscellaneous (2004 related capital)									$352,000	$85,000	$618,643	5.95%	$437,000	5.952%	
Monitoring (Tivoli)											$0	0.00%	$0	0.000%	
New-Resource Interconnection (NRI)											$0	0.00%	$0	0.000%	
New System Equipment (replacement of owned equipment)											$0	0.00%	$0	0.000%	
NT/web servers											$0	0.00%	$0	0.000%	
NT-servers											$0	0.00%	$0	0.000%	
Oracle Enterprise Manager (OEM)											$18,445	0.18%	$13,029	0.177%	
Office Automation - desktop/laptop (OA)											$307,409	2.96%	$217,149	2.958%	
Office equipment (scanner, printer, copier, fax, Communication Equip.)											$0	0.00%	$0	0.000%	

Exh. No. ISO- 10, Page 109 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

Allocation of Budget to Systems

Cost Center Name	Outsourced Contracts													
Cost Center Number	1441/20041													
						Other Cost in Cost Center								
	Acct 416 - Enterprise MGMT WAN		Acct 417	Acct 667		Acct 440	Acct 445	Acct 665	Acct 666	616				
	Enterprise Management	Transition/ Transformation	WAN	Voice Services		Hardware Maintenance	Software Maintenance	Telephone	Internet	Hardware			Used to allocator Enterprise Mgmt and Transition/Transformation	
	Information redacted due to contract confidentiality provisions					$1,209,000	$164,500	$1,405,200	$352,000	$85,000	Total	Percent of Total	$7,341,527	100.000%
Open Access Same Time Information System (OASIS)											$257,455	2.48%	$181,862	2.477%
Operational Meter Analysis and Reporting (OMAR)											$0	0.00%	$0	0.000%
Oracle Corporate Financials											$0	0.00%	$0	0.000%
Oracle Licenses											$0	0.00%	$0	0.000%
Oracle Market Financials BBS											$0	0.00%	$0	0.000%
Out of Sequence Market Operation Settlements Information System (OOS)											$0	0.00%	$0	0.000%
Outage Scheduler (OS)											$0	0.00%	$0	0.000%
Participating Intermittent Resource Project (PIRP)											$0	0.00%	$0	0.000%
Physical Facilities Software Application/Furniture/Leasehold											$0	0.00%	$0	0.000%
Process Information System (PI)											$0	0.00%	$0	0.000%
Rational Buyer Component of ASM											$0	0.00%	$0	0.000%
Real Time Energy Dispatch System (REDS)											$0	0.00%	$0	0.000%
Real Time Nodal Market											$0	0.00%	$0	0.000%
Reliability Management System (RMS)											$0	0.00%	$0	0.000%
Remedy (related to Transmission Registry, New Resource Interconnection											$0	0.00%	$0	0.000%
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)											$0	0.00%	$0	0.000%
Resource Register (RR)											$0	0.00%	$0	0.000%
RMR Application Validation Engine (RAVE)											$0	0.00%	$0	0.000%
Scheduling & Logging for ISO California (SLIC)											$15,370	0.15%	$10,857	0.148%
Scheduling Architecture (SA)											$2,306	0.02%	$1,629	0.022%
Scheduling Infrastructure (SI)											$0	0.00%	$0	0.000%
Scheduling Infrastructure Business Rules (SIBR)											$841,078	8.09%	$594,125	8.093%
Security Constrained Economic Dispatch (SCED)											$238,242	2.29%	$168,290	2.292%
Security- External/Physical											$0	0.00%	$0	0.000%
Security-ISS (CUDA)											$0	0.00%	$0	0.000%
Settlements and Market Clearing											$0	0.00%	$0	0.000%

Exh. No. ISO- 10, Page 110 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

Allocation of Budget to Systems

	Cost Center Name	Outsourced Contracts													
	Cost Center Number	1441/20041													
							Other Cost in Cost Center								
		Acct 416 - Enterprise MGMT WAN		Acct 417	Acct 667		Acct 440	Acct 445	Acct 665	Acct 666	616				
		Enterprise Management	Transition/ Transformation	WAN	Voice Services		Hardware Maintenance	Software Maintenance	Telephone	Internet	Hardware			Used to allocator Enterprise Mgmt and Transition/Transformation	
		Information redacted due to contract confidentiality provisions					$1,209,000	$164,500	$1,405,200	$352,000	$85,000	Total	Percent of Total	$7,341,527	100.000%
	Sign Board (Symon Board maint.)											$0	0.00%	$0	0.000%
	Startup Costs through 3/31/98, Working Capital-3 months											$0	0.00%	$0	0.000%
	Storage (EMC symmetrix)											$0	0.00%	$0	0.000%
	System Equipment Buyouts (lease buyouts)											$0	0.00%	$0	0.000%
	Telephone/PBX						$500,000	$40,000	$1,405,200			$3,773,092	36.30%	$2,665,256	36.304%
	Training Systems											$0	0.00%	$0	0.000%
	Transmission Constrained Unit Commitment (TCUC) Must Offer											$0	0.00%	$0	0.000%
	Transmission Map Plotting & Display											$0	0.00%	$0	0.000%
	Trustee Costs, Interest-Capitalized, User Groups											$0	0.00%	$0	0.000%
	Utilities - System i.e. Print drivers											$0	0.00%	$0	0.000%
	Vitria (Middleware)											$53,028	0.51%	$37,458	0.510%
	Wide Area Network (WAN)						$209,000	$53,500				$371,610	3.58%	$262,500	3.576%
							$1,209,000	$164,500	$1,405,200	$352,000	$85,000	$10,393,094	100.0%	$7,341,527	100.0%
		$0	$0	$0	$0		$0	$0	$0	$0	$0				

Exh. No. ISO- 10, Page 111 of 442

Software Mtc

	A	B	C
1	California Independent System Operator 2004 GMC Cost Allocation Functionalization of Cost Center 1441 Expenses		
2	Software Maintenance Expenditures		
3	Description	Total	Type
4	Redacted	$10,000	LAN
5	Redacted	$10,000	LAN
6	Redacted	$12,000	LAN
7	Redacted	$12,000	LAN
8	Redacted	$4,000	LAN
9	Redacted	$12,000	LAN
10	Redacted	$11,000	LAN
11	Redacted	$8,000	Voice
12	Redacted	$6,000	Voice
13	Redacted	$26,000	Voice
14	Redacted	$2,000	WAN
15	Redacted	$25,000	WAN
16	Redacted	$10,000	WAN
17	Redacted	$2,500	WAN
18	Redacted	$4,000	WAN
19	Redacted	$10,000	WAN
20		$164,500	
21			
22			

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

Allocation of Budget to Systems

Information redacted due to contract confidentiality provisions				
	Internal WAN	External WAN	Total WAN	Percent of Total
Totals				100%
ACC Upgrades (Communication between ISO & IOUs)				0%
Ancillary Services Management (ASM) Part of SA				0%
App Development Tools				0%
Automated Dispatch System (ADS)				0%
Automated Load Forecast System (ALFS)				1%
Automatic Mitigation Procedure (AMP)				0%
Backup systems (Legato/Veritas)				0%
Balance of Business Systems (BBS)				7%
Balancing Energy Ex Post Price (BEEP) Part of SA				0%
Bill's Interchange Schedule (BITS)				0%
CaseWise (process modeling tool)				0%
CHASE				0%
Common Information Model Project (CIM)				0%
Compliance (Blaze)				0%
Congestion Management (CONG) Part of SA				0%
Congestion Reform-DSOW				0%
Congestion Revenue Rights (CRR)				0%
Data Warehouse				1%
Dept. of Market Analysis Tools (SAS/MARS)				0%
Dispute Tracking System (Remedy)				0%
Documentum				2%
Electronic Tagging (Etag)				0%
Energy Management System (EMS)				32%
Engineering Analysis Tools				0%
Evaluation of Market Separation				0%
Existing Transmission Contracts Calculator (ETCC)				0%

FERC Study Software				0%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)				0%
Global Resource Reliability Management Application (GRRMA)				0%
Grid Operations Training Simulator (GOTS)				0%
Hour-Ahead Data Analysis Tool, Day-Ahead Data Analysis Tools,				0%
Human Resources				0%
IBM Contract				0%
Integrated Forward Market (IFM)				0%
Internal Development				0%
Interzonal Congestion Management reform - Real Time				0%
Land and Building Costs				0%
Local Area Network (LAN)				0%
Locational Marginal Pricing (LMPM)				0%
Market Transaction System (MTS)				0%
Masterfile				0%
MD 02 Capital				0%
Meter Data Acquisition System (MDAS)				19%
Miscellaneous				0%
Monitoring (Tivoli)				0%
New Resource Interconnection (NRI)				0%
New System Equipment (replacement of owned equipment)				0%
NT/web servers				0%
NT-servers				0%
Oracle Enterprise Manager (OEM)				0%
Office Automation - desktop/laptop (OA)				6%
Office equipment (scanner, printer, copier, fax, Communication Equip.)				0%
Open Access Same Time Information System (OASIS)				5%
Operational Meter Analysis and Reporting (OMAR)				0%
Oracle Corporate Financials				0%
Oracle Licenses				0%
Oracle Market Financials BBS				0%
Out of Sequence Market Operation Settlements Information System (OOS)				0%
Outage Scheduler (OS)				0%
Participating Intermittant Resource Project (PIRP)				0%

Physical Facilities Software Application/Furniture/Leasehold				0%
Process Information System (PI)				0%
Rational Buyer				0%
Real Time Energy Dispatch System (REDS)				0%
Real Time Nodal Market (RTNM)				0%
Reliability Management System (RMS)				0%
Remedy Licenses				0%
Remote Intelligence Gateway (RIG) & DPG's				0%
Resource Register (RR)				0%
RMR Application Validation Engine:(RAVE)				0%
Scheduling & Logging for ISO California (SLIC)				0%
Scheduling Architecture (SA)				0%
Scheduling Infrastructure (SI)				0%
Scheduling Infrastructure Business Rules (SIBR)				17%
Security Constrained Economic Dispatch (SCED)				5%
Security- External/Physical				0%
Security-ISS (CUDA)				0%
Settlements and Market Clearing				0%
Sign Board (Symon Board maint.)				0%
Startup Costs through 3/31/98, Working Capital-3 months				0%
Storage (EMC symmetrix)				0%
System Equipment Buyouts (lease buyouts)				0%
Telephone/PBX				0%
Training Systems				0%
Transmission Constrained Unit Commitment (TCUC) Must Offer				0%
Transmission Map Plotting & Display				0%
Trustee Costs, Interest-Capitalized, User Groups				0%
Utilities - System i.e. Print drivers				0%
Vitria (Middleware)				1%
Wide Area Network (WAN)				0%
				#DIV/0!

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

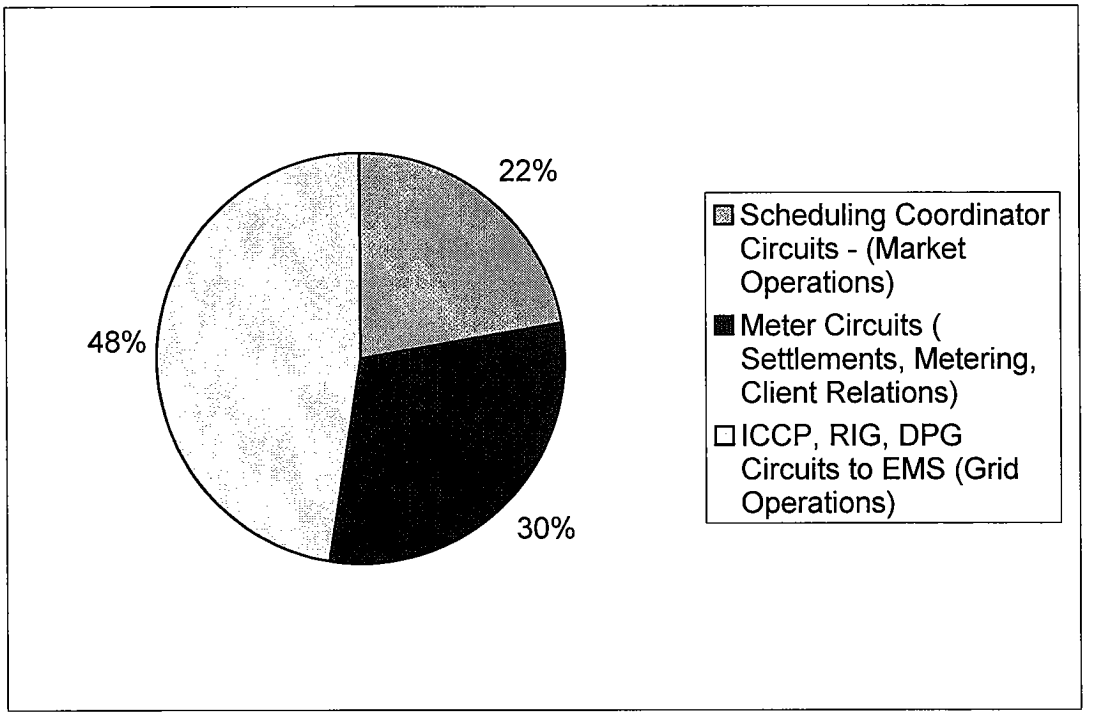
EMC STORAGE Allocated (Usable)

Subsystem	Alhambra Allocated (GD)	Folsom		% of storage	Budgeted amt $ 1,635,132.00	
ADS	30	0	30	0.4980%	$8,143.09	$8,143.09
ALFS	100	0	100	1.6600%	$27,143.63	$27,143.63
BBS	800	0	800	13.2802%	$217,149.00	x
MHAP (SRDF)	70	0	70	1.1620%	$19,000.54	x
Settlements	60		60	0.9960%	$16,286.18	$252,435.72
BITS	48	0	48	0.7968%	$13,028.94	$13,028.94
DW (SRDF)	160	0	160	2.6560%	$43,429.80	$43,429.80
Documentum	310	0	310	5.1461%	$84,145.24	$84,145.24
OA	800	0	800	13.2802%	$217,149.00	$217,149.00
OASIS	670	0	670	11.1222%	$181,862.29	$181,862.29
OEM	48	0	48	0.7968%	$13,028.94	$13,028.94
OMAR	360	0	360	5.9761%	$97,717.05	$97,717.05
SCED(MD02) production	620	0	620	10.2922%	$168,290.48	$168,290.48
SLIC	40	0	40	0.6640%	$10,857.45	$10,857.45
SRS	50	0	50	0.8300%	$13,571.81	$13,571.81
Vitria App	48	0	48	0.7968%	$13,028.94	$13,028.94
Vitria DB	90	0	90	1.4940%	$24,429.26	$37,458.20
SI Workspace (MD02)	680		680	11.2882%	$184,576.65	x
SI Storage Amount	54		54	0.8964%	$14,657.56	$199,234.21
EMS/PI	980		980	16.2683%	$266,007.53	
SA Storage	6		6	0.0996%	$1,628.62	$1,628.62
DW	0	0	0	0.0000%	$0.00	x
MHAP (settlements)	0	0	0	0.0000%	$0.00	x
MOOSE-SA	0	0	0	0.0000%	$0.00	x
MOOSE-SI	0	0	0	0.0000%	$0.00	x
SCED(MD02) stagging		0	0	0.0000%	$0.00	x
Single server (no replication)		0				
Settlements - Folierun1		0	0	0.0000%	$0.00	x
Settlements - Folierun2		0	0	0.0000%	$0.00	x
Development - Foliapp82		0	0	0.0000%	$0.00	
Development - Foliapp83		0	0	0.0000%	$0.00	
Vitria Test		0	0	0.0000%	$0.00	x
TOTAL USABLE Storage (GB)	6024	0	6024	100.0000%		

Exh. No. ISO- 10, Page 116 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of Cost Center 1441 Expenses

Scheduling Coordinator Circuits - (Market Operations)	Meter Circuits (Settlements, Metering, Client Relations)	ICCP, RIG, DPG Circuits to EMS (Grid Operations)
62	84	132



	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Information Services Assignment, Allocation, Functionalization	
2	This spreadsheet shows how the Information Services cost centers are functionalized. Each of the non-supervisory cost centers is either directly assigned, allocated to system, allocated based on FTE or some combination of these.	
3		
4		
5	**Sheet Index:**	Description
6	System Direct%	Summary listing each IS cost center and its associated
7	1424 $	Detailed listing of dollar allocations to system and to functions for this cost center
8	1431 $	Not used, 1431 allocated proportional to FTE
9	1433 $	Shows detailed allocation of WAN, which constitutes 50 percent of total. The other 50 percent is allocated proportional to FTE. Average is computed in System Direct % worksheet.
10	1441 $	Detailed listing of dollar allocations to system and to functions for this cost center
11	1442 $	Not used, 1442 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
12	1451 $	Not used, 1451 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
13	1461 $	Detailed listing of dollar allocations to system and to functions for this cost center
14	1462 $	Detailed listing of dollar allocations to system and to functions for this cost center
15	1466 $	Detailed listing of dollar allocations to system and to functions for this cost center. 1466 allocations are a weighted average of Chase, online Settlements dispute system and New Resource Interconnection
16	1467 $	Detailed listing of dollar allocations to system and to functions for this cost center
17	1468 $	Not used, 1467 allocated proportional to FTE
18	1469 $	Not used, 1469 allocated as DataWarehouse.
19	1471 $	Not used, 1471 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
20	1481 $	Detailed listing of dollar allocations to system and to functions for this cost center
21	1482 $	Detailed listing of dollar allocations to system and to functions for this cost center
22	System%	System functionalization taken from Systems 9-28.xls spreadsheet
23	System $	Detailed listing of dollar allocations to systems by cost center

	A	B
24	Allocation%	Percentage allocations to system by cost center
25	Allocations	System allocations by cost center, either direct assignment of staff or by system (e.g., 1466)
26	1424	Summary of allocation to systems for 1424
27	1431	Not used
28	1433	Allocation of WAN to systems (50 percent of total weighting for 1433)
29	1441	Summary of allocation to systems for 1441
30	1442	Not used
31	1451	Not used
32	1461	Assignment of staff to systems for 1461
33	1462	Assignment of staff to systems for 1462
34	1466	Assignment of system costs for 1466 using costs of Chase, online Settlements dispute system and New Resource Interconnection
35	1467	Assignment of staff to systems for 1467
36	1468	Not used
37	1469	Not used
38	1471	Not used
39	1481	Assignment of staff to systems for 1481
40	1482	Assignment of staff to systems for 1482

	A	B	C	D	E	F	G	H	I	J
1	California Independent System Operator 2004 GMC Cost Allocation									
2	**Allocation of Information Services Cost Centers to Functions**									
3	**CC**	**Organization**	**Method**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4										
5	1424	Asset Management	DS	35%	6%	12%	5%	10%	31%	100.00%
6	1431	End User Support	FTE/DS	37%	14%	10%	4%	9%	26%	100.00%
7	1433	Network Services	DS	42%	12%	11%	3%	9%	23%	100.00%
8	1441	Outsourced Contracts	DS	41%	11%	12%	3%	9%	25%	100.00%
9	1442	Production Support Services	SD	23%	0%	22%	3%	7%	45%	100.00%
10	1451	Infrastructure Services	SD	23%	0%	22%	3%	7%	45%	100.00%
11	1461	Control Systems	DS	96%	2%	0%	0%	1%	1%	100.00%
12	1462	Field Data Acquisition System (FDAS)	DS	21%	0%	0%	0%	0%	79%	100.00%
13	1466	Enterprise Applications	CD	48%	7%	1%	1%	3%	39%	100.00%
14	1467	Settlement Systems Services	DS	9%	0%	0%	0%	0%	91%	100.00%
15	1468	Corporate Application Support and Administration	FTE	44%	21%	4%	4%	10%	17%	100.00%
16	1469	Analytical and Reporting Applications	DD	24%	18%	6%	9%	24%	18%	100.00%
17	1471	IT Planning	SD	23%	0%	22%	3%	7%	45%	100.00%
18	1481	Markets and Scheduling System	DS	45%	3%	27%	3%	17%	6%	100.00%
19	1482	Market Systems Support Services	DS	44%	1%	20%	6%	23%	5%	100.00%

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1424 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Application Development Tools	$ 67,020	$ 502	$ 62,232	$ 7,658	$ 19,605	$ 128,701	$ 285,717
Automated Dispatch System (ADS)	$ 149,948	$ -	$ 74,974	$ -	$ 59,979	$ 14,995	$ 299,896
Automated Load Forecast System (ALFS)	$ 47,461	$ -	$ 6,780	$ -	$ 13,560	$ -	$ 67,801
Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Quantum)	$ 131,754	$ 986	$ 122,343	$ 15,054	$ 38,542	$ 253,013	$ 561,693
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 1,885,180	$ 1,885,180
Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ 83,191	$ -	$ -	$ -	$ 14,681	$ -	$ 97,872
CaseWise (process modeling tool)	$ 13,580	$ 6,617	$ 1,083	$ 1,211	$ 3,145	$ 5,182	$ 30,818
CHASE	$ 320,953	$ 156,401	$ 25,586	$ 28,630	$ 74,341	$ 122,477	$ 728,388
Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ 12,918	$ 10,962	$ 6,405	$ -	$ 22,125	$ 14,983	$ 67,392
Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ 277,267	$ 207,102	$ 72,578	$ 99,120	$ 275,441	$ 201,945	$ 1,133,453
Dept. of Market Analysis Tools (SAS/MARS)	$ 33,291	$ 57,216	$ -	$ 43,234	$ 68,199	$ 15,365	$ 217,306
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 130,873	$ 63,775	$ 10,433	$ 11,674	$ 30,313	$ 49,942	$ 297,010
Electronic Tagging (Etag)	$ 207,403	$ -	$ -	$ -	$ -	$ -	$ 207,403
Energy Management System (EMS)	$ 2,078,817	$ -	$ -	$ -	$ -	$ -	$ 2,078,817
Engineering Analysis Tools	$ 18,792	$ 12,528	$ -	$ -	$ -	$ -	$ 31,319

Exh. No. ISO- 10, Page 121 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1424 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ 88,434	$ 353,736	$ 88,434	$ 58,956	$ 589,561
33		**Global Resource Reliability Management Application (GRRMA)**	$ 7,087	$ 1,417	$ -	$ -	$ 945	$ -	$ 9,450
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ 60,746	$ 29,602	$ 4,843	$ 5,419	$ 14,070	$ 23,181	$ 137,860
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ 1,978	$ -	$ 6,925	$ -	$ 10,882	$ -	$ 19,785
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ 233,287	$ 233,287
48		**Miscellaneous (2004 related capital)**	$ 879,098	$ 6,580	$ 816,305	$ 100,445	$ 257,165	$ 1,688,170	$ 3,747,762
49		**Monitoring (Tivoli)**	$ 28,596	$ 214	$ 26,554	$ 3,267	$ 8,365	$ 54,915	$ 121,911
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ 114,069	$ 55,586	$ 9,094	$ 10,175	$ 26,421	$ 43,529	$ 258,874

Exh. No. ISO- 10, Page 122 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1424 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ 49,300	$ 24,024	$ 3,930	$ 4,398	$ 11,419	$ 18,813	$ 111,884
Oracle Enterprise Manager (OEM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 1,170,711	$ 570,489	$ 93,329	$ 104,429	$ 271,166	$ 446,747	$ 2,656,872
Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ 127,639	$ 62,199	$ 10,175	$ 11,386	$ 29,564	$ 48,707	$ 289,670
Open Access Same Time Information System (OASIS)	$ 63,646	$ -	$ 159,115	$ 63,646	$ 222,761	$ 127,292	$ 636,459
Operational Meter Analysis and Reporting (OMAR)	$ -	$ -	$ -	$ -	$ -	$ 305,608	$ 305,608
Oracle Corporate Financials	$ 17,118	$ 8,342	$ 1,365	$ 1,527	$ 3,965	$ 6,532	$ 38,849
Oracle Licenses	$ 206,610	$ 1,438	$ 135,892	$ 42,089	$ 69,952	$ 318,688	$ 774,669
Oracle Market Financials BBS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Outage Scheduler (OS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ 1,727	$ 842	$ 138	$ 154	$ 400	$ 659	$ 3,920
Process Information System (PI)	$ 107,804	$ -	$ -	$ -	$ 13,476	$ 13,476	$ 134,755
Rational Buyer Component of ASM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Energy Dispatch System (REDS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy (related to Transmission Registry, New Resource Interconnection	$ 79,677	$ -	$ -	$ -	$ -	$ -	$ 79,677
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ 31,791	$ -	$ -	$ -	$ -	$ -	$ 31,791
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine (RAVE)	$ 31,101	$ -	$ -	$ -	$ -	$ -	$ 31,101
Scheduling & Logging for ISO California (SLIC)	$ 53,651	$ -	$ 12,381	$ 4,127	$ 12,381	$ -	$ 82,541
Scheduling Architecture (SA)	$ 60,299	$ -	$ 49,943	$ 65,105	$ 76,337	$ -	$ 251,684

Exh. No. ISO- 10, Page 123 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1424 to Functions

		CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure (SI)	$ -	$ -	$ 569,278	$ -	$ 36,832	$ -	$ 606,110
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ 162,773	$ -	$ -	$ -	$ 244,160	$ -	$ 406,933
Security- External/Physical	$ 13,904	$ 6,775	$ 1,108	$ 1,240	$ 3,221	$ 5,306	$ 31,555
Security-ISS (CUDA)	$ 128,336	$ 961	$ 119,169	$ 14,664	$ 37,543	$ 246,450	$ 547,123
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ 2,039	$ 994	$ 163	$ 182	$ 472	$ 778	$ 4,628
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ 2,489	$ 19	$ 2,312	$ 284	$ 728	$ 4,781	$ 10,613
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ 4,365	$ 4,365	$ -	$ -	$ -	$ -	$ 8,730
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System i.e. Print drivers	$ 6,158	$ 46	$ 5,718	$ 704	$ 1,801	$ 11,826	$ 26,254
Vitria (Middleware)	$ 13,138	$ 98	$ 12,199	$ 1,501	$ 3,843	$ 25,229	$ 56,008
Wide Area Network (WAN)	$ 72,876	$ 3,814	$ 33,359	$ 2,342	$ 13,581	$ 52,654	$ 178,626
Total	$ 7,071,998	$ 1,293,893	$ 2,544,141	$ 997,400	$ 2,079,819	$ 6,427,367	$ 20,414,618.00
Percent	34.64%	6.34%	12.46%	4.89%	10.19%	31.48%	100.00%

Exh. No. ISO- 10, Page 124 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1431 to Functions

Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1431 to Functions

	Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
29	Evaluation of Market Separation	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30	Existing Transmission Contracts Calculator (ETCC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31	FERC Study Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	Global Resource Reliability Management Application (GRRMA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	Grid Operations Training Simulator (GOTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	Human Resources	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37	IBM Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	Integrated Forward Market (IFM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	Internal Development	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40	Interzonal Congestion Management reform - Real Time	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41	Land and Building Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	Local Area Network (LAN)	$ 1,966,940	$ 958,492	$ 156,804	$ 175,454	$ 455,593	$ 750,591	$ 4,463,874
43	Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46	MD 02 Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48	Miscellaneous (2004 related capital)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	Monitoring (Tivoli)	$ 515,722	$ 3,860	$ 478,885	$ 58,926	$ 150,866	$ 990,365	$ 2,198,625
50	New Resource Interconnection (NRI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51	New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52	NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1431 to Functions**							
3									
4		Uses ISO wide FTE ratio	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 127 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1431 to Functions**							
3									
4		Uses ISO wide FTE ratio	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955	$ 6,662,499
97									
98		**Percent**	37%	14%	10%	4%	9%	26%	100%

Exh. No. ISO- 10, Page 128 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1433 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Ancillary Services Management (ASM) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Application Development Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**Automated Dispatch System (ADS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		**Automated Load Forecast System (ALFS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		**Automatic Mitigation Procedure (AMP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		**Backup systems (Legato/Quantum)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		**Bill's Interchange Schedule (BITS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		**CaseWise (process modeling tool)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**CHASE**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Common Information Model (CIM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Compliance (Blaze)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		**Congestion Management (CONG) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Congestion Reform-DSOW**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Congestion Revenue Rights (CRR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		**Dept. of Market Analysis Tools (SAS/MARS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		**Dispute Tracking System (Remedy)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		**Electronic Tagging (Etag)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		**Engineering Analysis Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 129 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1433 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ 342,693	$ 166,995	$ 27,319	$ 30,569	$ 79,376	$ 130,773	$ 777,724
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1433 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1433 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ 317,296	$ 16,606	$ 145,241	$ 10,195	$ 59,133	$ 229,253	$ 777,724
95									
96		**Total**	$ 659,988	$ 183,600	$ 172,561	$ 40,764	$ 138,509	$ 360,026	$ 1,555,448
97									
98		**Percent**	42%	12%	11%	3%	9%	23%	100.00%

Exh. No. ISO- 10, Page 132 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1441 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ 5,913	$ -	$ 2,957	$ -	$ 2,365	$ 591	$ 11,826
Automated Load Forecast System (ALFS)	$ 27,594	$ -	$ 3,942	$ -	$ 7,884	$ -	$ 39,421
Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 366,612	$ 366,612
Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ 16,084	$ -	$ -	$ -	$ 2,838	$ -	$ 18,922
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ 15,429	$ 11,525	$ 4,039	$ 5,516	$ 15,327	$ 11,238	$ 63,073
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 53,847	$ 26,240	$ 4,293	$ 4,803	$ 12,472	$ 20,548	$ 122,204
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ 1,607,322	$ -	$ -	$ -	$ -	$ -	$ 1,607,322
Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 133 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1441 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
Evaluation of Market Separation	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Existing Transmission Contracts Calculator (ETCC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FERC Study Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ -	$ -	$ 2,957	$ 11,826	$ 2,957	$ 1,971	$ 19,710
Global Resource Reliability Management Application (GRRMA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grid Operations Training Simulator (GOTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Human Resources	$ -	$ -	$ -	$ -	$ -	$ -	$ -
IBM Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Integrated Forward Market (IFM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Internal Development	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interzonal Congestion Management reform - Real Time	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land and Building Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Local Area Network (LAN)	$ 365,403	$ 178,061	$ 29,130	$ 32,594	$ 84,636	$ 139,439	$ 829,263
Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MD 02 Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ 918,914	$ 918,914
Miscellaneous (2004 related capital)	$ 148,868	$ 1,114	$ 138,235	$ 17,010	$ 43,549	$ 285,879	$ 634,655
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New Resource Interconnection (NRI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1441 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Oracle Enterprise Manager (OEM)	$ 5,047	$ 35	$ 3,319	$ 1,028	$ 1,709	$ 7,784	$ 18,922
Office Automation - desktop/laptop (OA)	$ 138,961	$ 67,716	$ 11,078	$ 12,396	$ 32,187	$ 53,028	$ 315,366
Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ 26,412	$ -	$ 66,030	$ 26,412	$ 92,442	$ 52,824	$ 264,119
Operational Meter Analysis and Reporting (OMAR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Oracle Corporate Financials	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Oracle Licenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Oracle Market Financials BBS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Outage Scheduler (OS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer Component of ASM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Energy Dispatch System (REDS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy (related to Transmission Registry, New Resource Interconnection	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine (RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ 10,249	$ -	$ 2,365	$ 788	$ 2,365	$ -	$ 15,768
Scheduling Architecture (SA)	$ 567	$ -	$ 469	$ 612	$ 717	$ -	$ 2,365

Exh. No. ISO- 10, Page 135 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1441 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ 810,414	$ -	$ 52,433	$ -	$ 862,848
79		**Security Constrained Economic Dispatch (SCED)**	$ 97,763	$ -	$ -	$ -	$ 146,645	$ -	$ 244,408
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ 1,705,589	$ 831,136	$ 135,969	$ 152,141	$ 395,058	$ 650,858	$ 3,870,751
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ 12,761	$ 96	$ 11,849	$ 1,458	$ 3,733	$ 24,505	$ 54,401
94		**Wide Area Network (WAN)**	$ 155,534	$ 8,140	$ 71,195	$ 4,997	$ 28,986	$ 112,377	$ 381,229
95									
96		**Total**	$ 4,393,344	$ 1,124,062	$ 1,298,241	$ 271,581	$ 928,304	$ 2,646,568	$ 10,662,100
97									
98		**Percent**	41.2052%	10.5426%	12.1762%	2.5472%	8.7066%	24.8222%	100.0000%

Exh. No. ISO- 10, Page 136 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1442 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
6		**Ancillary Services Management (ASM) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
7		**Application Development Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
8		**Automated Dispatch System (ADS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
9		**Automated Load Forecast System (ALFS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
10		**Automatic Mitigation Procedure (AMP)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
11		**Backup systems (Legato/Quantum)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
12		**Balance of Business Systems (BBS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
14		**Bill's Interchange Schedule (BITS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
15		**CaseWise (process modeling tool)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
16		**CHASE**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
17		**Common Information Model (CIM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
18		**Compliance (Blaze)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
19		**Congestion Management (CONG) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
20		**Congestion Reform-DSOW**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
21		**Congestion Revenue Rights (CRR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
22		**DataWarehouse**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
23		**Dept. of Market Analysis Tools (SAS/MARS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
24		**Dispute Tracking System (Remedy)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
25		**Documentum**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
26		**Electronic Tagging (Etag)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
27		**Energy Management System (EMS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
28		**Engineering Analysis Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
29		**Evaluation of Market Separation**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
30		**Existing Transmission Contracts Calculator (ETCC)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 137 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1442 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
31		FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
32		Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
33		Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
34		Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
35		Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
36		Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
37		IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
38		Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
39		Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
40		Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
41		Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
42		Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
43		Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
44		Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
45		Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
46		MD 02 Capital	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
47		Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
48		Miscellaneous (2004 related capital)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
49		Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
50		New Resource Interconnection (NRI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
51		New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
52		NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
53		NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
54		Oracle Enterprise Manager (OEM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
55		Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 138 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1442 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
56		Office equipment (scanner, printer, copier, fax, Communication Equip.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
57		Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
58		Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
59		Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
60		Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
61		Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
62		Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
63		Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
64		Participating Intermittent Resource Project (PIRP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
65		Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
66		Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
67		Rational Buyer Component of ASM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
68		Real Time Energy Dispatch System (REDS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
69		Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
70		Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
71		Remedy (related to Transmission Registry, New Resource Interconnection and	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
72		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
73		Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
74		RMR Application Validation Engine (RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
75		Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
76		Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
77		Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
78		Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
79		Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
80		Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1442 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
81		**Security-ISS (CUDA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
82		**Settlements and Market Clearing**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
83		**Sign Board (Symon Board maint.)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
84		**Startup Costs through 3/31/98, Working Capital-3 months**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
85		**Storage (EMC symmetrix)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
86		**System Equipment Buyouts (lease buyouts)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
87		**Telephone/PBX**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
88		**Training Systems**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
90		**Transmission Map Plotting & Display**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
91		**Trustee Costs, Interest-Capitalized, User Groups**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
92		**Utilities - System i.e. Print drivers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
93		**Vitria (Middleware)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
94		**Wide Area Network (WAN)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
95									
96		**Total**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
97									
98		**Percent**	23%	0%	22%	3%	7%	45%	100%

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1451 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
6		**Ancillary Services Management (ASM) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
7		**Application Development Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
8		**Automated Dispatch System (ADS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
9		**Automated Load Forecast System (ALFS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
10		**Automatic Mitigation Procedure (AMP)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
11		**Backup systems (Legato/Quantum)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
12		**Balance of Business Systems (BBS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
14		**Bill's Interchange Schedule (BITS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
15		**CaseWise (process modeling tool)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
16		**CHASE**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
17		**Common Information Model (CIM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
18		**Compliance (Blaze)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
19		**Congestion Management (CONG) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
20		**Congestion Reform-DSOW**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
21		**Congestion Revenue Rights (CRR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
22		**DataWarehouse**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
23		**Dept. of Market Analysis Tools (SAS/MARS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
24		**Dispute Tracking System (Remedy)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
25		**Documentum**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
26		**Electronic Tagging (Etag)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
27		**Energy Management System (EMS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
28		**Engineering Analysis Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1451 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
30		**Existing Transmission Contracts Calculator (ETCC)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
31		**FERC Study Software**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
33		**Global Resource Reliability Management Application (GRRMA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
34		**Grid Operations Training Simulator (GOTS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
36		**Human Resources**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
37		**IBM Contract**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
38		**Integrated Forward Market (IFM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
39		**Internal Development**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
40		**Interzonal Congestion Management reform - Real Time**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
41		**Land and Building Costs**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
42		**Local Area Network (LAN)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
43		**Locational Marginal Pricing (LMPM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
44		**Market Transaction System (MTS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
45		**Masterfile**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
46		**MD 02 Capital**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
47		**Meter Data Acquisition System (MDAS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
48		**Miscellaneous (2004 related capital)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
49		**Monitoring (Tivoli)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
50		**New Resource Interconnection (NRI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
51		**New System Equipment (replacement of owned equipment)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
52		**NT/web servers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 142 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1451 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
54		**Oracle Enterprise Manager (OEM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
55		**Office Automation - desktop/laptop (OA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
57		**Open Access Same Time Information System (OASIS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
58		**Operational Meter Analysis and Reporting (OMAR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
59		**Oracle Corporate Financials**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
60		**Oracle Licenses**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
61		**Oracle Market Financials BBS**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
63		**Outage Scheduler (OS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
64		**Participating Intermittent Resource Project (PIRP)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
65		**Physical Facilities Software Application/Furniture/Leasehold**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
66		**Process Information System (PI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
67		**Rational Buyer Component of ASM**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
68		**Real Time Energy Dispatch System (REDS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
69		**Real Time Nodal Market**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
70		**Reliability Management System (RMS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
73		**Resource Register (RR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
74		**RMR Application Validation Engine (RAVE)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
75		**Scheduling & Logging for ISO California (SLIC)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
76		**Scheduling Architecture (SA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1451 to Functions**							
3									
4		**Functionalized with direct systems**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
78		**Scheduling Infrastructure Business Rules (SIBR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
79		**Security Constrained Economic Dispatch (SCED)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
80		**Security- External/Physical**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
81		**Security-ISS (CUDA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
82		**Settlements and Market Clearing**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
83		**Sign Board (Symon Board maint.)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
84		**Startup Costs through 3/31/98, Working Capital-3 months**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
85		**Storage (EMC symmetrix)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
86		**System Equipment Buyouts (lease buyouts)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
87		**Telephone/PBX**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
88		**Training Systems**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
90		**Transmission Map Plotting & Display**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
91		**Trustee Costs, Interest-Capitalized, User Groups**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
92		**Utilities - System i.e. Print drivers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
93		**Vitria (Middleware)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
94		**Wide Area Network (WAN)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
95									
96		**Total**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
97									
98		**Percent**	23%	0%	22%	3%	7%	45%	100%

Exh. No. ISO- 10, Page 144 of 442

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1461 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ 2,036,839	$ -	$ -	$ -	$ -	$ -	$ 2,036,839
Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator
2004 GMC Cost Allocation

Allocation of Cost Center 1461 to Functions

	CRS	ETS	FS	CONG	MU	SMCR	Total
Evaluation of Market Separation	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Existing Transmission Contracts Calculator (ETCC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FERC Study Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Global Resource Reliability Management Application (GRRMA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grid Operations Training Simulator (GOTS)	$ 71,289	$ 56,013	$ -	$ -	$ -	$ -	$ 127,302
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Human Resources	$ -	$ -	$ -	$ -	$ -	$ -	$ -
IBM Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Integrated Forward Market (IFM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Internal Development	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interzonal Congestion Management reform - Real Time	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land and Building Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Local Area Network (LAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MD 02 Capital	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous (2004 related capital)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New Resource Interconnection (NRI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 146 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1461 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ 101,842	$ -	$ -	$ -	$ 12,730	$ 12,730	$ 127,302
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 147 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1461 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730	$ 2,291,444
97									
98		**Percent**	96%	2%	0%	0%	1%	1%	100.00%

Exh. No. ISO- 10, Page 148 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1462 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Ancillary Services Management (ASM) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Application Development Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**Automated Dispatch System (ADS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		**Automated Load Forecast System (ALFS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		**Automatic Mitigation Procedure (AMP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		**Backup systems (Legato/Quantum)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		**Bill's Interchange Schedule (BITS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		**CaseWise (process modeling tool)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**CHASE**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Common Information Model (CIM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Compliance (Blaze)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		**Congestion Management (CONG) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Congestion Reform-DSOW**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Congestion Revenue Rights (CRR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		**Dept. of Market Analysis Tools (SAS/MARS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		**Dispute Tracking System (Remedy)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		**Electronic Tagging (Etag)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		**Engineering Analysis Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 149 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1462 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ 1,933,378	$ 1,933,378
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 150 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1462 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ 527,285	$ -	$ -	$ -	$ -	$ -	$ 527,285
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1462 to Functions**							
3									
4			CRS	ETS	FS	CONG	MU	SMCR	Total
77		Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		Utilities - System i.e. Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		Total	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378	$ 2,460,663
97									
98		Percent	21%	0%	0%	0%	0%	79%	100.00%

Exh. No. ISO- 10, Page 152 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1466 to Functions**							
3									
4		**Functionalized as weighted aveage of Chase, settlements online dispute system and NRI**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		CHASE	$ 232,268	$ 113,184	$ 18,516	$ 20,719	$ 53,799	$ 88,634	$ 527,120
17		Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ 511,617	$ 511,617
25		Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		Energy Management System (EMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29		Evaluation of Market Separation	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 153 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1466 to Functions**							
3									
4		**Functionalized as weighted aveage of Chase, settlements online dispute system and NRI**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ 511,617	$ -	$ -	$ -	$ -	$ -	$ 511,617
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 154 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1466 to Functions**							
3									
4		**Functionalized as weighted aveage of Chase, settlements online dispute system and NRI**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection and**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1466 to Functions**							
3									
4		**Functionalized as weighted aveage of Chase, settlements online dispute system and NRI**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 743,885	$ 113,184	$ 18,516	$ 20,719	$ 53,799	$ 600,251	$ 1,550,354
97									
98		**Percent**	48%	7%	1%	1%	3%	39%	100.00%

Exh. No. ISO- 10, Page 156 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1467 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Ancillary Services Management (ASM) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Application Development Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**Automated Dispatch System (ADS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		**Automated Load Forecast System (ALFS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		**Automatic Mitigation Procedure (AMP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		**Backup systems (Legato/Quantum)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ 1,021,540	$ 1,021,540
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		**Bill's Interchange Schedule (BITS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		**CaseWise (process modeling tool)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**CHASE**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Common Information Model (CIM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Compliance (Blaze)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		**Congestion Management (CONG) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Congestion Reform-DSOW**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Congestion Revenue Rights (CRR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		**Dept. of Market Analysis Tools (SAS/MARS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		**Dispute Tracking System (Remedy)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		**Electronic Tagging (Etag)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		**Engineering Analysis Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 157 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1467 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 158 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1467 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ 102,154	$ -	$ -	$ -	$ -	$ -	$ 102,154
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 159 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1467 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 102,154	$ -	$ -	$ -	$ -	$ 1,021,540	$ 1,123,694
97									
98		**Percent**	9%	0%	0%	0%	0%	91%	100.00%

Exh. No. ISO- 10, Page 160 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1468 to Functions**							
3									
4		**Functionalized using FTE ratio**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		Energy Management System (EMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 161 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1468 to Functions**							
3									
4		**Functionalized using FTE ratio**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO-10, Page 162 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1468 to Functions**							
3									
4		**Functionalized using FTE ratio**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 163 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1468 to Functions**							
3									
4		**Functionalized using FTE ratio**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
97									
98		**Percent**	44%	21%	4%	4%	10%	17%	100.00%

Exh. No. ISO- 10, Page 164 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1469 to Functions**							
3									
4		**Functionalized using Data Warehouse**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		Application Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		Common Information Model (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		DataWarehouse	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
23		Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		Energy Management System (EMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		Engineering Analysis Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1469 to Functions**							
3									
4		**Functionalized using Data Warehouse**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 166 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1469 to Functions**							
3									
4		**Functionalized using Data Warehouse**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		**Oracle Corporate Financials**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		**Oracle Licenses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		**Oracle Market Financials BBS**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		**Outage Scheduler (OS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		**Participating Intermittent Resource Project (PIRP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		**Physical Facilities Software Application/Furniture/Leasehold**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		**Process Information System (PI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		**Rational Buyer Component of ASM**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		**Real Time Energy Dispatch System (REDS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		**Real Time Nodal Market**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		**Reliability Management System (RMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		**Resource Register (RR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		**RMR Application Validation Engine (RAVE)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 167 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1469 to Functions**							
3									
4		**Functionalized using Data Warehouse**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
97									
98		**Percent**	24%	18%	6%	9%	24%	18%	100.00%

Exh. No. ISO- 10, Page 168 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1471 to Functions**							
3									
4		**Functionalized using System Direct**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
6		**Ancillary Services Management (ASM) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
7		**Application Development Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
8		**Automated Dispatch System (ADS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
9		**Automated Load Forecast System (ALFS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
10		**Automatic Mitigation Procedure (AMP)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
11		**Backup systems (Legato/Quantum)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
12		**Balance of Business Systems (BBS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
14		**Bill's Interchange Schedule (BITS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
15		**CaseWise (process modeling tool)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
16		**CHASE**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
17		**Common Information Model (CIM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
18		**Compliance (Blaze)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
19		**Congestion Management (CONG) Component of SA**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
20		**Congestion Reform-DSOW**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
21		**Congestion Revenue Rights (CRR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
22		**DataWarehouse**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
23		**Dept. of Market Analysis Tools (SAS/MARS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
24		**Dispute Tracking System (Remedy)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
25		**Documentum**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
26		**Electronic Tagging (Etag)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
27		**Energy Management System (EMS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
28		**Engineering Analysis Tools**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 169 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1471 to Functions**							
3									
4		**Functionalized using System Direct**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
30		**Existing Transmission Contracts Calculator (ETCC)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
31		**FERC Study Software**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
33		**Global Resource Reliability Management Application (GRRMA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
34		**Grid Operations Training Simulator (GOTS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
36		**Human Resources**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
37		**IBM Contract**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
38		**Integrated Forward Market (IFM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
39		**Internal Development**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
40		**Interzonal Congestion Management reform - Real Time**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
41		**Land and Building Costs**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
42		**Local Area Network (LAN)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
43		**Locational Marginal Pricing (LMPM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
44		**Market Transaction System (MTS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
45		**Masterfile**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
46		**MD 02 Capital**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
47		**Meter Data Acquisition System (MDAS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
48		**Miscellaneous (2004 related capital)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
49		**Monitoring (Tivoli)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
50		**New Resource Interconnection (NRI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
51		**New System Equipment (replacement of owned equipment)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
52		**NT/web servers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 170 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1471 to Functions**							
3									
4		**Functionalized using System Direct**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
54		**Oracle Enterprise Manager (OEM)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
55		**Office Automation - desktop/laptop (OA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
57		**Open Access Same Time Information System (OASIS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
58		**Operational Meter Analysis and Reporting (OMAR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
59		**Oracle Corporate Financials**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
60		**Oracle Licenses**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
61		**Oracle Market Financials BBS**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
63		**Outage Scheduler (OS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
64		**Participating Intermittent Resource Project (PIRP)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
65		**Physical Facilities Software Application/Furniture/Leasehold**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
66		**Process Information System (PI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
67		**Rational Buyer Component of ASM**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
68		**Real Time Energy Dispatch System (REDS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
69		**Real Time Nodal Market**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
70		**Reliability Management System (RMS)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
73		**Resource Register (RR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
74		**RMR Application Validation Engine (RAVE)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
75		**Scheduling & Logging for ISO California (SLIC)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
76		**Scheduling Architecture (SA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Exh. No. ISO- 10, Page 171 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1471 to Functions**							
3									
4		**Functionalized using System Direct**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
78		**Scheduling Infrastructure Business Rules (SIBR)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
79		**Security Constrained Economic Dispatch (SCED)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
80		**Security- External/Physical**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
81		**Security-ISS (CUDA)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
82		**Settlements and Market Clearing**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
83		**Sign Board (Symon Board maint.)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
84		**Startup Costs through 3/31/98, Working Capital-3 months**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
85		**Storage (EMC symmetrix)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
86		**System Equipment Buyouts (lease buyouts)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
87		**Telephone/PBX**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
88		**Training Systems**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
90		**Transmission Map Plotting & Display**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
91		**Trustee Costs, Interest-Capitalized, User Groups**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
92		**Utilities - System i.e. Print drivers**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
93		**Vitria (Middleware)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
94		**Wide Area Network (WAN)**	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
95									
96		**Total**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
97									
98		**Percent**	23%	0%	22%	3%	7%	45%	100%

Exh. No. ISO- 10, Page 172 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1481 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Ancillary Services Management (ASM) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Application Development Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**Automated Dispatch System (ADS)**	$ 104,408	$ -	$ 52,204	$ -	$ 41,763	$ 10,441	$ 208,816
9		**Automated Load Forecast System (ALFS)**	$ 36,543	$ -	$ 5,220	$ -	$ 10,441	$ -	$ 52,204
10		**Automatic Mitigation Procedure (AMP)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		**Backup systems (Legato/Quantum)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		**Bill's Interchange Schedule (BITS)**	$ 44,373	$ -	$ -	$ -	$ 7,831	$ -	$ 52,204
15		**CaseWise (process modeling tool)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**CHASE**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Common Information Model (CIM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Compliance (Blaze)**	$ 40,026	$ 33,965	$ 19,845	$ -	$ 68,554	$ 46,427	$ 208,816
19		**Congestion Management (CONG) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Congestion Reform-DSOW**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Congestion Revenue Rights (CRR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		**Dept. of Market Analysis Tools (SAS/MARS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		**Dispute Tracking System (Remedy)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		**Electronic Tagging (Etag)**	$ 52,204	$ -	$ -	$ -	$ -	$ -	$ 52,204
27		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		**Engineering Analysis Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 173 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1481 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ 13,051	$ -	$ 10,441	$ 7,831	$ 10,441	$ 10,441	$ 52,204
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ 39,153	$ 7,831	$ -	$ -	$ 5,220	$ -	$ 52,204
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 174 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1481 to Functions**							
3									
4			CRS	ETS	FS	CONG	MU	SMCR	Total
53		NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		Oracle Enterprise Manager (OEM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		Open Access Same Time Information System (OASIS)	$ 7,831	$ -	$ 19,576	$ 7,831	$ 27,407	$ 15,661	$ 78,306
58		Operational Meter Analysis and Reporting (OMAR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		Oracle Corporate Financials	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		Oracle Licenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		Oracle Market Financials BBS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63		Outage Scheduler (OS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ 196,127	$ -	$ 12,689	$ -	$ 208,816
65		Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Rational Buyer Component of ASM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68		Real Time Energy Dispatch System (REDS)	$ 52,204	$ -	$ -	$ -	$ -	$ -	$ 52,204
69		Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		Remedy (related to Transmission Registry, New Resource Interconnection	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		RMR Application Validation Engine (RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75		Scheduling & Logging for ISO California (SLIC)	$ 271,461	$ -	$ 62,645	$ 20,882	$ 62,645	$ -	$ 417,632
76		Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 175 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1481 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ 24,516	$ -	$ 1,586	$ -	$ 26,102
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95									
96		**Total**	$ 661,253	$ 41,796	$ 390,574	$ 36,543	$ 248,577	$ 82,969	$ 1,461,712
97									
98		**Percent**	45%	3%	27%	3%	17%	6%	100.00%

Exh. No. ISO- 10, Page 176 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1482 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Ancillary Services Management (ASM) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Application Development Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**Automated Dispatch System (ADS)**	$ 25,201	$ -	$ 12,600	$ -	$ 10,080	$ 2,520	$ 50,401
9		**Automated Load Forecast System (ALFS)**	$ 26,461	$ -	$ 3,780	$ -	$ 7,560	$ -	$ 37,801
10		**Automatic Mitigation Procedure (AMP)**	$ 32,131	$ -	$ -	$ -	$ 5,670	$ -	$ 37,801
11		**Backup systems (Legato/Quantum)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	$ 25,201	$ -	$ 10,080	$ 5,040	$ 10,080	$ -	$ 50,401
14		**Bill's Interchange Schedule (BITS)**	$ 32,131	$ -	$ -	$ -	$ 5,670	$ -	$ 37,801
15		**CaseWise (process modeling tool)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**CHASE**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Common Information Model (CIM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Compliance (Blaze)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		**Congestion Management (CONG) Component of SA**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Congestion Reform-DSOW**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Congestion Revenue Rights (CRR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		**Dept. of Market Analysis Tools (SAS/MARS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		**Dispute Tracking System (Remedy)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		**Electronic Tagging (Etag)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28		**Engineering Analysis Tools**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 177 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1482 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ 12,600	$ -	$ 10,080	$ 7,560	$ 10,080	$ 10,080	$ 50,401
31		**FERC Study Software**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ 1,890	$ 7,560	$ 1,890	$ 1,260	$ 12,600
33		**Global Resource Reliability Management Application (GRRMA)**	$ 18,900	$ 3,780	$ -	$ -	$ 2,520	$ -	$ 25,201
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36		**Human Resources**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45		**Masterfile**	$ 5,040	$ -	$ 5,040	$ -	$ 13,860	$ 1,260	$ 25,201
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48		**Miscellaneous (2004 related capital)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49		**Monitoring (Tivoli)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50		**New Resource Interconnection (NRI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		**New System Equipment (replacement of owned equipment)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52		**NT/web servers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO-10, Page 178 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1482 to Functions**							
3									
4			CRS	ETS	FS	CONG	MU	SMCR	Total
53		NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54		Oracle Enterprise Manager (OEM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55		Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57		Open Access Same Time Information System (OASIS)	$ 3,780	$ -	$ 9,450	$ 3,780	$ 13,230	$ 7,560	$ 37,801
58		Operational Meter Analysis and Reporting (OMAR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		Oracle Corporate Financials	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		Oracle Licenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61		Oracle Market Financials BBS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62		Out of Sequence Market Operation Settlements Information System (OOS)	$ 1,890	$ 1,890	$ -	$ -	$ 34,021	$ -	$ 37,801
63		Outage Scheduler (OS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64		Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65		Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66		Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67		Rational Buyer Component of ASM	$ 12,600	$ -	$ -	$ -	$ -	$ -	$ 12,600
68		Real Time Energy Dispatch System (REDS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69		Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70		Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71		Remedy (related to Transmission Registry, New Resource Interconnection	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73		Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74		RMR Application Validation Engine (RAVE)	$ 12,600	$ -	$ -	$ -	$ -	$ -	$ 12,600
75		Scheduling & Logging for ISO California (SLIC)	$ 32,761	$ -	$ 7,560	$ 2,520	$ 7,560	$ -	$ 50,401
76		Scheduling Architecture (SA)	$ 9,056	$ -	$ 7,501	$ 9,778	$ 11,465	$ -	$ 37,801

Exh. No. ISO- 10, Page 179 of 442

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation							
2		**Allocation of Cost Center 1482 to Functions**							
3									
4			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	$ -	$ -	$ 47,338	$ -	$ 3,063	$ -	$ 50,401
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80		**Security- External/Physical**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81		**Security-ISS (CUDA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85		**Storage (EMC symmetrix)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88		**Training Systems**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90		**Transmission Map Plotting & Display**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94		**Wide Area Network (WAN)**	$ 10,281	$ 538	$ 4,706	$ 330	$ 1,916	$ 7,428	$ 25,201
95									
96		**Total**	$ 260,633	$ 6,208	$ 120,027	$ 36,569	$ 138,667	$ 30,109	$ 592,213
97									
98		**Percent**	44%	1%	20%	6%	23%	5%	100.00%

Exh. No. ISO- 10, Page 180 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Functionalization of Systems**								
3										
4			**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5		**ACC Upgrades (Communication between ISO & IOUs)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
6		**Ancillary Services Management (ASM) Component of SA**	**Direct**	**15%**	**0%**	**40%**	**0%**	**45%**	**0%**	100.00%
7		**Application Development Tools**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
8		**Automated Dispatch System (ADS)**	**Direct**	**50%**	**0%**	**25%**	**0%**	**20%**	**5%**	100.00%
9		**Automated Load Forecast System (ALFS)**	**Direct**	**70%**	**0%**	**10%**	**0%**	**20%**	**0%**	100.00%
10		**Automatic Mitigation Procedure (AMP)**	**Direct**	**85%**	**0%**	**0%**	**0%**	**15%**	**0%**	100.00%
11		**Backup systems (Legato/Quantum)**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
12		**Balance of Business Systems (BBS)**	**Direct**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	100.00%
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	**Direct**	**50%**	**0%**	**20%**	**10%**	**20%**	**0%**	100.00%
14		**Bill's Interchange Schedule (BITS)**	**Direct**	**85%**	**0%**	**0%**	**0%**	**15%**	**0%**	100.00%
15		**CaseWise (process modeling tool)**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
16		**CHASE**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
17		**Common Information Model (CIM)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
18		**Compliance (Blaze)**	**Dept direct**	**19%**	**16%**	**10%**	**0%**	**33%**	**22%**	100.00%
19		**Congestion Management (CONG) Component of SA**	**Direct**	**10%**	**0%**	**0%**	**65%**	**25%**	**0%**	100.00%
20		**Congestion Reform-DSOW**	**Direct**	**50%**	**0%**	**0%**	**50%**	**0%**	**0%**	100.00%
21		**Congestion Revenue Rights (CRR)**	**Direct**	**0%**	**0%**	**0%**	**80%**	**20%**	**0%**	100.00%
22		**DataWarehouse**	**Dept direct**	**24%**	**18%**	**6%**	**9%**	**24%**	**18%**	100.00%
23		**Dept. of Market Analysis Tools (SAS/MARS)**	**Dept direct**	**15%**	**26%**	**0%**	**20%**	**31%**	**7%**	100.00%
24		**Dispute Tracking System (Remedy)**	**Direct**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	100.00%
25		**Documentum**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
26		**Electronic Tagging (Etag)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
27		**Energy Management System (EMS)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
28		**Engineering Analysis Tools**	**Direct**	**60%**	**40%**	**0%**	**0%**	**0%**	**0%**	100.00%

Exh. No. ISO- 10, Page 181 of 442

California Independent System Operator
2004 GMC Cost Allocation

Functionalization of Systems

	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Evaluation of Market Separation	Direct	0%	0%	0%	50%	50%	0%	100.00%
Existing Transmission Contracts Calculator (ETCC)	Direct	25%	0%	20%	15%	20%	20%	100.00%
FERC Study Software	Direct	0%	0%	0%	0%	100%	0%	100.00%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Direct	0%	0%	15%	60%	15%	10%	100.00%
Global Resource Reliability Management Application (GRRMA)	Direct	75%	15%	0%	0%	10%	0%	100.00%
Grid Operations Training Simulator (GOTS)	Direct	56%	44%	0%	0%	0%	0%	100.00%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Direct	0%	0%	100%	0%	0%	0%	100.00%
Human Resources	FTE	44%	21%	4%	4%	10%	17%	100.00%
IBM Contract	Dept direct	37%	14%	10%	4%	9%	26%	100.00%
Integrated Forward Market (IFM)	Direct	10%	0%	35%	0%	55%	0%	100.00%
Internal Development	System directs	23%	0%	22%	3%	7%	45%	100.00%
Interzonal Congestion Management reform - Real Time	Direct	50%	0%	0%	50%	0%	0%	100.00%
Land and Building Costs	FTE	44%	21%	4%	4%	10%	17%	100.00%
Local Area Network (LAN)	FTE	44%	21%	4%	4%	10%	17%	100.00%
Locational Marginal Pricing (LMPM)	Direct	10%	0%	35%	0%	55%	0%	100.00%
Market Transaction System (MTS)	Direct	0%	0%	0%	0%	100%	0%	100.00%
Masterfile	Direct	20%	0%	20%	0%	55%	5%	100.00%
MD 02 Capital	Direct	7%	0%	14%	11%	28%	40%	100.00%
Meter Data Acquisition System (MDAS)	Direct	0%	0%	0%	0%	0%	100%	100.00%
Miscellaneous (2004 related capital)	System directs	23%	0%	22%	3%	7%	45%	100.00%
Monitoring (Tivoli)	System directs	23%	0%	22%	3%	7%	45%	100.00%
New Resource Interconnection (NRI)	Direct	100%	0%	0%	0%	0%	0%	100.00%
New System Equipment (replacement of owned equipment)	System directs	23%	0%	22%	3%	7%	45%	100.00%
NT/web servers	FTE	44%	21%	4%	4%	10%	17%	100.00%

Exh. No. ISO- 10, Page 182 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Functionalization of Systems**								
3										
4			**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
53		**NT-servers**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
54		**Oracle Enterprise Manager (OEM)**	**Direct**	**27%**	**0%**	**18%**	**5%**	**9%**	**41%**	100.00%
55		**Office Automation - desktop/laptop (OA)**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
57		**Open Access Same Time Information System (OASIS)**	**Direct**	**10%**	**0%**	**25%**	**10%**	**35%**	**20%**	100.00%
58		**Operational Meter Analysis and Reporting (OMAR)**	**Direct**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	100.00%
59		**Oracle Corporate Financials**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
60		**Oracle Licenses**	**Direct**	**27%**	**0%**	**18%**	**5%**	**9%**	**41%**	100.00%
61		**Oracle Market Financials BBS**	**Direct**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	100.00%
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	**Direct**	**5%**	**5%**	**0%**	**0%**	**90%**	**0%**	100.00%
63		**Outage Scheduler (OS)**	**Direct**	**50%**	**0%**	**10%**	**20%**	**20%**	**0%**	100.00%
64		**Participating Intermittent Resource Project (PIRP)**	**Calculated Direct**	**0%**	**0%**	**94%**	**0%**	**6%**	**0%**	100.00%
65		**Physical Facilities Software Application/Furniture/Leasehold Improvements**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
66		**Process Information System (PI)**	**Direct**	**80%**	**0%**	**0%**	**0%**	**10%**	**10%**	100.00%
67		**Rational Buyer Component of ASM**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
68		**Real Time Energy Dispatch System (REDS)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
69		**Real Time Nodal Market**	**Direct**	**35%**	**0%**	**10%**	**0%**	**55%**	**0%**	100.00%
70		**Reliability Management System (RMS)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
71		**Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
73		**Resource Register (RR)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
74		**RMR Application Validation Engine (RAVE)**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
75		**Scheduling & Logging for ISO California (SLIC)**	**Direct**	**65%**	**0%**	**15%**	**5%**	**15%**	**0%**	100.00%
76		**Scheduling Architecture (SA)**	**Calculated Direct**	**24%**	**0%**	**20%**	**26%**	**30%**	**0%**	100.00%

Exh. No. ISO- 10, Page 183 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Functionalization of Systems**								
3										
4			**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
77		**Scheduling Infrastructure (SI)**	**Calculated Direct**	**0%**	**0%**	**94%**	**0%**	**6%**	**0%**	100.00%
78		**Scheduling Infrastructure Business Rules (SIBR)**	**Calculated Direct**	**0%**	**0%**	**94%**	**0%**	**6%**	**0%**	100.00%
79		**Security Constrained Economic Dispatch (SCED)**	**Direct**	**40%**	**0%**	**0%**	**0%**	**60%**	**0%**	100.00%
80		**Security- External/Physical**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
81		**Security-ISS (CUDA)**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
82		**Settlements and Market Clearing**	**Direct**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	100.00%
83		**Sign Board (Symon Board maint.)**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
84		**Startup Costs through 3/31/98, Working Capital-3 months**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
85		**Storage (EMC symmetrix)**	**Calculated Direct**	**19%**	**10%**	**14%**	**4%**	**12%**	**42%**	100.00%
86		**System Equipment Buyouts (lease buyouts)**	**Calculated Direct**	**43%**	**1%**	**7%**	**2%**	**11%**	**36%**	100.00%
87		**Telephone/PBX**	**FTE**	**44%**	**21%**	**4%**	**4%**	**10%**	**17%**	100.00%
88		**Training Systems**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	**Direct**	**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	100.00%
90		**Transmission Map Plotting & Display**	**Direct**	**50%**	**50%**	**0%**	**0%**	**0%**	**0%**	100.00%
91		**Trustee Costs, Interest-Capitalized, User Groups**	**Calculated Direct**	**54%**	**1%**	**11%**	**16%**	**17%**	**2%**	100.00%
92		**Utilities - System i.e. Print drivers**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
93		**Vitria (Middleware)**	**System directs**	**23%**	**0%**	**22%**	**3%**	**7%**	**45%**	100.00%
94		**Wide Area Network (WAN)**	**Calculated Direct**	**41%**	**2%**	**19%**	**1%**	**8%**	**29%**	100.00%

Exh. No. ISO- 10, Page 184 of 442

	A	B	C	D	E	F	G	H	I	J
1									California Independent System Oper 2004 GMC Cost Allocation	
2										**Allocation of Cost Center Budget to S**
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
5		ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
6		Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
7		Application Development Tools	$ 285,717	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
8		Automated Dispatch System (ADS)	$ 299,896	$ -	$ -	$ 11,826	Not Used	Not Used	$ -	$ -
9		Automated Load Forecast System (ALFS)	$ 67,801	$ -	$ -	$ 39,421	Not Used	Not Used	$ -	$ -
10		Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
11		Backup systems (Legato/Quantum)	$ 561,693	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
12		Balance of Business Systems (BBS)	$ 1,885,180	$ -	$ -	$ 366,612	Not Used	Not Used	$ -	$ -
13		Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
14		Bill's Interchange Schedule (BITS)	$ 97,872	$ -	$ -	$ 18,922	Not Used	Not Used	$ -	$ -
15		CaseWise (process modeling tool)	$ 30,818	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
16		CHASE	$ 728,388	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
17		Common Information Model (CIM)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
18		Compliance (Blaze)	$ 67,392	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
19		Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
20		Congestion Reform-DSOW	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
21		Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
22		DataWarehouse	$ 1,133,453	$ -	$ -	$ 63,073	Not Used	Not Used	$ -	$ -
23		Dept. of Market Analysis Tools (SAS/MARS)	$ 217,306	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
24		Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
25		Documentum	$ 297,010	$ -	$ -	$ 122,204	Not Used	Not Used	$ -	$ -
26		Electronic Tagging (Etag)	$ 207,403	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
27		Energy Management System (EMS)	$ 2,078,817	$ -	$ -	$ 1,607,322	Not Used	Not Used	$ 2,036,839	$ -
28		Engineering Analysis Tools	$ 31,319	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -

	B	K	L	M	N	O	P	Q	R
1		ator							
2		ystems							
3									
4		1466	1467	1468	1469	1471	1481	1482	Total by System
5	ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
6	Ancillary Services Management (ASM) Component of SA	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
7	Application Development Tools	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 285,717
8	Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	Not Used	$ 208,816	$ 50,401	$ 570,940
9	Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ 37,801	$ 197,226
10	Automatic Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	Not Used	$ -	$ 37,801	$ 37,801
11	Backup systems (Legato/Quantum)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 561,693
12	Balance of Business Systems (BBS)	$ -	$ 1,021,540	$ -	$ -	Not Used	$ -	$ -	$ 3,273,332
13	Balancing Energy Ex Post Price (BEEP) Component of SA	$ -	$ -	$ -	$ -	Not Used	$ -	$ 50,401	$ 50,401
14	Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ 37,801	$ 206,798
15	CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 30,818
16	CHASE	$ 527,120	$ -	$ -	$ -	Not Used	$ -	$ -	$ 1,255,509
17	Common Information Model (CIM)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
18	Compliance (Blaze)	$ -	$ -	$ -	$ -	Not Used	$ 208,816	$ -	$ 276,208
19	Congestion Management (CONG) Component of SA	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
20	Congestion Reform-DSOW	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
21	Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
22	DataWarehouse	$ -	$ -	$ -	$ 1,298,406	Not Used	$ -	$ -	$ 2,494,932
23	Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 217,306
24	Dispute Tracking System (Remedy)	$ 511,617	$ -	$ -	$ -	Not Used	$ -	$ -	$ 511,617
25	Documentum	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 419,214
26	Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ -	$ 259,607
27	Energy Management System (EMS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 5,722,979
28	Engineering Analysis Tools	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 31,319

	A	B	C	D	E	F	G	H	I	J
1									California Independent System Oper 2004 GMC Cost Allocation	
2									**Allocation of Cost Center Budget to S**	
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
29		**Evaluation of Market Separation**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
30		**Existing Transmission Contracts Calculator (ETCC)**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
31		**FERC Study Software**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ 589,561	$ -	$ -	$ 19,710	Not Used	Not Used	$ -	$ -
33		**Global Resource Reliability Management Application (GRRMA)**	$ 9,450	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
34		**Grid Operations Training Simulator (GOTS)**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ 127,302	$ -
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
36		**Human Resources**	$ 137,860	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
37		**IBM Contract**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
38		**Integrated Forward Market (IFM)**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
39		**Internal Development**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
40		**Interzonal Congestion Management reform - Real Time**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
41		**Land and Building Costs**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
42		**Local Area Network (LAN)**	$ -	$ 4,463,874	$ 777,724	$ 829,263	Not Used	Not Used	$ -	$ -
43		**Locational Marginal Pricing (LMPM)**	$ 19,785	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
44		**Market Transaction System (MTS)**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
45		**Masterfile**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
46		**MD 02 Capital**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
47		**Meter Data Acquisition System (MDAS)**	$ 233,287	$ -	$ -	$ 918,914	Not Used	Not Used	$ -	$ 1,933,378
48		**Miscellaneous (2004 related capital)**	$ 3,747,762	$ -	$ -	$ 634,655	Not Used	Not Used	$ -	$ -
49		**Monitoring (Tivoli)**	$ 121,911	$ 2,198,625	$ -	$ -	Not Used	Not Used	$ -	$ -

Exh. No. ISO- 10, Page 187 of 442

	B	K	L	M	N	O	P	Q	R
1		ator							
2		ystems							
3									
4		1466	1467	1468	1469	1471	1481	1482	Total by System
29	Evaluation of Market Separation	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
30	Existing Transmission Contracts Calculator (ETCC)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ 50,401	$ 102,605
31	FERC Study Software	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
32	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ 12,600	$ 621,871
33	Global Resource Reliability Management Application (GRRMA)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ 25,201	$ 86,855
34	Grid Operations Training Simulator (GOTS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 127,302
35	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
36	Human Resources	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 137,860
37	IBM Contract	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
38	Integrated Forward Market (IFM)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
39	Internal Development	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
40	Interzonal Congestion Management reform - Real Time	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
41	Land and Building Costs	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
42	Local Area Network (LAN)	$ -	$ -	$ 609,686	$ -	Not Used	$ -	$ -	$ 6,680,547
43	Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 19,785
44	Market Transaction System (MTS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
45	Masterfile	$ -	$ -	$ -	$ -	Not Used	$ -	$ 25,201	$ 25,201
46	MD 02 Capital	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
47	Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 3,085,579
48	Miscellaneous (2004 related capital)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 4,382,417
49	Monitoring (Tivoli)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 2,320,536

Exh. No. ISO- 10, Page 188 of 442

	A	B	C	D	E	F	G	H	I	J
1									California Independent System Oper 2004 GMC Cost Allocation	
2										**Allocation of Cost Center Budget to S**
3										
4			1424	1431	1433	1441	1442	1451	1461	1462
50		New Resource Interconnection (NRI)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
51		New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
52		NT/web servers	$ 258,874	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
53		NT-servers	$ 111,884	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
54		Oracle Enterprise Manager (OEM)	$ -	$ -	$ -	$ 18,922	Not Used	Not Used	$ -	$ -
55		Office Automation - desktop/laptop (OA)	$ 2,656,872	$ -	$ -	$ 315,366	Not Used	Not Used	$ -	$ -
56		Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ 289,670	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
57		Open Access Same Time Information System (OASIS)	$ 636,459	$ -	$ -	$ 264,119	Not Used	Not Used	$ -	$ -
58		Operational Meter Analysis and Reporting (OMAR)	$ 305,608	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
59		Oracle Corporate Financials	$ 38,849	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
60		Oracle Licenses	$ 774,669	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
61		Oracle Market Financials BBS	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
62		Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
63		Outage Scheduler (OS)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
64		Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
65		Physical Facilities Software Application/Furniture/Leasehold	$ 3,920	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
66		Process Information System (PI)	$ 134,755	$ -	$ -	$ -	Not Used	Not Used	$ 127,302	$ -
67		Rational Buyer Component of ASM	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
68		Real Time Energy Dispatch System (REDS)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
69		Real Time Nodal Market	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
70		Reliability Management System (RMS)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
71		Remedy (related to Transmission Registry, New Resource Interconnection and	$ 79,677	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
72		Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ 31,791	$ -	$ -	$ -	Not Used	Not Used	$ -	$ 527,285
73		Resource Register (RR)	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -

	B	K	L	M	N	O	P	Q	R
1		ator							
2		ystems							
3									
4		1466	1467	1468	1469	1471	1481	1482	Total by System
50	New Resource Interconnection (NRI)	$ 511,617	$ -	$ -	$ -	Not Used	$ -	$ -	$ 511,617
51	New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
52	NT/web servers	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 258,874
53	NT-servers	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 111,884
54	Oracle Enterprise Manager (OEM)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 18,922
55	Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 2,972,238
56	Office equipment (scanner, printer, copier, fax, Communication Equip.)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 289,670
57	Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	Not Used	$ 76,306	$ 37,801	$ 1,016,684
58	Operational Meter Analysis and Reporting (OMAR)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 305,608
59	Oracle Corporate Financials	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 38,849
60	Oracle Licenses	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 774,669
61	Oracle Market Financials BBS	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
62	Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ 37,801	$ 37,801
63	Outage Scheduler (OS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
64	Participating Intermittent Resource Project (PIRP)	$ -	$ -	$ -	$ -	Not Used	$ 208,816	$ -	$ 208,816
65	Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 3,920
66	Process Information System (PI)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 262,058
67	Rational Buyer Component of ASM	$ -	$ -	$ -	$ -	Not Used	$ -	$ 12,600	$ 12,600
68	Real Time Energy Dispatch System (REDS)	$ -	$ -	$ -	$ -	Not Used	$ 52,204	$ -	$ 52,204
69	Real Time Nodal Market	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
70	Reliability Management System (RMS)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
71	Remedy (related to Transmission Registry, New Resource Interconnection and	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 79,677
72	Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 559,076
73	Resource Register (RR)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -

Exh. No. ISO- 10, Page 190 of 442

	A	B	C	D	E	F	G	H	I	J
1									California Independent System Oper 2004 GMC Cost Allocation	
2										**Allocation of Cost Center Budget to S**
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
74		**RMR Application Validation Engine (RAVE)**	$ 31,101	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
75		**Scheduling & Logging for ISO California (SLIC)**	$ 82,541	$ -	$ -	$ 15,768	Not Used	Not Used	$ -	$ -
76		**Scheduling Architecture (SA)**	$ 251,684	$ -	$ -	$ 2,365	Not Used	Not Used	$ -	$ -
77		**Scheduling Infrastructure (SI)**	$ 606,110	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
78		**Scheduling Infrastructure Business Rules (SIBR)**	$ -	$ -	$ -	$ 862,848	Not Used	Not Used	$ -	$ -
79		**Security Constrained Economic Dispatch (SCED)**	$ 406,933	$ -	$ -	$ 244,408	Not Used	Not Used	$ -	$ -
80		**Security- External/Physical**	$ 31,555	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
81		**Security-ISS (CUDA)**	$ 547,123	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
82		**Settlements and Market Clearing**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
83		**Sign Board (Symon Board maint.)**	$ 4,628	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
84		**Startup Costs through 3/31/98, Working Capital-3 months**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
85		**Storage (EMC symmetrix)**	$ 0	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
86		**System Equipment Buyouts (lease buyouts)**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
87		**Telephone/PBX**	$ -	$ -	$ -	$ 3,870,751	Not Used	Not Used	$ -	$ -
88		**Training Systems**	$ 10,613	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
90		**Transmission Map Plotting & Display**	$ 8,730	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
91		**Trustee Costs, Interest-Capitalized, User Groups**	$ -	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
92		**Utilities - System i.e. Print drivers**	$ 26,254	$ -	$ -	$ -	Not Used	Not Used	$ -	$ -
93		**Vitria (Middleware)**	$ 56,008	$ -	$ -	$ 54,401	Not Used	Not Used	$ -	$ -
94		**Wide Area Network (WAN)**	$ 178,626	$ -	$ 777,724	$ 381,229	Not Used	Not Used	$ -	$ -
95										
96		**Total**	$ 20,414,618	$ 6,662,499	$ 1,555,448	$ 10,662,100	$ -	$ -	$ 2,291,444	$ 2,460,663
97		Check	$ 20,414,618	$ 6,662,499	$ 1,555,448	$ 10,662,100	$ -	$ -	$ 2,291,444	$ 2,460,663

Exh. No. ISO- 10, Page 191 of 442

	B	K	L	M	N	O	P	Q	R
1		ator							
2		ystems							
3									
4		1466	1467	1468	1469	1471	1481	1482	Total by System
74	RMR Application Validation Engine (RAVE)	$ -	$ 102,154	$ -	$ -	Not Used	$ -	$ 12,600	$ 145,856
75	Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	Not Used	$ 417,632	$ 50,401	$ 566,342
76	Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	Not Used	$ -	$ 37,801	$ 291,851
77	Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	Not Used	$ 26,102	$ 50,401	$ 682,613
78	Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 862,848
79	Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 651,341
80	Security- External/Physical	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 31,555
81	Security-ISS (CUDA)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 547,123
82	Settlements and Market Clearing	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
83	Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 4,628
84	Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
85	Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 0
86	System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
87	Telephone/PBX	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 3,870,751
88	Training Systems	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 10,613
89	Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
90	Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 8,730
91	Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ -
92	Utilities - System i.e. Print drivers	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 26,254
93	Vitria (Middleware)	$ -	$ -	$ -	$ -	Not Used	$ -	$ -	$ 110,409
94	Wide Area Network (WAN)	$ -	$ -	$ -	$ -	Not Used	$ -	$ 25,201	$ 1,362,779
95									
96	Total	$ 1,550,354	$ 1,123,694	$ 609,686	$ 1,298,406	$ -	$ 1,461,712	$ 592,213	$ 50,682,836
97	Check	$ 1,550,354	$ 1,123,694	$ 609,686	$ 1,298,406	$ -	$ 1,461,712	$ 592,213	$ 50,682,836

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activities to Systems**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
5		**ACC Upgrades (Communication between ISO & IOUs)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
6		**Ancillary Services Management (ASM) Component of SA**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
7		**Application Development Tools**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
8		**Automated Dispatch System (ADS)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
9		**Automated Load Forecast System (ALFS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
10		**Automatic Mitigation Procedure (AMP)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
11		**Backup systems (Legato/Quantum)**	3%	0%	0%	0%	Not Used	Not Used	0%	0%
12		**Balance of Business Systems (BBS)**	9%	0%	0%	3%	Not Used	Not Used	0%	0%
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
14		**Bill's Interchange Schedule (BITS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
15		**CaseWise (process modeling tool)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
16		**CHASE**	4%	0%	0%	0%	Not Used	Not Used	0%	0%
17		**Common Information Model (CIM)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
18		**Compliance (Blaze)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
19		**Congestion Management (CONG) Component of SA**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
20		**Congestion Reform-DSOW**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
21		**Congestion Revenue Rights (CRR)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
22		**DataWarehouse**	6%	0%	0%	1%	Not Used	Not Used	0%	0%
23		**Dept. of Market Analysis Tools (SAS/MARS)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
24		**Dispute Tracking System (Remedy)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
25		**Documentum**	1%	0%	0%	1%	Not Used	Not Used	0%	0%
26		**Electronic Tagging (Etag)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
27		**Energy Management System (EMS)**	10%	0%	0%	15%	Not Used	Not Used	89%	0%
28		**Engineering Analysis Tools**	0%	0%	0%	0%	Not Used	Not Used	0%	0%

	B	K	L	M	N	O	P	Q
1								
2								
3								
4		1466	1467	1468	1469	1471	1481	1482
5	ACC Upgrades (Communication between ISO & IOUs)	0%	0%	0%	0%	Not Used	0%	0%
6	Ancillary Services Management (ASM) Component of SA	0%	0%	0%	0%	Not Used	0%	0%
7	Application Development Tools	0%	0%	0%	0%	Not Used	0%	0%
8	Automated Dispatch System (ADS)	0%	0%	0%	0%	Not Used	14%	9%
9	Automated Load Forecast System (ALFS)	0%	0%	0%	0%	Not Used	4%	6%
10	Automatic Mitigation Procedure (AMP)	0%	0%	0%	0%	Not Used	0%	6%
11	Backup systems (Legato/Quantum)	0%	0%	0%	0%	Not Used	0%	0%
12	Balance of Business Systems (BBS)	0%	91%	0%	0%	Not Used	0%	0%
13	Balancing Energy Ex Post Price (BEEP) Component of SA	0%	0%	0%	0%	Not Used	0%	9%
14	Bill's Interchange Schedule (BITS)	0%	0%	0%	0%	Not Used	4%	6%
15	CaseWise (process modeling tool)	0%	0%	0%	0%	Not Used	0%	0%
16	CHASE	34%	0%	0%	0%	Not Used	0%	0%
17	Common Information Model (CIM)	0%	0%	0%	0%	Not Used	0%	0%
18	Compliance (Blaze)	0%	0%	0%	0%	Not Used	14%	0%
19	Congestion Management (CONG) Component of SA	0%	0%	0%	0%	Not Used	0%	0%
20	Congestion Reform-DSOW	0%	0%	0%	0%	Not Used	0%	0%
21	Congestion Revenue Rights (CRR)	0%	0%	0%	0%	Not Used	0%	0%
22	DataWarehouse	0%	0%	0%	100%	Not Used	0%	0%
23	Dept. of Market Analysis Tools (SAS/MARS)	0%	0%	0%	0%	Not Used	0%	0%
24	Dispute Tracking System (Remedy)	33%	0%	0%	0%	Not Used	0%	0%
25	Documentum	0%	0%	0%	0%	Not Used	0%	0%
26	Electronic Tagging (Etag)	0%	0%	0%	0%	Not Used	4%	0%
27	Energy Management System (EMS)	0%	0%	0%	0%	Not Used	0%	0%
28	Engineering Analysis Tools	0%	0%	0%	0%	Not Used	0%	0%

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activities to Systems**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
29		**Evaluation of Market Separation**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
30		**Existing Transmission Contracts Calculator (ETCC)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
31		**FERC Study Software**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	3%	0%	0%	0%	Not Used	Not Used	0%	0%
33		**Global Resource Reliability Management Application (GRRMA)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
34		**Grid Operations Training Simulator (GOTS)**	0%	0%	0%	0%	Not Used	Not Used	6%	0%
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
36		**Human Resources**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
37		**IBM Contract**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
38		**Integrated Forward Market (IFM)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
39		**Internal Development**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
40		**Interzonal Congestion Management reform - Real Time**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
41		**Land and Building Costs**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
42		**Local Area Network (LAN)**	0%	67%	50%	8%	Not Used	Not Used	0%	0%
43		**Locational Marginal Pricing (LMPM)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
44		**Market Transaction System (MTS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
45		**Masterfile**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
46		**MD 02 Capital**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
47		**Meter Data Acquisition System (MDAS)**	1%	0%	0%	9%	Not Used	Not Used	0%	79%
48		**Miscellaneous (2004 related capital)**	18%	0%	0%	6%	Not Used	Not Used	0%	0%
49		**Monitoring (Tivoli)**	1%	33%	0%	0%	Not Used	Not Used	0%	0%

Exh. No. ISO- 10, Page 195 of 442

	B	K	L	M	N	O	P	Q
1								
2								
3								
4		1466	1467	1468	1469	1471	1481	1482
29	Evaluation of Market Separation	0%	0%	0%	0%	Not Used	0%	0%
30	Existing Transmission Contracts Calculator (ETCC)	0%	0%	0%	0%	Not Used	4%	9%
31	FERC Study Software	0%	0%	0%	0%	Not Used	0%	0%
32	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	0%	0%	0%	0%	Not Used	0%	2%
33	Global Resource Reliability Management Application (GRRMA)	0%	0%	0%	0%	Not Used	4%	4%
34	Grid Operations Training Simulator (GOTS)	0%	0%	0%	0%	Not Used	0%	0%
35	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0%	0%	0%	0%	Not Used	0%	0%
36	Human Resources	0%	0%	0%	0%	Not Used	0%	0%
37	IBM Contract	0%	0%	0%	0%	Not Used	0%	0%
38	Integrated Forward Market (IFM)	0%	0%	0%	0%	Not Used	0%	0%
39	Internal Development	0%	0%	0%	0%	Not Used	0%	0%
40	Interzonal Congestion Management reform - Real Time	0%	0%	0%	0%	Not Used	0%	0%
41	Land and Building Costs	0%	0%	0%	0%	Not Used	0%	0%
42	Local Area Network (LAN)	0%	0%	100%	0%	Not Used	0%	0%
43	Locational Marginal Pricing (LMPM)	0%	0%	0%	0%	Not Used	0%	0%
44	Market Transaction System (MTS)	0%	0%	0%	0%	Not Used	0%	0%
45	Masterfile	0%	0%	0%	0%	Not Used	0%	4%
46	MD 02 Capital	0%	0%	0%	0%	Not Used	0%	0%
47	Meter Data Acquisition System (MDAS)	0%	0%	0%	0%	Not Used	0%	0%
48	Miscellaneous (2004 related capital)	0%	0%	0%	0%	Not Used	0%	0%
49	Monitoring (Tivoli)	0%	0%	0%	0%	Not Used	0%	0%

Exh. No. ISO- 10, Page 196 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activities to Systems**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
50		**New Resource Interconnection (NRI)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
51		**New System Equipment (replacement of owned equipment)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
52		**NT/web servers**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
53		**NT-servers**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
54		**Oracle Enterprise Manager (OEM)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
55		**Office Automation - desktop/laptop (OA)**	13%	0%	0%	3%	Not Used	Not Used	0%	0%
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
57		**Open Access Same Time Information System (OASIS)**	3%	0%	0%	2%	Not Used	Not Used	0%	0%
58		**Operational Meter Analysis and Reporting (OMAR)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
59		**Oracle Corporate Financials**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
60		**Oracle Licenses**	4%	0%	0%	0%	Not Used	Not Used	0%	0%
61		**Oracle Market Financials BBS**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
63		**Outage Scheduler (OS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
64		**Participating Intermittent Resource Project (PIRP)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
65		**Physical Facilities Software Application/Furniture/Leasehold**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
66		**Process Information System (PI)**	1%	0%	0%	0%	Not Used	Not Used	6%	0%
67		**Rational Buyer Component of ASM**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
68		**Real Time Energy Dispatch System (REDS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
69		**Real Time Nodal Market**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
70		**Reliability Management System (RMS)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	0%	0%	0%	0%	Not Used	Not Used	0%	21%
73		**Resource Register (RR)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%

Exh. No. ISO- 10, Page 197 of 442

	B	K	L	M	N	O	P	Q
1								
2								
3								
4		1466	1467	1468	1469	1471	1481	1482
50	New Resource Interconnection (NRI)	33%	0%	0%	0%	Not Used	0%	0%
51	New System Equipment (replacement of owned equipment)	0%	0%	0%	0%	Not Used	0%	0%
52	NT/web servers	0%	0%	0%	0%	Not Used	0%	0%
53	NT-servers	0%	0%	0%	0%	Not Used	0%	0%
54	Oracle Enterprise Manager (OEM)	0%	0%	0%	0%	Not Used	0%	0%
55	Office Automation - desktop/laptop (OA)	0%	0%	0%	0%	Not Used	0%	0%
56	Office equipment (scanner, printer, copier, fax, Communication Equip.)	0%	0%	0%	0%	Not Used	0%	0%
57	Open Access Same Time Information System (OASIS)	0%	0%	0%	0%	Not Used	5%	6%
58	Operational Meter Analysis and Reporting (OMAR)	0%	0%	0%	0%	Not Used	0%	0%
59	Oracle Corporate Financials	0%	0%	0%	0%	Not Used	0%	0%
60	Oracle Licenses	0%	0%	0%	0%	Not Used	0%	0%
61	Oracle Market Financials BBS	0%	0%	0%	0%	Not Used	0%	0%
62	Out of Sequence Market Operation Settlements Information System (OOS)	0%	0%	0%	0%	Not Used	0%	6%
63	Outage Scheduler (OS)	0%	0%	0%	0%	Not Used	0%	0%
64	Participating Intermittent Resource Project (PIRP)	0%	0%	0%	0%	Not Used	14%	0%
65	Physical Facilities Software Application/Furniture/Leasehold	0%	0%	0%	0%	Not Used	0%	0%
66	Process Information System (PI)	0%	0%	0%	0%	Not Used	0%	0%
67	Rational Buyer Component of ASM	0%	0%	0%	0%	Not Used	0%	2%
68	Real Time Energy Dispatch System (REDS)	0%	0%	0%	0%	Not Used	4%	0%
69	Real Time Nodal Market	0%	0%	0%	0%	Not Used	0%	0%
70	Reliability Management System (RMS)	0%	0%	0%	0%	Not Used	0%	0%
71	Remedy (related to Transmission Registry, New Resource Interconnection	0%	0%	0%	0%	Not Used	0%	0%
72	Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	0%	0%	0%	0%	Not Used	0%	0%
73	Resource Register (RR)	0%	0%	0%	0%	Not Used	0%	0%

Exh. No. ISO- 10, Page 198 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activities to Systems**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
74		**RMR Application Validation Engine (RAVE)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
75		**Scheduling & Logging for ISO California (SLIC)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
76		**Scheduling Architecture (SA)**	1%	0%	0%	0%	Not Used	Not Used	0%	0%
77		**Scheduling Infrastructure (SI)**	3%	0%	0%	0%	Not Used	Not Used	0%	0%
78		**Scheduling Infrastructure Business Rules (SIBR)**	0%	0%	0%	8%	Not Used	Not Used	0%	0%
79		**Security Constrained Economic Dispatch (SCED)**	2%	0%	0%	2%	Not Used	Not Used	0%	0%
80		**Security- External/Physical**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
81		**Security-ISS (CUDA)**	3%	0%	0%	0%	Not Used	Not Used	0%	0%
82		**Settlements and Market Clearing**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
83		**Sign Board (Symon Board maint.)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
84		**Startup Costs through 3/31/98, Working Capital-3 months**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
85		**Storage (EMC symmetrix)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
86		**System Equipment Buyouts (lease buyouts)**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
87		**Telephone/PBX**	0%	0%	0%	36%	Not Used	Not Used	0%	0%
88		**Training Systems**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
90		**Transmission Map Plotting & Display**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
91		**Trustee Costs, Interest-Capitalized, User Groups**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
92		**Utilities - System i.e. Print drivers**	0%	0%	0%	0%	Not Used	Not Used	0%	0%
93		**Vitria (Middleware)**	0%	0%	0%	1%	Not Used	Not Used	0%	0%
94		**Wide Area Network (WAN)**	1%	0%	50%	4%	Not Used	Not Used	0%	0%
95										
96		**Totals**	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%

	B	K	L	M	N	O	P	Q
1								
2								
3								
4		1466	1467	1468	1469	1471	1481	1482
74	RMR Application Validation Engine (RAVE)	0%	9%	0%	0%	Not Used	0%	2%
75	Scheduling & Logging for ISO California (SLIC)	0%	0%	0%	0%	Not Used	29%	9%
76	Scheduling Architecture (SA)	0%	0%	0%	0%	Not Used	0%	6%
77	Scheduling Infrastructure (SI)	0%	0%	0%	0%	Not Used	2%	9%
78	Scheduling Infrastructure Business Rules (SIBR)	0%	0%	0%	0%	Not Used	0%	0%
79	Security Constrained Economic Dispatch (SCED)	0%	0%	0%	0%	Not Used	0%	0%
80	Security- External/Physical	0%	0%	0%	0%	Not Used	0%	0%
81	Security-ISS (CUDA)	0%	0%	0%	0%	Not Used	0%	0%
82	Settlements and Market Clearing	0%	0%	0%	0%	Not Used	0%	0%
83	Sign Board (Symon Board maint.)	0%	0%	0%	0%	Not Used	0%	0%
84	Startup Costs through 3/31/98, Working Capital-3 months	0%	0%	0%	0%	Not Used	0%	0%
85	Storage (EMC symmetrix)	0%	0%	0%	0%	Not Used	0%	0%
86	System Equipment Buyouts (lease buyouts)	0%	0%	0%	0%	Not Used	0%	0%
87	Telephone/PBX	0%	0%	0%	0%	Not Used	0%	0%
88	Training Systems	0%	0%	0%	0%	Not Used	0%	0%
89	Transmission Constrained Unit Commitment (TCUC) Must Offer	0%	0%	0%	0%	Not Used	0%	0%
90	Transmission Map Plotting & Display	0%	0%	0%	0%	Not Used	0%	0%
91	Trustee Costs, Interest-Capitalized, User Groups	0%	0%	0%	0%	Not Used	0%	0%
92	Utilities - System i.e. Print drivers	0%	0%	0%	0%	Not Used	0%	0%
93	Vitria (Middleware)	0%	0%	0%	0%	Not Used	0%	0%
94	Wide Area Network (WAN)	0%	0%	0%	0%	Not Used	0%	4%
95								
96	Totals	100.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%

Exh. No. ISO- 10, Page 200 of 442

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activity or Personnel to Sy**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
5		**ACC Upgrades (Communication between ISO & IOUs)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
6		**Ancillary Services Management (ASM) Component of SA**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
7		**Application Development Tools**	1.4%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
8		**Automated Dispatch System (ADS)**	1.5%	0.0%	0.0%	0.1%	Not Used	Not Used	0	0
9		**Automated Load Forecast System (ALFS)**	0.3%	0.0%	0.0%	0.4%	Not Used	Not Used	0	0
10		**Automatic Mitigation Procedure (AMP)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
11		**Backup systems (Legato/Quantum)**	2.8%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
12		**Balance of Business Systems (BBS)**	9.2%	0.0%	0.0%	3.4%	Not Used	Not Used	0	0
13		**Balancing Energy Ex Post Price (BEEP) Component of SA**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
14		**Bill's Interchange Schedule (BITS)**	0.5%	0.0%	0.0%	0.2%	Not Used	Not Used	0	0
15		**CaseWise (process modeling tool)**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
16		**CHASE**	3.6%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
17		**Common Information Model (CIM)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
18		**Compliance (Blaze)**	0.3%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
19		**Congestion Management (CONG) Component of SA**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
20		**Congestion Reform-DSOW**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
21		**Congestion Revenue Rights (CRR)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
22		**DataWarehouse**	5.6%	0.0%	0.0%	0.6%	Not Used	Not Used	0	0
23		**Dept. of Market Analysis Tools (SAS/MARS)**	1.1%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
24		**Dispute Tracking System (Remedy)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
25		**Documentum**	1.5%	0.0%	0.0%	1.1%	Not Used	Not Used	0	0
26		**Electronic Tagging (Etag)**	1.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
27		**Energy Management System (EMS)**	10.2%	0.0%	0.0%	15.1%	Not Used	Not Used	16	0
28		**Engineering Analysis Tools**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0

	B	K	L	M	N	O	P	Q
1								
2		stems						
3								
4		1466	1467	1468	1469	1471	1481	1482
5	ACC Upgrades (Communication between ISO & IOUs)	0	0	0%	0%	Not Used	0.0%	0.0%
6	Ancillary Services Management (ASM) Component of SA	0	0	0%	0%	Not Used	0.0%	0.0%
7	Application Development Tools	0	0	0%	0%	Not Used	0.0%	0.0%
8	Automated Dispatch System (ADS)	0	0	0%	0%	Not Used	200.0%	34.0%
9	Automated Load Forecast System (ALFS)	0	0	0%	0%	Not Used	50.0%	25.5%
10	Automatic Mitigation Procedure (AMP)	0	0	0%	0%	Not Used	0.0%	25.5%
11	Backup systems (Legato/Quantum)	0	0	0%	0%	Not Used	0.0%	0.0%
12	Balance of Business Systems (BBS)	0	10	0%	0%	Not Used	0.0%	0.0%
13	Balancing Energy Ex Post Price (BEEP) Component of SA	0	0	0%	0%	Not Used	0.0%	34.0%
14	Bill's Interchange Schedule (BITS)	0	0	0%	0%	Not Used	50.0%	25.5%
15	CaseWise (process modeling tool)	0	0	0%	0%	Not Used	0.0%	0.0%
16	CHASE	0.34	0	0%	0%	Not Used	0.0%	0.0%
17	Common Information Model (CIM)	0	0	0%	0%	Not Used	0.0%	0.0%
18	Compliance (Blaze)	0	0	0%	0%	Not Used	200.0%	0.0%
19	Congestion Management (CONG) Component of SA	0	0	0%	0%	Not Used	0.0%	0.0%
20	Congestion Reform-DSOW	0	0	0%	0%	Not Used	0.0%	0.0%
21	Congestion Revenue Rights (CRR)	0	0	0%	0%	Not Used	0.0%	0.0%
22	DataWarehouse	0	0	0%	100%	Not Used	0.0%	0.0%
23	Dept. of Market Analysis Tools (SAS/MARS)	0	0	0%	0%	Not Used	0.0%	0.0%
24	Dispute Tracking System (Remedy)	0.33	0	0%	0%	Not Used	0.0%	0.0%
25	Documentum	0	0	0%	0%	Not Used	0.0%	0.0%
26	Electronic Tagging (Etag)	0	0	0%	0%	Not Used	50.0%	0.0%
27	Energy Management System (EMS)	0	0	0%	0%	Not Used	0.0%	0.0%
28	Engineering Analysis Tools	0	0	0%	0%	Not Used	0.0%	0.0%

	A	B	C	D	E	F	G	H	I	J
1		California Independent System Operator 2004 GMC Cost Allocation								
2		**Allocation of Cost Center Activity or Personnel to Sy**								
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
29		**Evaluation of Market Separation**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
30		**Existing Transmission Contracts Calculator (ETCC)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
31		**FERC Study Software**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
32		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	2.9%	0.0%	0.0%	0.2%	Not Used	Not Used	0	0
33		**Global Resource Reliability Management Application (GRRMA)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
34		**Grid Operations Training Simulator (GOTS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	1	0
35		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
36		**Human Resources**	0.7%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
37		**IBM Contract**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
38		**Integrated Forward Market (IFM)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
39		**Internal Development**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
40		**Interzonal Congestion Management reform - Real Time**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
41		**Land and Building Costs**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
42		**Local Area Network (LAN)**	0.0%	67.0%	50.0%	7.8%	Not Used	Not Used	0	0
43		**Locational Marginal Pricing (LMPM)**	0.1%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
44		**Market Transaction System (MTS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
45		**Masterfile**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
46		**MD 02 Capital**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
47		**Meter Data Acquisition System (MDAS)**	1.1%	0.0%	0.0%	8.6%	Not Used	Not Used	0	11
48		**Miscellaneous (2004 related capital)**	18.4%	0.0%	0.0%	6.0%	Not Used	Not Used	0	0
49		**Monitoring (Tivoli)**	0.6%	33.0%	0.0%	0.0%	Not Used	Not Used	0	0

	B	K	L	M	N	O	P	Q
1								
2		stems						
3								
4		1466	1467	1468	1469	1471	1481	1482
29	Evaluation of Market Separation	0	0	0%	0%	Not Used	0.0%	0.0%
30	Existing Transmission Contracts Calculator (ETCC)	0	0	0%	0%	Not Used	50.0%	34.0%
31	FERC Study Software	0	0	0%	0%	Not Used	0.0%	0.0%
32	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	0	0	0%	0%	Not Used	0.0%	8.5%
33	Global Resource Reliability Management Application (GRRMA)	0	0	0%	0%	Not Used	50.0%	17.0%
34	Grid Operations Training Simulator (GOTS)	0	0	0%	0%	Not Used	0.0%	0.0%
35	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0	0	0%	0%	Not Used	0.0%	0.0%
36	Human Resources	0	0	0%	0%	Not Used	0.0%	0.0%
37	IBM Contract	0	0	0%	0%	Not Used	0.0%	0.0%
38	Integrated Forward Market (IFM)	0	0	0%	0%	Not Used	0.0%	0.0%
39	Internal Development	0	0	0%	0%	Not Used	0.0%	0.0%
40	Interzonal Congestion Management reform - Real Time	0	0	0%	0%	Not Used	0.0%	0.0%
41	Land and Building Costs	0	0	0%	0%	Not Used	0.0%	0.0%
42	Local Area Network (LAN)	0	0	100%	0%	Not Used	0.0%	0.0%
43	Locational Marginal Pricing (LMPM)	0	0	0%	0%	Not Used	0.0%	0.0%
44	Market Transaction System (MTS)	0	0	0%	0%	Not Used	0.0%	0.0%
45	Masterfile	0	0	0%	0%	Not Used	0.0%	17.0%
46	MD 02 Capital	0	0	0%	0%	Not Used	0.0%	0.0%
47	Meter Data Acquisition System (MDAS)	0	0	0%	0%	Not Used	0.0%	0.0%
48	Miscellaneous (2004 related capital)	0	0	0%	0%	Not Used	0.0%	0.0%
49	Monitoring (Tivoli)	0	0	0%	0%	Not Used	0.0%	0.0%

Exh. No. ISO- 10, Page 204 of 442

	A	B	C	D	E	F	G	H	I	J
1							California Independent System Operator 2004 GMC Cost Allocation			
2							**Allocation of Cost Center Activity or Personnel to Sy**			
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
50		**New Resource Interconnection (NRI)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
51		**New System Equipment (replacement of owned equipment)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
52		**NT/web servers**	1.3%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
53		**NT-servers**	0.5%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
54		**Oracle Enterprise Manager (OEM)**	0.0%	0.0%	0.0%	0.2%	Not Used	Not Used	0	0
55		**Office Automation - desktop/laptop (OA)**	13.0%	0.0%	0.0%	3.0%	Not Used	Not Used	0	0
56		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	1.4%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
57		**Open Access Same Time Information System (OASIS)**	3.1%	0.0%	0.0%	2.5%	Not Used	Not Used	0	0
58		**Operational Meter Analysis and Reporting (OMAR)**	1.5%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
59		**Oracle Corporate Financials**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
60		**Oracle Licenses**	3.8%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
61		**Oracle Market Financials BBS**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
62		**Out of Sequence Market Operation Settlements Information System (OOS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
63		**Outage Scheduler (OS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
64		**Participating Intermittent Resource Project (PIRP)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
65		**Physical Facilities Software Application/Furniture/Leasehold**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
66		**Process Information System (PI)**	0.7%	0.0%	0.0%	0.0%	Not Used	Not Used	1	0
67		**Rational Buyer Component of ASM**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
68		**Real Time Energy Dispatch System (REDS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
69		**Real Time Nodal Market**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
70		**Reliability Management System (RMS)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
71		**Remedy (related to Transmission Registry, New Resource Interconnection**	0.4%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
72		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	3
73		**Resource Register (RR)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0

	B	K	L	M	N	O	P	Q
1								
2		stems						
3								
4		1466	1467	1468	1469	1471	1481	1482
50	New Resource Interconnection (NRI)	0.33	0	0%	0%	Not Used	0.0%	0.0%
51	New System Equipment (replacement of owned equipment)	0	0	0%	0%	Not Used	0.0%	0.0%
52	NT/web servers	0	0	0%	0%	Not Used	0.0%	0.0%
53	NT-servers	0	0	0%	0%	Not Used	0.0%	0.0%
54	Oracle Enterprise Manager (OEM)	0	0	0%	0%	Not Used	0.0%	0.0%
55	Office Automation - desktop/laptop (OA)	0	0	0%	0%	Not Used	0.0%	0.0%
56	Office equipment (scanner, printer, copier, fax, Communication Equip.)	0	0	0%	0%	Not Used	0.0%	0.0%
57	Open Access Same Time Information System (OASIS)	0	0	0%	0%	Not Used	75.0%	25.5%
58	Operational Meter Analysis and Reporting (OMAR)	0	0	0%	0%	Not Used	0.0%	0.0%
59	Oracle Corporate Financials	0	0	0%	0%	Not Used	0.0%	0.0%
60	Oracle Licenses	0	0	0%	0%	Not Used	0.0%	0.0%
61	Oracle Market Financials BBS	0	0	0%	0%	Not Used	0.0%	0.0%
62	Out of Sequence Market Operation Settlements Information System (OOS)	0	0	0%	0%	Not Used	0.0%	25.5%
63	Outage Scheduler (OS)	0	0	0%	0%	Not Used	0.0%	0.0%
64	Participating Intermittent Resource Project (PIRP)	0	0	0%	0%	Not Used	200.0%	0.0%
65	Physical Facilities Software Application/Furniture/Leasehold	0	0	0%	0%	Not Used	0.0%	0.0%
66	Process Information System (PI)	0	0	0%	0%	Not Used	0.0%	0.0%
67	Rational Buyer Component of ASM	0	0	0%	0%	Not Used	0.0%	8.5%
68	Real Time Energy Dispatch System (REDS)	0	0	0%	0%	Not Used	50.0%	0.0%
69	Real Time Nodal Market	0	0	0%	0%	Not Used	0.0%	0.0%
70	Reliability Management System (RMS)	0	0	0%	0%	Not Used	0.0%	0.0%
71	Remedy (related to Transmission Registry, New Resource Interconnection	0	0	0%	0%	Not Used	0.0%	0.0%
72	Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)	0	0	0%	0%	Not Used	0.0%	0.0%
73	Resource Register (RR)	0	0	0%	0%	Not Used	0.0%	0.0%

Exh. No. ISO- 10, Page 206 of 442

	A	B	C	D	E	F	G	H	I	J
1						California Independent System Operator 2004 GMC Cost Allocation				
2						**Allocation of Cost Center Activity or Personnel to Sy**				
3										
4			**1424**	**1431**	**1433**	**1441**	**1442**	**1451**	**1461**	**1462**
74		**RMR Application Validation Engine (RAVE)**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
75		**Scheduling & Logging for ISO California (SLIC)**	0.4%	0.0%	0.0%	0.1%	Not Used	Not Used	0	0
76		**Scheduling Architecture (SA)**	1.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
77		**Scheduling Infrastructure (SI)**	3.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
78		**Scheduling Infrastructure Business Rules (SIBR)**	0.0%	0.0%	0.0%	8.1%	Not Used	Not Used	0	0
79		**Security Constrained Economic Dispatch (SCED)**	2.0%	0.0%	0.0%	2.3%	Not Used	Not Used	0	0
80		**Security- External/Physical**	0.2%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
81		**Security-ISS (CUDA)**	2.7%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
82		**Settlements and Market Clearing**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
83		**Sign Board (Symon Board maint.)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
84		**Startup Costs through 3/31/98, Working Capital-3 months**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
85		**Storage (EMC symmetrix)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
86		**System Equipment Buyouts (lease buyouts)**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
87		**Telephone/PBX**	0.0%	0.0%	0.0%	36.3%	Not Used	Not Used	0	0
88		**Training Systems**	0.1%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
89		**Transmission Constrained Unit Commitment (TCUC) Must Offer**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
90		**Transmission Map Plotting & Display**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
91		**Trustee Costs, Interest-Capitalized, User Groups**	0.0%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
92		**Utilities - System i.e. Print drivers**	0.1%	0.0%	0.0%	0.0%	Not Used	Not Used	0	0
93		**Vitria (Middleware)**	0.3%	0.0%	0.0%	0.5%	Not Used	Not Used	0	0
94		**Wide Area Network (WAN)**	0.9%	0.0%	50.0%	3.6%	Not Used	Not Used	0	0
95										
96		**Totals**	100%	100%	100.00%	100.00%	0	0	18	14

Exh. No. ISO- 10, Page 207 of 442

	B	K	L	M	N	O	P	Q
1								
2	stems							
3								
4		1466	1467	1468	1469	1471	1481	1482
74	RMR Application Validation Engine (RAVE)	0	1	0%	0%	Not Used	0.0%	8.5%
75	Scheduling & Logging for ISO California (SLIC)	0	0	0%	0%	Not Used	400.0%	34.0%
76	Scheduling Architecture (SA)	0	0	0%	0%	Not Used	0.0%	25.5%
77	Scheduling Infrastructure (SI)	0	0	0%	0%	Not Used	25.0%	34.0%
78	Scheduling Infrastructure Business Rules (SIBR)	0	0	0%	0%	Not Used	0.0%	0.0%
79	Security Constrained Economic Dispatch (SCED)	0	0	0%	0%	Not Used	0.0%	0.0%
80	Security- External/Physical	0	0	0%	0%	Not Used	0.0%	0.0%
81	Security-ISS (CUDA)	0	0	0%	0%	Not Used	0.0%	0.0%
82	Settlements and Market Clearing	0	0	0%	0%	Not Used	0.0%	0.0%
83	Sign Board (Symon Board maint.)	0	0	0%	0%	Not Used	0.0%	0.0%
84	Startup Costs through 3/31/98, Working Capital-3 months	0	0	0%	0%	Not Used	0.0%	0.0%
85	Storage (EMC symmetrix)	0	0	0%	0%	Not Used	0.0%	0.0%
86	System Equipment Buyouts (lease buyouts)	0	0	0%	0%	Not Used	0.0%	0.0%
87	Telephone/PBX	0	0	0%	0%	Not Used	0.0%	0.0%
88	Training Systems	0	0	0%	0%	Not Used	0.0%	0.0%
89	Transmission Constrained Unit Commitment (TCUC) Must Offer	0	0	0%	0%	Not Used	0.0%	0.0%
90	Transmission Map Plotting & Display	0	0	0%	0%	Not Used	0.0%	0.0%
91	Trustee Costs, Interest-Capitalized, User Groups	0	0	0%	0%	Not Used	0.0%	0.0%
92	Utilities - System i.e. Print drivers	0	0	0%	0%	Not Used	0.0%	0.0%
93	Vitria (Middleware)	0	0	0%	0%	Not Used	0.0%	0.0%
94	Wide Area Network (WAN)	0	0	0%	0%	Not Used	0.0%	17.0%
95								
96	Totals	1	11	100%	1	0	14	3.9997

Exh. No. ISO- 10, Page 208 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Asset Management		
6		**Cost Center Number**	1424		
7					
8			**Description of Activities**	**Percent**	**Comments**
9		**ACC Upgrades (Communication between ISO & IOUs)**		0.00%	
10		**Ancillary Services Management (ASM) Component of SA**		0.00%	
11		**Application Development Tools**		1.40%	
12		**Automated Dispatch System (ADS)**		1.47%	
13		**Automated Load Forecast System (ALFS)**		0.33%	
14		**Automatic Mitigation Procedure (AMP)**		0.00%	
15		**Backup systems (Legato/Quantum)**		2.75%	
16		**Balance of Business Systems (BBS)**		9.23%	
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**		0.00%	
18		**Bill's Interchange Schedule (BITS)**		0.48%	
19		**CaseWise (process modeling tool)**		0.15%	
20		**CHASE**		3.57%	
21		**Common Information Model (CIM)**		0.00%	
22		**Compliance (Blaze)**		0.33%	
23		**Congestion Management (CONG) Component of SA**		0.00%	
24		**Congestion Reform-DSOW**		0.00%	
25		**Congestion Revenue Rights (CRR)**		0.00%	
26		**DataWarehouse**		5.55%	
27		**Dept. of Market Analysis Tools (SAS/MARS)**		1.06%	
28		**Dispute Tracking System (Remedy)**		0.00%	
29		**Documentum**		1.45%	
30		**Electronic Tagging (Etag)**		1.02%	
31		**Energy Management System (EMS)**		10.18%	
32		**Engineering Analysis Tools**		0.15%	
33		**Evaluation of Market Separation**		0.00%	

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Asset Management		
6		**Cost Center Number**	1424		
7					
34		**Existing Transmission Contracts Calculator (ETCC)**		0.00%	
35		**FERC Study Software**		0.00%	
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**		2.89%	
37		**Global Resource Reliability Management Application (GRRMA)**		0.05%	
38		**Grid Operations Training Simulator (GOTS)**		0.00%	
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**		0.00%	
40		**Human Resources**		0.68%	
41		**IBM Contract**		0.00%	
42		**Integrated Forward Market (IFM)**		0.00%	
43		**Internal Development**		0.00%	
44		**Interzonal Congestion Management reform - Real Time**		0.00%	
45		**Land and Building Costs**		0.00%	
46		**Local Area Network (LAN)**		0.00%	
47		**Locational Marginal Pricing (LMPM)**		0.10%	
48		**Market Transaction System (MTS)**		0.00%	
49		**Masterfile**		0.00%	
50		**MD 02 Capital**		0.00%	
51		**Meter Data Acquisition System (MDAS)**		1.14%	
52		**Miscellaneous (2004 related capital)**		18.36%	
53		**Monitoring (Tivoli)**		0.60%	
54		**New Resource Interconnection (NRI)**		0.00%	
55		**New System Equipment (replacement of owned equipment)**		0.00%	
56		**NT/web servers**		1.27%	
57		**NT-servers**		0.55%	
58		**Oracle Enterprise Manager (OEM)**		0.00%	
59		**Office Automation - desktop/laptop (OA)**		13.01%	

Exh. No. ISO- 10, Page 210 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Asset Management		
6		**Cost Center Number**	1424		
7					
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**		1.42%	
61		**Open Access Same Time Information System (OASIS)**		3.12%	
62		**Operational Meter Analysis and Reporting (OMAR)**		1.50%	
63		**Oracle Corporate Financials**		0.19%	
64		**Oracle Licenses**		3.79%	
65		**Oracle Market Financials BBS**		0.00%	
66		**Out of Sequence Market Operation Settlements Information System (OOS)**		0.00%	
67		**Outage Scheduler (OS)**		0.00%	
68		**Participating Intermittent Resource Project (PIRP)**		0.00%	
69		**Physical Facilities Software Application/Furniture/Leasehold**		0.02%	
70		**Process Information System (PI)**		0.66%	
71		**Rational Buyer Component of ASM**		0.00%	
72		**Real Time Energy Dispatch System (REDS)**		0.00%	
73		**Real Time Nodal Market**		0.00%	
74		**Reliability Management System (RMS)**		0.00%	
75		**Remedy (related to Transmission Registry, New Resource Interconnection**		0.39%	
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**		0.16%	
77		**Resource Register (RR)**		0.00%	
78		**RMR Application Validation Engine (RAVE)**		0.15%	
79		**Scheduling & Logging for ISO California (SLIC)**		0.40%	
80		**Scheduling Architecture (SA)**		1.23%	
81		**Scheduling Infrastructure (SI)**		2.97%	
82		**Scheduling Infrastructure Business Rules (SIBR)**		0.00%	
83		**Security Constrained Economic Dispatch (SCED)**		1.99%	
84		**Security- External/Physical**		0.15%	
85		**Security-ISS (CUDA)**		2.68%	

Exh. No. ISO- 10, Page 211 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Asset Management		
6		**Cost Center Number**	1424		
7					
86		**Settlements and Market Clearing**		0.00%	
87		**Sign Board (Symon Board maint.)**		0.02%	
88		**Startup Costs through 3/31/98, Working Capital-3 months**		0.00%	
89		**Storage (EMC symmetrix)**		0.00%	
90		**System Equipment Buyouts (lease buyouts)**		0.00%	
91		**Telephone/PBX**		0.00%	
92		**Training Systems**		0.05%	
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**		0.00%	
94		**Transmission Map Plotting & Display**		0.04%	
95		**Trustee Costs, Interest-Capitalized, User Groups**		0.00%	
96		**Utilities - System i.e. Print drivers**		0.13%	
97		**Vitria (Middleware)**		0.27%	
98		**Wide Area Network (WAN)**		0.87%	
99				100.00%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 212 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	End User Support		
6		**Cost Center Number**	1431		
7		**Uses ISO wide FTE ratio (67%) and Monitoring (tivoli) 33%**			
8			**Description of Activities**	**Percent**	**Comments**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 213 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	End User Support		
6		**Cost Center Number**	1431		
7		**Uses ISO wide FTE ratio (67%) and Monitoring (tivoli) 33%**			
8			**Description of Activities**	**Percent**	**Comments**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**		67%	Using LAN as proxy for FTE allocation
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**		33%	
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 214 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	End User Support		
6		**Cost Center Number**	1431		
7		**Uses ISO wide FTE ratio (67%) and Monitoring (tivoli) 33%**			
8			**Description of Activities**	**Percent**	**Comments**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 215 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	End User Support		
6		**Cost Center Number**	1431		
7		**Uses ISO wide FTE ratio (67%) and Monitoring (tivoli) 33%**			
8			**Description of Activities**	**Percent**	**Comments**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				100%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 216 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Network Services		
6		**Cost Center Number**	1433		
7		Weighted 50 % LAN (FTE), 50% WAN			
8			**Description of Activities**	**Percent**	**Comments**
9		**ACC Upgrades (Communication between ISO & IOUs)**		0%	
10		**Ancillary Services Management (ASM) Component of SA**		0%	
11		**Application Development Tools**		0%	
12		**Automated Dispatch System (ADS)**		0%	
13		**Automated Load Forecast System (ALFS)**		0%	
14		**Automatic Mitigation Procedure (AMP)**		0%	
15		**Backup systems (Legato/Quantum)**		0%	
16		**Balance of Business Systems (BBS)**		0%	
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**		0%	
18		**Bill's Interchange Schedule (BITS)**		0%	
19		**CaseWise (process modeling tool)**		0%	
20		**CHASE**		0%	
21		**Common Information Model (CIM)**		0%	
22		**Compliance (Blaze)**		0%	
23		**Congestion Management (CONG) Component of SA**		0%	
24		**Congestion Reform-DSOW**		0%	
25		**Congestion Revenue Rights (CRR)**		0%	
26		**DataWarehouse**		0%	
27		**Dept. of Market Analysis Tools (SAS/MARS)**		0%	
28		**Dispute Tracking System (Remedy)**		0%	
29		**Documentum**		0%	
30		**Electronic Tagging (Etag)**		0%	
31		**Energy Management System (EMS)**		0%	
32		**Engineering Analysis Tools**		0%	
33		**Evaluation of Market Separation**		0%	
34		**Existing Transmission Contracts Calculator (ETCC)**		0%	

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Network Services		
6		**Cost Center Number**	1433		
7		Weighted 50 % LAN (FTE), 50% WAN			
8			**Description of Activities**	**Percent**	**Comments**
35		**FERC Study Software**		0%	
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**		0%	
37		**Global Resource Reliability Management Application (GRRMA)**		0%	
38		**Grid Operations Training Simulator (GOTS)**		0%	
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**		0%	
40		**Human Resources**		0%	
41		**IBM Contract**		0%	
42		**Integrated Forward Market (IFM)**		0%	
43		**Internal Development**		0%	
44		**Interzonal Congestion Management reform - Real Time**		0%	
45		**Land and Building Costs**		0%	
46		**Local Area Network (LAN)**		50%	
47		**Locational Marginal Pricing (LMPM)**		0%	
48		**Market Transaction System (MTS)**		0%	
49		**Masterfile**		0%	
50		**MD 02 Capital**		0%	
51		**Meter Data Acquisition System (MDAS)**		0%	
52		**Miscellaneous (2004 related capital)**		0%	
53		**Monitoring (Tivoli)**		0%	
54		**New Resource Interconnection (NRI)**		0%	
55		**New System Equipment (replacement of owned equipment)**		0%	
56		**NT/web servers**		0%	
57		**NT-servers**		0%	
58		**Oracle Enterprise Manager (OEM)**		0%	
59		**Office Automation - desktop/laptop (OA)**		0%	
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**		0%	

Exh. No. ISO- 10, Page 218 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Network Services		
6		**Cost Center Number**	1433		
7		Weighted 50 % LAN (FTE), 50% WAN			
8			**Description of Activities**	**Percent**	**Comments**
61		**Open Access Same Time Information System (OASIS)**		0%	
62		**Operational Meter Analysis and Reporting (OMAR)**		0%	
63		**Oracle Corporate Financials**		0%	
64		**Oracle Licenses**		0%	
65		**Oracle Market Financials BBS**		0%	
66		**Out of Sequence Market Operation Settlements Information System (OOS)**		0%	
67		**Outage Scheduler (OS)**		0%	
68		**Participating Intermittent Resource Project (PIRP)**		0%	
69		**Physical Facilities Software Application/Furniture/Leasehold**		0%	
70		**Process Information System (PI)**		0%	
71		**Rational Buyer Component of ASM**		0%	
72		**Real Time Energy Dispatch System (REDS)**		0%	
73		**Real Time Nodal Market**		0%	
74		**Reliability Management System (RMS)**		0%	
75		**Remedy (related to Transmission Registry, New Resource Interconnection**		0%	
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**		0%	
77		**Resource Register (RR)**		0%	
78		**RMR Application Validation Engine (RAVE)**		0%	
79		**Scheduling & Logging for ISO California (SLIC)**		0%	
80		**Scheduling Architecture (SA)**		0%	
81		**Scheduling Infrastructure (SI)**		0%	
82		**Scheduling Infrastructure Business Rules (SIBR)**		0%	
83		**Security Constrained Economic Dispatch (SCED)**		0%	
84		**Security- External/Physical**		0%	
85		**Security-ISS (CUDA)**		0%	
86		**Settlements and Market Clearing**		0%	

Exh. No. ISO- 10, Page 219 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Network Services		
6		**Cost Center Number**	1433		
7		Weighted 50 % LAN (FTE), 50% WAN			
8			**Description of Activities**	**Percent**	**Comments**
87		**Sign Board (Symon Board maint.)**		0%	
88		**Startup Costs through 3/31/98, Working Capital-3 months**		0%	
89		**Storage (EMC symmetrix)**		0%	
90		**System Equipment Buyouts (lease buyouts)**		0%	
91		**Telephone/PBX**		0%	
92		**Training Systems**		0%	
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**		0%	
94		**Transmission Map Plotting & Display**		0%	
95		**Trustee Costs, Interest-Capitalized, User Groups**		0%	
96		**Utilities - System i.e. Print drivers**		0%	
97		**Vitria (Middleware)**		0%	
98		**Wide Area Network (WAN)**		50%	
99				100%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 220 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Outsourced contracts		
6		**Cost Center Number**	1441		
7					
8			**Description of Activities**	**Percent**	**Comments**
9		**ACC Upgrades (Communication between ISO & IOUs)**		0.00%	
10		**Ancillary Services Management (ASM) Component of SA**		0.00%	
11		**Application Development Tools**		0.00%	
12		**Automated Dispatch System (ADS)**		0.11%	
13		**Automated Load Forecast System (ALFS)**		0.37%	
14		**Automatic Mitigation Procedure (AMP)**		0.00%	
15		**Backup systems (Legato/Quantum)**		0.00%	
16		**Balance of Business Systems (BBS)**		3.44%	
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**		0.00%	
18		**Bill's Interchange Schedule (BITS)**		0.18%	
19		**CaseWise (process modeling tool)**		0.00%	
20		**CHASE**		0.00%	
21		**Common Information Model (CIM)**		0.00%	
22		**Compliance (Blaze)**		0.00%	
23		**Congestion Management (CONG) Component of SA**		0.00%	
24		**Congestion Reform-DSOW**		0.00%	
25		**Congestion Revenue Rights (CRR)**		0.00%	
26		**DataWarehouse**		0.59%	
27		**Dept. of Market Analysis Tools (SAS/MARS)**		0.00%	
28		**Dispute Tracking System (Remedy)**		0.00%	
29		**Documentum**		1.15%	
30		**Electronic Tagging (Etag)**		0.00%	
31		**Energy Management System (EMS)**		15.08%	
32		**Engineering Analysis Tools**		0.00%	
33		**Evaluation of Market Separation**		0.00%	
34		**Existing Transmission Contracts Calculator (ETCC)**		0.00%	

Exh. No. ISO- 10, Page 221 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Outsourced contracts		
6		**Cost Center Number**	1441		
7					
8			**Description of Activities**	**Percent**	**Comments**
35		**FERC Study Software**		0.00%	
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**		0.18%	
37		**Global Resource Reliability Management Application (GRRMA)**		0.00%	
38		**Grid Operations Training Simulator (GOTS)**		0.00%	
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**		0.00%	
40		**Human Resources**		0.00%	
41		**IBM Contract**		0.00%	
42		**Integrated Forward Market (IFM)**		0.00%	
43		**Internal Development**		0.00%	
44		**Interzonal Congestion Management reform - Real Time**		0.00%	
45		**Land and Building Costs**		0.00%	
46		**Local Area Network (LAN)**		7.78%	
47		**Locational Marginal Pricing (LMPM)**		0.00%	
48		**Market Transaction System (MTS)**		0.00%	
49		**Masterfile**		0.00%	
50		**MD 02 Capital**		0.00%	
51		**Meter Data Acquisition System (MDAS)**		8.62%	
52		**Miscellaneous (2004 related capital)**		5.95%	
53		**Monitoring (Tivoli)**		0.00%	
54		**New Resource Interconnection (NRI)**		0.00%	
55		**New System Equipment (replacement of owned equipment)**		0.00%	
56		**NT/web servers**		0.00%	
57		**NT-servers**		0.00%	
58		**Oracle Enterprise Manager (OEM)**		0.18%	
59		**Office Automation - desktop/laptop (OA)**		2.96%	
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**		0.00%	

Exh. No. ISO- 10, Page 222 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Outsourced contracts		
6		**Cost Center Number**	1441		
7					
8			**Description of Activities**	**Percent**	**Comments**
61		**Open Access Same Time Information System (OASIS)**		2.48%	
62		**Operational Meter Analysis and Reporting (OMAR)**		0.00%	
63		**Oracle Corporate Financials**		0.00%	
64		**Oracle Licenses**		0.00%	
65		**Oracle Market Financials BBS**		0.00%	
66		**Out of Sequence Market Operation Settlements Information System (OOS)**		0.00%	
67		**Outage Scheduler (OS)**		0.00%	
68		**Participating Intermittent Resource Project (PIRP)**		0.00%	
69		**Physical Facilities Software Application/Furniture/Leasehold**		0.00%	
70		**Process Information System (PI)**		0.00%	
71		**Rational Buyer Component of ASM**		0.00%	
72		**Real Time Energy Dispatch System (REDS)**		0.00%	
73		**Real Time Nodal Market**		0.00%	
74		**Reliability Management System (RMS)**		0.00%	
75		**Remedy (related to Transmission Registry, New Resource Interconnection**		0.00%	
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**		0.00%	
77		**Resource Register (RR)**		0.00%	
78		**RMR Application Validation Engine (RAVE)**		0.00%	
79		**Scheduling & Logging for ISO California (SLIC)**		0.15%	
80		**Scheduling Architecture (SA)**		0.02%	
81		**Scheduling Infrastructure (SI)**		0.00%	
82		**Scheduling Infrastructure Business Rules (SIBR)**		8.09%	
83		**Security Constrained Economic Dispatch (SCED)**		2.29%	
84		**Security- External/Physical**		0.00%	
85		**Security-ISS (CUDA)**		0.00%	
86		**Settlements and Market Clearing**		0.00%	

Exh. No. ISO- 10, Page 223 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Outsourced contracts		
6		**Cost Center Number**	1441		
7					
8			**Description of Activities**	**Percent**	**Comments**
87		**Sign Board (Symon Board maint.)**		0.00%	
88		**Startup Costs through 3/31/98, Working Capital-3 months**		0.00%	
89		**Storage (EMC symmetrix)**		0.00%	
90		**System Equipment Buyouts (lease buyouts)**		0.00%	
91		**Telephone/PBX**		36.30%	
92		**Training Systems**		0.00%	
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**		0.00%	
94		**Transmission Map Plotting & Display**		0.00%	
95		**Trustee Costs, Interest-Capitalized, User Groups**		0.00%	
96		**Utilities - System i.e. Print drivers**		0.00%	
97		**Vitria (Middleware)**		0.51%	
98		**Wide Area Network (WAN)**		3.58%	
99				100.00%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 224 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Production Support Services		
6		**Cost Center Number**	1442		
7		Will use System Direct allocation			
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 225 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Production Support Services		
6		**Cost Center Number**	1442		
7		Will use System Direct allocation			
8			**Description of Activities**	**Number of people**	**Position Descriptions**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 226 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Production Support Services		
6		**Cost Center Number**	1442		
7		Will use System Direct allocation			
8			**Description of Activities**	**Number of people**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 227 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Production Support Services		
6		**Cost Center Number**	1442		
7		Will use System Direct allocation			
8			**Description of Activities**	**Number of people**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				0	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 228 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Infrastructure Services		
6		**Cost Center Number**	1451		
7					
8			**Description of Activities**	**Percent of Effort**	**Comments**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 229 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Infrastructure Services		
6		**Cost Center Number**	1451		
7					
8			**Description of Activities**	**Percent of Effort**	**Comments**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**		67%	
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**		33%	
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 230 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Infrastructure Services		
6		**Cost Center Number**	1451		
7					
8			**Description of Activities**	**Percent of Effort**	**Comments**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 231 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Infrastructure Services		
6		**Cost Center Number**	1451		
7					
8			**Description of Activities**	**Percent of Effort**	**Comments**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				100%	
100		**completed by:**	Eric Whitley		
101		**Date:**	13-Sep-03		

Exh. No. ISO- 10, Page 232 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Control Systems Services		
6		**Cost Center Number**	1461		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**	Applications support and development, Data admin, configuration, integration, Display administration, SCADA, Data quality, advanced applications, 24X7 support etc.	16	Wide range of support and administration duties. Functions include all SCADA, ICCP, Database, Network Applications, Policies, Support etc. to maintain an EMS system in a fast changing environment.
32		**Engineering Analysis Tools**			

Exh. No. ISO- 10, Page 233 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Control Systems Services		
6		**Cost Center Number**	1461		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**	Data admin, tuning, support, advanced applications, vendor coordination	1	Sr. Engineer, duties include high end grid network modeling and GOTS software design and functions.
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			

Exh. No. ISO- 10, Page 234 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Control Systems Services		
6		**Cost Center Number**	1461		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**	Data admin, tuning, support, advanced applications, vendor coordination	1	PI Administrator, overall responsibility. Others in EMS group have support and function duties as directed by the Administrator.
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			

Exh. No. ISO- 10, Page 235 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Control Systems Services		
6		**Cost Center Number**	1461		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				18	
100		**completed by:**	Eric Whitley		
101		**Date:**	13-Sep-03		

Exh. No. ISO- 10, Page 236 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Field Data Acquisition Services		
6		**Cost Center Number**	1462		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Field Data Acquisition Services		
6		**Cost Center Number**	1462		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**	Collection, verification and processing of raw meter data into Settlement Quality Meter Data (SQMD), which the ISO uses for generating preliminary and final financial settlement statements for the Market Participants, Market Surveillance and reports.	11	(1) Manager of Field Data Acquisition ; (4) Metering Engineering; Maintaining the metering standards and specifications for approved meters and metering systems; Coordinating and approving proposed metering system-engineering designs; and Auditing the ISO meter inspection process and providing engineering judgment related to proposed and existing metering systems. ;(3) MDAS Technical Analyst (3) System and Application Support Engineers Operating and maintaining the Meter Data Acquisition Systems ("MDAS") that directly acquire metering data from ISO metered entities and receive metering data from SCs. Developing enhancements to meet changing business needs and implement process improvements
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			

Exh. No. ISO- 10, Page 238 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Field Data Acquisition Services		
6		**Cost Center Number**	1462		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Supporting the Remote Intelligent Gateway ("RIG") interface system in the daily operation of power generation, scheduling, and control of the ISO Controlled Grid. The Automatic Generation Control (AGC) system simultaneously controls Generating Unit output to match resources to load and maintain frequency. Generating Units offering regulation services must be capable of being controlled by the ISO EMS. RIG interface units meet the ISO standards for transporting AGC signals. The ISO has the ability to send either set point or raise/lower signals. Additionally, the RIG has multiple ports to allow control to be switched between the Generator and the ISO.	3	(3) :RIG Engineering Rep. Supporting the Remote Intelligent Gateway ("RIG") interface system in the daily operation.
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			

Exh. No. ISO- 10, Page 239 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Field Data Acquisition Services		
6		**Cost Center Number**	1462		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				14	
100		**completed by:**	Allen Jaschke		
101		**Date:**	17-Sep-03		

Exh. No. ISO- 10, Page 240 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Enterprise Applications		
6		**Cost Center Number**	1466		
7		Functionalized using average of Chase, NRI and Settlements dispute resolution system			
8			**Description of Activities**	**Percentage**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**		34%	
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**		33%	
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 241 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Enterprise Applications		
6		**Cost Center Number**	1466		
7		Functionalized using average of Chase, NRI and Settlements dispute resolution system			
8			**Description of Activities**	**Percentage**	**Position Descriptions**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**		33%	
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 242 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Enterprise Applications		
6		**Cost Center Number**	1466		
7		Functionalized using average of Chase, NRI and Settlements dispute resolution system			
8			**Description of Activities**	**Percentage**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 243 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Enterprise Applications		
6		**Cost Center Number**	1466		
7		Functionalized using average of Chase, NRI and Settlements dispute resolution system			
8			**Description of Activities**	**Percentage**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				100%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 244 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Settlement Systems Services		
6		**Cost Center Number**	1467		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**	Settlement Systems Services is responsible for the development, maintenance and support of Settlement Systems and applications.	10	Includes two contractors
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			

Exh. No. ISO- 10, Page 245 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Settlement Systems Services		
6		**Cost Center Number**	1467		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
34		**Existing Transmission Contracts Calculator (ETCC)**			
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			

Exh. No. ISO- 10, Page 246 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Settlement Systems Services		
6		**Cost Center Number**	1467		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**	Settlement Systems Services supports RAVE and associated RMR applications.	1	
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			

Exh. No. ISO- 10, Page 247 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Settlement Systems Services		
6		**Cost Center Number**	1467		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
86		**Settlements and Market Clearing**			
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				11	
100		**completed by:**	Ben Mugar		
101		**Date:**			

Exh. No. ISO- 10, Page 248 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Corporate Application Support and Administration		
6		**Cost Center Number**	1468		
7					
8			**Description of Activities**	**Percent of Effort**	**Comment**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 249 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Corporate Application Support and Administration		
6		**Cost Center Number**	1468		
7					
8			**Description of Activities**	**Percent of Effort**	**Comment**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**		100%	Using LAN as proxy for FTE allocation
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 250 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Corporate Application Support and Administration		
6		**Cost Center Number**	1468		
7					
8			**Description of Activities**	**Percent of Effort**	**Comment**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Corporate Application Support and Administration		
6		**Cost Center Number**	1468		
7					
8			**Description of Activities**	**Percent of Effort**	**Comment**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				100%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 252 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Analytical and Reporting Applications		
6		**Cost Center Number**	1469		
7					
8		Functionalized using DataWarehouse	**Description of Activities**	**Percent of Effort**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**		100%	
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 253 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Analytical and Reporting Applications		
6		**Cost Center Number**	1469		
7					
8		Functionalized using DataWarehouse	**Description of Activities**	**Percent of Effort**	**Position Descriptions**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 254 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Analytical and Reporting Applications		
6		**Cost Center Number**	1469		
7					
8		Functionalized using DataWarehouse	**Description of Activities**	**Percent of Effort**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 255 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Analytical and Reporting Applications		
6		**Cost Center Number**	1469		
7					
8		Functionalized using DataWarehouse	**Description of Activities**	**Percent of Effort**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				100%	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 256 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	IT Planning		
6		**Cost Center Number**	1471		
7					
8		System Direct functionalization	**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**			
13		**Automated Load Forecast System (ALFS)**			
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**			
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**			
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**			
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**			

Exh. No. ISO- 10, Page 257 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	IT Planning		
6		**Cost Center Number**	147.1		
7					
8		System Direct functionalization	**Description of Activities**	**Number of people**	**Position Descriptions**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**			
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 258 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	IT Planning		
6		**Cost Center Number**	1471		
7					
8		System Direct functionalization	**Description of Activities**	**Number of people**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**			
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**			
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**			
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**			
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**			
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 259 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	IT Planning		
6		**Cost Center Number**	1471		
7					
8		System Direct functionalization	**Description of Activities**	**Number of people**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				0	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 260 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market & Scheduling System Services		
6		**Cost Center Number**	1481		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**			
10		**Ancillary Services Management (ASM) Component of SA**			
11		**Application Development Tools**			
12		**Automated Dispatch System (ADS)**	Software maintenance and enhancements and 3rd level support	2	Contractors
13		**Automated Load Forecast System (ALFS)**		0.5	
14		**Automatic Mitigation Procedure (AMP)**			
15		**Backup systems (Legato/Quantum)**			
16		**Balance of Business Systems (BBS)**			
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**			
18		**Bill's Interchange Schedule (BITS)**		0.5	
19		**CaseWise (process modeling tool)**			
20		**CHASE**			
21		**Common Information Model (CIM)**			
22		**Compliance (Blaze)**		2	
23		**Congestion Management (CONG) Component of SA**			
24		**Congestion Reform-DSOW**			
25		**Congestion Revenue Rights (CRR)**			
26		**DataWarehouse**			
27		**Dept. of Market Analysis Tools (SAS/MARS)**			
28		**Dispute Tracking System (Remedy)**			
29		**Documentum**			
30		**Electronic Tagging (Etag)**		0.5	
31		**Energy Management System (EMS)**			
32		**Engineering Analysis Tools**			
33		**Evaluation of Market Separation**			
34		**Existing Transmission Contracts Calculator (ETCC)**		0.5	

Exh. No. ISO- 10, Page 261 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market & Scheduling System Services		
6		**Cost Center Number**	1481		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
35		**FERC Study Software**			
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**			
37		**Global Resource Reliability Management Application (GRRMA)**		0.5	
38		**Grid Operations Training Simulator (GOTS)**			
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**			
40		**Human Resources**			
41		**IBM Contract**			
42		**Integrated Forward Market (IFM)**			
43		**Internal Development**			
44		**Interzonal Congestion Management reform - Real Time**			
45		**Land and Building Costs**			
46		**Local Area Network (LAN)**			
47		**Locational Marginal Pricing (LMPM)**			
48		**Market Transaction System (MTS)**			
49		**Masterfile**			
50		**MD 02 Capital**			
51		**Meter Data Acquisition System (MDAS)**			
52		**Miscellaneous (2004 related capital)**			
53		**Monitoring (Tivoli)**			
54		**New Resource Interconnection (NRI)**			
55		**New System Equipment (replacement of owned equipment)**			
56		**NT/web servers**			
57		**NT-servers**			
58		**Oracle Enterprise Manager (OEM)**			
59		**Office Automation - desktop/laptop (OA)**			
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**			

Exh. No. ISO- 10, Page 262 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market & Scheduling System Services		
6		**Cost Center Number**	1481		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**		0.75	
62		**Operational Meter Analysis and Reporting (OMAR)**			
63		**Oracle Corporate Financials**			
64		**Oracle Licenses**			
65		**Oracle Market Financials BBS**			
66		**Out of Sequence Market Operation Settlements Information System (OOS)**			
67		**Outage Scheduler (OS)**			
68		**Participating Intermittent Resource Project (PIRP)**		2	Contractors
69		**Physical Facilities Software Application/Furniture/Leasehold**			
70		**Process Information System (PI)**			
71		**Rational Buyer Component of ASM**			
72		**Real Time Energy Dispatch System (REDS)**		0.5	
73		**Real Time Nodal Market**			
74		**Reliability Management System (RMS)**			
75		**Remedy (related to Transmission Registry, New Resource Interconnection**			
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**			
77		**Resource Register (RR)**			
78		**RMR Application Validation Engine (RAVE)**			
79		**Scheduling & Logging for ISO California (SLIC)**		4	2 Contractors
80		**Scheduling Architecture (SA)**			
81		**Scheduling Infrastructure (SI)**		0.25	
82		**Scheduling Infrastructure Business Rules (SIBR)**			
83		**Security Constrained Economic Dispatch (SCED)**			
84		**Security- External/Physical**			
85		**Security-ISS (CUDA)**			
86		**Settlements and Market Clearing**			

Exh. No. ISO- 10, Page 263 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market & Scheduling System Services		
6		**Cost Center Number**	1481		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**			
88		**Startup Costs through 3/31/98, Working Capital-3 months**			
89		**Storage (EMC symmetrix)**			
90		**System Equipment Buyouts (lease buyouts)**			
91		**Telephone/PBX**			
92		**Training Systems**			
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**			
94		**Transmission Map Plotting & Display**			
95		**Trustee Costs, Interest-Capitalized, User Groups**			
96		**Utilities - System i.e. Print drivers**			
97		**Vitria (Middleware)**			
98		**Wide Area Network (WAN)**			
99				14	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 264 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market Systems Support Services		
6		**Cost Center Number**	1482		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
9		**ACC Upgrades (Communication between ISO & IOUs)**		0.000	
10		**Ancillary Services Management (ASM) Component of SA**		0.000	
11		**Application Development Tools**		0.000	
12		**Automated Dispatch System (ADS)**		0.340	
13		**Automated Load Forecast System (ALFS)**		0.255	
14		**Automatic Mitigation Procedure (AMP)**		0.255	
15		**Backup systems (Legato/Quantum)**		0.000	
16		**Balance of Business Systems (BBS)**		0.000	
17		**Balancing Energy Ex Post Price (BEEP) Component of SA**		0.340	
18		**Bill's Interchange Schedule (BITS)**		0.255	
19		**CaseWise (process modeling tool)**		0.000	
20		**CHASE**		0.000	
21		**Common Information Model (CIM)**		0.000	
22		**Compliance (Blaze)**		0.000	
23		**Congestion Management (CONG) Component of SA**		0.00	
24		**Congestion Reform-DSOW**		0.00	
25		**Congestion Revenue Rights (CRR)**		0.00	
26		**DataWarehouse**		0.00	
27		**Dept. of Market Analysis Tools (SAS/MARS)**		0.00	
28		**Dispute Tracking System (Remedy)**		0.00	
29		**Documentum**		0.00	
30		**Electronic Tagging (Etag)**		0.00	
31		**Energy Management System (EMS)**		0.00	
32		**Engineering Analysis Tools**		0.00	
33		**Evaluation of Market Separation**		0.00	
34		**Existing Transmission Contracts Calculator (ETCC)**		0.34	

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market Systems Support Services		
6		**Cost Center Number**	1482		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
35		**FERC Study Software**		0.00	
36		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**		0.09	
37		**Global Resource Reliability Management Application (GRRMA)**		0.17	
38		**Grid Operations Training Simulator (GOTS)**		0.00	
39		**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**		0.00	
40		**Human Resources**		0.00	
41		**IBM Contract**		0.00	
42		**Integrated Forward Market (IFM)**		0.00	
43		**Internal Development**		0.00	
44		**Interzonal Congestion Management reform - Real Time**		0.00	
45		**Land and Building Costs**		0.00	
46		**Local Area Network (LAN)**		0.00	
47		**Locational Marginal Pricing (LMPM)**		0.00	
48		**Market Transaction System (MTS)**		0.00	
49		**Masterfile**		0.17	
50		**MD 02 Capital**		0.00	
51		**Meter Data Acquisition System (MDAS)**		0.00	
52		**Miscellaneous (2004 related capital)**		0.00	
53		**Monitoring (Tivoli)**		0.00	
54		**New Resource Interconnection (NRI)**		0.00	
55		**New System Equipment (replacement of owned equipment)**		0.00	
56		**NT/web servers**		0.00	
57		**NT-servers**		0.00	
58		**Oracle Enterprise Manager (OEM)**		0.00	
59		**Office Automation - desktop/laptop (OA)**		0.00	
60		**Office equipment (scanner, printer, copier, fax, Communication Equip.)**		0.00	

Exh. No. ISO- 10, Page 266 of 442

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market Systems Support Services		
6		**Cost Center Number**	1482		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
61		**Open Access Same Time Information System (OASIS)**		0.26	
62		**Operational Meter Analysis and Reporting (OMAR)**		0.00	
63		**Oracle Corporate Financials**		0.00	
64		**Oracle Licenses**		0.00	
65		**Oracle Market Financials BBS**		0.00	
66		**Out of Sequence Market Operation Settlements Information System (OOS)**		0.26	
67		**Outage Scheduler (OS)**		0.00	
68		**Participating Intermittent Resource Project (PIRP)**		0.00	
69		**Physical Facilities Software Application/Furniture/Leasehold**		0.00	
70		**Process Information System (PI)**		0.00	
71		**Rational Buyer Component of ASM**		0.09	
72		**Real Time Energy Dispatch System (REDS)**		0.00	
73		**Real Time Nodal Market**		0.00	
74		**Reliability Management System (RMS)**		0.00	
75		**Remedy (related to Transmission Registry, New Resource Interconnection**		0.00	
76		**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**		0.00	
77		**Resource Register (RR)**		0.00	
78		**RMR Application Validation Engine (RAVE)**		0.09	
79		**Scheduling & Logging for ISO California (SLIC)**		0.34	
80		**Scheduling Architecture (SA)**		0.26	
81		**Scheduling Infrastructure (SI)**		0.34	
82		**Scheduling Infrastructure Business Rules (SIBR)**		0.00	
83		**Security Constrained Economic Dispatch (SCED)**		0.00	
84		**Security- External/Physical**		0.00	
85		**Security-ISS (CUDA)**		0.00	
86		**Settlements and Market Clearing**		0.00	

	A	B	C	D	E
1		California Independent System Operator 2004 GMC Cost Allocation			
2		**Allocation of Cost Center Activity to Systems**			
3					
4					
5		**Cost Center Name**	Market Systems Support Services		
6		**Cost Center Number**	1482		
7					
8			**Description of Activities**	**Number of people**	**Position Descriptions**
87		**Sign Board (Symon Board maint.)**		0.00	
88		**Startup Costs through 3/31/98, Working Capital-3 months**		0.00	
89		**Storage (EMC symmetrix)**		0.00	
90		**System Equipment Buyouts (lease buyouts)**		0.00	
91		**Telephone/PBX**		0.00	
92		**Training Systems**		0.00	
93		**Transmission Constrained Unit Commitment (TCUC) Must Offer**		0.00	
94		**Transmission Map Plotting & Display**		0.00	
95		**Trustee Costs, Interest-Capitalized, User Groups**		0.00	
96		**Utilities - System i.e. Print drivers**		0.00	
97		**Vitria (Middleware)**		0.00	
98		**Wide Area Network (WAN)**		0.17	
99				4.00	
100		**completed by:**			
101		**Date:**			

Exh. No. ISO- 10, Page 268 of 442

California Independent System Operator
2004 GMC Cost Allocation
Functionalization of ISO System Applications

This spreadsheet shows the functionalization of ISO system applications in detail. There are five types of functionalization: Direct, System Direct, FTE, Department Direct and Calculated Direct. Direct functionalization is, as the name implies, a direct assignment of the system to functions. System Direct is a dollar weighted average of the direct assignments. FTE uses the FTE allocation factor calculated in the O&M spreadsheet. Department Direct uses the functionalization of the departments that utilize the system. Calculated Direct is a weighted average of the assignments of other systems (e.g., SA is a weighted average of ASM, CONG and BEEP).

Sheet Index:	Description
System descriptions	Listing of the ISO systems identified and a brief description of the system.
Summary	Listing of the ISO systems with their functionalization
FTE	Listing of ISO systems that are allocated proportional to FTE
System Direct	Listing of ISO systems that are allocated proportional to dollar weighted average of directly assigned systems
Dept Direct	Listing of ISO systems that are allocated proportional to specific ISO departments
Directs	Listing of ISO systems that are directly assigned
Directs$	Dollar weights using in calculating the System Direct allocations
Calculated Direct	Listing of ISO systems that functionalized as a weighted average of other systems
SA worksheet	Worksheet showing calculation of weights used to allocate ASM, CONG and BEEP to SA
SI Worksheet	Worksheet showing historical absolute and relative flows of schedules and Ancillary Services bids into SI
Oracle License Worksheet	Worksheet showing functionalization of Oracle licensing costs
EMC Worksheet	Worksheet showing functionalization of EMC (storage)
WAN Worksheet	Worksheet showing functionalization of Wide Area Network
Infrastructure	Worksheet showing functionalization of infrastructure. Used to allocate trustee expenses from startup
Equipment	Worksheet showing functionalization of equipment lease buyouts

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
5	**ACC Upgrades (Communication between ISO & IOUs)**	Original Cost of Startup and Trust to pay for the upgrade of the IOU's Communications systems between the ISO and the IOU. For EMS and Real time information
6	**Ancillary Services Management (ASM) Component of SA**	Ancillary Service Management is the method of procuring A/S through the market, which are scheduled and provided to the RT desks. There are regular discussions with MPs through CS as to the operation of ASM. Allocation based on system traffic information.
7	**Application Development Tools**	Various third party software applications used for internal application development and maintenance of ISO systems.
8	**Automated Dispatch System (ADS)**	System developed for clear indisputable dispatch instructions from the ISO to SC's and /or resources. Will send electronic notification, receive acknowledgement and log the transaction. Allocation determined that it provides Grid ops with advance information on incs and decs needed so can load follow and so 50%; relates to markets and scheduling at 25/20%; requires working with SCs and affects settlements so 5% CS; automatically logs accepted and rejected bids
9	**Automated Load Forecast System (ALFS)**	Automated Load Forecast System is used for DA load forecasting. It is used by Grid Ops for reserve procurement in the forward market and in getting ready for the needs during the next day. Thus 70% of its costs are assigned to CRS. Since it applies to the forward market it affects MU and, to a lesser degree, scheduling, at 20% and 10% respectively.
10	**Automatic Mitigation Procedure (AMP)**	A procedure for mitigating market power at both the system and local levels by mitigating the prices bid into the ISO's Energy and Ancillary Services Markets. The AMP limits bid prices to the extent that they (a) vary significantly (beyond specified thresholds) from historic bidding behavior; and (b) significantly increase (beyond specified thresholds) the Market Clearing Price. Part of the SA application.
11	**Backup systems (Legato/Quantum)**	Hardware and Software to provide ability to Back up ISO systems, providing the ability to recover data for all ISO system in case of a system failure. Backups are done everyday and retained forever, as well as being stored off site. Impacts on all operating systems, allocate based on total costs of operational systems
12	**Balance of Business Systems (BBS)**	Original name for the Settlements and interfaces to the Market Financial system. Application that generates the daily settlement statements and creates the information for the consolidated invoicing and calculates information for the GMC invoice. 100% SMCR
13	**Balancing Energy Ex Post Price (BEEP) Component of SA**	Balancing Energy Ex-Post Pricing ranks balancing energy bids and is run by generation dispatchers. It is a RT tool but it processes bids received by MU and affects scheduling and congestion. Allocation evaluation based on system traffic information
14	**Bill's Interchange Schedule (BITS)**	Bill's Interchange Schedule is a bridging produce that takes the final HA schedule and makes it available for the RT operators to view, helping with RT schedule management. This program allows Real-time Schedulers to track and calculate the dynamic Interchange values between the ISO control area and neighboring control areas. The net Interchange values represent the amount of energy that California may import or export across a specific Intertie for a given hour. It also provides the meter values for settlements. Thus 85% of its costs are assigned to CRS, 15% to MU (since it applies to the HA market),.
15	**CaseWise (process modeling tool)**	Third party software for Business Process Modeling and publishing, also allows for Fact Modeling to help define Business requirements of a business unit. Process modeling is being required for the full company. Considered an Enterprise application.
16	**CHASE**	C.H.A.S.E. - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle - This a highly customized system using Remedy out of the box applications. Enterprise system to manage listed items. All employees have access.
17	**Common Information Model (CIM)**	Developed for use with the current EMS system. Standard based on XML language. Defines electrical data , electrical network model. Used for communicating data between systems.
18	**Compliance (Blaze)**	Compliance applications produces automated programs to process Penalties and Ancillary Services adjustment to schedules based on a well defined set of rules. Compliance applications use a rule technology (Blaze) for the execution of business logic. Results are forwarded to settlement where prices are applied.
19	**Congestion Management (CONG) Component of SA**	Congestion Management is a forward market product but the RT desk uses its results. It is basically a congestion management tool, although it processes input from MU and requires explanations to CAISO customers on a regular basis. Its costs are assigned base on system traffic information.
20	**Congestion Reform-DSOW**	Design phase due to FERC Order, for congestion in the forward & real-time markets, RMR reform, FTR, LARS, New Generator policy. Affects congestion and congestion management in RT by Grid Ops; so 50-50 split.

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
21	**Congestion Revenue Rights (CRR)**	A congestion cost hedging tool that gives holders the right to collect day-ahead congestion costs between two nodes in an LMP-based system. In contrast to today's Firm Transmission Rights (FTRs), CRRsa) are released subject to a simultaneous feasibility test (SFT); b) are defined from a source node to a sink node, rather than for a specific transmission path; and c) may entail an obligation to pay congestion costs when congestion is in the opposite direction of the right.
22	**DataWarehouse**	The Data Warehouse uses a classic architecture composed of Operational Data Stores (ODSs), Data Marts (DMs), an On-Line Analytical Processing (OLAP) repository built on a Multidimensional Database Management System, batch load processes, a Metadata Repository (MDR) that manages the load process, and a set of best-of-breed reporting tools. The Data Warehouse provides the ability to analyze, report, query, and source non-real-time information to end users and second-tier applications with minimal impact to the critical operational systems. Used mainly by Compliance and Department of Market Analysis applications at this time.
23	**Dept. of Market Analysis Tools (SAS/MARS)**	Maintains key market data for ex post analysis. The data allows increased monitoring and analysis of transactions and scheduling, exports/import patterns by individual market participants, and regional energy markets. This data is critical to market analysis and is comprised of primary data from ISO departments as well as unique custom data that is designed, generated, and maintained by DMA staff. DMA uses several reporting tools to complete their work. They are Market Analyis Reporting System (MARS) and Statistical Analysis System (SAS), Essbase Data Mining Tool, and Plexos.
24	**Dispute Tracking System (Remedy)**	Online Settlement Dispute Program for SC to dispute Settlement statement, and for Client Relations to track, manage and record and communicate resolution of these items.
25	**Documentum**	Enterprise document management system (EDMS). Documentum was selected by the CAISO in 1999 to serve as the corporate EDMS. In addition to the base product, the CAISO uses AutoRender Pro to automate the generation of Adobe Acrobat renditions, DocInput for storing scanned hardcopies, and DocLoader for loading multiple files in a single transaction. These tools will continue to be used as the CAISO's information and record retention policies are implemented.
26	**Electronic Tagging (Etag)**	Electronic Tagging (E-tag) is the NERC Policy 3 mandated communication protocal for the creation, distribution and aproval of interchange transaction requests.
27	**Energy Management System (EMS)**	Energy Management System (EMS) is a collection of software and Hardware that monitor, evaluate and control the power systems lines, loads and generators within the ISO Control Area.
28	**Engineering Analysis Tools**	Custom developed tools for ISO Engineering group analysis as reqired to complete various function at the ISO.
29	**Evaluation of Market Separation**	Report that quantifies the benefit of Market Separation rule the enforces allocation of transmission capacity. Must modify congestion code, and recalculate congestion changes for 1999. Market separation affects procure of A/S and congestion split 50-50 Cong and MU
30	**Existing Transmission Contracts Calculator (ETCC)**	Existing Transmission Contracts (ETC's) are not subject to congestion management and can be scheduled later than other transmission. Therefore by use of the Existing Transmission Contracts Calculator program the ISO can forecast individual transmission line capacities based on the scheduling, outages and computations of existing transmission contracts (ETC). The ETCC results are utilized for the pre-scheduling of transmission, the determination of a total transmission capacity, the amount of FTR's for Day-Ahead/Hour-Ahead markets, and the establishment of scheduling rights for Real-Time Scheduling. This application has a major effect on the operations of the RT desk, on congestion management, and requires a lot of interaction with individual customers. Its costs are assigned 25% to CRS, 20% to scheduling, 15% to congestion, 20% to MU, and 20% to CS, to reflect the interaction requirements.
31	**FERC Study Software**	FERC requested Study on ISO Markets
32	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	Firm Transmission Rights (FTR) is an Auction system used to manage the sale of Transmission rights for future use or as an Investment. Secondary Registration System (SRS) for FTR is used to track ownership and FTR allocations. Participants register ownership of individual FTR's and MW associated with them. This information is then sent to SI to determine Valid usage of FTR's and Actual Capacity of the Tie lines/Branch Groups. Both systems are involved with firm transmission rights and, as such, affect mostly congestion, 60%, however this information is used in SI to determine Valid usage during scheduling 15% assigned, 15%to MU, and interface to Settlements allocate 10% CS.

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
33	**Global Resource Reliability Management Application (GRRMA)**	Global Reliability Resource Management Application is the ISO's Reliability Must Run (RMR) scheduling tool. It allows the user to schedule Day Ahead, Hour Ahead, and Real Time local reliability energy instructions. Additionally, the dispatcher can call on a contracted RMR unit to provide Ancillary Services in the event that market has not provided the necessary percentage required. Application used to address RMR operations, which are control area operations. It does not do dispatch calculations or unit commitment but provides information on RMR. GO and MO have estimated that 75% of GRRMA's costs should be assigned to CRS, 15% to ETS (because of the scalability of the data file to the number of RMR units, 10% to MU because it
34	**Grid Operations Training Simulator (GOTS)**	Grid Operations Training Simulator is used for training RT operators. Its costs are assigned to CRS and E&TS on a 56/44 basis, the current allocation of the Operations Training group.
35	**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	Developed Tool for Day/Hour-ahead desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. Tool also aids in the data entry to SA, to help eliminate errors. ---
36	**Human Resources**	Human Resources Software applications the tracks emplyees and benefits and has a payroll module, for our in-house payroll system.
37	**IBM Contract**	Service Contract to supply people for desk side and set-up support for all ISO PC's, Help desk support, Operational system monitoring.Level one support for Connected Enities (CE) for AT&T connections, and LAN monitoring.
38	**Integrated Forward Market (IFM)**	The ISO's Day-Ahead and Hour-Ahead Market that simultaneously performs resource commitment, congestion management, energy market clearing and A/S procurement to minimize total bid cost. This new MD02 system, for the new forward market we will provide RUC, Day Ahead Schedules & validation. RUC, CRS 10%, DA schedules & Validation 35%, Forward Market 55%
39	**Internal Development**	Cost for ISO employees that work on Capital Projects during the year. GAAP required reclassification.
40	**Interzonal Congestion Management reform - Real Time**	FERC request, report to quantify the Intra / Inter-Zonal cost across zones. Also RMR costs in real time and forward markets & how cost relates to zonal definition. Affects congestion and congestion management in RT by Grid Ops, so 50/50 split
41	**Land and Building Costs**	This is the cost of purchasing land and preliminary design cost for the property located on Iron Point Road.
42	**Local Area Network (LAN)**	Local Area Network is the physical communications cabling and nework equipment that carry digital data communications between ISO user computers and Enterprise Servers and out to the Internet. Previously managed by MCI, now being done internally.
43	**Locational Marginal Pricing (LMPM)**	The market price for energy at a specific location on the transmission grid ("node") that represents the cost of serving one additional MWh of load at that node. The nodal LMP includes the cost of system energy, congestion and transmission losses. Same as "Nodal Price."
44	**Market Transaction System (MTS)**	New MD02 system, MTS is an application that manages all post-operational market data prior to being settled.
45	**Masterfile**	MD02 system. An ISO data bank used to store information on each Scheduling Coordinator, Transmission Owner, Generation Owner and Control Area that does business wit the ISO. Also, the specific file within that database associated with a particular entity.
46	**MD 02 Capital**	Represents the rolled up allocations from the new applications that are being created for MD02. Actual funding dollars can not be given out at this time as these items have not been contracted.
47	**Meter Data Acquisition System (MDAS)**	MDAS is the collective name for all the Original metering systems MV-90 and MV-STAR. MV-90 is a licensed proprietary system form ITRON-UTS that allows for the collection, validation, editing, storage and transfer of meter data form a wide rang of meters and recording devices that the ISO reads. This system gathers non-SC provided meter data, packages it into Settlement Quality Meter Data (SQMD) and sends the data to OMAR. MV-STAR functions have been replaced by the OMAR application.
48	**Miscellaneous (2004 related capital)**	Represents the amount determined to cover maintenance costs for software and hardware for items approved during 2004 Capital period.

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
49	**Monitoring (Tivoli)**	Monitoring software system, that is used to monitor and report the health of all applications at the ISO. Use system direct allocation.
50	**New Resource Interconnection (NRI)**	The NRI application was developed to allow for tracking of Generation, QF conversion, and Transmission interconnection projects from original initiation to completion or termination of ISO required activities. This application also enables the ISO to monitor and track Generator Interconnection application activities of the Developer and Participating Transmission Owners as required by FERC Order implementing Tariff Amendment No. 39.
51	**New System Equipment (replacement of owned equipment)**	Capital purchase to replace already owned equipment. This is for non desktop equipment, so allocated on system direct, costs.
52	**NT/web servers**	Servers the are running the applications that allow the ISO to communicate with the Internet.
53	**NT-servers**	Refers to Servers that are using the Network Technology (NT) platform and using Windows 2000 operating system. These servers run third party applictions for Email, Microsoft Office, and other company wide applications, non operational applications.
54	**Oracle Enterprise Manager (OEM)**	Utility used by our Data Base Administrator (DBA) to monitor and manage all the ISO Oracle Databases
55	**Office Automation - desktop/laptop (OA)**	Non operational applications, and equipment for all desktop systems. Includes Outlook, Microsoft Office, etc. Hardware and Software Maintenance for these systems.
56	**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	Capital costs for the purchase of non computer hardware.
57	**Open Access Same Time Information System (OASIS)**	Open Access Same-Time Information System was created to ensure that any interested parties might have access to ISO market and transmission information through standardized electronic means on a non-discriminatory basis. The OASIS website, provides open access via a database which is automatically synchronized with the content of the online SI database. The user interface of OASIS conforms to the OASIS standard of query/response interaction and provides advance downloading functionality in CSV and XML formats. As such, it provides a customer service. However, pieces of it are used by Grid Ops, particularly outage information, load forecasting, and ATC. It reflects the results of the state of the market and is used to make decisions about scheduling. Thus the assignment is 10% CRS, 25% scheduling, 10% congestion, 35% MU, and 20% CS.
58	**Operational Meter Analysis and Reporting (OMAR)**	This Oracle-based database serves as the Settlement Quality Meter Data (SQMD) repository for the electrical usage data for the state of California. Data is accepted from the MV90 system and the SC's. Daily pushes and extracts of the SQMD are performed for Settlements, Compliance, Market Analysis, and the Data Warehouse. Master File and Schedule data are imported nightly. The system uses this data to flag data anomalies, identify occurrences of missing meter data, graph and view system data, and perform a preliminary calculation of potential UFE. OMAR-online is a web-based method of submitting and viewing SQMD also to check on the status of their meter data file submissions, over the Internet that using software digital certificate security and encryption.
59	**Oracle Corporate Financials**	ISO Corporate Accounting System, includes the following modules for General Ledger, Account Payable, Account Receivable, Purchasing, Project Accounting, Fixed Assets, Budget, and Cash Management.
60	**Oracle Licenses**	Oracle Licenses that are needed for most of our applications/ database infrastructure. Used by most of the Operational applications.

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
61	**Oracle Market Financials BBS**	Oracle Accounting applications, only using the General Ledger, Accounts Payable, Accounts Receivable modules for invoicing and payment processing for the Market Settlements process. Highly customized.
62	**Out of Sequence Market Operation Settlements Information System (OOS)**	(OOM) and out of sequence (OOS) for the BEEP dispatcher activity for settlement purposes, so 80% of its costs are attributable to CS. Its use is a function of the activities of RT operators, who are forced to go outside the market, so 5% of its costs are assigned to CRS and 5% to ETS, reflecting the variability of the use of OOM resources. It does affect scheduling, which is assigned 90% of its costs.
63	**Outage Scheduler (OS)**	Outage Scheduler. It records information on available generation so that when the market is run, available generation is known. It makes sure that energy is not dispatched that is not available and also provides input to assure appropriate congestion management. MU uses it to rejects bids for A/S and Energy that cannot be delivered. Its costs are assigned 50% to CRS, 10% to scheduling, and 20% each to congestion and MU.
64	**Participating Intermittent Resource Project (PIRP)**	This project created an application and modified existing applications to accommodate Scheduling Coordinator with wind base Intermittent Resources, to submit Energy Schedules contemporaneously with other types of resources. As a result of Amendment 42 of the ISO Tariff. SC will receive near real-time, state of the art wind generation forecasts, they will match their Hour-Ahead Energy Schedules to these forecasts in order to attain preferred schedules which are excluded from the assessment of hourly uninstructed deviations penalties on a daily basis. Instead the deviation penalty will be on a monthly basis.
65	**Physical Facilities Software Application/Furniture/Leasehold Improvements**	All locations, leasehold improvement, furniture and software to manage physical facilities.
66	**Process Information System (PI)**	Process Information System is an historical part of EMS that records what generation units actually provide. Also maintains operation data, transmission, and AGC data from EMS system. Information is used by Compliance to determine penalties that information is passed to Settlements for billing. CRS 80%, 10% MU, 10% CS
67	**Rational Buyer**	Internally developed application that works with SA's ASM , to optimize the selection of A/S to procure the lowest price for services.
68	**Real Time Energy Dispatch System (REDS)**	Internally developed tool to handle manual dispatching information if system isn't functioning, to be able to create data after the fact for Expected Energy and Market Clearing price. Also allows the Market Quality good reports for reviewing information in case of disputes. Also allows us to audit and validate information generated from the BEEP part of SA.
69	**Real Time Nodal Market**	MD02 application. Real-time dispatching project that introduces the full network model and constraints into the real-time dispatching tools. This project will ensure that Locational Marginal Prices will be produced in real-time.
70	**Reliability Management System (RMS)**	Reliability Management System: WECC mandated performance criteria reporting system.
71	**Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)**	Remedy Corporation application called Action Request system (ARS) is an application development environment. This has been used by the ISO to build customized application for various uses at the ISO. Allocation done based on Licenses and what systems they are being used in.
72	**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Remote Intelligent Gateway (RIG), is equipment that is located at Generator sites that gather information about the generator and transmit to the ISO and to the generator from the ISO when we send a signals of MW set points for AGC control from the ISO EMS either direct or through the ISO Master RIG. The DPG is a device is a one way communication device for the ISO to receive informatin about generation. Originally RIG's where referred to as GCP's (Generator Communication Project) Costs related matters are assigned 100% to CRS because they involve interaction by RT personnel and AGC of generators.
73	**Resource Register (RR)**	The Resource Registry is a custom built Remedy application developed and maintained by the Enterprise Applications Group at the ISO. The purpose of the Resource Registry is to provide a data repository for the following information:Participating Generator Agreements/Participating Load Agreements; Reliability Must Run (RMR) Test Data; AGC Pre-Test Data; Ancillary Services (AS) Certification data; A View of Business Associate Master File (MF) data
74	**RMR Application Validation Engine (RAVE)**	RMR Application Validation Tool customized third party tool, that allows the RMR analysts to elimate maual worrk around, run validation in batch at night to save time an provide a database to store all RMR invoices. This tool also provides SC credit validation, which is the past-published values that were used to validate the owner supplied RMR invoice values of SC Credit.
75	**Scheduling & Logging for ISO California (SLIC)**	While SLIC (Scheduling & Logging for ISO California) was traditionally used for logging, it has been upgraded to allow generation SCs to enter outage information, including derates, which are used by the RT desk for operations. Outage information collected in SLIC is utilized by numerous ISO systems including SI, GRRMA, ETCC and EMS. All events that impact the electricity grid are logged into SLIC to provide full reporting and disclosure consistent with our tariff. Its information will affect scheduling and MU. Customers will use it as well. Its costs are assigned 65% to CRS, 15% to scheduling, 5% to congestion, and 15% to MU.

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
76	**Scheduling Architecture (SA)**	Scheduling Application is composed of BEEP, CONG, ASM, and miscellaneous small systems. Allocation is weighted average, based on traffic for the 3 modules listed.
77	**Scheduling Infrastructure (SI)**	Scheduling Infrastructure provides the means by which Market Participants submit & retrieve schedules & bid data. SI provides data interfaces with SC's EMS, SA and Settlements for daily statements. Base of allocation is on a system traffic analysis.
78	**Scheduling Infrastructure Business Rules (SIBR)**	MD02 system. The SIBR application will validate SC bids and offers as well as perform processing of bids and offers post validation. The SIBR application will publish validated bids and offers data for consumption by other CAISO applications within a stipulated time period after the market closes.
79	**Security Constrained Economic Dispatch (SCED)**	MD02 system. SCED will minimize the real-time cost of Imbalance Energy, determined from Energy bids submitted by participating resources, subject to transmission, nomogram and resource capability constraints, while accounting for transmission losses. The constraints will initially be enforced zonally.
80	**Security- External/Physical**	ISO Corporate security equipment, for all Folsom and Alhambra locations. Includes camera's card readers, hand readers, and monitoring equipment.
81	**Security-ISS (CUDA)**	Information/Cyber Security - Enterprise-wide information/cyber security program that provides the security infrastructure, procedures, and policies for the CAISO IT Infrastructure. This includes the Public Key Infrastructure (PKI); Enterprise Security Manager (ESM); and intrusion detection to ensure Confidentiality, Integrity, and Availability of CAISO systems.
82	**Settlements and Market Clearing**	The Settlements System and Market Clearing System (SaMC) provides an integrated automated solution to manage manages the CAISO settlement, billing, invoice, credit, and market clearing tasks. Replacement for current Settlement and Market Financial systems, part of MD02. Current system is unable to handle the new requirement of MD02
83	**Sign Board (Symon Board maint.)**	Provides OASIS information and activity to ISO personnel, via a reader board displayed in various locations in ISO buildings
84	**Startup Costs through 3/31/98, Working Capital-3 months**	All costs for startup of the ISO, salaries and expense from June 1997 to July 1, 1998, when 1st payment for GMC received.
85	**Storage (EMC symmetrix)**	Dedicated Hardware that provides consolidated disk sotrage for multiple ISO database and applications. Three EMC products are currently used to provide storage, the Symmetrix, Clariion, Celerra. Allocation based on amount of storage currently being used by applications.
86	**System Equipment Buyouts (lease buyouts)**	Purchase of expiring equipment leases for hardware that still has several years of usage left. Allocated based on the system that it is supporting.
87	**Telephone/PBX**	Third party costs for regular telephone, cell phone, pager costs. Telecomunication system which allows internal and external voice communications.
88	**Training Systems**	Hardware and software for stand alone system to train ISO employees on new applications or changes to existing applications before deploying to production.
89	**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	TCUC is the application that is used to comply with the FERC June 19th & 25th Orders. This tool is used in the economic evaluation and decision-making process in which the ISO grants and denies Must Offer Waiver requests.
90	**Transmission Map Plotting & Display**	Transmission Map Plotting & Display - Our Transmission Map Plotting and Display system is used to create a set of detailed transmission maps for use by the Transmission Dispatchers, Operations Engineers and Transmission Planners. The primary use is in real-time operations to access the locations of reported fires and how close the fires are to the transmission lines. Obviously to do this function we need accurate geographic information about the transmission facilities and the location of the fires. The second use to mark damages to the lines caused by earthquakes, airplanes, storms, etc. The Operations Engineers and Planners also use the maps as a part of their grid planning and analysis work. They need to know where the lines are located and possible routes for new lines and for the location of new generating facilities that need to be hooked up to the grid. CRS 50%, ETS 50%

	A	B
2	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**	
3		
4	**System**	**Description**
91	**Trustee Costs, Interest-Capitalized, User Groups**	Start up costs for non-ISO employees from Dec. 1996 - July, 1998
92	**Utilities - System i.e. Print drivers**	Part of EMC storage usage for various system utilities.
93	**Vitria (Middleware)**	Third party software applications that allows different system to pass data between them without having to do application specific customizations. (also referred to as Enterprise Application Integration -EAI bus)
94	**Wide Area Network (WAN)**	The ISO Communication secure network. Previously supplied by MCI, being replaced by an AT&T network. This is the physical communication lines and equipment that carry digital data and voice communication between CAISO Data Centers and between the CAISO and Connected Entities (all Market paticipants that participate in the market through connections to the ISO such as Generators, Scheduling Corordinators, and Revenue Meters connects).

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**ACC Upgrades (Communication between ISO & IOUs)**	Direct	100%	0%	0%	0%	0%	0%	100%
5	**Ancillary Services Management (ASM) Component of SA**	Direct	15%	0%	40%	0%	45%	0%	100%
6	**Application Development Tools**	System directs	23%	0%	22%	3%	7%	45%	100%
7	**Automated Dispatch System (ADS)**	Direct	50%	0%	25%	0%	20%	5%	100%
8	**Automated Load Forecast System (ALFS)**	Direct	70%	0%	10%	0%	20%	0%	100%
9	**Automatic Mitigation Procedure (AMP)**	Direct	85%	0%	0%	0%	15%	0%	100%
10	**Backup systems (Legato/Quantum)**	System directs	23%	0%	22%	3%	7%	45%	100%
11	**Balance of Business Systems (BBS)**	Direct	0%	0%	0%	0%	0%	100%	100%
12	**Balancing Energy Ex Post Price (BEEP) Component of SA**	Direct	50%	0%	20%	10%	20%	0%	100%
13	**Bill's Interchange Schedule (BITS)**	Direct	85%	0%	0%	0%	15%	0%	100%
14	**CaseWise (process modeling tool)**	FTE	44%	21%	4%	4%	10%	17%	100%
15	**CHASE**	FTE	44%	21%	4%	4%	10%	17%	100%
16	**Common Information Model (CIM)**	Direct	100%	0%	0%	0%	0%	0%	100%
17	**Compliance (Blaze)**	Dept direct	19%	16%	10%	0%	33%	22%	100%
18	**Congestion Management (CONG) Component of SA**	Direct	10%	0%	0%	65%	25%	0%	100%
19	**Congestion Reform-DSOW**	Direct	50%	0%	0%	50%	0%	0%	100%
20	**Congestion Revenue Rights (CRR)**	Direct	0%	0%	0%	80%	20%	0%	100%
21	**DataWarehouse**	Dept direct	24%	18%	6%	9%	24%	18%	100%
22	**Dept. of Market Analysis Tools (SAS/MARS)**	Dept direct	15%	26%	0%	20%	31%	7%	100%
23	**Dispute Tracking System (Remedy)**	Direct	0%	0%	0%	0%	0%	100%	100%
24	**Documentum**	FTE	44%	21%	4%	4%	10%	17%	100%
25	**Electronic Tagging (Etag)**	Direct	100%	0%	0%	0%	0%	0%	100%
26	**Energy Management System (EMS)**	Direct	100%	0%	0%	0%	0%	0%	100%

Exh. No. ISO- 10, Page 277 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
27	**Engineering Analysis Tools**	Direct	60%	40%	0%	0%	0%	0%	100%
28	**Evaluation of Market Separation**	Direct	0%	0%	0%	50%	50%	0%	100%
29	**Existing Transmission Contracts Calculator (ETCC)**	Direct	25%	0%	20%	15%	20%	20%	100%
30	**FERC Study Software**	Direct	0%	0%	0%	0%	100%	0%	100%
31	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	Direct	0%	0%	15%	60%	15%	10%	100%
32	**Global Resource Reliability Management Application (GRRMA)**	Direct	75%	15%	0%	0%	10%	0%	100%
33	**Grid Operations Training Simulator (GOTS)**	Direct	56%	44%	0%	0%	0%	0%	100%
34	**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	Direct	0%	0%	100%	0%	0%	0%	100%
35	**Human Resources**	FTE	44%	21%	4%	4%	10%	17%	100%
36	**IBM Contract**	Dept direct	37%	14%	10%	4%	9%	26%	100%
37	**Integrated Forward Market (IFM)**	Direct	10%	0%	35%	0%	55%	0%	100%
38	**Internal Development**	System directs	23%	0%	22%	3%	7%	45%	100%
39	**Interzonal Congestion Management reform - Real Time**	Direct	50%	0%	0%	50%	0%	0%	100%
40	**Land and Building Costs**	FTE	44%	21%	4%	4%	10%	17%	100%
41	**Local Area Network (LAN)**	FTE	44%	21%	4%	4%	10%	17%	100%
42	**Locational Marginal Pricing (LMPM)**	Direct	10%	0%	35%	0%	55%	0%	100%
43	**Market Transaction System (MTS)**	Direct	0%	0%	0%	0%	100%	0%	100%
44	**Masterfile**	Direct	20%	0%	20%	0%	55%	5%	100%
45	**MD 02 Capital**	Direct	7%	0%	14%	11%	28%	40%	100%
46	**Meter Data Acquisition System (MDAS)**	Direct	0%	0%	0%	0%	0%	100%	100%
47	**Miscellaneous (2004 related capital)**	System directs	23%	0%	22%	3%	7%	45%	100%
48	**Monitoring (Tivoli)**	System directs	23%	0%	22%	3%	7%	45%	100%
49	**New Resource Interconnection (NRI)**	Direct	100%	0%	0%	0%	0%	0%	100%

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
50	**New System Equipment (replacement of owned equipment)**	System directs	23%	0%	22%	3%	7%	45%	100%
51	**NT/web servers**	FTE	44%	21%	4%	4%	10%	17%	100%
52	**NT-servers**	FTE	44%	21%	4%	4%	10%	17%	100%
53	**Oracle Enterprise Manager (OEM)**	Direct	27%	0%	18%	5%	9%	41%	100%
54	**Office Automation - desktop/laptop (OA)**	FTE	44%	21%	4%	4%	10%	17%	100%
55	**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	FTE	44%	21%	4%	4%	10%	17%	100%
56	**Open Access Same Time Information System (OASIS)**	Direct	10%	0%	25%	10%	35%	20%	100%
57	**Operational Meter Analysis and Reporting (OMAR)**	Direct	0%	0%	0%	0%	0%	100%	100%
58	**Oracle Corporate Financials**	FTE	44%	21%	4%	4%	10%	17%	100%
59	**Oracle Licenses**	Direct	27%	0%	18%	5%	9%	41%	100%
60	**Oracle Market Financials BBS**	Direct	0%	0%	0%	0%	0%	100%	100%
61	**Out of Sequence Market Operation Settlements Information System (OOS)**	Direct	5%	5%	0%	0%	90%	0%	100%
62	**Outage Scheduler (OS)**	Direct	50%	0%	10%	20%	20%	0%	100%
63	**Participating Intermittent Resource Project (PIRP)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100%
64	**Physical Facilities Software Application/Furniture/Leasehold Improvements**	FTE	44%	21%	4%	4%	10%	17%	100%
65	**Process Information System (PI)**	Direct	80%	0%	0%	0%	10%	10%	100%
66	**Rational Buyer**	Direct	100%	0%	0%	0%	0%	0%	100%
67	**Real Time Energy Dispatch System (REDS)**	Direct	100%	0%	0%	0%	0%	0%	100%
68	**Real Time Nodal Market**	Direct	35%	0%	10%	0%	55%	0%	100%
69	**Reliability Management System (RMS)**	Direct	100%	0%	0%	0%	0%	0%	100%
70	**Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)**	Direct	100%	0%	0%	0%	0%	0%	100%
71	**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Direct	100%	0%	0%	0%	0%	0%	100%
72	**Resource Register (RR)**	Direct	100%	0%	0%	0%	0%	0%	100%

Exh. No. ISO- 10, Page 279 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
73	**RMR Application Validation Engine (RAVE)**	Direct	100%	0%	0%	0%	0%	0%	100%
74	**Scheduling & Logging for ISO California (SLIC)**	Direct	65%	0%	15%	5%	15%	0%	100%
75	**Scheduling Architecture (SA)**	Calculated Direct	24%	0%	20%	26%	30%	0%	100%
76	**Scheduling Infrastructure (SI)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100%
77	**Scheduling Infrastructure Business Rules (SIBR)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100%
78	**Security Constrained Economic Dispatch (SCED)**	Direct	40%	0%	0%	0%	60%	0%	100%
79	**Security- External/Physical**	FTE	44%	21%	4%	4%	10%	17%	100%
80	**Security-ISS (CUDA)**	System directs	23%	0%	22%	3%	7%	45%	100%
81	**Settlements and Market Clearing**	Direct	0%	0%	0%	0%	0%	100%	100%
82	**Sign Board (Symon Board maint.)**	FTE	44%	21%	4%	4%	10%	17%	100%
83	**Startup Costs through 3/31/98, Working Capital-3 months**	FTE	44%	21%	4%	4%	10%	17%	100%
84	**Storage (EMC symmetrix)**	Calculated Direct	19%	10%	14%	4%	12%	42%	100%
85	**System Equipment Buyouts (lease buyouts)**	Calculated Direct	43%	1%	7%	2%	11%	36%	100%
86	**Telephone/PBX**	FTE	44%	21%	4%	4%	10%	17%	100%
87	**Training Systems**	System directs	23%	0%	22%	3%	7%	45%	100%
88	**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	Direct	100%	0%	0%	0%	0%	0%	100%
89	**Transmission Map Plotting & Display**	Direct	50%	50%	0%	0%	0%	0%	100%
90	**Trustee Costs, Interest-Capitalized, User Groups**	Calculated Direct	54%	1%	11%	16%	17%	2%	100%
91	**Utilities - System i.e. Print drivers**	System directs	23%	0%	22%	3%	7%	45%	100%
92	**Vitria (Middleware)**	System directs	23%	0%	22%	3%	7%	45%	100%
93	**Wide Area Network (WAN)**	Calculated Direct	41%	2%	19%	1%	8%	29%	100.00%

Exh. No. ISO- 10, Page 280 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems Allocated by FTE**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**CaseWise (process modeling tool)**	FTE	44%	21%	4%	4%	10%	17%	100%
5	**CHASE**	FTE	44%	21%	4%	4%	10%	17%	100%
6	**Documentum**	FTE	44%	21%	4%	4%	10%	17%	100%
7	**Human Resources**	FTE	44%	21%	4%	4%	10%	17%	100%
8	**Land and Building Costs**	FTE	44%	21%	4%	4%	10%	17%	100%
9	**Local Area Network (LAN)**	FTE	44%	21%	4%	4%	10%	17%	100%
10	**NT/web servers**	FTE	44%	21%	4%	4%	10%	17%	100%
11	**NT-servers**	FTE	44%	21%	4%	4%	10%	17%	100%
12	**Office Automation - desktop/laptop (OA)**	FTE	44%	21%	4%	4%	10%	17%	100%
13	**Office equipment (scanner, printer, copier, fax, Communication Equip.)**	FTE	44%	21%	4%	4%	10%	17%	100%

Exh. No. ISO- 10, Page 281 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems Allocated by FTE**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
14	**Oracle Corporate Financials**	FTE	44%	21%	4%	4%	10%	17%	100%
15	**Physical Facilities Software Application/Furniture/Leasehold Improvements**	FTE	44%	21%	4%	4%	10%	17%	100%
16	**Security- External/Physical**	FTE	44%	21%	4%	4%	10%	17%	100%
17	**Sign Board (Symon Board maint.)**	FTE	44%	21%	4%	4%	10%	17%	100%
18	**Startup Costs through 3/31/98, Working Capital-3 months**	FTE	44%	21%	4%	4%	10%	17%	100%
19	**Telephone/PBX**	FTE	44%	21%	4%	4%	10%	17%	100%
20	**FTE factors**		44%	21%	4%	4%	10%	17%	100%

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems Allocated by System Directs**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**Application Development Tools**	System directs	23%	0%	22%	3%	7%	45%	100.00%
5	**Backup systems (Legato/Quantum)**	System directs	23%	0%	22%	3%	7%	45%	100%
6	**Internal Development**	System directs	23%	0%	22%	3%	7%	45%	100%
7	**Miscellaneous (2004 related capital)**	System directs	23%	0%	22%	3%	7%	45%	100%
8	**Monitoring (Tivoli)**	System directs	23%	0%	22%	3%	7%	45%	100%
9	**New System Equipment (replacement of owned equipment)**	System directs	23%	0%	22%	3%	7%	45%	100%
10	**Security-ISS (CUDA)**	System directs	23%	0%	22%	3%	7%	45%	100%
11	**Training Systems**	System directs	23%	0%	22%	3%	7%	45%	100%
12	**Utilities - System i.e. Print drivers**	System directs	23%	0%	22%	3%	7%	45%	100%
13	**Vitria (Middleware)**	System directs	23%	0%	22%	3%	7%	45%	100%

Exh. No. ISO- 10, Page 283 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems Allocated by Departments**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**Compliance (Blaze)**	Dept direct	19%	16%	10%	0%	33%	22%	100%
5	**DataWarehouse**	Dept direct	24%	18%	6%	9%	24%	18%	100%
6	**Dept. of Market Analysis Tools (SAS/MARS)**	Dept direct	15%	26%	0%	20%	31%	7%	100%
7	**IBM Contract**	Dept direct	37%	14%	10%	4%	9%	26%	100%

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Directly Functionalized Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**ACC Upgrades (Communication between ISO & IOUs)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
5	**Ancillary Services Management (ASM) Component of SA**	Direct	15%	0%	40%	0%	45%	0%	100.00%
6	**Automated Dispatch System (ADS)**	Direct	50%	0%	25%	0%	20%	5%	100.00%
7	**Automated Load Forecast System (ALFS)**	Direct	70%	0%	10%	0%	20%	0%	100.00%
8	**Automatic Mitigation Procedure (AMP)**	Direct	85%	0%	0%	0%	15%	0%	100.00%
9	**Balance of Business Systems (BBS)**	Direct	0%	0%	0%	0%	0%	100%	100.00%
10	**Balancing Energy Ex Post Price (BEEP) Component of SA**	Direct	50%	0%	20%	10%	20%	0%	100.00%
11	**Bill's Interchange Schedule (BITS)**	Direct	85%	0%	0%	0%	15%	0%	100.00%
12	**Common Information Model (CIM)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
13	**Congestion Management (CONG) Component of SA**	Direct	10%	0%	0%	65%	25%	0%	100.00%
14	**Congestion Reform-DSOW**	Direct	50%	0%	0%	50%	0%	0%	100.00%
15	**Congestion Revenue Rights (CRR)**	Direct	0%	0%	0%	80%	20%	0%	100.00%
16	**Dispute Tracking System (Remedy)**	Direct	0%	0%	0%	0%	0%	100%	100.00%
17	**Electronic Tagging (Etag)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
18	**Energy Management System (EMS)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
19	**Engineering Analysis Tools**	Direct	60%	40%	0%	0%	0%	0%	100.00%
20	**Evaluation of Market Separation**	Direct	0%	0%	0%	50%	50%	0%	100.00%
21	**Existing Transmission Contracts Calculator (ETCC)**	Direct	25%	0%	20%	15%	20%	20%	100.00%
22	**FERC Study Software**	Direct	0%	0%	0%	0%	100%	0%	100.00%

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Directly Functionalized Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
23	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	Direct	0%	0%	15%	60%	15%	10%	100.00%
24	**Global Resource Reliability Management Application (GRRMA)**	Direct	75%	15%	0%	0%	10%	0%	100.00%
25	**Grid Operations Training Simulator (GOTS)**	Direct	56%	44%	0%	0%	0%	0%	100.00%
26	**Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,**	Direct	0%	0%	100%	0%	0%	0%	100.00%
27	**Integrated Forward Market (IFM)**	Direct	10%	0%	35%	0%	55%	0%	100.00%
28	**Interzonal Congestion Management reform - Real Time**	Direct	50%	0%	0%	50%	0%	0%	100.00%
29	**Locational Marginal Pricing (LMPM)**	Direct	10%	0%	35%	0%	55%	0%	100.00%
30	**Market Transaction System (MTS)**	Direct	0%	0%	0%	0%	100%	0%	100.00%
31	**Masterfile**	Direct	20%	0%	20%	0%	55%	5%	100.00%
32	**MD 02 Capital**	Direct	7%	0%	14%	11%	28%	40%	100.00%
33	**Meter Data Acquisition System (MDAS)**	Direct	0%	0%	0%	0%	0%	100%	100.00%
34	**New Resource Interconnection (NRI)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
35	**Open Access Same Time Information System (OASIS)**	Direct	10%	0%	25%	10%	35%	20%	100.00%
36	**Operational Meter Analysis and Reporting (OMAR)**	Direct	0%	0%	0%	0%	0%	100%	100.00%
37	**Oracle Enterprise Manager (OEM)**	Direct	27%	0%	18%	5%	9%	41%	100.00%
38	**Oracle Licenses**	Direct	27%	0%	18%	5%	9%	41%	100.00%
39	**Oracle Market Financials BBS**	Direct	0%	0%	0%	0%	0%	100%	100.00%
40	**Out of Sequence Market Operation Settlements Information System (OOS)**	Direct	5%	5%	0%	0%	90%	0%	100.00%
41	**Outage Scheduler (OS)**	Direct	50%	0%	10%	20%	20%	0%	100.00%

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Directly Functionalized Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
42	**Process Information System (PI)**	Direct	80%	0%	0%	0%	10%	10%	100.00%
43	**Rational Buyer**	Direct	100%	0%	0%	0%	0%	0%	100.00%
44	**Real Time Energy Dispatch System (REDS)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
45	**Real Time Nodal Market**	Direct	35%	0%	10%	0%	55%	0%	100.00%
46	**Reliability Management System (RMS)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
47	**Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
48	**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
49	**Resource Register (RR)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
50	**RMR Application Validation Engine (RAVE)**	Direct	100%	0%	0%	0%	0%	0%	100.00%
51	**Scheduling & Logging for ISO California (SLIC)**	Direct	65%	0%	15%	5%	15%	0%	100.00%
52	**Security Constrained Economic Dispatch (SCED)**	Direct	40%	0%	0%	0%	60%	0%	100.00%
53	**Settlements and Market Clearing**	Direct	0%	0%	0%	0%	0%	100%	100.00%
54	**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	Direct	100%	0%	0%	0%	0%	0%	100.00%
55	**Transmission Map Plotting & Display**	Direct	50%	50%	0%	0%	0%	0%	100.00%

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Identified Costs of Directly Functionalized Systems**									
2										
3	**System**	**Acronym**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total Dollars**
4	ACC Upgrades (Communication between ISO & IOUs)		Direct	$ 1,162,000	$ -	$ -	$ -	$ -	$ -	$ 1,162,000
5	Ancillary Services Management (ASM) Component of SA	ASM	Direct	$ 87,013	$ -	$ 232,034	$ -	$ 261,039	$ -	$ 580,086
6	Automated Dispatch System (ADS)	ADS	Direct	$ 1,220,479	$ -	$ 610,240	$ -	$ 488,192	$ 122,048	$ 2,440,958
7	Automated Load Forecast System (ALFS)	ALFS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	Automatic Mitigation Procedure (AMP)	AMP	Direct	$ 42,500	$ -	$ -	$ -	$ 7,500	$ -	$ 50,000
9	Balance of Business Systems (BBS)	BBS	Direct	$ -	$ -	$ -	$ -	$ -	$ 52,750,435	$ 52,750,435
10	Balancing Energy Ex Post Price (BEEP) Component of SA	BEEP	Direct	$ 1,620,258	$ -	$ 648,103	$ 324,052	$ 648,103	$ -	$ 3,240,516
11	Bill's Interchange Schedule (BITS)	BITS	Direct	$ 532,104	$ -	$ -	$ -	$ 93,901	$ -	$ 626,004
12	Common Information Model (CIM)	CIM	Direct	$ 983,313	$ -	$ -	$ -	$ -	$ -	$ 983,313
13	Congestion Management (CONG) Component of SA	CONG	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	Congestion Reform-DSOW		Direct	$ 169,748	$ -	$ -	$ 169,748	$ -	$ -	$ 339,496
15	Congestion Revenue Rights (CRR)	CRR	Direct	$ -	$ -	$ -	$ -	$ -	$ -	
16	Dispute Tracking System (Remedy)	Remedy	Direct	$ -	$ -	$ -	$ -	$ -	$ 692,000	$ 692,000
17	Electronic Tagging (Etag)	E-TAG	Direct	$ 1,326,259	$ -	$ -	$ -	$ -	$ -	$ 1,326,259
18	Energy Management System (EMS)	EMS	Direct	$ 24,872,201	$ -	$ -	$ -	$ -	$ -	$ 24,872,201
19	Engineering Analysis Tools		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	Evaluation of Market Separation		Direct	$ -	$ -	$ -	$ 79,152	$ 79,152	$ -	$ 158,303
21	Existing Transmission Contracts Calculator (ETCC)	ETCC	Direct	$ 294,816	$ -	$ 235,853	$ 176,890	$ 235,853	$ 235,853	$ 1,179,265
22	FERC Study Software		Direct	$ -	$ -	$ -	$ -	$ 11,000	$ -	$ 11,000
23	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	FTR	Direct	$ -	$ -	$ 185,508	$ 742,032	$ 185,508	$ 123,672	$ 1,236,721
24	Global Resource Reliability Management Application (GRRMA)	GRRMA	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	Grid Operations Training Simulator (GOTS)	GOTS	Direct	$ 269,842	$ 212,018	$ -	$ -	$ -	$ -	$ 481,860
26	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		Direct	$ -	$ -	$ 350,813	$ -	$ -	$ -	$ 350,813
27	Integrated Forward Market (IFM)	IFM	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28	Interzonal Congestion Management reform - Real Time		Direct	$ 128,719	$ -	$ -	$ 128,719	$ -	$ -	$ 257,439
29	Locational Marginal Pricing (LMPM)	LMPM	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30	Market Transaction System (MTS)	MTS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	
31	Masterfile		Direct	$ -	$ -	$ -	$ -	$ -	$ -	
32	MD 02 Capital		Direct	$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	$ 22,000,000

Exh. No. ISO- 10, Page 288 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Identified Costs of Directly Functionalized Systems**									
2										
3	**System**	**Acronym**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total Dollars**
33	Meter Data Acquisition System (MDAS)	MDAS	Direct	$ -	$ -	$ -	$ -	$ -	$ 8,552,935	$ 8,552,935
34	New Resource Interconnection (NRI)	NRI	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	Open Access Same Time Information System (OASIS)	OASIS	Direct	$ 197,518	$ -	$ 493,795	$ 197,518	$ 691,313	$ 395,036	$ 1,975,179
36	Operational Meter Analysis and Reporting (OMAR)	OMAR	Direct	$ -	$ -	$ -	$ -	$ -	$ 662,698	$ 662,698
37	Oracle Enterprise Manager (OEM)		Direct	$ 307,279	$ 2,139	$ 202,103	$ 62,597	$ 104,035	$ 473,965	$ 1,152,118
38	Oracle Licenses		Direct	$ 455,006	$ 3,167	$ 299,267	$ 92,690	$ 154,051	$ 701,829	$ 1,706,010
39	Oracle Market Financials BBS	OSMOSIS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40	Out of Sequence Market Operation Settlements Information System (OOS)	OS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41	Outage Scheduler (OS)	PIRP	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	Process Information System (PI)	PI	Direct	$ 796,830	$ -	$ -	$ -	$ 99,604	$ 99,604	$ 996,037
43	Rational Buyer		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	Real Time Energy Dispatch System (REDS)	REDS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	Real Time Nodal Market		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46	Reliability Management System (RMS)	RMS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48	Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)		Direct	$ 1,687,689	$ -	$ -	$ -	$ -	$ -	$ 1,687,689
49	Resource Register (RR)		Direct	$ 66,462	$ -	$ -	$ -	$ -	$ -	$ 66,462
50	RMR Application Validation Engine (RAVE)	RAVE	Direct	$ 435,452	$ -	$ -	$ -	$ -	$ -	$ 435,452
51	Scheduling & Logging for ISO California (SLIC)	SLIC	Direct	$ 64,999	$ -	$ 15,000	$ 5,000	$ 15,000	$ -	$ 99,999
52	Scheduling Infrastructure (SI)	SI	Calculated Direct	$ -	$ -	$ 29,260,135	$ -	$ 1,893,118	$ -	$ 31,153,253
53	Scheduling Infrastructure Business Rules (SIBR)	SIBR	Calculated Direct	$ -	$ -	$ -	$ -	$ -	$ -	
54	Security Constrained Economic Dispatch (SCED)	SCED	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55	Settlements and Market Clearing		Direct	$ -	$ -	$ -	$ -	$ -	$ -	
56	Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	TCUC	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57	Transmission Map Plotting & Display		Direct	$ 69,500	$ 69,500	$ -	$ -	$ -	$ -	$ 139,000
58	Total			$ 38,319,987	$ 286,824	$ 35,582,852	$ 4,378,397	$ 11,209,866	$ 73,587,575	$ 163,365,501
59	Percent of Total			23.46%	0.18%	21.78%	2.68%	6.86%	45.04%	100.00%

Exh. No. ISO- 10, Page 289 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation Listing of Systems Allocations Calculated from Other Systems**								
2									
3	**System**	**Method**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4	**Participating Intermittent Resource Project (PIRP)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100.00%
5	**Scheduling Architecture (SA)**	Calculated Direct	24%	0%	20%	26%	30%	0%	100%
6	**Scheduling Infrastructure (SI)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100%
7	**Scheduling Infrastructure Business Rules (SIBR)**	Calculated Direct	0%	0%	94%	0%	6%	0%	100%
8	**Storage (EMC symmetrix)**	Calculated Direct	19%	10%	14%	4%	12%	42%	100%
9	**System Equipment Buyouts (lease buyouts)**	Calculated Direct	43%	1%	7%	2%	11%	36%	100%
10	**Trustee Costs, Interest-Capitalized, User Groups**	Calculated Direct	54%	1%	11%	16%	17%	2%	100%
11	**Wide Area Network (WAN)**	Calculated Direct	41%	2%	19%	1%	8%	29%	100%

Exh. No. ISO- 10, Page 290 of 442

Worksheets for SA, SI, Oracle Licenses, EMC, WAN, Infrastructure and Equipment Follow

	A	B	C	D	E	F	G	H
1	**California Independent System Operator 2004 GMC Cost Allocation SA Worksheet**							
2	Input Tables	# of records/month	ASM	CONG	BEEP	Total		
3	I_SUP_ENERGY_BID	21,743	21,743	21,743	21,743	65,229		
4	LOAD_SCH	149,883	149,883	149,883	149,883	449,649		
5	NON_SPIN_RESERVE_GEN	111,902	111,902		111,902	223,804		
6	NON_SPIN_RESERVE_LOAD	2,976	2,976		2,976	5,952		
7	OVER_GEN_MITIGATION	2,976	2,976			2,976		
8	REGULATION	56,884	56,884	56,884	56,884	170,652		
9	RELIABILITY_T	148,996	148,996	148,996	148,996	446,988		
10	RELIABILITY_MUST_RUN_T	24,785	24,785	24,785	24,785	74,355		
11	REPLACEMENT_RES_GEN	45,088	45,088	45,088	45,088	135,264		
12	RT_AMP_EXP_MKT_INFO_T	26,112			26,112	26,112		
13	RT_BEEP_OOSTACKENGY	87,871			87,871	87,871		
14	RT_BEEP_OUTPUT	750,183			750,183	750,183		
15	RT_BEEP_RESD_IMBL	52,317			52,317	52,317		
16	SPIN_RESERVE_SCH	96,067	96,067	96,067	96,067	288,201		
17	TIE_LOSS_FACTOR	55,056	55,056	55,056		110,112		
18	UNIT_SPECFIC_DATA	493,812	493,812	493,812		987,624		
19	USAGES	174,003		174,003	174,003	348,006		
20	I_INTERCHANGE_SCH	445,674	445,674	445,674	445,674	1,337,022		
21	GENERATION_SCH	803,748	803,748	803,748		1,607,496		
22	Totals	3,550,076	2,459,590	2,515,739	2,194,484	7,169,813		
23	Percentage of Total		34%	35%	31%	100%		
24								
25	**Functionalization**	**Percent of Total**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**
26								
27	ASM	34.3%	5.1%	0.0%	13.7%	0.0%	15.4%	0.0%
28	CONG	35.1%	3.5%	0.0%	0.0%	22.8%	8.8%	0.0%
29	BEEP	30.6%	15.3%	0.0%	6.1%	3.1%	6.1%	0.0%
30			24.0%	0.0%	19.8%	25.9%	30.3%	0.0%

California Independent System Operator
2004 GMC Cost Allocation
SI Worksheet

	Schedules				
Year. Month	Sch Exp Count	Sch Imp Count	Sch Load Count	Sch Gen Count	InterSC Count
2001.09	17,822	58,938	66,361	372,295	374,375
2001.10	12,560	61,962	72,300	374,869	425,340
2001.11	11,037	64,626	71,028	345,216	452,495
2001.12	13,682	68,824	73,896	371,808	435,197
2002.01	13,703	72,555	74,758	365,761	389,709
2002.02	15,023	75,984	68,964	328,809	393,903
2002.03	13,200	63,231	75,282	368,927	456,654
2002.04	15,305	81,158	73,059	351,770	436,762
2002.05	11,685	84,994	77,406	370,355	477,465
2002.06	21,823	86,676	73,008	371,605	461,328
2002.07	29,679	81,567	74,413	396,010	499,087
2002.08	24,250	79,532	72,332	387,247	512,288
2002.09	18,249	80,518	67,225	385,129	484,696
2002.10	13,137	85,571	68,783	392,324	500,993
2002.11	14,450	83,849	68,949	374,360	462,542
2002.12	13,920	83,006	70,535	383,740	457,977
2003.01	15,276	86,262	67,237	387,287	450,930
2003.02	13,314	84,530	60,273	354,751	416,540
2003.03	15,848	97,276	71,418	393,027	475,571
2003.04	15,517	97,395	67,987	370,677	451,519
2003.05	16,435	88,812	67,975	385,982	483,950
2003.06	21,982	86,490	63,447	382,220	478,167
2003.07	23,712	83,563	62,478	402,628	495,499
2003.08	22,427	83,786	60,596	398,979	484,047
Totals	404,036	1,921,105	1,669,710	9,015,776	10,957,034
Total by Type					23,967,661
Percent of Total					93.9%
		CRS	ETS	FS	CONG
Allocation to Function		0%	0%	94%	0%

Ancillary Services Bids		
A/S Mkt Count	A/S SP Count	Total
33,491	16,616	939,898
35,290	17,707	1,000,028
34,167	15,611	994,180
40,049	14,459	1,017,915
36,417	13,539	966,442
34,088	11,914	928,685
39,424	14,831	1,031,549
37,118	12,674	1,007,846
42,080	13,561	1,077,546
39,488	14,939	1,068,867
40,920	19,564	1,141,240
41,714	16,199	1,133,562
48,618	51,250	1,135,685
47,837	49,556	1,158,201
45,375	47,671	1,097,196
47,309	49,424	1,105,911
40,356	48,506	1,095,854
39,424	42,880	1,011,712
40,521	43,985	1,137,646
36,920	40,998	1,081,013
32,698	10,387	1,086,239
32,716	12,411	1,077,433
37,538	15,447	1,120,865
39,656	13,354	1,102,845
943,214	607,483	25,518,358
	1,550,697	25,518,358
	6.1%	
MU	SMCR	Total
6%	0%	100%

	A	B	C	D	E	F	G	H	I	J	K
1		**California Independent System Operator 2004 GMC Cost Allocation Oracle License Worksheet**									
2											
3		**$**	**System**		**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4		$ 63,441	**Automated Dispatch System (ADS)**	$ 63,441	$ 31,721	$ -	$ 15,860	$ -	$ 12,688	$ 3,172	$ 63,441
5		$ 23,790	**Bill's Interchange Schedule (BITS)**	$ 23,790	$ 20,222	$ -	$ -	$ -	$ 3,569	$ -	$ 23,790
6		$ 39,651	**Existing Transmission Contracts Calculator (ETCC)**	$ 39,651	$ 9,913	$ -	$ 7,930	$ 5,948	$ 7,930	$ 7,930	$ 39,651
7		$ 34,893	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ 34,893	$ -	$ -	$ 5,234	$ 20,936	$ 5,234	$ 3,489	$ 34,893
8		$ 7,930	**Global Resource Reliability Management Application (GRRMA)**	$ 7,930	$ 5,948	$ 1,190	$ -	$ -	$ 793	$ -	$ 7,930
9		$ 38,065	**Meter Data Acquisition System (MDAS)**	$ 38,065	$ -	$ -	$ -	$ -	$ -	$ 38,065	$ 38,065
10		$ 171,291	**Operational Meter Analysis and Reporting (OMAR)**	$ 171,291	$ -	$ -	$ -	$ -	$ -	$ 171,291	$ 171,291
11		$ 39,651	**Dispute Tracking System (Remedy)**	$ 39,651	$ -	$ -	$ -	$ -	$ -	$ 39,651	$ 39,651
12		$ 158,603	**Scheduling & Logging for ISO California (SLIC)**	$ 158,603	$ 103,092	$ -	$ 23,790	$ 7,930	$ 23,790	$ -	$ 158,603
13		$ 63,441	**Scheduling Infrastructure (SI)**	$ 63,441	$ -	$ -	$ 59,586	$ -	$ 3,855	$ -	$ 63,441
14		$ 640,755	**Totals**	$ 640,755	$ 170,894	$ 1,190	$ 112,401	$ 34,813	$ 57,859	$ 263,598	$ 640,755
15					26.7%	0.2%	17.5%	5.4%	9.0%	41.1%	100.0%

	A	B	C	D	E	F	G	H	I	J	K	L
1		**California Independent System Operator 2004 GMC Cost Allocation EMC Worksheet**										
2												
3		**Subsystem**	**$**	**System**		**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4		ADS	$ 12,480	**Automated Dispatch System (ADS)**	$ 12,480	$ 6,240	$ -	$ 3,120	$ -	$ 2,496	$ 624	$ 12,480
5		ALFS	$ 31,200	**Automated Load Forecast System (ALFS)**	$ 31,200	$ 21,840	$ -	$ 3,120	$ -	$ 6,240	$ -	$ 31,200
6		BBS	$ 332,803	**Balance of Business Systems (BBS)**	$ 998,408	$ -	$ -	$ -	$ -	$ -	$ 998,408	$ 998,408
7		MHAP (settlements)	$ 158,081									
8		MHAP (SRDF)	$ 29,120									
9		Settlements	$ 12,480									
10		Settlements - Folierun1	$ 187,201									
11		Settlements - Folierun2	$ 187,201									
12		Development - Foliapp82	$ 49,920									
13		Development - Foliapp83	$ 41,600									
14		BITS	$ 19,968	**Bill's Interchange Schedule (BITS)**	$ 19,968	$ 16,973	$ -	$ -	$ -	$ 2,995	$ -	$ 19,968
15		DW	$ 832,006	**DataWarehouse**	$ 898,567	$ 219,809	$ 164,184	$ 57,537	$ 78,580	$ 218,361	$ 160,096	$ 898,567
16		DW (SRDF)	$ 66,561									
17		Documentum	$ 128,961	**Documentum**	$ 128,961	$ 56,825	$ 27,691	$ 4,530	$ 5,069	$ 13,162	$ 21,685	$ 128,961
18		MOOSE-SA	$ 16,640	**Scheduling Architecture (SA)**	$ 16,640	$ 3,987	$ -	$ 3,302	$ 4,304	$ 5,047	$ -	$ 16,640
19		MOOSE-SI	$ 70,721	**Scheduling Infrastructure (SI)**	$ 353,603	$ -	$ -	$ 332,115	$ -	$ 21,488	$ -	$ 353,603
20		SI Workspace (MD02)	$ 282,882									
21		OA	$ 686,405	**Office Automation - desktop/laptop (OA)**	$ 686,405	$ 302,454	$ 147,386	$ 24,112	$ 26,979	$ 70,056	$ 115,418	$ 686,405
22		OASIS	$ 203,842	**Open Access Same Time Information System (OASIS)**	$ 203,842	$ 20,384	$ -	$ 50,960	$ 20,384	$ 71,345	$ 40,768	$ 203,842
23		OEM	$ 14,976	**Oracle Enterprise Manager (OEM)**	$ 14,976	$ 3,994	$ 28	$ 2,627	$ 814	$ 1,352	$ 6,161	$ 14,976
24		OMAR	$ 149,761	**Operational Meter Analysis and Reporting (OMAR)**	$ 149,761	$ -	$ -	$ -	$ -	$ -	$ 149,761	$ 149,761
25		SCED(MD02) production	$ 257,922	**Security Constrained Economic Dispatch (SCED)**	$ 386,883	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26		SCED(MD02) stagging	$ 128,961									
27		SLIC	$ 16,640	**Scheduling & Logging for ISO California (SLIC)**	$ 16,640	$ 10,816	$ -	$ 2,496	$ 832	$ 2,496	$ -	$ 16,640

Exh. No. ISO- 10, Page 296 of 442

	A	B	C	D	E	F	G	H	I	J	K	L
1		**California Independent System Operator 2004 GMC Cost Allocation EMC Worksheet**										
2												
3		**Subsystem**	**$**	**System**		**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
28		SRS	$ 20,800	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ 20,800	$ -	$ -	$ 3,120	$ 12,480	$ 3,120	$ 2,080	$ 20,800
29		Utilities	$ 24,960	**Utilities - System ie Print drivers**	$ 24,960	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30		Vitria App	$ 19,968	**Vitria (Middleware)**	$ 53,248	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31		Vitria DB	$ 22,880									
32		Vitria Test	$ 10,400			$ 663,322	$ 339,289	$ 487,040	$ 149,442	$ 418,158	$ 1,495,000	$ 3,552,252
33						18.7%	9.6%	13.7%	4.2%	11.8%	42.1%	100.0%

Exh. No. ISO- 10, Page 297 of 442

	A	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator 2004 GMC Cost Allocation WAN Worksheet**								
2		**Information redacted due to contract confidentiality provisions**								
3		**System**	**WAN Total**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
4		**Automated Dispatch System (ADS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5		**Automated Load Forecast System (ALFS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6		**Balance of Business Systems (BBS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		**Bill's Interchange Schedule (BITS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8		**DataWarehouse**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9		**Documentum**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10		**Energy Management System (EMS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11		**Meter Data Acquisition System (MDAS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12		**Office Automation - desktop/laptop (OA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13		**Open Access Same Time Information System (OASIS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14		**Oracle Enterprise Manager (OEM)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15		**Operational Meter Analysis and Reporting (OMAR)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16		**Security Constrained Economic Dispatch (SCED)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17		**Scheduling & Logging for ISO California (SLIC)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18		**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		**Vitria (Middleware)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20		**Scheduling Infrastructure (SI)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21		**Scheduling Architecture (SA)**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		Percent of Total		41%	2%	19%	1%	8%	29%	100%

Exh. No. ISO- 10, Page 298 of 442

California Independent System Operator
2004 GMC Cost Allocation
Infrastructure Worksheet

	A	B	C	D	E	F	G	H	I	J
1										
2	**Infrastructure - Direct Assigned Items**									
3	Used to allocate Trustee Expenses from Startup									
4			**Amount**	**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**
5	**EMS**	Direct	$ 16,470,000	0%	0%	0%	80%	20%	0%	100%
6	**SI**	Direct	$ 27,102,000	80%	0%	0%	0%	10%	10%	100%
7	**SA**	Direct	$ 31,681,000	24%	0%	20%	26%	30%	0%	100%
8	**BBS (Billing & Settlement)**	Direct	$ 48,173,000	85%	0%	0%	0%	15%	0%	100%
9	**MDAS**	Direct	$ 8,166,000	0%	0%	100%	0%	0%	0%	100%
10	**GRRMA-Software**	Direct	$ 56,000	60%	40%	0%	0%	0%	0%	100%
11	**Market Analysis Software**	Direct	$ 238,000	15%	26%	0%	20%	31%	7%	100%
12	**Vehicles MDAS/Metering**	Direct	$ 96,000	60%	40%	0%	0%	0%	0%	100%
13	**FERC Study Software**	Direct	$ 11,000	65%	0%	15%	5%	15%	0%	100%
14	**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**	Direct	$ 975,000	5%	5%	0%	0%	90%	0%	100%
15	**SRS Software (FTR related)**	Direct	$ 1,049,000	100%	0%	0%	0%	0%	0%	100%
16	**ETCC Software**	Direct	$ 891,000	100%	0%	0%	0%	0%	0%	100%
17	**FTR Auction Software**	Direct	$ 17,000	100%	0%	0%	0%	0%	0%	100%
18	**ACC Upgrades (Communication between ISO & IOUs)**	Direct	$ 1,162,000	50%	50%	0%	0%	0%	0%	100%
19										
20			**$ 136,087,000**							
21										
22										
23										
24			**CRS**	**ETS**	**FS**	**CONG**	**MU**	**SMCR**	**Total**	
25	**EMS**	Direct	$ -	$ -	$ -	$ 13,176,000	$ 3,294,000	$ -	$ 16,470,000	
26	**SI**	Direct	$ 21,681,600	$ -	$ -	$ -	$ 2,710,200	$ 2,710,200	$ 27,102,000	
27	**SA**	Direct	$ 7,590,181	$ -	$ 6,286,579	$ 8,195,204	$ 9,609,036	$ -	$ 31,681,000	
28	**BBS (Billing & Settlement)**	Direct	$ 40,947,050	$ -	$ -	$ -	$ 7,225,950	$ -	$ 48,173,000	
29	**MDAS**	Direct	$ -	$ -	$ 8,166,000	$ -	$ -	$ -	$ 8,166,000	
30	**GRRMA-Software**	Direct	$ 33,600	$ 22,400	$ -	$ -	$ -	$ -	$ 56,000	
31	**Market Analysis Software**	Direct	$ 36,462	$ 62,665	$ -	$ 47,351	$ 74,694	$ 16,829	$ 238,000	
32	**Vehicles MDAS/Metering**	Direct	$ 57,600	$ 38,400	$ -	$ -	$ -	$ -	$ 96,000	
33	**FERC Study Software**	Direct	$ 7,150	$ -	$ 1,650	$ 550	$ 1,650	$ -	$ 11,000	
34	**GCP/RIG**	Direct	$ 48,750	$ 48,750	$ -	$ -	$ 877,500	$ -	$ 975,000	
35	**SRS Software (FTR related)**	Direct	$ 1,049,000	$ -	$ -	$ -	$ -	$ -	$ 1,049,000	
36	**ETCC Software**	Direct	$ 891,000	$ -	$ -	$ -	$ -	$ -	$ 891,000	
37	**FTR Auction Software**	Direct	$ 17,000	$ -	$ -	$ -	$ -	$ -	$ 17,000	
38	**ACC Upgrades (Communication between ISO & IOUs)**	Direct	$ 581,000	$ 581,000	$ -	$ -	$ -	$ -	$ 1,162,000	
39										
40			**$ 72,940,393**	**$ 753,215**	**$ 14,454,229**	**$ 21,419,105**	**$ 23,793,030**	**$ 2,727,029**	**$ 136,087,000**	
41										
42			54%	1%	11%	16%	17%	2%	100%	

Exh. No. ISO- 10, Page 299 of 442

	A	B	G	H	O	P	U	V	W	X	Y	Z	AA	AB
1	California Independent System Operator 2004 GMC Cost Allocation Equipment Worksheet Draft and Preliminary Subject to both review and approval													
2		System Equipment Lease Buyout for 2004												
3				Draft and Preliminary Subject to both review and approval										
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)			CRS	ETS	FS	Cong	Mkt	SMCR
5	6741800-	155	ADS		2/28/2004	$ 8,574		$ 8,574	23%	0%	22%	3%	7%	45%
6														
7	6741800-	191	ALFS		5/31/2004	$ 1,795								
8	6741800-	198	ALFS		5/31/2004	$ 1,795								
9	514	008	ALFS		3/31/2005	$ 2,605		$ 6,196	50%	0%	25%	0%	20%	5%
10														
11	6741800-	193	BACKUP		5/31/2004	$ 5,030								
12	6741800-	194	BACKUP		5/31/2004	$ 9,133								
13	6741800-	195	BACKUP		5/31/2004	$ 9,957								
14	6741800-	199	BACKUP		5/31/2004	$ 7,525								
15	6741800-	200	BACKUP		5/31/2004	$ 42,266		$ 73,912	85%	0%	0%	0%	15%	0%
16														
17	6741800-	167	BBS		5/31/2004	$ 17,119								
18	6741800-	168	BBS		5/31/2004	$ 21,317								
19	6741800-	172	BBS		5/31/2004	$ 21,317								
20	6741800-	173	BBS		5/31/2004	$ 18,594								
21	6741800-	171	BBS		5/31/2004	$ 8,119								
22	6741800-	202	BBS		5/31/2004	$ 38,261								
23	6741800-	176	BBS		6/30/2004	$ 7,194								
24	6741800-	177	BBS		6/30/2004	$ 19,216								
25	6741800-	211	BBS		1/31/2005	$ 6,482								
26	6741800-	212	BBS		1/31/2005	$ 6,480								
27	6741800-	222	BBS		6/30/2005	$ 4,238		$ 168,335	23%	0%	22%	3%	7%	45%
28														
29	6741800-	223	DATA		6/30/2005	$ 615		$ 615	10%	0%	0%	65%	25%	0%
30														
31	6741800-	169	DMA		5/31/2004	$ 24,650								
32	6741800-	170	DMA		5/31/2004	$ 31,387		$ 56,037	50%	0%	0%	50%	0%	0%
33														
34	6741800-	159	EMS		3/31/2004	$ 789,579								
35	6741800-	207	EMS		3/31/2004	$ 5,220		$ 794,799	0%	0%	0%	0%	0%	100%
36														
37	6741800-	142	ETAG		2/28/2004	$ 18,342								
38	6741800-	205	ETAG		5/31/2004	$ 4,204		$ 22,546	15%	26%	0%	20%	31%	7%
39														
40	6741800-	182	MDAS		8/31/2004	$ 1,008								
41	6741800-	226	MDAS/OMAR		8/31/2005	$ 16,758								
42	6741800-	227	MDAS/OMAR		8/31/2005	$ 1,179								
43	6741800-	225	MDAS/OMAR		10/31/2005	$ 34,247		$ 53,191	37%	14%	10%	4%	9%	26%
44														
45	6741800-	150	HR		2/28/2004	$ 12,320		$ 12,320	0%	0%	0%	0%	100%	0%
46														

	A	B	AC	AD	AE	AF	AG	AH	AI
1		C							
2		System E							
3									
4	Schedule			CRS	ETS	FS	Cong	Mkt	SMCR
5	6741800-	155		$ 2,011	$ 15	$ 1,868	$ 230	$ 588	$ 3,862
6									
7	6741800-	191							
8	6741800-	198							
9	514	008		$ 3,098	$ -	$ 1,549	$ -	$ 1,239	$ 310
10									
11	6741800-	193							
12	6741800-	194							
13	6741800-	195							
14	6741800-	199							
15	6741800-	200		$ 62,825	$ -	$ -	$ -	$ 11,087	$ -
16									
17	6741800-	167							
18	6741800-	168							
19	6741800-	172							
20	6741800-	173							
21	6741800-	171							
22	6741800-	202							
23	6741800-	176							
24	6741800-	177							
25	6741800-	211							
26	6741800-	212							
27	6741800-	222		$ 39,486	$ 296	$ 36,665	$ 4,512	$ 11,551	$ 75,826
28									
29	6741800-	223		$ 62	$ -	$ -	$ 400	$ 154	$ -
30									
31	6741800-	169							
32	6741800-	170		$ 28,019	$ -	$ -	$ 28,019	$ -	$ -
33									
34	6741800-	159							
35	6741800-	207		$ -	$ -	$ -	$ -	$ -	$ 794,799
36									
37	6741800-	142							
38	6741800-	205		$ 3,454	$ 5,936	$ -	$ 4,486	$ 7,076	$ 1,594
39									
40	6741800-	182							
41	6741800-	226							
42	6741800-	227							
43	6741800-	225		$ 19,821	$ 7,683	$ 5,075	$ 1,871	$ 4,842	$ 13,899
44									
45	6741800-	150		$ -	$ -	$ -	$ -	$ 12,320	$ -
46									

Exh. No. ISO- 10, Page 301 of 442

	A	B	G	H	O	P	U	V	W	X	Y	Z	AA	AB
1	**California Independent System Operator 2004 GMC Cost Allocation Equipment Worksheet Draft and Preliminary Subject to both review and approval**													
2		**System Equipment Lease Buyout for 2004**												
3				**Draft and Preliminary Subject to both review and approval**										
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)			CRS	ETS	FS	Cong	Mkt	SMCR
47	6741800-	189	NT		2/28/2004	$ 1,936								
48	6741800-	184	NT		2/28/2004	$ 2,264								
49	6741800-	163	NT		3/31/2004	$ 844								
50	6741800-	208	NT		5/31/2004	$ 2,534								
51	6741800-	209	NT		5/31/2004	$ 1,267								
52	6741800-	210	NT		5/31/2004	$ 3,825								
53	6741800-	181	NT		7/31/2004	$ 5,795								
54	6741800-	213	NT		1/31/2005	$ 678								
55	514	005	NT		2/28/2005	$ 946		$ 20,088	44%	21%	4%	4%	10%	17%
56														
57	6741800-	215	NT/WEB		5/31/2005	$ 422								
58	6741800-	217	NT/WEB		6/30/2005	$ 3,390		$ 3,812	50%	0%	0%	50%	0%	0%
59														
60	1350450-	001	OA		5/31/2004	$ 19,298								
61	514	002	OA		8/31/2004	$ 36,519								
62	514	007	OA		9/30/2004	$ 12,830								
63	1350450-	002	OA		10/31/2004	$ 16,428								
64	6741800-	219	OA		11/30/2004	$ 39,330								
65	1350450-	003	OA		12/31/2004	$ 16,050								
66	6741800-	178	OA		2/28/2004	$ 11,235								
67	6741800-	179	OA		2/28/2004	$ 15,310								
68	6741800-	183	OA		2/28/2004	$ 8,739								
69	6741800-	185	OA		2/28/2004	$ 14,860		$ 190,600	10%	0%	35%	0%	55%	0%
70														
71	6741800-	187	OASIS		3/31/2004	$ 9,605		$ 9,605	20%	0%	20%	0%	55%	5%
72														
73	6741800-	151	OFFICE		2/28/2004	$ 4,868								
74	6741800-	152	OFFICE		2/28/2004	$ 1,153								
75	6741800-	153	OFFICE		2/28/2004	$ 4,245								
76	6741800-	156	OFFICE		2/28/2004	$ 12,792								
77	6741800-	188	OFFICE		3/31/2004	$ 459								
78	6741800-	166	OFFICE		4/30/2004	$ 21,788								
79	6741800-	201	OFFICE		5/31/2004	$ 3,950								
80	6741800-	206	OFFICE		5/31/2004	$ 3,950								
81	6741800-	180	OFFICE		7/31/2004	$ 931								
82	514	004	OFFICE		2/28/2005	$ 4,349								
83	6741800-	214	OFFICE		3/31/2005	$ 2,547								
84	514	006	OFFICE		3/31/2005	$ 15,290								
85	514	009	OFFICE		4/30/2005	$ 3,950								
86	6741800-	216	OFFICE		5/31/2005	$ 1,399								
87	6741800-	218	OFFICE		5/31/2005	$ 3,100								
88	514	010	OFFICE		5/31/2005	$ 964								
89	6741800-	220	OFFICE		6/30/2005	$ 4,748								
90	6741800-	221	OFFICE		7/31/2005	$ 10,588								
91	6741800-	224	OFFICE		7/31/2005	$ 8,271		$ 109,341	0%	0%	0%	0%	100%	0%

Exh. No. ISO- 10, Page 302 of 442

	A	B	AC	AD	AE	AF	AG	AH	AI
1		C							
2		System E							
3									
4	Schedule			CRS	ETS	FS	Cong	Mkt	SMCR
47	6741800-	189							
48	6741800-	184							
49	6741800-	163							
50	6741800-	208							
51	6741800-	209							
52	6741800-	210							
53	6741800-	181							
54	6741800-	213							
55	514	005		$ 8,851	$ 4,313	$ 706	$ 790	$ 2,050	$ 3,378
56									
57	6741800-	215							
58	6741800-	217		$ 1,906	$ -	$ -	$ 1,906	$ -	$ -
59									
60	1350450-	001							
61	514	002							
62	514	007							
63	1350450-	002							
64	6741800-	219							
65	1350450-	003							
66	6741800-	178							
67	6741800-	179							
68	6741800-	183							
69	6741800-	185		$ 19,060	$ -	$ 66,710	$ -	$ 104,830	$ -
70									
71	6741800-	187		$ 1,921	$ -	$ 1,921	$ -	$ 5,283	$ 480
72									
73	6741800-	151							
74	6741800-	152							
75	6741800-	153							
76	6741800-	156							
77	6741800-	188							
78	6741800-	166							
79	6741800-	201							
80	6741800-	206							
81	6741800-	180							
82	514	004							
83	6741800-	214							
84	514	006							
85	514	009							
86	6741800-	216							
87	6741800-	218							
88	514	010							
89	6741800-	220							
90	6741800-	221							
91	6741800-	224		$ -	$ -	$ -	$ -	$ 109,341	$ -

Exh. No. ISO- 10, Page 303 of 442

	A	B	G	H	O	P	U	V	W	X	Y	Z	AA	AB
1	**California Independent System Operator** **2004 GMC Cost Allocation** **Equipment Worksheet** **Draft and Preliminary** **Subject to both review and approval**													
2		**System Equipment Lease Buyout for 2004**												
3				**Draft and Preliminary** **Subject to both review and approval**										
4	Schedule		System	Description	End Date	Approx. CAP buyout (20% of orig value for buyout)			CRS	ETS	FS	Cong	Mkt	SMCR
92														
93	6741800-	157	PI		2/28/2004	$ 9,429								
94	6741800-	204	PI		2/28/2004	$ 2,440								
95	6741800-	158	PI		2/28/2004	$ 2,798								
96	6741800-	190	PI		5/31/2004	$ 10,701		$ 25,369	44%	21%	4%	4%	10%	17%
97														
98	6741800-	154	RAVE		2/28/2004	$ 11,858		$ 11,858	44%	21%	4%	4%	10%	17%
99														
100	6741800-	197	REMEDY		5/31/2004	$ 4,568								
101	514	003	REMEDY		2/28/2005	$ 1,912		$ 6,481	10%	0%	25%	10%	35%	20%
102														
103	6741800-	162	Security		3/31/2004	$ 2,405								
104	6741800-	145	Security		1/31/2004	$ 3,852		$ 6,257	100%	0%	0%	0%	0%	0%
105														
106	6741800-	174	SLIC		6/30/2004	$ 12,302								
107	6741800-	175	SLIC		6/30/2004	$ 17,394		$ 29,696	27%	0%	18%	5%	9%	41%
108														
109	12033-	011	STORAGE		10/31/2004	$ 94,780								
110	12033-	012	STORAGE		10/31/2004	$ 70,128								
111	12033-	013	STORAGE		10/31/2004	$ 33,440								
112	12033-	014	STORAGE		10/31/2004	$ 14,000								
113	12033-	015	STORAGE		10/31/2004	$ 242,718								
114	12033-	016	STORAGE		10/31/2004	$ 270,412								
115	12033-	017	STORAGE		10/31/2004	$ 2,752								
116	12033-	018	STORAGE		10/31/2004	$ 11,680								
117	12033-	019	STORAGE		10/31/2004	$ 23,846								
118	12033-	020	STORAGE		10/31/2004	$ 38,800								
119	12033-	021	STORAGE		10/31/2004	$ 45,000								
120	12033-	023	STORAGE		10/31/2004	$ 3,620								
121	12033-	024	STORAGE		10/31/2004	$ 3,620								
122	514	001	STORAGE		11/30/2004	$ 35,446		$ 890,242	100%	0%	0%	0%	0%	0%
123														
124	6741800-	203	WAN		5/31/2004	$ 4,934								
125	6741800-	186	WAN		9/30/2004	$ 65,239		$ 70,173	0%	0%	94%	0%	6%	0%
126						$ 2,570,047	Dir	$ 2,570,047						
127														
128							SY	$ 1,186,953						
129						$ 700,000								
130						$ 260,000	FT	$ 960,000						
131														
132								$ 4,717,000						
133														
134								$ -						

Exh. No. ISO- 10, Page 304 of 442

	A	B	AC	AD	AE	AF	AG	AH	AI
1		C							
2		System E							
3									
4	Schedule			CRS	ETS	FS	Cong	Mkt	SMCR
92									
93	6741800-	157							
94	6741800-	204							
95	6741800-	158							
96	6741800-	190		$ 11,178	$ 5,447	$ 891	$ 997	$ 2,589	$ 4,266
97									
98	6741800-	154		$ 5,225	$ 2,546	$ 417	$ 466	$ 1,210	$ 1,994
99									
100	6741800-	197							
101	514	003		$ 648	$ -	$ 1,620	$ 648	$ 2,268	$ 1,296
102									
103	6741800-	162							
104	6741800-	145		$ 6,257	$ -	$ -	$ -	$ -	$ -
105									
106	6741800-	174							
107	6741800-	175		$ 7,920	$ 55	$ 5,209	$ 1,613	$ 2,682	$ 12,217
108									
109	12033-	011							
110	12033-	012							
111	12033-	013							
112	12033-	014							
113	12033-	015							
114	12033-	016							
115	12033-	017							
116	12033-	018							
117	12033-	019							
118	12033-	020							
119	12033-	021							
120	12033-	023							
121	12033-	024							
122	514	001		$ 890,242	$ -	$ -	$ -	$ -	$ -
123									
124	6741800-	203							
125	6741800-	186		$ -	$ -	$ 65,908	$ -	$ 4,264	$ -
126				##########	$ 26,292	$ 188,539	$ 45,937	$ 283,374	$ 913,921
127				43%	1%	7%	2%	11%	36%
128									
129									
130									
131									
132									
133									
134									

Exh. No. ISO- 10, Page 305 of 442

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail and Functionalization	
2	This spreadsheet contains the detailed listing of bond financed capital projects and startup expenditures and expensed capital expenditures for 2004. Each listed project or expenditure is either associated with a system or directly assigned. The results of this spreadsheet roll over to the Revenue3.xls spreadsheet to be used in functionalizing debt service costs.	
3		
4		
5	**Sheet Index:**	**Description**
6	Summary Capital$	Summary of systems with costs where known. Used in System 9-28.xls spreadsheet to calculate System Direct allocators.
7	Capital sublisting detail	Detailed listing of past bond financed projects and those planned for 2004 with functionalizations
8	12012 Project Mgt.	Detailed listing of capitalized expenses on various projects
9		
10		
11		

Exh. No. ISO- 10, Page 306 of 442

	A	B	C	D
1	California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail on Directly Functionalized Systems			
2				
3	**System**	**Acronym**	**Method**	**Total Dollars 2004 Budget**
4	**ACC Upgrades (Communication between ISO & IOUs)**		**Direct**	$ 1,162,000
5	**Ancillary Services Management (ASM) Component of SA**	**ASM**	**Direct**	$ 580,086
6	**Automated Dispatch System (ADS)**	**ADS**	**Direct**	$ 2,440,958
7	**Automated Load Forecast System (ALFS)**	**ALFS**	**Direct**	$ -
8	**Automatic Mitigation Procedure (AMP)**	**AMP**	**Direct**	$ 50,000
9	**Balance of Business Systems (BBS)**	**BBS**	**Direct**	$ 52,750,435
10	**Balancing Energy Ex Post Price (BEEP) Component of SA**	**BEEP**	**Direct**	$ 3,240,516
11	**Bill's Interchange Schedule (BITS)**	**BITS**	**Direct**	$ 626,004
12	**Common Information Model (CIM)**	**CIM**	**Direct**	$ 983,313
13	**Congestion Management (CONG) Component of SA**	**CONG**	**Direct**	$ -
14	**Congestion Reform-DSOW**		**Direct**	$ 339,496
15	**Congestion Revenue Rights (CRR)**	**CRR**	**Direct**	$ -
16	**Dispute Tracking System (Remedy)**	**Remedy**	**Direct**	$ 692,000
17	**Electronic Tagging (Etag)**	**E-TAG**	**Direct**	$ 1,326,259
18	**Energy Management System (EMS)**	**EMS**	**Direct**	$ 24,872,201
19	**Engineering Analysis Tools**	**EAT**	**Direct**	$ -
20	**Evaluation of Market Separation**		**Direct**	$ 158,303
21	**Existing Transmission Contracts Calculator (ETCC)**	**ETCC**	**Direct**	$ 1,179,265
22	**FERC Study Software**		**Direct**	$ 11,000
23	**Firm Transmission Right (FTR) and Secondary Registration System (SRS)**	**FTR**	**Direct**	$ 1,236,721
24	**Global Resource Reliability Management Application (GRRMA)**	**GRRMA**	**Direct**	$ -

	A	B	C	D
1	California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail on Directly Functionalized Systems			
2				
3	System	Acronym	Method	Total Dollars 2004 Budget
25	Grid Operations Training Simulator (GOTS)	GOTS	Direct	$ 481,860
26	Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		Direct	$ 350,813
27	Integrated Forward Market (IFM)	IFM	Direct	$ -
28	Interzonal Congestion Management reform - Real Time		Direct	$ 257,439
29	Locational Marginal Pricing (LMPM)	LMPM	Direct	$ -
30	Market Transaction System (MTS)	MTS	Direct	$ -
31	Masterfile		Direct	$ -
32	MD 02 Capital		Direct	$ 22,000,000
33	Meter Data Acquisition System (MDAS)	MDAS	Direct	$ 8,552,935
34	New Resource Interconnection (NRI)	NRI	Direct	$ -
35	Open Access Same Time Information System (OASIS)	OASIS	Direct	$ 1,975,179
36	Operational Meter Analysis and Reporting (OMAR)	OMAR	Direct	$ 662,698
37	Oracle Enterprise Manager (OEM)		Direct	$ 1,152,118
38	Oracle Licenses		Direct	$ 1,706,010
39	Oracle Market Financials BBS	OSMOSIS	Direct	$ -
40	Out of Sequence Market Operation Settlements Information System (OOS)	OS	Direct	$ -
41	Outage Scheduler (OS)	PIRP	Direct	$ -
42	Process Information System (PI)	PI	Direct	$ 996,037
43	Rational Buyer Component of ASM		Direct	$ -
44	Real Time Energy Dispatch System (REDS)	REDS	Direct	$ -
45	Real Time Nodal Market		Direct	$ -

	A	B	C	D
1	California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail on Directly Functionalized Systems			
2				
3	**System**	**Acronym**	**Method**	**Total Dollars 2004 Budget**
46	**Reliability Management System (RMS)**	**RMS**	**Direct**	$ -
47	**Remedy (related to Transmission Registry, New Resource Interconnection and Resource Registry)**		**Direct**	$ -
48	**Remote Intelligent Gateway (RIG) & Data Processing Gateway (DPG)**		**Direct**	$ 1,687,689
49	**Resource Register (RR)**		**Direct**	$ 66,462
50	**RMR Application Validation Engine (RAVE)**	**RAVE**	**Direct**	$ 435,452
51	**Scheduling & Logging for ISO California (SLIC)**	**SLIC**	**Direct**	$ 99,999
52	**Scheduling Infrastructure (SI)**	**SI**	**Calculated Direct**	$ 31,153,253
53	**Scheduling Infrastructure Business Rules (SIBR)**	**SIBR**	**Calculated Direct**	$ -
54	**Security Constrained Economic Dispatch (SCED)**	**SCED**	**Direct**	$ -
55	**Settlements and Market Clearing**		**Direct**	$ -
56	**Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation**	**TCUC**	**Direct**	$ -
57	**Transmission Map Plotting & Display**		**Direct**	$ 139,000
58				
59	**Total**			$ 162,203,501
60				

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
7	Trust	Original	Original EMS	EMS		$ 16,470,000		100%	0%	0%	0%	0%	0%	
8	2000	13002	Advanced applications for Original EMS System	EMS		$ 546,367		100%	0%	0%	0%	0%	0%	
9	2000	13003	DSOW for New EMS- Bailey	Ranger EMS		$ 470,315		100%	0%	0%	0%	0%	0%	
10	2000	13004	Operator Training Simulator	GOTS		$ 97,989		56%	44%	0%	0%	0%	0%	
11	Trust	Original	GCP/RIG (Generator Communication with ISO)	RIG		$ 975,000		100%	0%	0%	0%	0%	0%	
12	2000	12015	GCP/RIG Development System	RIG		$ 88,148		100%	0%	0%	0%	0%	0%	
13	2000	12018	GCP/RIG Workstation License	RIG		$ 33,499		100%	0%	0%	0%	0%	0%	
14	2000	14006	2 Used Vehicles for RIG Engineers	RIG		$ 47,848		100%	0%	0%	0%	0%	0%	
15	2000	12005	Bridge RIG (PLP)	RIG		$ 215,367		100%	0%	0%	0%	0%	0%	
16	Trust	Original	SI	SI		$ 27,102,000		0%	0%	94%	0%	6%	0%	
17	2000	11029	New Parser	SI		$ 17,580		0%	0%	94%	0%	6%	0%	
18	2000	11002	Adjustment Bid on Inter SC trades	SI	$ 1,708,777	$ 843,133		0%	0%	94%	0%	6%	0%	
19	2000	11002	Adjustment Bid on Inter SC trades	SA		$ 865,644		24%	0%	20%	26%	30%	0%	
20	Trust	Original	SA	SA		$ 31,681,000		24%	0%	20%	26%	30%	0%	
21	2000	11010	ASM Using Bid based Operating Limits	SA/ASM		$ 50,000		15%	0%	40%	0%	45%	0%	
22	2000	11022	To Accommodate Import of Regulation Service	SA/ASM	$ 212,000	$ 141,333		15%	0%	40%	0%	45%	0%	

Exh. No. ISO- 10, Page 310 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
7	Trust	Original	Original EMS	EMS	$ 16,470,000	$ -	$ -	$ -	$ -	$ -
8	2000	13002	Advanced applications for Original EMS System	EMS	$ 546,367	$ -	$ -	$ -	$ -	$ -
9	2000	13003	DSOW for New EMS- Bailey	Ranger EMS	$ 470,315	$ -	$ -	$ -	$ -	$ -
10	2000	13004	Operator Training Simulator	GOTS	$ 54,874	$ 43,115	$ -	$ -	$ -	$ -
11	Trust	Original	GCP/RIG (Generator Communication with ISO)	RIG	$ 975,000	$ -	$ -	$ -	$ -	$ -
12	2000	12015	GCP/RIG Development System	RIG	$ 88,148	$ -	$ -	$ -	$ -	$ -
13	2000	12018	GCP/RIG Workstation License	RIG	$ 33,499	$ -	$ -	$ -	$ -	$ -
14	2000	14006	2 Used Vehicles for RIG Engineers	RIG	$ 47,848	$ -	$ -	$ -	$ -	$ -
15	2000	12005	Bridge RIG (PLP)	RIG	$ 215,367	$ -	$ -	$ -	$ -	$ -
16	Trust	Original	SI	SI	$ -	$ -	$ 25,455,068	$ -	$ 1,646,932	$ -
17	2000	11029	New Parser	SI	$ -	$ -	$ 16,512	$ -	$ 1,068	$ -
18	2000	11002	Adjustment Bid on Inter SC trades	SI	$ -	$ -	$ 791,898	$ -	$ 51,235	$ -
19	2000	11002	Adjustment Bid on Inter SC trades	SA	$ 207,392	$ -	$ 171,773	$ 223,924	$ 262,555	$ -
20	Trust	Original	SA	SA	$ 7,590,181	$ -	$ 6,286,579	$ 8,195,204	$ 9,609,036	$ -
21	2000	11010	ASM Using Bid based Operating Limits	SA/ASM	$ 7,500	$ -	$ 20,000	$ -	$ 22,500	$ -
22	2000	11022	To Accommodate Import of Regulation Service	SA/ASM	$ 21,200	$ -	$ 56,533	$ -	$ 63,600	$ -

Exh. No. ISO- 10, Page 311 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
7	Trust	Original	Original EMS	EMS	
8	2000	13002	Advanced applications for Original EMS System	EMS	
9	2000	13003	DSOW for New EMS- Bailey	Ranger EMS	
10	2000	13004	Operator Training Simulator	GOTS	
11	Trust	Original	GCP/RIG (Generator Communication with ISO)	RIG	
12	2000	12015	GCP/RIG Development System	RIG	
13	2000	12018	GCP/RIG Workstation License	RIG	
14	2000	14006	2 Used Vehicles for RIG Engineers	RIG	
15	2000	12005	Bridge RIG (PLP)	RIG	
16	Trust	Original	SI	SI	
17	2000	11029	New Parser	SI	Replacing APX parser, template changes are required for all changes/ enhancement made to SI system. -
18	2000	11002	Adjustment Bid on Inter SC trades	SI	Enhancement so SC's can enter adjustment bid on inter-SC trades to provide hedge against congestion charges. Allows SC to increase trades while having a mechanism to back off the trades based on signal price.
19	2000	11002	Adjustment Bid on Inter SC trades	SA	
20	Trust	Original	SA	SA	
21	2000	11010	ASM Using Bid based Operating Limits	SA/ASM	SA/ASM system enhancement to read SC information provided in SI for operating limits that maybe less than current Master file information. Needed to limit the procurement of A/S from a specific unit.
22	2000	11022	To Accommodate Import of Regulation Service	SA/ASM	Enhance SA to allow import of regulation services. 1. SA/ASM to limit amt. Of regulation that will be procured outside control area; 2. Publication of Regulation import limits 3. allow reg. & A/S unit specific for import to schedule and Use ETC capacity. 4. BEEP modified to recognize the regulation unit.applied

Exh. No. ISO- 10, Page 312 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									**% Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Totals for allocation**	**2004 Filing Totals**		**CRS**	**ETS**	**Sch**	**Cong**	**MU**	**SMCR**	
23	2000	11022	To Accommodate Import of Regulation Service	SA/BEEP		$ 70,667		50%	0%	20%	10%	20%	0%	
24	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SA/BEEP	$ 36,800	$ 25,760		50%	0%	20%	10%	20%	0%	
25	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SI		$ 11,040		0%	0%	94%	0%	6%	0%	
26	2000	11032	FERC Price Cap	SA/ASM		$ 74,000		15%	0%	40%	0%	45%	0%	
27	2000	11012	Hour Ahead Data Analysis Tool	HADAT		$ 284,054		0%	0%	100%	0%	0%	0%	
28	2000	11015	System Testing 2000 -	SA	$ 559,528	$ 269,115		24%	0%	20%	26%	30%	0%	
29	2000	11015	System Testing 2000 -	SI		$ 259,025		0%	0%	94%	0%	6%	0%	
30	2000	11015	System Testing 2000 -	FTR		$ 31,388		0%	0%	15%	60%	15%	10%	
31	Trust	Original	BBS (Billing & Settlements)	BBS		$ 48,173,000		0%	0%	0%	0%	0%	100%	
32	2000	11019	Payment Calendar Phase II	BBS		$ 303,274		0%	0%	0%	0%	0%	100%	
33	Trust	Original	MDAS (Metering)	MDAS		$ 8,166,000		0%	0%	0%	0%	0%	100%	
34	Trust	Original	Vehicles MDAS/Metering	MDAS		$ 96,000		0%	0%	0%	0%	0%	100%	
35	2000	12013	Portable field test kit and adapters	MDAS		$ 41,600		0%	0%	0%	0%	0%	100%	
36	2000	12019	SEVAR - Metering renamed OMAR	OMAR		$ 157,870		0%	0%	0%	0%	0%	100%	
37	Trust	Original	GRRMA-Software	GRRMA		$ 56,000		75%	15%	0%	0%	10%	0%	
38	Trust	Original	Market Analysis Software	DMA		$ 238,000		15%	26%	0%	20%	31%	7%	
39	2000	12014	Market Monitoring System - Enhancemer	DMA/MMS		$ 40,748		15%	26%	0%	20%	31%	7%	

Exh. No. ISO- 10, Page 313 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
23	2000	11022	To Accommodate Import of Regulation Service	SA/BEEP	$ 35,333	$ -	$ 14,133	$ 7,067	$ 14,133	$ -
24	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SA/BEEP	$ 12,880	$ -	$ 5,152	$ 2,576	$ 5,152	$ -
25	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SI	$ -	$ -	$ 10,369	$ -	$ 671	$ -
26	2000	11032	FERC Price Cap	SA/ASM	$ 11,100	$ -	$ 29,600	$ -	$ 33,300	$ -
27	2000	11012	Hour Ahead Data Analysis Tool	HADAT	$ -	$ -	$ 284,054	$ -	$ -	$ -
28	2000	11015	System Testing 2000 -	SA	$ 64,475	$ -	$ 53,401	$ 69,614	$ 81,624	$ -
29	2000	11015	System Testing 2000 -	SI	$ -	$ -	$ 243,285	$ -	$ 15,740	$ -
30	2000	11015	System Testing 2000 -	FTR	$ -	$ -	$ 4,708	$ 18,833	$ 4,708	$ 3,139
31	Trust	Original	BBS (Billing & Settlements)	BBS	$ -	$ -	$ -	$ -	$ -	$ 48,173,000
32	2000	11019	Payment Calendar Phase II	BBS	$ -	$ -	$ -	$ -	$ -	$ 303,274
33	Trust	Original	MDAS (Metering)	MDAS	$ -	$ -	$ -	$ -	$ -	$ 8,166,000
34	Trust	Original	Vehicles MDAS/Metering	MDAS	$ -	$ -	$ -	$ -	$ -	$ 96,000
35	2000	12013	Portable field test kit and adapters	MDAS	$ -	$ -	$ -	$ -	$ -	$ 41,600
36	2000	12019	SEVAR - Metering renamed OMAR	OMAR	$ -	$ -	$ -	$ -	$ -	$ 157,870
37	Trust	Original	GRRMA Software	GRRMA	$ 42,000	$ 8,400	$ -	$ -	$ 5,600	$ -
38	Trust	Original	Market Analysis Software	DMA	$ 36,462	$ 62,665	$ -	$ 47,351	$ 74,694	$ 16,829
39	2000	12014	Market Monitoring System - Enhancemer	DMA/MMS	$ 6,243	$ 10,729	$ -	$ 8,107	$ 12,788	$ 2,881

Exh. No. ISO- 10, Page 314 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
23	2000	11022	To Accommodate Import of Regulation Service	SA/BEEP	Enhance SA to allow import of regulation services. 1. SA/ASM to limit amt. Of regulation that will be procured outside control area; 2. Publication of Regulation import limits 3. allow reg. & A/S unit specific for import to schedule and Use ETC capacity. 4. BEEP modified to recognize the regulation unit applied
24	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SA/BEEP	Enhance SA-BEEP modify target price methodology to curb gaming. Congestion Management Default Usage Charge (DUC) methodology will be enhance to anchor the zonal prices to be between 0 and price cap. SI -publishing of PMI for 10 min prices.
25	2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SI	
26	2000	11032	FERC Price Cap	SA/ASM	Enhancement to SA application for FERC order for new price cap of $150 for all A/S-
27	2000	11012	Hour Ahead Data Analysis Tool	HADAT	Developed Tool for Day/Hour-ahead desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. ---
28	2000	11015	System Testing 2000 -	SA	Internal testing of systems applications, prior to us building this into each project.
29	2000	11015	System Testing 2000 -	SI	Internal testing of systems applications, prior to us building this into each project.
30	2000	11015	System Testing 2000 -	FTR	Internal testing of systems applications, prior to us building this into each project.
31	Trust	Original	BBS (Billing & Settlements)	BBS	
32	2000	11019	Payment Calendar Phase II	BBS	**Settlement** System --Allowed for payment on prelim statements and trueup after final statements
33	Trust	Original	MDAS (Metering)	MDAS	
34	Trust	Original	Vehicles MDAS/Metering	MDAS	
35	2000	12013	Portable field test kit and adapters	MDAS	
36	2000	12019	SEVAR - Metering renamed OMAR	OMAR	
37	Trust	Original	GRRMA-Software	GRRMA	
38	Trust	Original	Market Analysis Software	DMA	
39	2000	12014	Market Monitoring System - Enhancemer	DMA/MMS	

Exh. No. ISO- 10, Page 315 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
40	Trust	Original	FERC Study Software	MKT		$ 11,000		0%	0%	0%	0%	100%	0%	
41	Trust	Original	SRS Software (FTR related)	SRS		$ 1,049,000		0%	0%	15%	60%	15%	10%	
42	2000	11026	SRS Enhancements Oracle Upgrade	SRS		$ 129,840		0%	0%	15%	60%	15%	10%	
43	Trust	Original	FTR Auction software	FTR		$ 17,000		0%	0%	15%	60%	15%	10%	
44	Trust	Original	ETCC Software	ETCC		$ 891,000		25%	0%	20%	15%	20%	20%	
45	Trust	Original	Transmission Map Plotting & Display Software - TMPD	TMPD		$ 139,000		50%	50%	0%	0%	0%	0%	
46	2000	13001	E-Tag Phase 1	E-Tag		$ 186,042		100%	0%	0%	0%	0%	0%	
47	Trust	Original	Dispute Tracking System -Remedy for CS	Remedy DTS		$ 692,000		0%	0%	0%	0%	0%	100%	
48	Trust	Original	Security System - CUDA	CUDA	$ 6,993,000	$ 5,930,259		23%	0%	22%	3%	7%	45%	
49	Trust	Original	Security System - CUDA	RIG		$ 258,456		100%	0%	0%	0%	0%	0%	
50	Trust	Original	Security System - CUDA	FTR		$ 139,333		0%	0%	15%	60%	15%	10%	
51	Trust	Original	Security System - CUDA	SRS		$ 131,786		0%	0%	15%	60%	15%	10%	
52	Trust	Original	Security System - CUDA	MDAS		$ 115,955		0%	0%	0%	0%	0%	100%	
53	Trust	Original	Security System - CUDA	GRRMA		$ 73,919		75%	15%	0%	0%	10%	0%	
54	Trust	Original	Security System - CUDA	ADS		$ 343,292		23%	0%	22%	3%	7%	45%	
55	2000	12101	Information Security Architecture - CUDA	CUDA		$ 560,085		23%	0%	22%	3%	7%	45%	
56	Trust	Original	Tivoli -System Management and Monitoring	Tivoli		$ 200,000		23%	0%	22%	3%	7%	45%	

Exh. No. ISO- 10, Page 316 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
40	Trust	Original	FERC Study Software	MKT	$ -	$ -	$ -	$ -	$ 11,000	$ -
41	Trust	Original	SRS Software (FTR related)	SRS	$ -	$ -	$ 157,350	$ 629,400	$ 157,350	$ 104,900
42	2000	11026	SRS Enhancements Oracle Upgrade	SRS	$ -	$ -	$ 19,476	$ 77,904	$ 19,476	$ 12,984
43	Trust	Original	FTR Auction software	FTR	$ -	$ -	$ 2,550	$ 10,200	$ 2,550	$ 1,700
44	Trust	Original	ETCC Software	ETCC	$ 222,750	$ -	$ 178,200	$ 133,650	$ 178,200	$ 178,200
45	Trust	Original	Transmission Map Plotting & Display Software - TMPD	TMPD	$ 69,500	$ 69,500	$ -	$ -	$ -	$ -
46	2000	13001	E-Tag Phase 1	E-Tag	$ 186,042	$ -	$ -	$ -	$ -	$ -
47	Trust	Original	Dispute Tracking System -Remedy for CS	Remedy DTS	$ -	$ -	$ -	$ -	$ -	$ 692,000
48	Trust	Original	Security System - CUDA	CUDA	$ 1,391,037	$ 10,412	$ 1,291,677	$ 158,938	$ 406,924	$ 2,671,270
49	Trust	Original	Security System - CUDA	RIG	$ 258,456	$ -	$ -	$ -	$ -	$ -
50	Trust	Original	Security System - CUDA	FTR	$ -	$ -	$ 20,900	$ 83,600	$ 20,900	$ 13,933
51	Trust	Original	Security System - CUDA	SRS	$ -	$ -	$ 19,768	$ 79,071	$ 19,768	$ 13,179
52	Trust	Original	Security System - CUDA	MDAS	$ -	$ -	$ -	$ -	$ -	$ 115,955
53	Trust	Original	Security System - CUDA	GRRMA	$ 55,439	$ 11,088	$ -	$ -	$ 7,392	$ -
54	Trust	Original	Security System - CUDA	ADS	$ 80,525	$ 603	$ 74,773	$ 9,201	$ 23,556	$ 154,635
55	2000	12101	Information Security Architecture - CUDA	CUDA	$ 131,377	$ 983	$ 121,993	$ 15,011	$ 38,432	$ 252,289
56	Trust	Original	Tivoli -System Management and Monitoring	Tivoli	$ 46,913	$ 351	$ 43,562	$ 5,360	$ 13,724	$ 90,089

Exh. No. ISO- 10, Page 317 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
40	Trust	Original	FERC Study Software	MKT	FERC request Study on ISO Markets
41	Trust	Original	SRS Software (FTR related)	SRS	
42	2000	11026	SRS Enhancements Oracle Upgrade	SRS	Upgrade of Secondary Registration System (SRS) to handle thread management issues and take to next Oracle version 8i
43	Trust	Original	FTR Auction software	FTR	
44	Trust	Original	ETCC Software	ETCC	
45	Trust	Original	Transmission Map Plotting & Display Software - TMPD	TMPD	
46	2000	13001	E-Tag Phase 1	E-Tag	NERC Requirement
47	Trust	Original	Dispute Tracking System -Remedy for CS	Remedy DTS	
48	Trust	Original	Security System - CUDA	CUDA	Impacts on all operating system, allocate based on total costs of operational systems.
49	Trust	Original	Security System - CUDA	RIG	System Security requirements system direct
50	Trust	Original	Security System - CUDA	FTR	System Security requirements system direct
51	Trust	Original	Security System - CUDA	SRS	System Security requirements system direct
52	Trust	Original	Security System - CUDA	MDAS	System Security requirements system direct
53	Trust	Original	Security System - CUDA	GRRMA	System Security requirements system direct
54	Trust	Original	Security System - CUDA	ADS	System Security requirements system direct
55	2000	12101	Information Security Architecture - CUDA	CUDA	Impacts on all operating system, allocate based on total costs of operational systems.
56	Trust	Original	Tivoli -System Management and Monitoring	Tivoli	Calculation

Exh. No. ISO- 10, Page 318 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
57	2000	12011	Enterprise System Management/Monitoring Enhancements-Tivoli	Tivoli		$ 893,131		23%	0%	22%	3%	7%	45%	
58	2000	12016	Legato Software License- EMC backup system	EMC		$ 71,449		23%	0%	22%	3%	7%	45%	
59	Trust	Original	Data Warehouse	DW	$ 1,279,000	$ 941,563		24%	18%	6%	9%	24%	18%	
60	Trust	Original	Data Warehouse	PI		$ 337,437		80%	0%	0%	0%	10%	10%	
61	2000	11020	Intrazonal Congestion management reform-Real Time			$ 257,439		50%	0%	0%	50%	0%	0%	
62	2000	11003	Evaluation of the Market Separation			$ 158,303		0%	0%	0%	50%	50%	0%	
63	2000	11021	Congestion Reform.-- DSOW			$ 339,496		50%	0%	0%	50%	0%	0%	
64	Trust	Original	Network Software	NT		$ 630,000		44%	21%	4%	4%	10%	17%	
65	Trust	Original	Internal Development	System Direct	$ 3,482,000	$ 1,405,037		23%	0%	22%	3%	7%	45%	
66	Trust	Original	MOOSE / SI Data Base	SI		$ 176,590		0%	0%	94%	0%	6%	0%	
67	Trust	Original	OTS/DTS Simulator	GOTS		$ 258,871		56%	44%	0%	0%	0%	0%	
68	Trust	Original	GRRMA-Software	GRRMA		$ 158,050		75%	15%	0%	0%	10%	0%	
69	Trust	Original	BITS	BITS		$ 152,378		85%	0%	0%	0%	15%	0%	
70	Trust	Original	SI Phase 2`	SI		$ 331,762		0%	0%	94%	0%	6%	0%	
71	Trust	Original	Parser - APX	SI		$ 63,704		0%	0%	94%	0%	6%	0%	
72	Trust	Original	Market Surveillance	DMA		$ 488,027		15%	26%	0%	20%	31%	7%	

Exh. No. ISO- 10, Page 319 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
57	2000	12011	Enterprise System Management/Monitoring Enhancements-Tivoli	Tivoli	$ 209,498	$ 1,568	$ 194,534	$ 23,937	$ 61,265	$ 402,309
58	2000	12016	Legato Software License- EMC backup system	EMC	$ 16,760	$ 125	$ 15,562	$ 1,915	$ 4,903	$ 32,184
59	Trust	Original	Data Warehouse	DW	$ 230,327	$ 172,040	$ 60,290	$ 82,339	$ 228,809	$ 167,756
60	Trust	Original	Data Warehouse	PI	$ 269,950	$ -	$ -	$ -	$ 33,744	$ 33,744
61	2000	11020	Intrazonal Congestion management reform-Real Time		$ 128,719	$ -	$ -	$ 128,719	$ -	$ -
62	2000	11003	Evaluation of the Market Separation		$ -	$ -	$ -	$ 79,152	$ 79,152	$ -
63	2000	11021	Congestion Reform.-- DSOW		$ 169,748	$ -	$ -	$ 169,748	$ -	$ -
64	Trust	Original	Network Software	NT	$ 277,600	$ 135,275	$ 22,130	$ 24,762	$ 64,299	$ 105,933
65	Trust	Original	Internal Development	System Direct	$ 329,574	$ 2,467	$ 306,033	$ 37,657	$ 96,411	$ 632,895
66	Trust	Original	MOOSE / SI Data Base	SI	$ -	$ -	$ 165,859	$ -	$ 10,731	$ -
67	Trust	Original	OTS/DTS Simulator	GOTS	$ 144,968	$ 113,903	$ -	$ -	$ -	$ -
68	Trust	Original	GRRMA-Software	GRRMA	$ 118,537	$ 23,707	$ -	$ -	$ 15,805	$ -
69	Trust	Original	BITS	BITS	$ 129,521	$ -	$ -	$ -	$ 22,857	$ -
70	Trust	Original	SI Phase 2`	SI	$ -	$ -	$ 311,602	$ -	$ 20,160	$ -
71	Trust	Original	Parser - APX	SI	$ -	$ -	$ 59,833	$ -	$ 3,871	$ -
72	Trust	Original	Market Surveillance	DMA	$ 74,766	$ 128,496	$ -	$ 97,095	$ 153,162	$ 34,507

Exh. No. ISO- 10, Page 320 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	Year	Capital ID #	Project Description	System	Comments
57	2000	12011	Enterprise System Management/Monitoring Enhancements-Tivoli	Tivoli	Enterprise Monitoring of Core systems. Impacts on all operating system, allocate based on total costs of operational systems.
58	2000	12016	Legato Software License- EMC backup system	EMC	Back up of Core systems. Impacts on all operating systems, allocate based on total costs of operational systems
59	Trust	Original	Data Warehouse	DW	
60	Trust	Original	Data Warehouse	PI	
61	2000	11020	Intrazonal Congestion management reform-Real Time		FERC request, report to quantify the Intra / Inter-Zonal cost across zones. Also RMR costs in real time and forward markets & how cost relates to zonal definition. **Affects congestion and congestion management in RT by Grid Ops, so 50/50 split**
62	2000	11003	Evaluation of the Market Separation		Report that quantifies the benefit of Market Separation rule the enforce allocation of transmission capacity. Must modify congestion code, and recalculate congestion changes for 1999. Market separation affects procurement of A/S and congestion split 50-50 Cong and MU
63	2000	11021	Congestion Reform – DSOW		Design phase due to FERC Order, for congestion in the forward & real-time markets. RMR reform, FTR, LARS, New Generator policy. Affects congestion and congestion management in RT by Grid Ops; so 50-50 split.
64	Trust	Original	Network Software	NT	
65	Trust	Original	Internal Development	System Direct	
66	Trust	Original	MOOSE / SI Data Base	SI	
67	Trust	Original	OTS/DTS Simulator	GOTS	
68	Trust	Original	GRRMA-Software	GRRMA	
69	Trust	Original	BITS	BITS	
70	Trust	Original	SI Phase 2`	SI	
71	Trust	Original	Parser - APX	SI	
72	Trust	Original	Market Surveillance	DMA	

Exh. No. ISO- 10, Page 321 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
73	Trust	Original	BBS Phase 2	BBS		$ 443,219		0%	0%	0%	0%	0%	100%	
74	Trust	Original	OASIS	OASIS		$ 4,362		10%	0%	25%	10%	35%	20%	
75	2000	12008	Office Automation Software- Company wide	OA		$ 2,024,147		44%	21%	4%	4%	10%	17%	
76	2000	12022	Office 2000 Licenses	OA		$ 146,967		44%	21%	4%	4%	10%	17%	
77	Trust	Original	Oracle Financials - Corporate (43%)	Oracle- Fin	$ 2,993,000	$ 1,286,990		44%	21%	4%	4%	10%	17%	
78	Trust	Original	Oracle Financials - Market (57%)	Oracle- Mkt		$ 1,706,010		44%	21%	4%	4%	10%	17%	
79	Trust	Original	Document Management System - EDMS	Documentum		$ 1,715,000		44%	21%	4%	4%	10%	17%	
80	Trust	Original	HR System - Imperativ	HR		$ 136,000		44%	21%	4%	4%	10%	17%	
81	Trust	Original	HR System - ABRA	HR		$ 38,000		44%	21%	4%	4%	10%	17%	
82	2000	12010	HR system - Imperativ	HR		$ 496,617		44%	21%	4%	4%	10%	17%	
83	Trust	Original	Facilities Leaseholds	Facilities		$ 10,566,000		44%	21%	4%	4%	10%	17%	
84	Trust	Original	Furniture	Facilities		$ 5,391,000		44%	21%	4%	4%	10%	17%	
85	Trust	Original	Facilities-Office Equipment	Facilities		$ 1,330,000		44%	21%	4%	4%	10%	17%	
86	2000	14101	Office Furniture	Facilities		$ 798,815		44%	21%	4%	4%	10%	17%	
87	2000	14102	Board Room Equip./Video Conference/Security Equip	Facilities		$ 294,028		44%	21%	4%	4%	10%	17%	
88	2000	14103	Leaseholds all Facilities	Facilities		$ 380,398		44%	21%	4%	4%	10%	17%	
89	Trust	Original	MCI Contract	WAN		$ 27,040,000		41%	2%	19%	1%	8%	29%	
90	Trust	Original	ACC Upgrades (Communication btw ISO and IOUs)	Startup		$ 1,162,000		100%	0%	0%	0%	0%	0%	

Exh. No. ISO- 10, Page 322 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
73	Trust	Original	BBS Phase 2	BBS	$ -	$ -	$ -	$ -	$ -	$ 443,219
74	Trust	Original	OASIS	OASIS	$ 436	$ -	$ 1,091	$ 436	$ 1,527	$ 872
75	2000	12008	Office Automation Software- Company wide	OA	$ 891,910	$ 434,629	$ 71,103	$ 79,560	$ 206,589	$ 340,356
76	2000	12022	Office 2000 Licenses	OA	$ 64,759	$ 31,557	$ 5,163	$ 5,777	$ 15,000	$ 24,712
77	Trust	Original	Oracle Financials - Corporate (43%)	Oracle- Fin	$ 567,093	$ 276,345	$ 45,209	$ 50,586	$ 131,353	$ 216,405
78	Trust	Original	Oracle Financials - Market (57%)	Oracle- Mkt	$ 751,728	$ 366,318	$ 59,928	$ 67,055	$ 174,119	$ 286,862
79	Trust	Original	Document Management System - EDMS	Documentum	$ 755,689	$ 368,248	$ 60,243	$ 67,409	$ 175,037	$ 288,373
80	Trust	Original	HR System - Imperativ	HR	$ 59,926	$ 29,202	$ 4,777	$ 5,346	$ 13,880	$ 22,868
81	Trust	Original	HR System - ABRA	HR	$ 16,744	$ 8,159	$ 1,335	$ 1,494	$ 3,878	$ 6,390
82	2000	12010	HR system - Imperativ	HR	$ 218,827	$ 106,635	$ 17,445	$ 19,520	$ 50,686	$ 83,505
83	Trust	Original	Facilities Leaseholds	Facilities	$ 4,655,751	$ 2,268,754	$ 371,156	$ 415,300	$ 1,078,390	$ 1,776,650
84	Trust	Original	Furniture	Facilities	$ 2,375,464	$ 1,157,567	$ 189,372	$ 211,895	$ 550,218	$ 906,485
85	Trust	Original	Facilities-Office Equipment	Facilities	$ 586,045	$ 285,580	$ 46,719	$ 52,276	$ 135,743	$ 223,637
86	2000	14101	Office Furniture	Facilities	$ 351,986	$ 171,523	$ 28,060	$ 31,398	$ 81,529	$ 134,319
87	2000	14102	Board Room Equip./Video Conference/Security Equip	Facilities	$ 129,559	$ 63,134	$ 10,328	$ 11,557	$ 30,009	$ 49,440
88	2000	14103	Leaseholds all Facilities	Facilities	$ 167,617	$ 81,680	$ 13,362	$ 14,952	$ 38,824	$ 63,963
89	Trust	Original	MCI Contract	WAN	$ 11,031,770	$ 577,357	$ 5,049,765	$ 354,463	$ 2,055,935	$ 7,970,710
90	Trust	Original	ACC Upgrades (Communication btw ISO and IOUs)	Startup	$ 1,162,000	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 323 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
73	Trust	Original	BBS Phase 2	BBS	
74	Trust	Original	OASIS	OASIS	
75	2000	12008	Office Automation Software- Company wide	OA	
76	2000	12022	Office 2000 Licenses	OA	
77	Trust	Original	Oracle Financials - Corporate (43%)	Oracle- Fin	
78	Trust	Original	Oracle Financials - Market (57%)	Oracle- Mkt	
79	Trust	Original	Document Management System - EDMS	Documentum	
80	Trust	Original	HR System - Imperativ	HR	
81	Trust	Original	HR System - ABRA	HR	
82	2000	12010	HR system - Imperativ	HR	
83	Trust	Original	Facilities Leaseholds	Facilities	
84	Trust	Original	Furniture	Facilities	
85	Trust	Original	Facilities-Office Equipment	Facilities	
86	2000	14101	Office Furniture	Facilities	
87	2000	14102	Board Room Equip./Video Conference/Security Equip	Facilities	
88	2000	14103	Leaseholds all Facilities	Facilities	
89	Trust	Original	MCI Contract	WAN	
90	Trust	Original	ACC Upgrades (Communication btw ISO and IOUs)	Startup	

Exh. No. ISO- 10, Page 324 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
91	Trust	Original	IBM Contract	Startup		$ 6,816,000		37%	14%	10%	4%	9%	26%	
92	Trust	Original	Trustee Costs	Infrastructure		$ 5,692,000		54%	1%	11%	16%	17%	2%	
93	Trust	Original	Interest-Capitalized	Infrastructure		$ 1,261,000		54%	1%	11%	16%	17%	2%	
94	Trust	Original	User Groups	Infrastructure		$ 957,000		54%	1%	11%	16%	17%	2%	
95	Trust	Original	Startup Costs-through 3/31/98	Startup		$ 52,897,000		44%	21%	4%	4%	10%	17%	
96	Trust	Original	Working Capital-3 months	Startup		$ 21,692,000		44%	21%	4%	4%	10%	17%	
97	2000	12012	Project Management Costs - 2000	RIG	$ 252,189	$ 69,371		100%	0%	0%	0%	0%	0%	
98	2000	12012	Project Management Costs - 2001	ETAG		$ 28,288		100%	0%	0%	0%	0%	0%	
99	2000	12012	Project Management Costs - 2001 Miscellaneous	System Direct		$ 70,810		23%	0%	22%	3%	7%	45%	
100	2000	12012	Project Management Costs - 2001	DW		$ 22,521		24%	18%	6%	9%	24%	18%	
101	2000	12012	Project Management Costs - 2001	Tivoli		$ 61,200		23%	0%	22%	3%	7%	45%	
102	2000	12002	Oracle License (New purchases)	Direct		$ 1,152,118		27%	0%	18%	5%	9%	41%	
103	2000	12006	Software Purchased - Non Project	OA		$ 88,102		44%	21%	4%	4%	10%	17%	
104	2000	12007	Computer Equipment Purchases	OA		$ 159,070		44%	21%	4%	4%	10%	17%	
105			**Total 1998 Bond Issuance**			**$ 301,400,000**								
106			**Actual % and $'s**											
107														

Exh. No. ISO- 10, Page 325 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
91	Trust	Original	IBM Contract	Startup	$ 2,539,862	$ 984,525	$ 650,335	$ 239,780	$ 620,431	$ 1,781,066
92	Trust	Original	Trustee Costs	Infrastructure	$ 3,050,818	$ 31,504	$ 604,565	$ 895,879	$ 995,172	$ 114,061
93	Trust	Original	Interest-Capitalized	Infrastructure	$ 675,875	$ 6,979	$ 133,935	$ 198,472	$ 220,469	$ 25,269
94	Trust	Original	User Groups	Infrastructure	$ 512,936	$ 5,297	$ 101,646	$ 150,625	$ 167,319	$ 19,177
95	Trust	Original	Startup Costs-through 3/31/98	Startup	$ 23,308,280	$ 11,358,156	$ 1,858,131	$ 2,079,132	$ 5,398,786	$ 8,894,515
96	Trust	Original	Working Capital-3 months	Startup	$ 9,558,259	$ 4,657,752	$ 761,982	$ 852,611	$ 2,213,934	$ 3,647,462
97	2000	12012	Project Management Costs - 2000	RIG	$ 69,371	$ -	$ -	$ -	$ -	$ -
98	2000	12012	Project Management Costs - 2001	ETAG	$ 28,288	$ -	$ -	$ -	$ -	$ -
99	2000	12012	Project Management Costs - 2001 Miscellaneous	System Direct	$ 16,609	$ 124	$ 15,423	$ 1,898	$ 4,859	$ 31,896
100	2000	12012	Project Management Costs - 2001	DW	$ 5,509	$ 4,115	$ 1,442	$ 1,969	$ 5,473	$ 4,013
101	2000	12012	Project Management Costs - 2001	Tivoli	$ 14,355	$ 107	$ 13,330	$ 1,640	$ 4,199	$ 27,567
102	2000	12002	Oracle License (New purchases)	Direct	$ 307,279	$ 2,139	$ 202,103	$ 62,597	$ 104,035	$ 473,965
103	2000	12006	Software Purchased - Non Project	OA	$ 38,821	$ 18,917	$ 3,095	$ 3,463	$ 8,992	$ 14,814
104	2000	12007	Computer Equipment Purchases	OA	$ 70,092	$ 34,156	$ 5,588	$ 6,252	$ 16,235	$ 26,747
105			Total 1998 Bond Issuance		**$ 95,461,851**	**$ 24,125,891**	**$ 46,835,790**	**$ 16,303,674**	**$ 28,102,419**	**$ 90,570,375**
106			**Actual % and $'s**		31.67%	8.00%	15.54%	5.41%	9.32%	30.05%
107										

Exh. No. ISO- 10, Page 326 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
91	Trust	Original	IBM Contract	Startup	
92	Trust	Original	Trustee Costs	Infrastructure	
93	Trust	Original	Interest-Capitalized	Infrastructure	
94	Trust	Original	User Groups	Infrastructure	
95	Trust	Original	Startup Costs-through 3/31/98	Startup	
96	Trust	Original	Working Capital-3 months	Startup	
97	2000	12012	Project Management Costs - 2000	RIG	
98	2000	12012	Project Management Costs - 2001	ETAG	
99	2000	12012	Project Management Costs - 2001 Miscellaneous	System Direct	
100	2000	12012	Project Management Costs - 2001	DW	
101	2000	12012	Project Management Costs - 2001	Tivoli	
102	2000	12002	Oracle License (New purchases)	Direct	
103	2000	12006	Software Purchased - Non Project	OA	
104	2000	12007	Computer Equipment Purchases	OA	
105			**Total 1998 Bond Issuance**		
106			**Actual % and $'s**		
107					

Exh. No. ISO- 10, Page 327 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
108			**Total 2000 Bonds**											
109	2000	14019	Land & Building Costs	General		$ 9,300,000		44%	21%	4%	4%	10%	17%	
110	2000	11000	Oasis FERC Order 888 and 889	Oasis	$ 1,970,817	$ 1,583,817		10%	0%	25%	10%	35%	20%	
111	2000	11000	Oasis FERC Order 888 and 890	SI		$ 387,000		0%	0%	94%	0%	6%	0%	
112	2001	13024	BEEP Split	SA/BEEP	$ 398,530	$ 253,120		50%	0%	20%	10%	20%	0%	
113	2001	13024	BEEP Split	SI		$ 145,410		0%	0%	94%	0%	6%	0%	
114	2001	13030	Real Time SC Specific Publication	SI		$ 55,200		0%	0%	94%	0%	6%	0%	
115	2001	11001	SI Workspace DSOW	SI		$ 299,130		0%	0%	94%	0%	6%	0%	
116	2000	11004	ADS	ADS	$ 2,520,666	$ 2,097,666		50%	0%	25%	0%	20%	5%	
117	2000	11004	ADS	SA		$ 423,000		24%	0%	20%	26%	30%	0%	
118	2000	11005	RMR Generation	GRRMA	$ 2,391,336	$ 188,024		75%	15%	0%	0%	10%	0%	
119	2000	11005	RMR Generation	SA/ASM	$ 629,505	$ 314,753		15%	0%	40%	0%	45%	0%	
120	2000	11005	RMR Generation	SA/BEEP		$ 314,753		50%	0%	20%	10%	20%	0%	
121	2000	11005	RMR Generation	SI		$ 610,637		0%	0%	94%	0%	6%	0%	
122	2000	11005	RMR Generation	BBS		$ 963,170		0%	0%	0%	0%	0%	100%	

Exh. No. ISO- 10, Page 328 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
108			**Total 2000 Bonds**							
109	2000	14019	Land & Building Costs	General	$ 4,097,907	$ 1,996,916	$ 326,684	$ 365,539	$ 949,179	$ 1,563,775
110	2000	11000	Oasis FERC Order 888 and 889	Oasis	$ 158,382	$ -	$ 395,954	$ 158,382	$ 554,336	$ 316,763
111	2000	11000	Oasis FERC Order 888 and 890	SI	$ -	$ -	$ 363,483	$ -	$ 23,517	$ -
112	2001	13024	BEEP Split	SA/BEEP	$ 126,560	$ -	$ 50,624	$ 25,312	$ 50,624	$ -
113	2001	13024	BEEP Split	SI	$ -	$ -	$ 136,574	$ -	$ 8,836	$ -
114	2001	13030	Real Time SC Specific Publication	SI	$ -	$ -	$ 51,846	$ -	$ 3,354	$ -
115	2001	11001	SI Workspace DSOW	SI	$ -	$ -	$ 280,952	$ -	$ 18,178	$ -
116	2000	11004	ADS	ADS	$ 1,048,833	$ -	$ 524,417	$ -	$ 419,533	$ 104,883
117	2000	11004	ADS	SA	$ 101,343	$ -	$ 83,937	$ 109,421	$ 128,298	$ -
118	2000	11005	RMR Generation	GRRMA	$ 141,018	$ 28,204	$ -	$ -	$ 18,802	$ -
119	2000	11005	RMR Generation	SA/ASM	$ 47,213	$ -	$ 125,901	$ -	$ 141,639	$ -
120	2000	11005	RMR Generation	SA/BEEP	$ 157,376	$ -	$ 62,951	$ 31,475	$ 62,951	$ -
121	2000	11005	RMR Generation	SI	$ -	$ -	$ 573,530	$ -	$ 37,107	$ -
122	2000	11005	RMR Generation	BBS	$ -	$ -	$ -	$ -	$ -	$ 963,170

Exh. No. ISO- 10, Page 329 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
108			**Total 2000 Bonds**		
109	2000	14019	Land & Building Costs	General	
110	2000	11000	Oasis FERC Order 888 and 889	Oasis	
111	2000	11000	Oasis FERC Order 888 and 890	SI	
112	2001	13024	BEEP Split	SA/BEEP	Enhancement to split the Operating Reserve from the Imbalance energy in the SA & SI systems and the Rational Buyer procurement program. –
113	2001	13024	BEEP Split	SI	
114	2001	13030	Real Time SC Specific Publication	SI	SI enhancement to make information unit specific information only available to the scheduling SC. Not public information.
115	2001	11001	SI Workspace DSOW	SI	SI data storage mechanism for SC to submit and retrieve, scheduling and billing data. Has validation rules.
116	2000	11004	ADS	ADS	Development of system of clear, indisputable dispatch instructions from the ISO to SC's and/or resources.--will send electronic notification , receive acknowledgement, log the transaction, -
117	2000	11004	ADS	SA	Interface needed to work with new ADS application
118	2000	11005	RMR Generation	GRRMA	Modifying SI/SA to allow scheduling of RMR units in the DA/HA markets (SA-ASM/BEEP changes). Settlements modified to take & process new information. RMR information is passed to EMS and GRRMA must write back to SI
119	2000	11005	RMR Generation	SA/ASM	Modifying SI/SA to allow scheduling of RMR units in the DA/HA markets(SA-ASM/BEEP changes). Settlements modified to take & process new information. RMR information is passed to EMS and GRRMA must write back to SI
120	2000	11005	RMR Generation	SA/BEEP	Modifying SI/SA to allow scheduling of RMR units in the DA/HA markets(SA-ASM/BEEP changes). Settlements modified to take & process new information. RMR information is passed to EMS and GRRMA must write back to SI
121	2000	11005	RMR Generation	SI	Modifying SI/SA to allow scheduling of RMR units in the DA/HA markets(SA-ASM/BEEP changes). Settlements modified to take & process new information. RMR information is passed to EMS and GRRMA must write back to SI
122	2000	11005	RMR Generation	BBS	Modifying SI/SA to allow scheduling of RMR units in the DA/HA markets(SA-ASM/BEEP changes). Settlements modified to take & process new information. RMR information is passed to EMS and GRRMA must write back to SI

Exh. No. ISO- 10, Page 330 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator** **2004 GMC Cost Allocation** **Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
123	2000	11006	10 Minute Dispatch and Settlement	OMAR	$ 4,798,351	$ 157,328		0%	0%	0%	0%	0%	100%	
124	2000	11006	10 Minute Dispatch and Settlement	MDAS		$ 93,379		23%	0%	22%	3%	7%	45%	
125	2000	11006	10 Minute Dispatch and Settlement	SA/BEEP		$ 2,576,216		50%	0%	20%	10%	20%	0%	
126	2000	11006	10 Minute Dispatch and Settlement	SI		$ 812,763		0%	0%	94%	0%	6%	0%	
127	2000	11006	10 Minute Dispatch and Settlement	BBS		$ 1,158,665		0%	0%	0%	0%	0%	100%	
128	2001	13021	Soft Price Cap	SA	$ 358,870	$ 111,470		24%	0%	20%	26%	30%	0%	
129	2001	13021	Soft Price Cap	SI		$ 38,280		0%	0%	94%	0%	6%	0%	
130	2001	13021	Soft Price Cap	BBS		$ 200,000		0%	0%	0%	0%	0%	100%	

Exh. No. ISO- 10, Page 331 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	Year	Capital ID #	Project Description	System	CRS	ETS	Sch	Cong.	MU	SMCR
123	2000	11006	10 Minute Dispatch and Settlement	OMAR	$ -	$ -	$ -	$ -	$ -	$ 157,328
124	2000	11006	10 Minute Dispatch and Settlement	MDAS	$ 21,904	$ 164	$ 20,339	$ 2,503	$ 6,408	$ 42,062
125	2000	11006	10 Minute Dispatch and Settlement	SA/BEEP	$ 1,288,108	$ -	$ 515,243	$ 257,622	$ 515,243	$ -
126	2000	11006	10 Minute Dispatch and Settlement	SI	$ -	$ -	$ 763,373	$ -	$ 49,390	$ -
127	2000	11006	10 Minute Dispatch and Settlement	BBS	$ -	$ -	$ -	$ -	$ -	$ 1,158,665
128	2001	13021	Soft Price Cap	SA	$ 26,706	$ -	$ 22,119	$ 28,835	$ 33,810	$ -
129	2001	13021	Soft Price Cap	SI	$ -	$ -	$ 35,954	$ -	$ 2,326	$ -
130	2001	13021	Soft Price Cap	BBS	$ -	$ -	$ -	$ -	$ -	$ 200,000

Exh. No. ISO- 10, Page 332 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	Year	Capital ID #	Project Description	System	Comments
123	2000	11006	10 Minute Dispatch and Settlement	OMAR	Major impact on SA/BEEP to calculate instructed energy deviations, instructed deviation, residual & ramping energy, will track RMR, OOS, OOM Dispatch., BITS will be modified to support the 10 min scheduling & modify the hour unaccounted for every calculation., Settlements will be modified to net & settle the BEEP information., SI will include validation to disallow non-ISO metered entities to bid AS & SE, MDAS will be modified to provide 10 min metered date to BBS. **better price signals for MP. /Balancing energy on 10 min./ must settle at 10 min.**
124	2000	11006	10 Minute Dispatch and Settlement	MDAS	Major impact on SA/BEEP to calculate instructed energy deviations, instructed deviation, residual & ramping energy, will track RMR, OOS,OOM Dispatch., BITS will be modified to support the 10 min scheduling & modify the hour unaccounted for every calculation., Settlements will be modified to net & settle the BEEP information., SI will include validation to disallow non-ISO metered entities to bid AS & SE, MDAS will be modified to provide 10 min metered date to BBS. **better price signals for MP. /Balancing energy on 10 min./ must settle at 10 min.**
125	2000	11006	10 Minute Dispatch and Settlement	SA/BEEP	Major impact on SA/BEEP to calculate instructed energy deviations, instructed deviation, residual & ramping energy, will track RMR, OOS,OOM Dispatch., BITS will be modified to support the 10 min scheduling & modify the hour unaccounted for every calculation., Settlements will be modified to net & settle the BEEP information., SI will include validation to disallow non-ISO metered entities to bid AS & SE, MDAS will be modified to provide 10 min metered date to BBS. **better price signals for MP. /Balancing energy on 10 min./ must settle at 10 min.**
126	2000	11006	10 Minute Dispatch and Settlement	SI	Major impact on SA/BEEP to calculate instructed energy deviations, instructed deviation, residual & ramping energy, will track RMR, OOS,OOM Dispatch., BITS will be modified to support the 10 min scheduling & modify the hour unaccounted for every calculation., Settlements will be modified to net & settle the BEEP information., SI will include validation to disallow non-ISO metered entities to bid AS & SE, MDAS will be modified to provide 10 min metered date to BBS. **better price signals for MP. /Balancing energy on 10 min./ must settle at 10 min.**
127	2000	11006	10 Minute Dispatch and Settlement	BBS	Major impact on SA/BEEP to calculate instructed energy deviations, instructed deviation, residual & ramping energy, will track RMR, OOS,OOM Dispatch., BITS will be modified to support the 10 min scheduling & modify the hour unaccounted for every calculation., Settlements will be modified to net & settle the BEEP information., SI will include validation to disallow non-ISO metered entities to bid AS & SE, MDAS will be modified to provide 10 min metered date to BBS. **better price signals for MP. /Balancing energy on 10 min./ must settle at 10 min.**
128	2001	13021	Soft Price Cap	SA	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
129	2001	13021	Soft Price Cap	SI	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
130	2001	13021	Soft Price Cap	BBS	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.

Exh. No. ISO- 10, Page 333 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
131	2001	13021	Soft Price Cap	BITS		$ 9,120		85%	0%	0%	0%	15%	0%	
132	2000	11030	GMC Unbundling-	BBS		$ 271,600		0%	0%	0%	0%	0%	100%	
133	2000	11031	Transmission Access Charge:	BBS		$ 366,000		0%	0%	0%	0%	0%	100%	
134	2001	13022	Statement Neutrality	BBS		$ 31,507		0%	0%	0%	0%	0%	100%	
135	2000	11009	Day Ahead Data Analysis Tool	DADAT		$ 66,759		0%	0%	100%	0%	0%	0%	
136	2000	11013	Management Information System (MIS) Sign Boards	Sign Board		$ 44,196		44%	21%	4%	4%	10%	17%	
137	2000	11027	E-Tag Part II	E-Tag		$ 1,111,929		100%	0%	0%	0%	0%	0%	
138	2000	11034	RMR Data Tool (RAVE)	RAVE		$ 335,452		100%	0%	0%	0%	0%	0%	
139	2000	11014	Existing Transmission Contracts (Phase 2)	ETCC		$ 288,265		25%	0%	20%	15%	20%	20%	
140	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	BITS	$ 669,006	$ 464,506		85%	0%	0%	0%	15%	0%	
141	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	EMS		$ 204,500		100%	0%	0%	0%	0%	0%	
142	2000	13008	BRIG to SCADA Interface Conversion	EMS		$ 77,534		100%	0%	0%	0%	0%	0%	
143	2000	13009	Critical Event Recorder	EMS		$ 23,740		100%	0%	0%	0%	0%	0%	
144	2000	13007	EMS Communication Test Equipment	EMS		$ 3,067		100%	0%	0%	0%	0%	0%	
145	2001	13020	ABB Bailey Ranger EMS	EMS		$ 5,286,678		100%	0%	0%	0%	0%	0%	
146	2000	20.15/.16	Process Information.	PI		$ 658,600		80%	0%	0%	0%	10%	10%	
147	2000	13005	CIM (Common Information Model) Project	CIM		$ 983,313		100%	0%	0%	0%	0%	0%	
148	2000	11025	SLIC DSOW	SLIC		$ 99,999		65%	0%	15%	5%	15%	0%	

Exh. No. ISO- 10, Page 334 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	Year	Capital ID #	Project Description	System	CRS	ETS	Sch	Cong.	MU	SMCR
131	2001	13021	Soft Price Cap	BITS	$ 7,752	$ -	$ -	$ -	$ 1,368	$ -
132	2000	11030	GMC Unbundling-	BBS	$ -	$ -	$ -	$ -	$ -	$ 271,600
133	2000	11031	Transmission Access Charge.	BBS	$ -	$ -	$ -	$ -	$ -	$ 366,000
134	2001	13022	Statement Neutrality	BBS	$ -	$ -	$ -	$ -	$ -	$ 31,507
135	2000	11009	Day Ahead Data Analysis Tool	DADAT	$ -	$ -	$ 66,759	$ -	$ -	$ -
136	2000	11013	Management Information System (MIS) Sign Boards	Sign Board	$ 19,474	$ 9,490	$ 1,552	$ 1,737	$ 4,511	$ 7,431
137	2000	11027	E-Tag Part II	E-Tag	$ 1,111,929	$ -	$ -	$ -	$ -	$ -
138	2000	11034	RMR Data Tool (RAVE)	RAVE	$ 335,452	$ -	$ -	$ -	$ -	$ -
139	2000	11014	Existing Transmission Contracts (Phase 2)	ETCC	$ 72,066	$ -	$ 57,653	$ 43,240	$ 57,653	$ 57,653
140	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	BITS	$ 394,830	$ -	$ -	$ -	$ 69,676	$ -
141	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	EMS	$ 204,500	$ -	$ -	$ -	$ -	$ -
142	2000	13008	BRIG to SCADA Interface Conversion	EMS	$ 77,534	$ -	$ -	$ -	$ -	$ -
143	2000	13009	Critical Event Recorder	EMS	$ 23,740	$ -	$ -	$ -	$ -	$ -
144	2000	13007	EMS Communication Test Equipment	EMS	$ 3,067	$ -	$ -	$ -	$ -	$ -
145	2001	13020	ABB Bailey Ranger EMS	EMS	$ 5,286,678	$ -	$ -	$ -	$ -	$ -
146	2000	20.15/.16	Process Information.	PI	$ 526,880	$ -	$ -	$ -	$ 65,860	$ 65,860
147	2000	13005	CIM (Common Information Model) Project	CIM	$ 983,313	$ -	$ -	$ -	$ -	$ -
148	2000	11025	SLIC DSOW	SLIC	$ 64,999	$ -	$ 15,000	$ 5,000	$ 15,000	$ -

Exh. No. ISO- 10, Page 335 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
131	2001	13021	Soft Price Cap	BITS	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
132	2000	11030	GMC Unbundling-	BBS	Enhancements to **Settlements** system to accommodate Unbundled GMC
133	2000	11031	Transmission Access Charge:	BBS	Enhancements to **Settlements** system to accommodate Transmission Access Charge(TAC) per Tariff
134	2001	13022	Statement Neutrality	BBS	Settlements system enhancements to prevent adverse cash flow problems with market invoices.
135	2000	11009	Day Ahead Data Analysis Tool	DADAT	Developed **Tool for Day/Hour-ahead** desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. –
136	2000	11013	Management Information System (MIS) Sign Boards	Sign Board	Will provide rapid access to information & activity on the ISO markets as well as to the external markets. Will be designed with surveillance capabilities on the ISO Markets. **In house mini OASIS**
137	2000	11027	E-Tag Part II	E-Tag	E-Tag phase 2 to meet new requirements and take to new platform.
138	2000	11034	RMR Data Tool (RAVE)	RAVE	Enhancement to RMR validation tool for settlements validation of the RMR invoices.
139	2000	11014	Existing Transmission Contracts (Phase 2)	ETCC	Phase 2 is to move application to 3 tier environment and add additional functionality.
140	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	BITS	To establish a base interchange schedule application to fully integrate with SI & EMS. -
141	2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	EMS	To establish a base interchange schedule application to fully integrate with SI & EMS. -
142	2000	13008	BRIG to SCADA Interface Conversion	EMS	
143	2000	13009	Critical Event Recorder	EMS	
144	2000	13007	EMS Communication Test Equipment	EMS	
145	2001	13020	ABB Bailey Ranger EMS	EMS	
146	2000	20.15/.16	Process Information.	PI	Process Information, Historical part of EMS -What the units actual do. Used by Compliance to determine and penalties that would then pass to Settlements -
147	2000	13005	CIM (Common Information Model) Project.	CIM	
148	2000	11025	SLIC DSOW	SLIC	System Design to replace original system to have single Outage scheduler, process outage requests electronically, direct interfaces to EMS,SA, GRRMA,BITS, ETC.-

Exh. No. ISO- 10, Page 336 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
149	2000	13006	OMAR - Metering system consolidation Project	OMAR		$ 347,500		0%	0%	0%	0%	0%	100%	
150	2000	12003	Data Warehousing - Phase 2	DW		$ 1,343,050		24%	18%	6%	9%	24%	18%	
151	2000	20.1	Market Monitoring System - Enhancements	DMA/MMS		$ 46,193		15%	26%	0%	20%	31%	7%	
152	2000	20.19	Resource Register	RR		$ 66,462		100%	0%	0%	0%	0%	0%	
153	2000	12004	EDMS - Documentum	Documentum		$ 497,709		44%	21%	4%	4%	10%	17%	
154	2000	12009	Corporate Accounting Modules	Oracle Fin.		$ 144,194		44%	21%	4%	4%	10%	17%	
155	2000	12021	CHASE - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle	CHASE		$ 600,249		44%	21%	4%	4%	10%	17%	
156	2000	12023	Video Bridging Conferencing Equipment	Office Equipment		$ 33,281		44%	21%	4%	4%	10%	17%	
157	2000	12030	Enterprise Modeling Program Casewise Licenses	Casewise		$ 117,277		44%	21%	4%	4%	10%	17%	
158	2000	12024	Remote Network Access - VPN	WAN		$ 69,365		41%	2%	19%	1%	8%	29%	
159	2000	12029	Internet Apps. Network Redesign	WAN		$ 222,852		41%	2%	19%	1%	8%	29%	
160	2000	12027	WSCC Net Messaging System	WAN		$ 1,323		41%	2%	19%	1%	8%	29%	
161														
162			**Total 2000 Bond Issuance**			**$ 36,100,000**								
163			**Actual % and $'s**											

Exh. No. ISO- 10, Page 337 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
149	2000	13006	OMAR - Metering system consolidation Project	OMAR	$ -	$ -	$ -	$ -	$ -	$ 347,500
150	2000	12003	Data Warehousing - Phase 2	DW	$ 328,539	$ 245,399	$ 85,999	$ 117,450	$ 326,375	$ 239,288
151	2000	20.1	Market Monitoring System - Enhancements	DMA/MMS	$ 7,077	$ 12,163	$ -	$ 9,190	$ 14,497	$ 3,266
152	2000	20.19	Resource Register	RR	$ 66,462	$ -	$ -	$ -	$ -	$ -
153	2000	12004	EDMS - Documentum	Documentum	$ 219,308	$ 106,869	$ 17,483	$ 19,563	$ 50,797	$ 83,689
154	2000	12009	Corporate Accounting Modules	Oracle Fin.	$ 63,537	$ 30,962	$ 5,065	$ 5,668	$ 14,717	$ 24,246
155	2000	12021	CHASE - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle	CHASE	$ 352,618	$ 171,831	$ 28,111	$ 31,454	$ 81,675	$ 134,560
156	2000	12023	Video Bridging Conferencing Equipment	Office Equipment	$ 14,665	$ 7,146	$ 1,169	$ 1,308	$ 3,397	$ 5,596
157	2000	12030	Enterprise Modeling Program Casewise Licenses	Casewise	$ 51,676	$ 25,182	$ 4,120	$ 4,610	$ 11,970	$ 19,720
158	2000	12024	Remote Network Access - VPN	WAN	$ 28,300	$ 1,481	$ 12,954	$ 909	$ 5,274	$ 20,447
159	2000	12029	Internet Apps. Network Redesign	WAN	$ 90,919	$ 4,758	$ 41,618	$ 2,921	$ 16,944	$ 65,691
160	2000	12027	WSCC Net Messaging System	WAN	$ 540	$ 28	$ 247	$ 17	$ 101	$ 390
161										
162			**Total 2000 Bond Issuance**		**$ 17,551,206**	**$ 2,640,593**	**$ 4,671,610**	**$ 1,222,155**	**$ 3,763,345**	**$ 6,251,091**
163			**Actual % and $'s**		48.62%	7.31%	12.94%	3.39%	10.42%	17.32%

Exh. No. ISO- 10, Page 338 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	Year	Capital ID #	Project Description	System	Comments
149	2000	13006	OMAR - Metering system consolidation Project	OMAR	
150	2000	12003	Data Warehousing - Phase 2	DW	
151	2000	20.1	Market Monitoring System - Enhancements	DMA/MMS	
152	2000	20.19	Resource Register	RR	
153	2000	12004	EDMS - Documentum	Documentum	
154	2000	12009	Corporate Accounting Modules	Oracle Fin.	
155	2000	12021	CHASE - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle	CHASE	
156	2000	12023	Video Bridging Conferencing Equipment	Office Equipment	
157	2000	12030	Enterprise Modeling Program Casewise Licenses	Casewise	
158	2000	12024	Remote Network Access - VPN	WAN	
159	2000	12029	Internet Apps. Network Redesign	WAN	
160	2000	12027	WSCC Net Messaging System	WAN	
161					
162			**Total 2000 Bond Issuance**		
163			**Actual % and $'s**		

Exh. No. ISO- 10, Page 339 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
164														
165			**Cash Funded Cap Ex: 2004 Capital Budget**											
166	2004	140	EMS Grid Operations Training Simulator (GOTS)	GOTS				56%	44%	0%	0%	0%	0%	
167	2004	160	EMS User Interface Upgrade	EMS				100%	0%	0%	0%	0%	0%	
168	2004	172	Market Rules	SA				24%	0%	20%	26%	30%	0%	
169	2004	183	Accelerated or early market payments (Payment Acceleration)	BBS				0%	0%	0%	0%	0%	100%	
170	2004	201	Must Offer Waiver	SA				24%	0%	20%	26%	30%	0%	
171	2004	203	Reference Price Calculation - Internal Calculation	AMP				85%	0%	0%	0%	15%	0%	
172	2004	210	Upgrade Tie-Line Metering and Real-Time data	EMS				100%	0%	0%	0%	0%	0%	
173	2004	210	Upgrade Tie-Line Metering and Real-Time data	WAN				43%	2%	15%	1%	8%	30%	
174	2004	210	Upgrade Tie-Line Metering and Real-Time data	MDAS				0%	0%	0%	0%	0%	100%	
175	2004	073	Oversight and Investigation	Compliance				19%	16%	10%	0%	33%	22%	
176	2004	193	WAPA MSS	Compliance				19%	16%	10%	0%	33%	22%	
177	2004	200	RAVE Test & Development Server	RAVE				100%	0%	0%	0%	0%	0%	
178														
179			**2004Spending: Operating Systems**			**$ 4,690,000**								
180			**Actual % and $'s**											

Exh. No. ISO- 10, Page 340 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
164										
165			**Cash Funded Cap Ex: 2004 Capital Budget**							
166	2004	140	EMS Grid Operations Training Simulator (GOTS)	GOTS						
167	2004	160	EMS User Interface Upgrade	EMS						
168	2004	172	Market Rules	SA						
169	2004	183	Accelerated or early market payments (Payment Acceleration)	BBS						
170	2004	201	Must Offer Waiver	SA						
171	2004	203	Reference Price Calculation - Internal Calculation	AMP						
172	2004	210	Upgrade Tie-Line Metering and Real-Time data	EMS						
173	2004	210	Upgrade Tie-Line Metering and Real-Time data	WAN						
174	2004	210	Upgrade Tie-Line Metering and Real-Time data	MDAS						
175	2004	073	Oversight and Investigation	Compliance						
176	2004	193	WAPA MSS	Compliance						
177	2004	200	RAVE Test & Development Server	RAVE						
178										
179			**2004Spending: Operating Systems**		**$ 2,414,155**	**$ 155,156**	**$ 278,805**	**$ 266,718**	**$ 525,324**	**$ 1,049,842**
180			**Actual % and $'s**		51.47%	3.31%	5.94%	5.69%	11.20%	22.38%

Exh. No. ISO- 10, Page 341 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
164					
165			**Cash Funded Cap Ex: 2004 Capital Budget**		
166	2004	140	EMS Grid Operations Training Simulator (GOTS)	GOTS	
167	2004	160	EMS User Interface Upgrade	EMS	
168	2004	172	Market Rules	SA	
169	2004	183	Accelerated or early market payments (Payment Acceleration)	BBS	
170	2004	201	Must Offer Waiver	SA	
171	2004	203	Reference Price Calculation - Internal Calculation	AMP	
172	2004	210	Upgrade Tie-Line Metering and Real-Time data	EMS	
173	2004	210	Upgrade Tie-Line Metering and Real-Time data	WAN	
174	2004	210	Upgrade Tie-Line Metering and Real-Time data	MDAS	
175	2004	073	Oversight and Investigation	Compliance	
176	2004	193	WAPA MSS	Compliance	
177	2004	200	RAVE Test & Development Server	RAVE	
178					
179			**2004Spending: Operating Systems**		
180			**Actual % and $'s**		

Exh. No. ISO- 10, Page 342 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
181														
182	2004	013	Facilities Leasehold Improvements	Facilities				44%	21%	4%	4%	10%	17%	
183														
184			**2004 Budget: Facilities/Furniture/Office Furniture**			$ 150,000								
185			**Actual % and $'s**											
186														
187	2004	173	Computer Lease Buyouts					43%	1%	7%	2%	11%	36%	
188	2004	173	Equipment Purchases					23%	0%	22%	3%	7%	45%	
189	2004	173	Misc. Computer & Software	OA				44%	21%	4%	4%	10%	17%	
190	2004	198	Telephony Technology Pilot	WAN				41%	2%	19%	1%	8%	29%	
191	2004	213	HR System Oracle Implementation	HR				44%	21%	4%	4%	10%	17%	
192														
193			**2004 Budget: Corporate Systems**			$ 5,160,000								
194			**Actual % and $'s**											
195														

Exh. No. ISO- 10, Page 343 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**CRS**	**ETS**	**Sch**	**Cong.**	**MU**	**SMCR**
181										
182	2004	013	Facilities Leasehold Improvements	Facilities	$ -	$ -	$ -	$ -	$ -	$ -
183										
184			**2004 Budget: Facilities/Furniture/Office Furniture**		**$ 66,095**	**$ 32,208**	**$ 5,269**	**$ 5,896**	**$ 15,309**	**$ 25,222**
185			Actual % and $'s		44.06%	21.47%	3.51%	3.93%	10.21%	16.81%
186										
187	2004	173	Computer Lease Buyouts		$ -	$ -	$ -	$ -	$ -	$ -
188	2004	173	Equipment Purchases		$ -	$ -	$ -	$ -	$ -	$ -
189	2004	173	Misc. Computer & Software	OA	$ -	$ -	$ -	$ -	$ -	$ -
190	2004	198	Telephony Technology Pilot	WAN	$ -	$ -	$ -	$ -	$ -	$ -
191	2004	213	HR System Oracle Implementation	HR	$ -	$ -	$ -	$ -	$ -	$ -
192										
193			**2004 Budget: Corporate Systems**		**$ 2,034,020**	**$ 271,593**	**$ 465,393**	**$ 124,250**	**$ 514,223**	**$ 1,750,521**
194			Actual % and $'s		39.42%	5.26%	9.02%	2.41%	9.97%	33.92%
195										

Exh. No. ISO- 10, Page 344 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
181					
182	2004	013	Facilities Leasehold Improvements	Facilities	
183					
184			**2004 Budget: Facilities/Furniture/Office Furniture**		
185			**Actual % and $'s**		
186					
187	2004	173	Computer Lease Buyouts		
188	2004	173	Equipment Purchases		
189	2004	173	Misc. Computer & Software	OA	
190	2004	198	Telephony Technology Pilot	WAN	
191	2004	213	HR System Oracle Implementation	HR	
192					
193			**2004 Budget: Corporate Systems**		
194			**Actual % and $'s**		
195					

Exh. No. ISO- 10, Page 345 of 442

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**													
2	**Capital Spending Unbundling Information: FY2004 Budget**													
3														
4														
5									% Allocation					
6	Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals		CRS	ETS	Sch	Cong	MU	SMCR	
196														
197	2004		MD02 implementation			$ 22,000,000		7%	0%	14%	11%	28%	40%	
198														
199			2004 Budget: MD02			$ 22,000,000								
200			Actual % and $'s											
201														
202			Total 2004 Capital Budget Cash Funding			$ 32,000,000								
203														
204			MD02											
205			Settlements and Market Clearing	SaMC				0%	0%	0%	0%	0%	100%	
206			Scheduling Infrastructure Business Rules	SIBR				10%	0%	75%	0%	10%	5%	
207			Integrated Forward Market and Locational Marginal Pricing	IFM/LMP				10%	0%	35%	0%	55%	0%	
208			Market Transaction System	MTS				0%	0%	0%	0%	100%	0%	
209			Real Time Nodal	RTN				35%	0%	10%	0%	55%	0%	
210			Congestion Revenue Rights	CRR				0%	0%	0%	80%	20%	0%	
211			Master File	MF				20%	0%	20%	0%	55%	5%	
212						$ 22,000,000								
213														

Exh. No. ISO- 10, Page 346 of 442

	A	B	C	D	O	P	Q	R	S	T
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**									
2	**Capital Spending Unbundling Information: FY2004 Budget**									
3										
4										
5					**Dollar Allocation**					
6	Year	Capital ID #	Project Description	System	CRS	ETS	Sch	Cong.	MU	SMCR
196										
197	2004		MD02 Implementation		$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500
198										
199			**2004 Budget: MD02**		**$ 1,530,000**	**$ -**	**$ 3,050,000**	**$ 2,400,000**	**$ 6,242,500**	**$ 8,777,500**
200			**Actual % and $'s**		6.95%	0.00%	13.86%	10.91%	28.38%	39.90%
201										
202			**Total 2004 Capital Budget Cash Funding**							
203										
204			**MD02**							
205			Settlements and Market Clearing	SaMC	$ -	$ -	$ -	$ -	$ -	$ -
206			Scheduling Infrastructure Business Rules	SIBR	$ -	$ -	$ -	$ -	$ -	$ -
207			Integrated Forward Market and Locational Marginal Pricing	IFM/LMP	$ -	$ -	$ -	$ -	$ -	0%
208			Market Transaction System	MTS	$ -	$ -	$ -	$ -	$ -	$ -
209			Real Time Nodal	RTN	$ -	$ -	$ -	$ -	$ -	$ -
210			Congestion Revenue Rights	CRR	$ -	$ -	$ -	$ -	$ -	$ -
211			Master File	MF	$ -	$ -	$ -	$ -	$ -	$ -
212					**$ 1,530,000**	**$ -**	**$ 3,050,000**	**$ 2,400,000**	**$ 6,242,500**	**$ 8,777,500**
213					6.95%	0.00%	13.86%	10.91%	28.38%	39.90%

Exh. No. ISO- 10, Page 347 of 442

	A	B	C	D	U
1	**California Independent System Operator 2004 GMC Cost Allocation Capital Expenditure Detail**				
2	**Capital Spending Unbundling Information: FY2004 Budget**				
3					
4					
5					
6	**Year**	**Capital ID #**	**Project Description**	**System**	**Comments**
196					
197	2004		MD02 Implementation		
198					
199			2004 Budget: MD02		
200			Actual % and $'s		
201					
202			Total 2004 Capital Budget Cash Funding		
203					
204			MD02		
205			Settlements and Market Clearing	SaMC	
206			Scheduling Infrastructure Business Rules	SIBR	
207			Integrated Forward Market and Locational Marginal Pricing	IFM/LMP	RUC/DA Schedules, validation /Market
208			Market Transaction System	MTS	Market Transaction System - holds data after market runs
209			Real Time Nodal	RTN	Real Time Energy Market, Reliability, Schedules. No Congestion as resolved in IFM.
210			Congestion Revenue Rights	CRR	Congestion management also market Auctions
211			Master File	MF	Constraints /Validations/ SC info./ settlement
212					
213					

Exh. No. ISO- 10, Page 348 of 442

California Independent System Operator
2004 GMC Cost Allocation
Project Management Worksheet

Detail From Project Management Account 12012 2000

Trans Id	Project	Task	Expnd Type	Item Date	Employee/Supplier	Quantity	Comment
					GCP/RIG Project		
190881	12012	10.99	Consultants	31-Oct-00	ADS SYSTEMS INCORPORATED	$ 12,441.00	M BONAPATE - SEPT.
191819	12012	10.99	Consultants	30-Jun-00	ADS SYSTEMS INCORPORATED	$ 980.00	SENIOR 4/1-4/30/00
190855	12012	10.99	Consultants	26-Jun-00	ADS SYSTEMS INCORPORATED	$ 4,200.00	SENIOR 5/6-5/31/00
190857	12012	10.99	Consultants	31-Jul-00	ADS SYSTEMS INCORPORATED	$ 34,251.00	SENIOR 6/3-6/30/00
191821	12012	10.99	Consultants	31-Jul-00	ADS SYSTEMS INCORPORATED	$ 3,234.00	SENIOR 6/3-6/30/00
191701	12012	10.99	Consultants	16-Mar-00	MAXIM GROUP	$ 2,380.00	METZ 02/26/00 35 HRS
191707	12012	10.99	Consultants	30-Mar-00	MAXIM GROUP	$ 2,584.00	METZ 3/11/00 38 HRS
191727	12012	10.99	Consultants	20-Apr-00	MAXIM GROUP	$ 2,720.00	METZ 3/18/00
191705	12012	10.99	Consultants	30-Mar-00	MAXIM GROUP	$ 2,720.00	METZ 3/4/00 40 HRS
193243	12012	10.99	Consultants	30-Apr-00	KENDA SYSTEMS, INC.	$ 1,980.00	SPECTOR 3/25/00 GCP PROTOTYPE
193217	12012	10.99	Consultants	30-Apr-00	KENDA SYSTEMS, INC.	$ 1,881.00	SPECTOR 4/01/00 GCP PROTOTYPE
					GCP/RIG Project	**$ 69,371.00**	
					ETAG Project		
191769	12012	10.99	Consultants	19-Sep-00	ECCO INTERNATIONAL, INC.	$ 2,304.00	Jeffrey Kelly. AUGUST 2000 18 HRS
191775	12012	10.99	Consultants	21-Oct-00	ECCO INTERNATIONAL, INC.	$ 1,536.00	Consultant: Jeffrey Kelly. 12 HRS SEPT
187241	12012	10.99	Consultants	13-Dec-00	ECCO INTERNATIONAL, INC.	$ 3,200.00	CONSULTING: J. KELLY NOVEMBER 2000
187229	12012	10.99	Consultants	26-Jul-00	ECCO INTERNATIONAL, INC.	$ 5,696.00	J. KELLY 5/1-5/30/00 44.5 HRS
190155	12012	10.99	Consultants	17-Jul-00	ECCO INTERNATIONAL, INC.	$ 1,664.00	J. KELLY 6/1-6/30/00 13 HRS
190147	12012	10.99	Consultants	17-Jul-00	ECCO INTERNATIONAL, INC.	$ 3,392.00	J. KELLY 6/1-6/30/00 26.5 HRS
191072	12012	10.99	Consultants	15-Aug-00	ECCO INTERNATIONAL, INC.	$ 3,200.00	J. KELLY 7/1-7/31/00
194065	12012	10.99	Consultants	31-Dec-00	ECCO INTERNATIONAL, INC.	$ 2,240.00	J. KELLY DEC 2000 17.5 HRS
191779	12012	10.99	Consultants	30-Nov-00	ECCO INTERNATIONAL, INC.	$ 5,056.00	J. KELLY OCTOBER 2000
					ETAG Project	**$ 28,288.00**	
187338	12012	10.99	Consultants	20-Dec-00	KENDA SYSTEMS, INC.	$ 110.00	SPECTOR: RATE ADJ. 11/3 & 11/10 10 HRS
193227	12012	10.99	Consultants	14-Mar-00	KENDA SYSTEMS, INC.	$ 1,435.50	SPECTOR 02/12/00
193232	12012	10.99	Consultants	17-Mar-00	KENDA SYSTEMS, INC.	$ 2,029.50	SPECTOR 02/19/00
193235	12012	10.99	Consultants	17-Mar-00	KENDA SYSTEMS, INC.	$ 940.50	SPECTOR 02/26/00 9.5 HRS
193237	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 1,485.00	SPECTOR 13.5 HRS WE 12/8/00
187354	12012	10.99	Consultants	30-Mar-00	KENDA SYSTEMS, INC.	$ 1,980.00	SPECTOR 3/11/00
193242	12012	10.99	Consultants	20-Apr-00	KENDA SYSTEMS, INC.	$ 1,683.00	SPECTOR 3/18/00 17 HRS
193262	12012	10.99	Consultants	30-Mar-00	KENDA SYSTEMS, INC.	$ 1,287.00	SPECTOR 3/4/00
193281	12012	10.99	Consultants	30-Mar-00	KENDA SYSTEMS, INC.	$ 148.50	SPECTOR 3/4/00
193205	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 440.00	SPECTOR 4 HRS WE 12/29/00
193212	12012	10.99	Consultants	15-May-00	KENDA SYSTEMS, INC.	$ 2,871.00	SPECTOR 4/15/00
193273	12012	10.99	Consultants	15-May-00	KENDA SYSTEMS, INC.	$ 891.00	SPECTOR 4/22/00

Exh. No. ISO- 10, Page 349 of 442

	A	B	C	D	E	F	G	H
1	**California Independent System Operator** **2004 GMC Cost Allocation** **Project Management Worksheet**							
2				**Detail From Project Management Account 12012 2000**				
3	**Trans Id**	**Project**	**Task**	**Expnd Type**	**Item Date**	**Employee/Supplier**	**Quantity**	**Comment**
4						**GCP/RIG Project**		
50	193258	12012	10.99	Consultants	18-May-00	KENDA SYSTEMS, INC.	$ 1,881.00	SPECTOR 4/29/00
51	193251	12012	10.99	Consultants	20-Apr-00	KENDA SYSTEMS, INC.	$ 2,871.00	SPECTOR 4/8/00
52	187348	12012	10.99	Consultants	20-Apr-00	KENDA SYSTEMS, INC.	$ 396.00	SPECTOR 4/8/00
53	192657	12012	10.99	Consultants	15-Jun-00	KENDA SYSTEMS, INC.	$ 693.00	SPECTOR 5/13/00
54	193043	12012	10.99	Consultants	15-Jun-00	KENDA SYSTEMS, INC.	$ 1,089.00	SPECTOR 5/20/00
55	193051	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$ 792.00	SPECTOR 5/27/00
56	194441	12012	10.99	Consultants	18-May-00	KENDA SYSTEMS, INC.	$ 1,089.00	SPECTOR 5/6/00
57	193053	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$ 990.00	SPECTOR 6/10/00
58	193083	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$ 1,089.00	SPECTOR 6/17/00
59	193099	12012	10.99	Consultants	31-Jul-00	KENDA SYSTEMS, INC.	$ 891.00	SPECTOR 6/24/00 9 HRS
60	193071	12012	10.99	Consultants	14-Aug-00	KENDA SYSTEMS, INC.	$ 594.00	SPECTOR 7/1/00
61	194433	12012	10.99	Consultants	21-Aug-00	KENDA SYSTEMS, INC.	$ 990.00	SPECTOR 7/15/00
62	193107	12012	10.99	Consultants	14-Aug-00	KENDA SYSTEMS, INC.	$ 1,584.00	SPECTOR 7/22/00
63	193121	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$ 990.00	SPECTOR 7/29/00
64	190889	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$ 1,188.00	SPECTOR 8/12/00
65	190901	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$ 297.00	SPECTOR 8/5/00
66	193091	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$ 1,100.00	SPECTOR WE 10/14/00
67	193097	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$ 660.00	SPECTOR WE 10/21/00 6 HRS
68	193125	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$ 770.00	SPECTOR WE 10/28/00 7.0 HRS
69	193131	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 1,595.00	SPECTOR WE 10/7/00
70	193145	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$ 1,386.00	SPECTOR WE 8/19 14 HRS
71	190893	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$ 1,138.50	Spector WE 8/26/00 4 HRS
72	193155	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$ 1,320.00	SPECTOR WE 9/2 12 HRS
73	193137	12012	10.99	Consultants	16-Nov-00	KENDA SYSTEMS, INC.	$ 770.00	SPECTOR WE 9/30/00
74	193161	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 880.00	SPECTOR, 8 HRS WE 12/23/00
75	193151	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 990.00	SPECTOR, 9 HRS 1/5/01
76	193167	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$ 1,980.00	Spector, Week Ending 9/16/00
77	193181	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ (1,430.00)	Spector, Week Ending 9/16/00
78	193175	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$ 880.00	Spector, Week Ending 9/23/00
79	193187	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$ 1,540.00	Spector, Week Ending 9/9/00
80	193195	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ (1,540.00)	Spector, Week Ending 9/9/00
81	193203	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 330.00	Spector, Week Ending 9/9/00
82	194436	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$ 1,045.00	SPECTOR,9.5 HRS WE 12/15/00
83	194430	12012	10.99	Consultants	20-Dec-00	KENDA SYSTEMS, INC.	$ 297.00	SPECTOR: W/E 11/11/00 3 HRS
84	194427	12012	10.99	Consultants	20-Dec-00	KENDA SYSTEMS, INC.	$ 693.00	SPECTOR: W/E 11/3/00 7 HRS
85	194035	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 2,720.00	CONSULTING: D. WIMBERLY PERIOD ENDING 9/23/00
86	194037	12012	10.99	Consultants	31-Oct-00	MAXIM GROUP	$ 3,200.00	CONSULTING: L. KAIMER PERIOD ENDING 9/23/00
87	191753	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 2,720.00	D. WIMBERLY WE 10/14/00
88	191751	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 2,720.00	D. WIMBERLY WE 10/7/00
89	191755	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 2,720.00	D. WIMBERLY WE 9/30/00
90	191759	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 3,200.00	L KAIMER WE 10/14/00
91	191757	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 3,200.00	L KAIMER WE 10/7/00
92	191761	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$ 3,200.00	L KAIMER WE 9/30/00
93								
94						**System Allocation**	**$ 70,809.50**	

Exh. No. ISO- 10, Page 350 of 442

	A	B	C	D	E	F	G	H
1	**California Independent System Operator** **2004 GMC Cost Allocation** **Project Management Worksheet**							
2				**Detail From Project Management Account 12012 2000**				
3	**Trans Id**	**Project**	**Task**	**Expnd Type**	**Item Date**	**Employee/Supplier**	**Quantity**	**Comment**
4						**GCP/RIG Project**		
95								
96						**Data Warehouse**		
97	190980	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$ 700.00	DI BONA 6/10/00
98	190976	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$ 272.00	DI BONA 6/17/00
99	190984	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$ 312.00	DI BONA 6/3/00
100	191725	12012	10.99	Consultants	20-Apr-00	MAXIM GROUP	$ 2,720.00	DIBONA 04/01/00
101	191729	12012	10.99	Consultants	20-Apr-00	MAXIM GROUP	$ 2,520.00	DIBONA 3/18/00
102	191743	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$ 2,244.00	DIBONA 4/15/00
103	191745	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$ 2,040.00	DIBONA 4/22/00
104	191749	12012	10.99	Consultants	18-May-00	MAXIM GROUP	$ 1,836.00	DIBONA 4/29/00
105	191741	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$ 1,972.00	DIBONA 4/8/00
106	191881	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$ 1,224.00	DIBONA 5/13/00 18 HRS
107	191885	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$ 544.00	DIBONA 5/20/00 8 HRS
108	190964	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$ 408.00	DIBONA 5/27/00 6 HRS
109	191879	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$ 2,480.00	DIBONA 5/6/00 35 HRS
110	190986	12012	10.99	Consultants	31-Jul-00	MAXIM GROUP	$ 136.00	DIBONA 6/24/00
111	190996	12012	10.99	Consultants	15-Aug-00	MAXIM GROUP	$ 272.00	DIBONA 7/15/00
112	191006	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$ 272.00	DIBONA 7/29/00
113	191004	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$ 68.00	DIBONA 8/12/00
114	191008	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$ 272.00	DIBONA 8/5/00
115	191763	12012	10.99	Consultants	16-Nov-00	MAXIM GROUP	$ 214.00	F. DIBONA WE 10/14/00 3 HRS
116	191765	12012	10.99	Consultants	16-Nov-00	MAXIM GROUP	$ 1,050.00	F. DIBONA WE 10/7/00
117	191026	12012	10.99	Consultants	30-Sep-00	MAXIM GROUP	$ 136.00	F. DIBONA WE 8/19/00 2 HRS
118	191024	12012	10.99	Consultants	30-Sep-00	MAXIM GROUP	$ 136.00	F. DIBONA WE 8/26/00 2 HRS
119	193063	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$ 693.00	SPECTOR 6/3/00 PUBLIC BID DATA
120								
121						**Data Warehouse**	**$ 22,521.00**	
122								
123						**Tivoli Project**		
124	191433	12012	10.99	Consultant Expenses	22-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$ 2,262.52	01/09-01/21/00 MALCOLM EXPENSES
125	194029	12012	10.99	Consultants	25-Feb-00	NORTHWIND CONSULTING SERVICES, LLC	$ 10,425.00	1/10-1/16/00
126	191437	12012	10.99	Consultants	23-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$ 9,750.00	MALCOLM 1/17-1/23/00 65 HRS
127	191403	12012	10.99	Consultant Expenses	16-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$ 1,146.24	MALCOLM TRAVEL
128	191419	12012	10.99	Consultant Expenses	21-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$ 121.00	MALCOLM TRAVEL 01/31
129	191373	12012	10.99	Consultants	25-Feb-00	NORTHWIND CONSULTING SERVICES, LLC	$ 8,625.00	MALCOM 1/3-1/9/00
130	191399	12012	10.99	Consultants	16-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$ 1,500.00	MALCOM 1/31-2/6/00
131	187369	12012	10.99	Consultants	29-Feb-00	PROJECT SPEARS, INC.	$ 450.00	2/14-2/20/00 L MALCOME
132	187373	12012	10.99	Consultant Expenses	29-Feb-00	PROJECT SPEARS, INC.	$ 974.03	2/14-2/20/00 L. MALCOME
133	187361	12012	10.99	Consultant Expenses	28-Feb-00	PROJECT SPEARS, INC.	$ 1,721.63	MALCOLM 02/1-2/17/00
134	187363	12012	10.99	Consultants	28-Feb-00	PROJECT SPEARS, INC.	$ 14,775.00	MALCOLM 02/1-2/17/00
135	187386	12012	10.99	Consultants	17-Mar-00	PROJECT SPEARS, INC.	$ 975.00	MALCOLM 02/27/00
136	187382	12012	10.99	Consultant Expenses	17-Mar-00	PROJECT SPEARS, INC.	$ 987.02	MALCOLM 02/27/00 EXPENSES
137	187375	12012	10.99	Consultants	17-Mar-00	PROJECT SPEARS, INC.	$ 975.00	MALCOLM 03/02/00
138	187379	12012	10.99	Consultant Expenses	17-Mar-00	PROJECT SPEARS, INC.	$ 1,029.66	MALCOLM 03/02/00 EXPENSES
139	187395	12012	10.99	Consultants	31-Mar-00	PROJECT SPEARS, INC.	$ 600.00	MALCOLM 3/19/00 4 HRS FOSS

Exh. No. ISO- 10, Page 351 of 442

	A	B	C	D	E	F	G	H
1	**California Independent System Operator** **2004 GMC Cost Allocation** **Project Management Worksheet**							
2				**Detail From Project Management Account 12012 2000**				
3	**Trans Id**	**Project**	**Task**	**Expnd Type**	**Item Date**	**Employee/Supplier**	**Quantity**	**Comment**
4						**GCP/RIG Project**		
140	187397	12012	10.99	Consultant Expenses	31-Mar-00	PROJECT SPEARS, INC.	$ 1,448.83	MALCOLM 3/19/00 EXPENSES
141	187403	12012	10.99	Consultants	20-Apr-00	PROJECT SPEARS, INC.	$ 1,200.00	MALCOLM 3/22-3/24/00
142	187409	12012	10.99	Consultants	21-Apr-00	PROJECT SPEARS, INC.	$ 1,200.00	MALCOLM 3/27-4/01/00
143	187411	12012	10.99	Consultant Expenses	21-Apr-00	PROJECT SPEARS, INC.	$ 1,033.79	MALCOLM 3/27-4/01/00 EXPENSES
144								
145						**Tivoli Project**	**$ 61,199.72**	

Exh. No. ISO- 10, Page 352 of 442

	A	B
1		
2	**California Independent System Operator 2004 GMC Cost Allocation Calculation of Operations and Maintenance Revenue Requirement**	
3	This spreadsheet compiles budget expenditure data, calculates allocations to functions and provides a summary of these allocations at the cost center and division levels.	
4		
5	**Sheet Index:**	**Description**
6	Budget data	Budget data by cost center, including total proposed budget, salaries, temporary/contract staff, consultants and other expenses
7	Direct Labor %	Direct assignments for non IS staff, pulled from 2004 pre labor.xls spreadsheet
8	Direct Contract %	Direct assignments for temporary/contract staff and consultants for not IS staff, pulled from 2004 prel contract.xls spreadsheet
9	System Direct%	Assignments, allocations and functionalizations for IS staff pulled from Systema4.xls spreadsheet
10	Direct Labor$	Pulls salaries from Budget data worksheet, applies factors in Direct Labor % and calculates costs to functions
11	Direct Contract$	Pulls temporary/contract staff and consultants expenditures from Budget data worksheet, applies factors in Direct Contract % and calculates costs to functions
12	System Direct$	Pulls IS cost center expenditures from Budget data worksheet, applies factors in System Direct% and calculates costs to functions
13	Total Directs$	Pulls functionalized costs from Direct Labor$, Direct Contract$, System Direct$ and sums them.
14	Total Directs%	Calculates percentage allocations to functions
15	FTE	Shows FTE calculations, using direct assignments of non-ISO staff
16	OH	Shows overhead calculations, using direct assignments of non-ISO staff
17	Dept Direct	Shows calculation of allocation for DataWarehouse. The calculation is a weighted average of the departments shown.
18	Ratios	Summary worksheet showing factors applied for direct labor, FTE, overhead, operating costs and MD02 capital. These factors are applied in this spreadsheet and used in other spreadsheets also.
19	1100	Summary of cost centers under division 1100. Includes MD02 and Grid Planning. Shows calculation of CEO cost allocation.
20	1300	Summary of cost centers under division 1300. Includes CFO cost allocation.
21	1400	Summary of cost centers under division 1400. Includes CIO cost allocation, as well as supervisory cost centers.
22	1500	Summary of cost centers under division 1500. Includes VP, Grid Operations cost allocation, as well as supervisory cost centers.

Exh. No. ISO- 10, Page 353 of 442

	A	B
1		
2	**California Independent System Operator 2004 GMC Cost Allocation Calculation of Operations and Maintenance Revenue Requirement**	
3	This spreadsheet compiles budget expenditure data, calculates allocations to functions and provides a summary of these allocations at the cost center and division levels.	
4		
5	**Sheet Index:**	**Description**
23	1600	Summary of cost centers under division 1600. Includes General Counsel cost allocation.
24	1700	Summary of cost centers under division 1700. Includes VP, Market Services cost allocation.
25	1800	Summary of cost centers under division 1800. Includes VP, Corporate and Strategic Development cost allocation as well as supervisory cost centers
26	2100	Shows allocation of employee salary adjustments
27	Totals	Summaries totals for all cost centers individually
28	Salaries	
29	Methods	Brief description of assignment, allocation, functionalization methods
30	Revenue Req	Summaries totals by division. Data in this table is pushed to Revenue3.xls spreadsheet for calculation of total revenue requirement
31	Reserve credit worksheets	Worksheet divider
32	2003 GMC	2003 GMC allocators by cost center
33	2004 percentages	Percentage allocations by Cost Center using 2004 GMC allocators
34	CAS-CRS	Calculation of allocation factors for CAS reserve credit to new 2004 GMC functions
35	CONG	Calculation of allocation factors for CONG reserve credit to new 2004 GMC functions
36	ASREO	Calculation of allocation factors for ASREO reserve credit to new 2004 GMC functions

Exh. No. ISO- 10, Page 354 of 442

	A	B	C	D	E	F	G	H
1	**California Independent System Operator 2004 GMC Cost Allocation**							
2	2004 Budget Amount By Cost Center							
3	CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
4	1111	CEO - General	$897,241	$ 659,078	$ -	$ 150,000	$ 88,163	2.0
5	1241	MD02	$1,284,788	$ 1,216,788	$ 35,000	$ -	$ 33,000	7.0
6	1311	CFO - General	$332,272	$ 356,323	$ -	$ -	$ (24,051)	1.5
7	1321	Accounting	$2,931,098	$ 921,198	$ 42,000	$ 80,000	$ 1,887,900	9.5
8	1331	Financial Planning and Treasury	$3,471,773	$ 780,134	$ 30,000	$ 120,000	$ 2,541,639	6.5
9	1351	Facilities	$6,136,300	$ 710,066	$ -	$ 62,782	$ 5,363,452	7.0
10	1361	Security & Corporate Services	$2,660,758	$ 731,998	$ 17,500	$ 35,000	$ 1,876,260	10.0
11	1411	Chief Information Officer	($319,362)	$ (85,121)	$ -	$ 82,550	$ (316,791)	2.0
12	1422	Corporate & Enterprise Applications	$272,402	$ 246,402	$ -	$ -	$ 26,000	2.0
13	1424	Asset Management	$20,455,331	$ 936,407	$ 210,000	$ 70,000	$ 19,238,924	8.0
14	1431	End User Support	$6,662,499	$ 524,422	$ 164,290	$ -	$ 5,973,787	4.0
15	1432	Computer Operations and Infrastructure	$982,255	$ 904,348	$ -	$ -	$ 77,907	6.0
16	1433	Network Services	$1,621,981	$ 1,541,673	$ -	$ -	$ 80,308	11.0
17	1441	Outsourced Contracts	$10,669,871	$ 176,527	$ 85,000	$ -	$ 10,408,344	2.0
18	1442	Production Support	$2,642,634	$ 2,402,034	$ -	$ 80,000	$ 160,600	17.0
19	1451	Infrastructure Services	$1,696,047	$ 1,124,828	$ -	$ 198,000	$ 373,219	9.0
20	1461	Control Systems	$2,385,558	$ 2,168,381	$ 81,000	$ -	$ 136,177	19.0
21	1462	Field Data Acquisition System (FDAS)	$2,547,393	$ 2,000,514	$ 97,595	$ 185,004	$ 264,280	15.0
22	1463	Operations Systems Services	$347,495	$ 316,193	$ -	$ -	$ 31,302	3.0
23	1466	Enterprise Applications	$1,609,967	$ 1,406,534	$ -	$ 120,685	$ 82,748	10.0
24	1467	Settlement Systems Services	$1,170,354	$ 1,086,619	$ -	$ -	$ 83,735	9.0
25	1468	Corporate Application Support and Administration	$609,686	$ 577,687	$ -	$ -	$ 31,999	4.0
26	1469	Analytical and Reporting Applications	$1,298,406	$ 1,225,867	$ -	$ -	$ 72,539	9.0

	A	B	C	D	E	F	G	H
1	**California Independent System Operator 2004 GMC Cost Allocation**							
2	2004 Budget Amount By Cost Center							
3	CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
27	1471	IT Planning	$950,115	$ 674,348	$ 115,087	$ 97,853	$ 62,827	5.0
28	1481	Markets and Scheduling System	$1,516,144	$ 1,263,277	$ 150,000	$ 39,128	$ 63,739	9.0
29	1482	Market Systems Support Services	$616,978	$ 585,478	$ -	$ -	$ 31,500	4.0
30	1511	VP Grid Operations	($154,783)	$ (289,459)	$ -	$ 240,000	$ (105,324)	1.5
31	1521	Grid Planning	$2,497,543	$ 2,382,163	$ -	$ -	$ 115,380	16.0
32	1542	Outage Coordination	$1,910,211	$ 1,709,637	$ 18,500	$ 75,000	$ 107,074	12.0
33	1543	Loads and Resources	$1,185,612	$ 963,112	$ 170,000	$ -	$ 52,500	7.0
34	1544	Real-Time Scheduling	$2,786,442	$ 2,729,242	$ -	$ -	$ 57,200	20.0
35	1545	Grid Operations	$7,545,786	$ 7,225,286	$ 48,000	$ 11,200	$ 261,300	50.0
36	1546	Security Coordination	$1,368,574	$ 1,320,574	$ -	$ -	$ 48,000	8.0
37	1547	Engineering and Maintenance	$576,104	$ 322,104	$ 100,000	$ 75,000	$ 79,000	3.0
38	1548	OSAT Group - General	$293,953	$ 251,453	$ -	$ 20,000	$ 22,500	2.0
39	1549	Operations Training	$2,882,700	$ 2,114,224	$ 36,000	$ 465,600	$ 266,876	18.0
40	1554	Special Projects Engineering	$853,958	$ 657,008	$ -	$ 121,900	$ 75,050	4.0
41	1555	Operations Support Group	$1,111,667	$ 1,063,107	$ -	$ -	$ 48,560	9.0
42	1558	Transmission Maintenance	$1,623,755	$ 1,322,205	$ 110,000	$ 90,000	$ 101,550	9.0
43	1559	Operations Application Support	$584,623	$ 573,103	$ -	$ -	$ 11,520	5.0
44	1561	Operations Engineering South	$1,241,824	$ 1,118,224	$ 25,000	$ -	$ 98,600	7.5
45	1562	Operations Engineering North	$1,355,194	$ 1,307,334	$ 10,000	$ -	$ 37,860	9.0
46	1563	Operations Coordination	$704,967	$ 627,767	$ 48,000	$ -	$ 29,200	4.0
47	1564	Operations Scheduling	$295,029	$ 253,529	$ -	$ -	$ 41,500	2.0
48	1565	Pre-Scheduling and Support	$1,834,525	$ 1,797,925	$ -	$ -	$ 36,600	13.0
49	1566	Regional Coordination - General	$547,417	$ 455,517	$ -	$ -	$ 91,900	3.0

	A	B	C	D	E	F	G	H
1	**California Independent System Operator 2004 GMC Cost Allocation**							
2	2004 Budget Amount By Cost Center							
3	CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
50	1611	VP General Counsel - General	$285,317	$ 301,939	$ -	$ 20,000	$ (36,622)	2.0
51	1631	Legal and Regulatory	$12,216,636	$ 3,454,104	$ 90,000	$ 70,640	$ 8,601,892	22.0
52	1641	Market Analysis	$2,948,963	$ 2,050,085	$ 41,000	$ 683,800	$ 174,078	16.0
53	1642	Market Surveillance Committee	$561,750		$ -	$ 558,750	$ 3,000	-
54	1651	Board of Governors	$231,400		$ -	$ -	$ 231,400	-
55	1661	Compliance - General	$1,722,093	$ 1,268,093	$ 265,000	$ 137,000	$ 52,000	10.0
56	1662	Compliance - Audits	$434,112	$ 405,112	$ -	$ -	$ 29,000	3.0
57	1711	VP Market Services - General	($69,788)	$ 18,946	$ -	$ -	$ (88,734)	2.0
58	1721	Billing and Settlements-General	$450,755	$ 426,755	$ -	$ -	$ 24,000	3.0
59	1722	Business Development Support	$700,651	$ 604,441	$ 89,360	$ -	$ 6,850	5.0
60	1723	RMR Settlements	$992,025	$ 762,347	$ 195,428	$ -	$ 34,250	7.0
61	1724	BBS - PSS	$1,280,172	$ 1,074,144	$ 178,720	$ -	$ 27,308	9.0
62	1725	BBS - FSS	$1,283,046	$ 994,282	$ 267,524	$ -	$ 21,240	9.0
63	1731	Contracts and Special Projects	$1,525,676	$ 1,250,164	$ 34,042	$ 174,466	$ 67,004	9.0
64	1741	Client Relations	$2,366,671	$ 2,076,971	$ -	$ 108,500	$ 181,200	17.0
65	1751	Market Operations - General	$979,523	$ 373,302	$ 85,105	$ 143,616	$ 377,500	3.0
66	1752	Manager of Markets	$2,773,203	$ 2,323,353	$ -	$ 350,000	$ 99,850	17.0
67	1753	Market Engineering	$1,955,609	$ 1,362,453	$ 285,105	$ 280,751	$ 27,300	10.0
68	1755	Business Solutions	$1,175,260	$ 959,204	$ -	$ 203,056	$ 13,000	7.0
69	1756	Market Quality - General	$2,102,495	$ 2,030,338	$ -	$ 37,657	$ 34,500	18.0
70	1757	Market Integration	$998,732	$ 871,516	$ -	$ 114,256	$ 12,960	6.0
71	1811	VP Corporate and Strategic Development - General	$467,576	$ 322,823	$ -	$ 155,000	$ (10,247)	2.0
72	1821	Communications	$847,176	$ 496,232	$ 2,500	$ 145,000	$ 203,444	4.0

Exh. No. ISO- 10, Page 357 of 442

	A	B	C	D	E	F	G	H
1	**California Independent System Operator 2004 GMC Cost Allocation**							
2	2004 Budget Amount By Cost Center							
3	CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
73	1831	Strategic Development	$737,340	$ 558,240	$ -	$ 155,500	$ 23,600	3.0
74	1841	Human Resources	$4,624,949	$ 1,833,824	$ 50,000	$ 510,000	$ 2,231,125	13.0
75	1851	Project Office	$696,828	$ 627,028	$ 45,000	$ 11,000	$ 13,800	4.0
76	1861	Regulatory Policy	$951,804	$ 633,504	$ -	$ 270,000	$ 48,300	4.0
77	2111	Other	$0	$ -	$ -	$ -	$ -	-
78			$ 151,735,058	$ 79,435,257	$ 3,221,756	$ 6,548,694	$ 62,529,351	599.5

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator** **2004 GMC Cost Allocation**								
2	Direct Personnel Assignments by Cost Center for Divisions 1500, 1600, 1700								
3	**CC #**	**Cost Center**	**Total**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4									
5	1521	Grid Planning	100%	63%	38%	0%	0%	0%	0%
6	1542	Outage Coordination	100%	100%	0%	0%	0%	0%	0%
7	1543	Loads and Resources	100%	57%	43%	0%	0%	0%	0%
8	1544	Real-time Scheduling	100%	60%	40%	0%	0%	0%	0%
9	1545	Grid Operations	100%	68%	32%	0%	0%	0%	0%
10	1546	Reliability Coordinators	100%	100%	0%	0%	0%	0%	0%
11	1547	Engineering and Maintenance - General	100%	67%	33%	0%	0%	0%	0%
12	1548	OSAT General	100%	100%	0%	0%	0%	0%	0%
13	1549	Operations Training	100%	61%	39%	0%	0%	0%	0%
14	1554	Special Projects Engineering	100%	50%	50%	0%	0%	0%	0%
15	1555	Operations Support	100%	56%	44%	0%	0%	0%	0%
16	1558	Transmission Maintenance	100%	67%	33%	0%	0%	0%	0%
17	1559	Operations Applications Support	100%	60%	40%	0%	0%	0%	0%
18	1561	Operations Engineering South	100%	67%	33%	0%	0%	0%	0%
19	1562	Operations Engineering North	100%	56%	44%	0%	0%	0%	0%
20	1563	Operations Coordination	100%	80%	20%	0%	0%	0%	0%
21	1564	Scheduling Department Director	100%	100%	0%	0%	0%	0%	0%
22	1565	Scheduling Support	100%	77%	23%	0%	0%	0%	0%
23	1566	Regional Coordination	100%	100%	0%	0%	0%	0%	0%
24	1641	Market Analysis	100%	20%	22%	0%	16%	33%	9%
25	1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%
26	1661	Compliance - General	100%	24%	22%	14%	0%	25%	15%
27	1662	Compliance - Audits	100%	8%	0%	0%	0%	50%	42%
28	1721	Billing & Settlements	100%	25%	0%	0%	0%	0%	75%
29	1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%
30	1723	RMR Settlements	100%	100%	0%	0%	0%	0%	0%
31	1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%
32	1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%
33	1731	Contracts & Special Projects	100%	50%	0%	0%	0%	0%	50%
34	1741	Client Relations	100%	0%	0%	0%	0%	0%	100%
35	1751	Market Operations - General	100%	40%	0%	20%	20%	15%	5%
36	1752	Manager, Markets	100%	31%	6%	31%	25%	6%	0%
37	1753	Market Engineering	100%	30%	0%	0%	40%	20%	10%

Exh. No. ISO- 10, Page 359 of 442

	A	B	C	D	E	F	G	H	I
38	1755	Business Solutions	100%	7%	0%	57%	14%	14%	7%
39	1756	Market Quality	100%	0%	0%	0%	0%	72%	28%
40	1757	Market Integration	100%	8%	0%	33%	33%	17%	8%
41									
42									
43	**California Independent System Operator**								
44	Dollar Allocation of Salaries by Cost Center for Divisions 1500, 1600, 1700								
45	**CC#**	**Cost Center**	**Budget (Salaries and other expenses)**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
46									
47	1521	Grid Planning	$ 2,497,543	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -
48	1542	Outage Coordination	$ 1,816,711	$ 1,816,711	$ -	$ -	$ -	$ -	$ -
49	1543	Loads and Resources	$ 1,015,612	$ 580,350	$ 435,262	$ -	$ -	$ -	$ -
50	1544	Real-time Scheduling	$ 2,786,442	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -
51	1545	Grid Operations	$ 7,486,586	$ 5,090,879	$ 2,395,708	$ -	$ -	$ -	$ -
52	1546	Reliability Coordinators	$ 1,368,574	$ 1,368,574	$ -	$ -	$ -	$ -	$ -
53	1547	Engineering and Maintenance - General	$ 401,104	$ 267,403	$ 133,701	$ -	$ -	$ -	$ -
54	1548	OSAT General	$ 273,953	$ 273,953	$ -	$ -	$ -	$ -	$ -
55	1549	Operations Training	$ 2,381,100	$ 1,455,116	$ 925,983	$ -	$ -	$ -	$ -
56	1554	Special Projects Engineering	$ 732,058	$ 366,029	$ 366,029	$ -	$ -	$ -	$ -
57	1555	Operations Support	$ 1,111,667	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -
58	1558	Transmission Maintenance	$ 1,423,755	$ 949,170	$ 474,585	$ -	$ -	$ -	$ -
59	1559	Operations Applications Support	$ 584,623	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -
60	1561	Operations Engineering South	$ 1,216,824	$ 811,216	$ 405,608	$ -	$ -	$ -	$ -
61	1562	Operations Engineering North	$ 1,345,194	$ 747,330	$ 597,864	$ -	$ -	$ -	$ -
62	1563	Operations Coordination	$ 656,967	$ 525,574	$ 131,393	$ -	$ -	$ -	$ -
63	1564	Scheduling Department Director	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -
64	1565	Scheduling Support	$ 1,834,525	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -
65	1566	Regional Coordination	$ 547,417	$ 547,417	$ -	$ -	$ -	$ -	$ -
66	1641	Market Analysis	$ 2,224,163	$ 451,783	$ 486,536	$ -	$ 347,525	$ 729,803	$ 208,515
67	1642	Market Surveillance Committee	$ 3,000	$ 750	$ 750	$ -	$ 750	$ 750	$ -
68	1661	Compliance - General	$ 1,320,093	$ 316,822	$ 290,420	$ 184,813	$ -	$ 330,023	$ 198,014
69	1662	Compliance - Audits	$ 434,112	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880
70	1721	Billing & Settlements	$ 450,755	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066
71	1722	Business Development Support	$ 611,291	$ -	$ -	$ -	$ -	$ -	$ 611,291
72	1723	RMR Settlements	$ 796,597	$ 796,597	$ -	$ -	$ -	$ -	$ -
73	1724	BBS Settlements - Preliminary Settlements	$ 1,101,452	$ -	$ -	$ -	$ -	$ -	$ 1,101,452
74	1725	BBS Settlements - Final Settlements	$ 1,015,522	$ -	$ -	$ -	$ -	$ -	$ 1,015,522
75	1731	Contracts & Special Projects	$ 1,317,168	$ 658,584	$ -	$ -	$ -	$ -	$ 658,584
76	1741	Client Relations	$ 2,258,171	$ -	$ -	$ -	$ -	$ -	$ 2,258,171
77	1751	Market Operations - General	$ 750,802	$ 300,321	$ -	$ 150,160	$ 150,160	$ 112,620	$ 37,540
78	1752	Manager, Markets	$ 2,423,203	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 151,450	$ -

Exh. No. ISO- 10, Page 360 of 442

	A	B	C	D	E	F	G	H	I
79	1753	Market Engineering	$ 1,389,753	$ 416,926	$ -	$ -	$ 555,901	$ 277,951	$ 138,975
80	1755	Business Solutions	$ 972,204	$ 69,443	$ -	$ 555,545	$ 138,886	$ 138,886	$ 69,443
81	1756	Market Quality	$ 2,064,838	$ -	$ -	$ -	$ -	$ 1,491,272	$ 573,566
82	1757	Market Integration	$ 884,476	$ 73,706	$ -	$ 294,825	$ 294,825	$ 147,413	$ 73,706
83									
84		**Total Direct Personnel**	$ 49,793,285	$ 24,698,168	$ 9,997,721	$ 1,942,595	$ 2,093,850	$ 3,597,225	$ 7,463,726

Exh. No. ISO- 10, Page 361 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator 2004 GMC Cost Allocation**								
2	Direct Assignments of Temporary/Contract Staff or Consultants by Cost Center for Divisions 1500, 1600, 1700								
3	**CC #**	**Cost Center**	**Total**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4									
5	1521	Grid Planning	100%	0%	100%	0%	0%	0%	0%
6	1542	Outage Coordination	100%	0%	100%	0%	0%	0%	0%
7	1543	Loads and Resources	100%	0%	100%	0%	0%	0%	0%
8	1544	Real-time Scheduling	100%	0%	100%	0%	0%	0%	0%
9	1545	Grid Operations	100%	0%	100%	0%	0%	0%	0%
10	1546	Reliability Coordinators	100%	0%	100%	0%	0%	0%	0%
11	1547	Engineering and Maintenance - General	100%	0%	100%	0%	0%	0%	0%
12	1548	OSAT General	100%	0%	100%	0%	0%	0%	0%
13	1549	Operations Training	100%	0%	100%	0%	0%	0%	0%
14	1554	Special Projects Engineering	100%	0%	100%	0%	0%	0%	0%
15	1555	Operations Support	100%	0%	100%	0%	0%	0%	0%
16	1558	Transmission Maintenance	100%	0%	100%	0%	0%	0%	0%
17	1559	Operations Applications Support	100%	0%	100%	0%	0%	0%	0%
18	1561	Operations Engineering South	100%	0%	100%	0%	0%	0%	0%
19	1562	Operations Engineering North	100%	0%	100%	0%	0%	0%	0%
20	1563	Operations Coordination	100%	0%	100%	0%	0%	0%	0%
21	1564	Scheduling Department Director	100%	0%	100%	0%	0%	0%	0%
22	1565	Scheduling Support	100%	0%	100%	0%	0%	0%	0%
23	1566	Regional Coordination	100%	0%	100%	0%	0%	0%	0%
24	1641	Market Analysis	100%	0%	40%	0%	33%	27%	0%
25	1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%
26	1661	Compliance - General	100%	15%	15%	5%	0%	40%	25%
27	1662	Compliance - Audits	100%	15%	15%	5%	0%	40%	25%
28	1721	Billing & Settlements	100%	25%	0%	0%	0%	0%	75%
29	1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%
30	1723	RMR Settlements	100%	0%	100%	0%	0%	0%	0%
31	1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%
32	1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%
33	1731	Contracts & Special Projects	100%	0%	50%	0%	0%	0%	50%
34	1741	Client Relations	100%	0%	0%	0%	0%	0%	100%

	A	B	C	D	E	F	G	H	I
35	1751	Market Operations - General	100%	0%	0%	0%	0%	100%	0%
36	1752	Manager, Markets	100%	0%	0%	0%	0%	100%	0%
37	1753	Market Engineering	100%	0%	0%	0%	0%	100%	0%
38	1755	Business Solutions	100%	0%	0%	0%	0%	100%	0%
39	1756	Market Quality	100%	0%	0%	0%	0%	0%	100%
40	1757	Market Integration	100%	0%	0%	0%	0%	100%	0%
41									
42									
43	**California Independent System Operator**								
44	Dollar Allocation of Temporary/Contract Staff and Consultant Expenditures by Cost Center for Divisions 1500, 1600, 1700								
45	**CC#**	**Cost Center**	**Budget (Contract Staff and Consultants)**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
46									
47	1521	Grid Planning	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48	1542	Outage Coordination	$ 93,500	$ -	$ 93,500	$ -	$ -	$ -	$ -
49	1543	Loads and Resources	$ 170,000	$ -	$ 170,000	$ -	$ -	$ -	$ -
50	1544	Real-time Scheduling	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51	1545	Grid Operations	$ 59,200	$ -	$ 59,200	$ -	$ -	$ -	$ -
52	1546	Reliability Coordinators	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53	1547	Engineering and Maintenance - General	$ 175,000	$ -	$ 175,000	$ -	$ -	$ -	$ -
54	1548	OSAT General	$ 20,000	$ -	$ 20,000	$ -	$ -	$ -	$ -
55	1549	Operations Training	$ 501,600	$ -	$ 501,600	$ -	$ -	$ -	$ -
56	1554	Special Projects Engineering	$ 121,900	$ -	$ 121,900	$ -	$ -	$ -	$ -
57	1555	Operations Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58	1558	Transmission Maintenance	$ 200,000	$ -	$ 200,000	$ -	$ -	$ -	$ -
59	1559	Operations Applications Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60	1561	Operations Engineering South	$ 25,000	$ -	$ 25,000	$ -	$ -	$ -	$ -
61	1562	Operations Engineering North	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -
62	1563	Operations Coordination	$ 48,000	$ -	$ 48,000	$ -	$ -	$ -	$ -
63	1564	Scheduling Department Director	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	1565	Scheduling Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65	1566	Regional Coordination	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66	1641	Market Analysis	$ 724,800	$ -	$ 289,920	$ -	$ 239,184	$ 195,696	$ -
67	1642	Market Surveillance Committee	$ 558,750	$ 139,688	$ 139,688	$ -	$ 139,688	$ 139,688	$ -
68	1661	Compliance - General	$ 402,000	$ 60,300	$ 60,300	$ 20,100	$ -	$ 160,800	$ 100,500
69	1662	Compliance - Audits	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70	1721	Billing & Settlements	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71	1722	Business Development Support	$ 89,360	$ -	$ -	$ -	$ -	$ -	$ 89,360

Exh. No. ISO- 10, Page 363 of 442

	A	B	C	D	E	F	G	H	I
72	1723	RMR Settlements	$ 195,428	$ -	$ 195,428	$ -	$ -	$ -	$ -
73	1724	BBS Settlements - Preliminary Settlements	$ 178,720	$ -	$ -	$ -	$ -	$ -	$ 178,720
74	1725	BBS Settlements - Final Settlements	$ 267,524	$ -	$ -	$ -	$ -	$ -	$ 267,524
75	1731	Contracts & Special Projects	$ 208,508	$ -	$ 104,254	$ -	$ -	$ -	$ 104,254
76	1741	Client Relations	$ 108,500	$ -	$ -	$ -	$ -	$ -	$ 108,500
77	1751	Market Operations - General	$ 228,721	$ -	$ -	$ -	$ -	$ 228,721	$ -
78	1752	Manager, Markets	$ 350,000	$ -	$ -	$ -	$ -	$ 350,000	$ -
79	1753	Market Engineering	$ 565,856	$ -	$ -	$ -	$ -	$ 565,856	$ -
80	1755	Business Solutions	$ 203,056	$ -	$ -	$ -	$ -	$ 203,056	$ -
81	1756	Market Quality	$ 37,657	$ -	$ -	$ -	$ -	$ -	$ 37,657
82	1757	Market Integration	$ 114,256	$ -	$ -	$ -	$ -	$ 114,256	$ -
83									
84		**Total Direct Contracts**	$ 5,657,336	$ 199,988	$ 2,213,790	$ 20,100	$ 378,872	$ 1,958,073	$ 886,515

Exh. No. ISO- 10, Page 364 of 442

	A	B	C	D	E	F	G	H	I
1	**California Independent System Operator** **2004 GMC Cost Allocation**								
2	Functionalization by Cost Center for IS Division								
3	**CC #**	**Cost Center**		**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4									
5	1424	Asset Management		35%	6%	12%	5%	10%	31%
6	1431	End User Support		37%	14%	10%	4%	9%	26%
7	1433	Network Services		42%	12%	11%	3%	9%	23%
8	1441	Outsourced Contracts		41%	11%	12%	3%	9%	25%
9	1442	Production Support Services		23%	0%	22%	3%	7%	45%
10	1451	Infrastructure Services		23%	0%	22%	3%	7%	45%
11	1461	Control Systems		96%	2%	0%	0%	1%	1%
12	1462	Field Data Acquisition System (FDAS)		21%	0%	0%	0%	0%	79%
13	1466	Enterprise Applications		48%	7%	1%	1%	3%	39%
14	1467	Settlement Systems Services		9%	0%	0%	0%	0%	91%
15	1468	Corporate Application Support and Administration		44%	21%	4%	4%	10%	17%
16	1469	Analytical and Reporting Applications		24%	18%	6%	9%	24%	18%
17	1471	IT Planning		23%	0%	22%	3%	7%	45%
18	1481	Markets and Scheduling System		45%	3%	27%	3%	17%	6%
19	1482	Market Systems Support Services		44%	1%	20%	6%	23%	5%
20									
21									
22	**California Independent System Operator**								
23	Dollar Allocation of IS Expenditures by Cost Center for IS Division								
24	**CC#**	**Cost Center**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
25									
26	1424	Asset Management	$ 20,455,331	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185
27	1431	End User Support	$ 6,662,499	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955
28	1433	Network Services	$ 1,621,981	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426
29	1441	Outsourced Contracts	$ 10,669,871	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497
30	1442	Production Support Services	$ 2,642,634	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368
31	1451	Infrastructure Services	$ 1,696,047	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980
32	1461	Control Systems	$ 2,385,558	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253
33	1462	Field Data Acquisition System (FDAS)	$ 2,547,393	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523

Exh. No. ISO- 10, Page 365 of 442

	A	B	C	D	E	F	G	H	I
34	1466	Enterprise Applications	$ 1,609,967	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331
35	1467	Settlement Systems Services	$ 1,170,354	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958
36	1468	Corporate Application Support and Administration	$ 609,686	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517
37	1469	Analytical and Reporting Applications	$ 1,298,406	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334
38	1471	IT Planning	$ 950,115	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977
39	1481	Markets and Scheduling System	$ 1,516,144	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059
40	1482	Market Systems Support Services	$ 616,978	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368
41									
42		Totals	$ 56,452,963	$ 21,163,268	$ 4,178,273	$ 6,469,941	$ 1,924,829	$ 4,975,920	$ 17,740,733
43									

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Total Direct Dollar Allocations of Expenditures by Cost Center for Divisions 1400, 1500, 1600, 1700									
3	**CC#**	**Cost Center**	**FTE**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
5	1424	Asset Management	8	$ 20,455,331	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185
6	1431	End User Support	4	$ 6,662,499	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955
7	1433	Network Services	11	$ 1,621,981	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426
8	1441	Outsourced Contracts	2	$ 10,669,871	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497
9	1442	Production Support Services	17	$ 2,642,634	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368
10	1451	Infrastructure Services	9	$ 1,696,047	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980
11	1461	Control Systems	19	$ 2,385,558	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253
12	1462	Field Data Acquisition System (FDAS)	15	$ 2,547,393	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523
13	1466	Enterprise Applications	10	$ 1,609,967	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331
14	1467	Settlement Systems Services	9	$ 1,170,354	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958
15	1468	Corporate Application Support and Administration	4	$ 609,686	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517
16	1469	Analytical and Reporting Applications	9	$ 1,298,406	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334
17	1471	IT Planning	5	$ 950,115	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977
18	1481	Markets and Scheduling System	9	$ 1,516,144	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059
19	1482	Market Systems Support Services	4	$ 616,978	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368
20	1521	Grid Planning	16	$ 2,497,543	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -
21	1542	Outage Coordination	12	$ 1,910,211	$ 1,816,711	$ 93,500	$ -	$ -	$ -	$ -
22	1543	Loads and Resources	7	$ 1,185,612	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -
23	1544	Real-time Scheduling	20	$ 2,786,442	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -
24	1545	Grid Operations	50	$ 7,545,786	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -
25	1546	Reliability Coordinators	8	$ 1,368,574	$ 1,368,574	$ -	$ -	$ -	$ -	$ -
26	1547	Engineering and Maintenance - General	3	$ 576,104	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -
27	1548	OSAT General	2	$ 293,953	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -
28	1549	Operations Training	18	$ 2,882,700	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -
29	1554	Special Projects Engineering	4	$ 853,958	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -
30	1555	Operations Support	9	$ 1,111,667	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -
31	1558	Transmission Maintenance	9	$ 1,623,755	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -
32	1559	Operations Applications Support	5	$ 584,623	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -
33	1561	Operations Engineering South	7.5	$ 1,241,824	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -
34	1562	Operations Engineering North	9	$ 1,355,194	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -
35	1563	Operations Coordination	4	$ 704,967	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -
36	1564	Scheduling Department Director	2	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -
37	1565	Scheduling Support	13	$ 1,834,525	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Total Direct Dollar Allocations of Expenditures by Cost Center for Divisions 1400, 1500, 1600, 1700									
3	**CC#**	**Cost Center**	**FTE**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
38	1566	Regional Coordination	3	$ 547,417	$ 547,417	$ -	$ -	$ -	$ -	$ -
39	1641	Market Analysis	16	$ 2,948,963	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515
40	1642	Market Surveliance Committee	0	$ 561,750	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -
41	1661	Compliance - General	10	$ 1,722,093	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514
42	1662	Compliance - Audits	3	$ 434,112	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880
43	1721	Billing & Settlements	3	$ 450,755	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066
44	1722	Business Development Support	5	$ 700,651	$ -	$ -	$ -	$ -	$ -	$ 700,651
45	1723	RMR Settlements	7	$ 992,025	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -
46	1724	BBS Settlements - Preliminary Settlements	9	$ 1,280,172	$ -	$ -	$ -	$ -	$ -	$ 1,280,172
47	1725	BBS Settlements - Final Settlements	9	$ 1,283,046	$ -	$ -	$ -	$ -	$ -	$ 1,283,046
48	1731	Contracts & Special Projects	9	$ 1,525,676	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838
49	1741	Client Relations	17	$ 2,366,671	$ -	$ -	$ -	$ -	$ -	$ 2,366,671
50	1751	Market Operations - General	3	$ 979,523	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540
51	1752	Manager, Markets	17	$ 2,773,203	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -
52	1753	Market Engineering	10	$ 1,955,609	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975
53	1755	Business Solutions	7	$ 1,175,260	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443
54	1756	Market Quality	18	$ 2,102,495	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223
55	1757	Market Integration	6	$ 998,732	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706
56										
57			485.5	$ 111,903,584	$ 46,061,424	$ 16,389,784	$ 8,432,636	$ 4,397,550	$ 10,531,217	$ 26,090,974

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Total Direct Allocations of Expenditures by Cost Center for Divisions 1400, 1500, 1600, 1700									
3	**CC#**	**Cost Center**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4										
5	1424	Asset Management	100%	35%	6%	12%	5%	10%	31%	100%
6	1431	End User Support	100%	37%	14%	10%	4%	9%	26%	100%
7	1433	Network Services	100%	42%	12%	11%	3%	9%	23%	100%
8	1441	Outsourced Contracts	100%	41%	11%	12%	3%	9%	25%	100%
9	1442	Production Support Services	100%	23%	0%	22%	3%	7%	45%	100%
10	1451	Infrastructure Services	100%	23%	0%	22%	3%	7%	45%	100%
11	1461	Control Systems	100%	96%	2%	0%	0%	1%	1%	100%
12	1462	Field Data Acquisition System (FDAS)	100%	21%	0%	0%	0%	0%	79%	100%
13	1466	Enterprise Applications	100%	48%	7%	1%	1%	3%	39%	100%
14	1467	Settlement Systems Services	100%	9%	0%	0%	0%	0%	91%	100%
15	1468	Corporate Application Support and Administration	100%	44%	21%	4%	4%	10%	17%	100%
16	1469	Analytical and Reporting Applications	100%	24%	18%	6%	9%	24%	18%	100%
17	1471	IT Planning	100%	23%	0%	22%	3%	7%	45%	100%
18	1481	Markets and Scheduling System	100%	45%	3%	27%	3%	17%	6%	100%
19	1482	Market Systems Support Services	100%	44%	1%	20%	6%	23%	5%	100%
20	1521	Grid Planning	100%	63%	38%	0%	0%	0%	0%	100%
21	1542	Outage Coordination	100%	95%	5%	0%	0%	0%	0%	100%
22	1543	Loads and Resources	100%	49%	51%	0%	0%	0%	0%	100%
23	1544	Real-time Scheduling	100%	60%	40%	0%	0%	0%	0%	100%
24	1545	Grid Operations	100%	67%	33%	0%	0%	0%	0%	100%
25	1546	Reliability Coordinators	100%	100%	0%	0%	0%	0%	0%	100%
26	1547	Engineering and Maintenance - General	100%	46%	54%	0%	0%	0%	0%	100%
27	1548	OSAT General	100%	93%	7%	0%	0%	0%	0%	100%
28	1549	Operations Training	100%	50%	50%	0%	0%	0%	0%	100%
29	1554	Special Projects Engineering	100%	43%	57%	0%	0%	0%	0%	100%
30	1555	Operations Support	100%	56%	44%	0%	0%	0%	0%	100%
31	1558	Transmission Maintenance	100%	58%	42%	0%	0%	0%	0%	100%
32	1559	Operations Applications Support	100%	60%	40%	0%	0%	0%	0%	100%
33	1561	Operations Engineering South	100%	65%	35%	0%	0%	0%	0%	100%
34	1562	Operations Engineering North	100%	55%	45%	0%	0%	0%	0%	100%
35	1563	Operations Coordination	100%	75%	25%	0%	0%	0%	0%	100%
36	1564	Scheduling Department Director	100%	100%	0%	0%	0%	0%	0%	100%
37	1565	Scheduling Support	100%	77%	23%	0%	0%	0%	0%	100%
38	1566	Regional Coordination	100%	100%	0%	0%	0%	0%	0%	100%
39	1641	Market Analysis	100%	15%	26%	0%	20%	31%	7%	100%

Exh. No. ISO- 10, Page 369 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Total Direct Allocations of Expenditures by Cost Center for Divisions 1400, 1500, 1600, 1700									
3	**CC#**	**Cost Center**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4										
40	1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%	100%
41	1661	Compliance - General	100%	22%	20%	12%	0%	29%	17%	100%
42	1662	Compliance - Audits	100%	8%	0%	0%	0%	50%	42%	100%
43	1721	Billing & Settlements	100%	25%	0%	0%	0%	0%	75%	100%
44	1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%	100%
45	1723	RMR Settlements	100%	80%	20%	0%	0%	0%	0%	100%
46	1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%	100%
47	1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%	100%
48	1731	Contracts & Special Projects	100%	43%	7%	0%	0%	0%	50%	100%
49	1741	Client Relations	100%	0%	0%	0%	0%	0%	100%	100%
50	1751	Market Operations - General	100%	31%	0%	15%	15%	35%	4%	100%
51	1752	Manager, Markets	100%	27%	5%	27%	22%	18%	0%	100%
52	1753	Market Engineering	100%	21%	0%	0%	28%	43%	7%	100%
53	1755	Business Solutions	100%	6%	0%	47%	12%	29%	6%	100%
54	1756	Market Quality	100%	0%	0%	0%	0%	71%	29%	100%
55	1757	Market Integration	100%	7%	0%	30%	30%	26%	7%	100%

Exh. No. ISO- 10, Page 370 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Calculation of FTE Allocator									
3	**CC #**	**Cost Center**	**Method**	**FTE**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
5	1111	CEO - General	OH	2.0	0.84	0.44	0.08	0.10	0.22	0.32
6	1241	MD02	DS	7.0	0.49	-	0.97	0.76	1.99	2.79
7	1311	CFO - General	SCC	Not used						
8	1321	Accounting	OH	9.5	4.01	2.11	0.37	0.45	1.03	1.53
9	1331	Financial Planning and Treasury	OH	6.5	2.74	1.44	0.25	0.31	0.70	1.05
10	1351	Facilities	FTE	Not used						
11	1361	Security & Corporate Services	FTE	Not used						
12	1411	Chief Information Officer	SCC	Not used						
13	1422	Corporate & Enterprise Applications	SCC	Not used						
14	1424	Asset Management	DS	Not used						
15	1431	End User Support	FTE/DS	Not used						
16	1432	Computer Operations and Infrastructure	SCC	Not used						
17	1433	Network Services	DS	Not used						
18	1441	Outsourced Contracts	DS	Not used						
19	1442	Production Support	SD	Not used						
20	1451	Infrastructure Services	DS	Not used						
21	1461	Control Systems	DS	Not used						
22	1462	Field Data Acquisition System (FDAS)	DS	Not used						
23	1463	Operations Systems Services	SCC	Not used						
24	1466	Enterprise Applications	CD	Not used						
25	1467	Settlement Systems Services	DS	Not used						
26	1468	Corporate Application Support and Administration	FTE	Not used						
27	1469	Analytical and Reporting Applications	DD	Not used						
28	1471	IT Planning	DS	Not used						
29	1481	Markets and Scheduling System	DS	Not used						
30	1482	Market Systems Support Services	DS	Not used						
31	1511	VP Grid Operations	SCC	1.5	0.97	0.53	-	-	-	-
32	1521	Grid Planning	DA	16.0	10.00	6.00	-	-	-	-
33	1542	Outage Coordination	DA	12.0	-	12.00	-	-	-	-
34	1543	Loads and Resources	DA	7.0	3.43	3.57	-	-	-	-
35	1544	Real-Time Scheduling	DA	20.0	12.00	8.00	-	-	-	-
36	1545	Grid Operations	DA	50.0	33.73	16.27	-	-	-	-
37	1546	Security Coordination	DA	8.0	8.00	-	-	-	-	-

Exh. No. ISO- 10, Page 371 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Calculation of FTE Allocator									
3	**CC #**	**Cost Center**	**Method**	**FTE**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
38	1547	Engineering and Maintenance	DA	3.0	1.39	1.61	-	-	-	-
39	1548	OSAT Group - General	DA	2.0	1.86	0.14	-	-	-	-
40	1549	Operations Training	DA	18.0	9.09	8.91	-	-	-	-
41	1554	Special Projects Engineering	DA	4.0	1.71	2.29	-	-	-	-
42	1555	Operations Support Group	DA	9.0	5.00	4.00	-	-	-	-
43	1558	Transmission Maintenance	DA	9.0	5.26	3.74	-	-	-	-
44	1559	Operations Application Support	DA	5.0	3.00	2.00	-	-	-	-
45	1561	Operations Engineering South	DA	7.5	4.90	2.60	-	-	-	-
46	1562	Operations Engineering North	DA	9.0	4.96	4.04	-	-	-	-
47	1563	Operations Coordination	DA	4.0	2.98	1.02	-	-	-	-
48	1564	Operations Scheduling	DA	2.0	2.00	-	-	-	-	-
49	1565	Pre-Scheduling and Support	DA	13.0	10.00	3.00	-	-	-	-
50	1566	Regional Coordination - General	DA	3.0	3.00	-	-	-	-	-
51	1611	VP General Counsel - General	SCC	2.0	0.69	0.45	0.08	0.15	0.34	0.30
52	1631	Legal and Regulatory	OH	22.0	9.28	4.89	0.86	1.05	2.38	3.55
53	1641	Market Analysis	DA	16.0	2.45	4.21	-	3.18	5.02	1.13
54	1642	Market Surveillance Committee	DA	Not used						
55	1651	Board of Governors	OH	Not used						
56	1661	Compliance - General	DA	10.0	2.19	2.04	1.19	-	2.85	1.73
57	1662	Compliance - Audits	DA	3.0	0.25	-	-	-	1.50	1.25
58	1711	VP Market Services - General	SCC	2.0	0.34	0.05	0.19	0.19	0.41	0.82
59	1721	Billing and Settlements-General	DA	3.0	0.75	-	-	-	-	2.25
60	1722	Business Development Support	DA	5.0	-	-	-	-	-	5.00
61	1723	RMR Settlements	DA	7.0	5.62	1.38	-	-	-	-
62	1724	BBS - PSS	DA	9.0	-	-	-	-	-	9.00
63	1725	BBS - FSS	DA	9.0	-	-	-	-	-	9.00
64	1731	Contracts and Special Projects	DA	9.0	3.89	0.61	-	-	-	4.50
65	1741	Client Relations	DA	17.0	-	-	-	-	-	17.00
66	1751	Market Operations - General	DA	3.0	0.92	-	0.46	0.46	1.05	0.11
67	1752	Manager of Markets	DA	17.0	4.64	0.93	4.64	3.71	3.07	-
68	1753	Market Engineering	DA	10.0	2.13	-	-	2.84	4.31	0.71
69	1755	Business Solutions	DA	7.0	0.41	-	3.31	0.83	2.04	0.41
70	1756	Market Quality - General	DA	18.0	-	-	-	-	12.77	5.23

Exh. No. ISO- 10, Page 372 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Calculation of FTE Allocator									
3	**CC #**	**Cost Center**	**Method**	**FTE**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
71	1757	Market Integration	DA	6.0	0.44	-	1.77	1.77	1.57	0.44
72	1811	VP Corporate and Strategic Development - General	SCC	Not used						
73	1821	Communications	OH	4.0	1.69	0.89	0.16	0.19	0.43	0.65
74	1831	Strategic Development	OH	3.0	1.26	0.67	0.12	0.14	0.32	0.48
75	1841	Human Resources	FTE	Not used						
76	1851	Project Office	OH	4.0	1.69	0.89	0.16	0.19	0.43	0.65
77	1861	Regulatory Policy	OH	4.0	1.69	0.89	0.16	0.19	0.43	0.65
78	2111	Other	PS	-						
79										
80		Totals		418.0	171.7	101.6	14.8	16.5	42.9	70.6
81				100%	41.08%	24.31%	3.53%	3.95%	10.25%	16.88%

Exh. No. ISO- 10, Page 373 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator** **2004 GMC Cost Allocation**									
2	Calculation of Overhead Allocator									
3	**CC #**	**Cost Center**		**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
5	1111	CEO - General	OH	Not used						
6	1241	MD02	DS	$ 1,284,788	$ 89,351	$ -	$ 178,118	$ 140,159	$ 364,559	$ 512,601
7	1311	CFO - General	SCC	Not used						
8	1321	Accounting	OH	Not used						
9	1331	Financial Planning and Treasury	OH	Not used						
10	1351	Facilities	FTE	Not used						
11	1361	Security & Corporate Services	FTE	Not used						
12	1411	Chief Information Officer	SCC	Not used						
13	1422	Corporate & Enterprise Applications	SCC	Not used						
14	1424	Asset Management	DS	Not used						
15	1431	End User Support	FTE/I	Not used						
16	1432	Computer Operations and Infrastructure	SCC	Not used						
17	1433	Network Services	DS	Not used						
18	1441	Outsourced Contracts	DS	Not used						
19	1442	Production Support	SD	Not used						
20	1451	Infrastructure Services	SD	Not used						
21	1461	Control Systems	DS	Not used						
22	1462	Field Data Acquisition System (FDAS)	DS	Not used						
23	1463	Operations Systems Services	SCC	Not used						
24	1466	Enterprise Applications	CD	Not used						
25	1467	Settlement Systems Services	DS	Not used						
26	1468	Corporate Application Support and Administration	FTE	Not used						
27	1469	Analytical and Reporting Applications	DD	Not used						
28	1471	IT Planning	SD	Not used						
29	1481	Markets and Scheduling System	DS	Not used						
30	1482	Market Systems Support Services	DS	Not used						
31	1511	VP Grid Operations	SCC	$ (154,783)	$ (99,767)	$ (55,016)	$ -	$ -	$ -	$ -
32	1521	Grid Planning	DA	$ 2,497,543	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -
33	1542	Outage Coordination	DA	$ 93,500	$ -	$ 93,500	$ -	$ -	$ -	$ -
34	1543	Loads and Resources	DA	$ 1,185,612	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -
35	1544	Real-Time Scheduling	DA	$ 2,786,442	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -
36	1545	Grid Operations	DA	$ 7,545,786	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -
37	1546	Security Coordination	DA	$ 1,368,574	$ 1,368,574	$ -	$ -	$ -	$ -	$ -
38	1547	Engineering and Maintenance	DA	$ 576,104	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -
39	1548	OSAT Group - General	DA	$ 293,953	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -
40	1549	Operations Training	DA	$ 2,882,700	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -
41	1554	Special Projects Engineering	DA	$ 853,958	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -
42	1555	Operations Support Group	DA	$ 1,111,667	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -
43	1558	Transmission Maintenance	DA	$ 1,623,755	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -
44	1559	Operations Application Support	DA	$ 584,623	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -
45	1561	Operations Engineering South	DA	$ 1,241,824	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -
46	1562	Operations Engineering North	DA	$ 1,355,194	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -
47	1563	Operations Coordination	DA	$ 704,967	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -
48	1564	Operations Scheduling	DA	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -

Exh. No. ISO- 10, Page 374 of 442

	A	B	C	D	E	F	G	H	I	J
1	**California Independent System Operator 2004 GMC Cost Allocation**									
2	Calculation of Overhead Allocator									
3	**CC #**	**Cost Center**		**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
4										
49	1565	Pre-Scheduling and Support	DA	$ 1,834,525	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -
50	1566	Regional Coordination - General	DA	$ 547,417	$ 547,417	$ -	$ -	$ -	$ -	$ -
51	1611	VP General Counsel - General	SCC	Not used						
52	1631	Legal and Regulatory	OH	Not used						
53	1641	Market Analysis	DA	$ 2,948,963	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515
54	1642	Market Surveillance Committee	DA	$ 561,750	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -
55	1651	Board of Governors	OH	Not used						
56	1661	Compliance - General	DA	$ 1,722,093	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514
57	1662	Compliance - Audits	DA	$ 434,112	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880
58	1711	VP Market Services - General	SCC	$ (69,788)	$ (11,963)	$ (1,694)	$ (6,601)	$ (6,555)	$ (14,201)	$ (28,774)
59	1721	Billing and Settlements-General	DA	$ 450,755	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066
60	1722	Business Development Support	DA	$ 700,651	$ -	$ -	$ -	$ -	$ -	$ 700,651
61	1723	RMR Settlements	DA	$ 992,025	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -
62	1724	BBS - PSS	DA	$ 1,280,172	$ -	$ -	$ -	$ -	$ -	$ 1,280,172
63	1725	BBS - FSS	DA	$ 1,283,046	$ -	$ -	$ -	$ -	$ -	$ 1,283,046
64	1731	Contracts and Special Projects	DA	$ 1,525,676	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838
65	1741	Client Relations	DA	$ 2,366,671	$ -	$ -	$ -	$ -	$ -	$ 2,366,671
66	1751	Market Operations - General	DA	$ 979,523	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540
67	1752	Manager of Markets	DA	$ 2,773,203	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -
68	1753	Market Engineering	DA	$ 1,955,609	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975
69	1755	Business Solutions	DA	$ 1,175,260	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443
70	1756	Market Quality - General	DA	$ 2,102,495	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223
71	1757	Market Integration	DA	$ 998,732	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706
72	1811	VP Corporate and Strategic Development - Gene	SCC	Not used						
73	1821	Communications	OH	Not used						
74	1831	Strategic Development	OH	Not used						
75	1841	Human Resources	FTE	Not used						
76	1851	Project Office	OH	Not used						
77	1861	Regulatory Policy	OH	Not used						
78	2111	Other	PS	Not used						
79										
80		Totals		$ 54,694,128	$ 23,059,067	$ 12,154,801	$ 2,134,212	$ 2,606,325	$ 5,905,655	$ 8,834,068
81				100%	42%	22%	4%	5%	11%	16%

	A	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator** **2004 GMC Cost Allocation**								
2		DataWarehouse/Department Direct Allocators								
3				**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4		**Dept Directs**								
5		Compliance		$ 413,298	$ 350,720	$ 204,913	$ -	$ 707,879	$ 479,394	$ 2,156,205
6		Dept Market Analysis		$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515	$ 2,948,963
7		Market Operations		$ 1,617,647	$ 151,450	$ 1,757,782	$ 1,745,574	$ 2,290,209	$ 319,665	$ 7,882,327
8		Operations Engineering		$ 1,558,546	$ 1,038,472	$ -	$ -	$ -	$ -	$ 2,597,019
9		Legal		$ 5,150,539	$ 2,714,931	$ 476,704	$ 582,156	$ 1,319,104	$ 1,973,203	$ 12,216,636
10		Settlements		$ 909,286	$ 195,428	$ -	$ -	$ -	$ 3,601,935	$ 4,706,648
11										
12		Compliance		19.2%	16.3%	9.5%	0.0%	32.8%	22.2%	100.0%
13		Dept Market Analysis		15.3%	26.3%	0.0%	19.9%	31.4%	7.1%	100.0%
14		Market Operations		20.5%	1.9%	22.3%	22.1%	29.1%	4.1%	100.0%
15		Operations Engineering		60.0%	40.0%	0.0%	0.0%	0.0%	0.0%	100.0%
16		Legal		42.2%	22.2%	3.9%	4.8%	10.8%	16.2%	100.0%
17		Settlements		19.3%	4.2%	0.0%	0.0%	0.0%	76.5%	100.0%
18			Weights							
19		Compliance	50%	$ 206,649	$ 175,360	$ 102,457	$ -	$ 353,940	$ 239,697	$ 1,078,103
20		Dept Market Analysis	30%	$ 135,535	$ 232,937	$ -	$ 176,013	$ 277,650	$ 62,555	$ 884,689
21		Market Operations	5%	$ 80,882	$ 7,573	$ 87,889	$ 87,279	$ 114,510	$ 15,983	$ 394,116
22		Operations Engineering	5%	$ 77,927	$ 51,924	$ -	$ -	$ -	$ -	$ 129,851
23		Legal	5%	$ 257,527	$ 135,747	$ 23,835	$ 29,108	$ 65,955	$ 98,660	$ 610,832
24		Settlements	5%	$ 45,464	$ 9,771	$ -	$ -	$ -	$ 180,097	$ 235,332
25										
26			100%	$ 803,985	$ 613,311	$ 214,181	$ 292,399	$ 812,055	$ 596,992	$ 3,332,923
27		**Data Warehouse**		24%	18%	6%	9%	24%	18%	100%

Exh. No. ISO- 10, Page 376 of 442

	A	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator** **2004 GMC Cost Allocation**								
2		Summary of Allocators								
3		**Costs**	**Budget**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4										
5		Direct Labor Costs	$ 49,793,285	$ 24,698,168	$ 9,997,721	$ 1,942,595	$ 2,093,850	$ 3,597,225	$ 7,463,726	$ 49,793,285
6		Direct Contract Costs	$ 5,657,336	$ 199,988	$ 2,213,790	$ 20,100	$ 378,872	$ 1,958,073	$ 886,515	$ 5,657,336
7										
8										
9		Direct Operating Costs	$ 55,450,621	$ 24,898,156	$ 12,211,511	$ 1,962,695	$ 2,472,721	$ 5,555,297	$ 8,350,241	$ 55,450,621
10										
11		Ratios								
12		Direct Labor Costs	89.8%	44.5%	18.0%	3.5%	3.8%	6.5%	13.5%	89.8%
13		Direct Contract Costs	10.2%	0.4%	4.0%	0.0%	0.7%	3.5%	1.6%	10.2%
14										
15		Direct Operating Costs		44.9%	22.0%	3.5%	4.5%	10.0%	15.1%	100.0%
16										
17		Direct FTE Ratios (FTE)		41.1%	24.3%	3.5%	4.0%	10.3%	16.9%	100.0%
18										
19		Overhead Allocator (OH)		42.2%	22.2%	3.9%	4.8%	10.8%	16.2%	100.0%
20										
21		Operating Costs (OC)		40.2%	16.7%	6.8%	4.2%	10.0%	22.1%	100.0%
22										
23		MD 02 Capital Allocator		7.0%	0.0%	13.9%	10.9%	28.4%	39.9%	100.0%

	A	B	C	D	E	F	G	H	I	J
3	CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4	1111	Chief Executive Officer	OH	$ 378,277	$ 199,396	$ 35,011	$ 42,756	$ 96,880	$ 144,920	$ 897,241
5										
6	1241	MD02	DS	$ 89,351	$ -	$ 178,118	$ 140,159	$ 364,559	$ 512,601	$ 1,284,788
7										
8	1521	Grid Planning	DA	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -	$ 2,497,543
9										
10		Total (not including Officer)		$ 1,650,316	$ 936,579	$ 178,118	$ 140,159	$ 364,559	$ 512,601	$ 3,782,332
11		Ratio of total (not including Officer)		43.6%	24.8%	4.7%	3.7%	9.6%	13.6%	100%
12										
13										
14		Key to Method Acronyms								
15		Direct Assignment	DA							
16		Direct System	DS							
17		Supervised cost center (directors/officers)	SCC							
18		Allocated by personnel headcount	FTE							
19		Overhead	OH							
20		System Direct - Proportional to allocation of directly functionalized systems	SD							
21		expenditures on applications (software) or hardware	CD							
22		Department Direct - proportional to the cost assignments of departments utilizing applications	DD							
23		Proportional to Salaries	PS							
24										

Exh. No. ISO- 10, Page 378 of 442

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1311	Chief Financial Officer	SCC	$ 138,000	$ 77,847	$ 12,249	$ 14,268	$ 34,830	$ 55,077	$ 332,272
1321	Accounting	OH	$ 1,235,752	$ 651,385	$ 114,374	$ 139,675	$ 316,488	$ 473,424	$ 2,931,098
1331	Financial Planning	OH	$ 1,463,701	$ 771,540	$ 135,472	$ 165,439	$ 374,868	$ 560,753	$ 3,471,773
1351	Facilities	FTE	$ 2,520,498	$ 1,491,495	$ 216,590	$ 242,457	$ 629,157	$ 1,036,103	$ 6,136,300
1361	Security & Corporate Services	FTE	$ 1,092,912	$ 646,727	$ 93,916	$ 105,132	$ 272,809	$ 449,264	$ 2,660,758
	Total (not including Officer)		$ 6,312,863	$ 3,561,146	$ 560,351	$ 652,703	$ 1,593,322	$ 2,519,543	$ 15,199,929
	Ratio of total (not including Officer)		41.5%	23.4%	3.7%	4.3%	10.5%	16.6%	100.0%
	Total (including Officer)		$ 6,450,862	$ 3,638,993	$ 572,601	$ 666,971	$ 1,628,153	$ 2,574,621	$ 15,532,200
	Ratio of total (including Officer)		41.5%	23.4%	3.7%	4.3%	10.5%	16.6%	100.0%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS
Supervised cost center (directors/officers)	SCC
Allocated by personnel headcount	FTE
Overhead	OH
System Direct - Proportional to allocation of directly functionalized systems	SD
expenditures on applications (software) or hardware	CD
Department Direct - proportional to the cost assignments of departments utilizing applications	DD
Proportional to Salaries	PS

Exh. No. ISO- 10, Page 379 of 442

California Independent System Operator
2004 GMC Cost Allocation

Chief Information Officer Division

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1411	Chief Information Officer	SCC	$ (119,699)	$ (23,714)	$ (36,521)	$ (10,842)	$ (28,103)	$ (100,484)	$ (319,362)
1463	Operations Systems Services	SCC	$ 164,980	$ 4,562	$ 22,368	$ 3,207	$ 17,532	$ 134,846	$ 347,495
1461	Control Systems	DS	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253	$ 2,385,558
1462	Field Data Acquisition System (FDAS)	DS	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523	$ 2,547,393
1467	Settlement Systems Services	DS	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958	$ 1,170,354
1481	Markets and Scheduling System	DS	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059	$ 1,516,144
1482	Market Systems Support Services	DS	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368	$ 616,978
1422	Corporate & Enterprise Applications	SCC	$ 105,208	$ 37,607	$ 9,585	$ 12,313	$ 33,575	$ 74,114	$ 272,402
1466	Enterprise Applications	CD	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331	$ 1,609,967
1468	Corporate Application Support and Administration	FTE	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
1469	Analytical and Reporting Applications	DD	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
1432	Computer Operations and Infrastructure	SCC	$ 325,930	$ 90,375	$ 137,002	$ 30,594	$ 81,596	$ 316,759	$ 982,255
1431	End User Support	FTE/DS	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955	$ 6,662,499
1433	Network Services	DS	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426	$ 1,621,981
1442	Production Support	SD	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368	$ 2,642,634
1451	Information Security	SD	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980	$ 1,696,047
1424	Asset Management	DS	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185	$ 20,455,331
1441	Outsourced Contracts	DS	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497	$ 10,669,871
1471	IT Planning	SD	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977	$ 950,115
	Total (not including Officer)		$ 21,759,386	$ 4,310,817	$ 6,638,895	$ 1,970,943	$ 5,108,623	$ 18,266,452	$ 58,055,115
	Ratio of total (not including Officer)		37.5%	7.4%	11.4%	3.4%	8.8%	31.5%	100.0%
	Total (including Officer)		$ 21,639,687	$ 4,287,103	$ 6,602,375	$ 1,960,100	$ 5,080,520	$ 18,165,968	$ 57,735,753
	Ratio of total (including Officer)		37.5%	7.4%	11.4%	3.4%	8.8%	31.5%	100.0%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS
Supervised cost center (directors/officers)	SCC
Allocated by personnel headcount	FTE
Overhead	OH
System Direct - Proportional to allocation of directly functionalized systems	SD
Calculated Direct - Calculated as a function of expenditures on applications (software) or hardware	CD
Department Direct - proportional to the cost assignments of departments utilizing applications	DD
Proportional to Salaries	PS

Exh. No. ISO- 10, Page 380 of 442

	A	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator 2004 GMC Cost Allocation**								
2		**Vice President, Grid Operations Division**								
3	CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4	1511	Vice President, Grid Operations	SCC	$ (99,767)	$ (55,016)	$ -	$ -	$ -	$ -	$ (154,783)
5										
6	1564	Operations Scheduling	DA	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
7	1542	Outage Coordination	DA		$ 93,500	$ -	$ -	$ -	$ -	$ 93,500
8	1544	Real-Time Scheduling	DA	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
9	1565	Pre-Scheduling and Support	DA	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
10										
11	1547	Engineering and Maintenance	DA	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -	$ 576,104
12	1543	Loads and Resources	DA	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -	$ 1,185,612
13	1558	Transmission Maintenance	DA	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -	$ 1,623,755
14	1561	Operations Engineering South	DA	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -	$ 1,241,824
15	1562	Operations Engineering North	DA	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -	$ 1,355,194
16										
17	1548	OSAT Group - General	DA	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
18	1549	Operations Training	DA	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
19	1555	Operations Support Group	DA	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
20	1559	Operations Application Support	DA	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
21	1563	Coordinated Operations	DA	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
22										$ -
23	1566	Regional Coordination - General	DA	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
24	1546	Security Coordination	DA	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ 1,368,574
25	1554	Special Projects Engineering	DA	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -	$ 853,958
26										
27	1545	Grid Operations	DA	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
28										
29		Total (not including Officer)		$ 17,329,445	$ 9,556,186	$ -	$ -	$ -	$ -	$ 26,885,631
30		Ratio of total (not including Officer)		64.5%	35.5%	0.0%	0.0%	0.0%	0.0%	100.0%
31										
32		Total (including Officer)		$ 17,229,678	$ 9,501,171	$ -	$ -	$ -	$ -	$ 26,730,848
33		Ratio of total (including Officer)		64.5%	35.5%	0.0%	0.0%	0.0%	0.0%	100.0%
34										
35										
36		Key to Method Acronyms								
37		Direct Assignment	DA							
38		Direct System	DS							
39		Supervised cost center (directors/officers)	SCC							
40		Allocated by personnel headcount	FTE							
41		Overhead	OH							
42		System Direct - Proportional to allocation of directly functionalized systems	SD							
43		Calculated Direct - Calculated as a function of expenditures on applications (software) or hardware	CD							
44		Department Direct - proportional to the cost assignments of departments utilizing applications	DD							
45		Proportional to Salaries	PS							

Exh. No. ISO- 10, Page 381 of 412

	A	B	C	D	E	F	G	H	I	J
3	CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4	1611	General Counsel	SCC	$ 98,497	$ 63,536	$ 10,878	$ 20,796	$ 49,108	$ 42,502	$ 285,317
5										
6	1661	Compliance - General	DA	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514	$ 1,722,093
7	1662	Compliance - Audits	DA	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880	$ 434,112
8										
9	1631	Legal and Regulatory	OH	$ 5,150,539	$ 2,714,931	$ 476,704	$ 582,156	$ 1,319,104	$ 1,973,203	$ 12,216,636
10										
11	1641	Market Analysis	DA	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515	$ 2,948,963
12	1642	Market Surveillance Committee	DA	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
13										
14	1651	Board of Governors	OH	$ 97,558	$ 51,425	$ 9,029	$ 11,027	$ 24,986	$ 37,375	$ 231,400
15										
16		Total (not including Officer)		$ 6,253,616	$ 4,033,969	$ 690,646	$ 1,320,330	$ 3,117,906	$ 2,698,487	$ 18,114,954
17		Ratio of total (not including Officer)		34.5%	22.3%	3.8%	7.3%	17.2%	14.9%	100.0%
18										
19		Total (including Officer)		$ 6,352,113	$ 4,097,505	$ 701,524	$ 1,341,126	$ 3,167,014	$ 2,740,989	$ 18,400,271
20		Ratio of total (including Officer)		34.5%	22.3%	3.8%	7.3%	17.2%	14.9%	100.0%
21										
22										
23		Key to Method Acronyms								
24		Direct Assignment	DA							
25		Direct System	DS							
26		Supervised cost center (directors/officers)	SCC							
27		Allocated by personnel headcount	FTE							
28		Overhead	OH							
29		System Direct - Proportional to allocation of directly functionalized systems	SD							
30		expenditures on applications (software) or hardware	CD							
31		Department Direct - proportional to the cost assignments of departments utilizing applications	DD							
32		Proportional to Salaries	PS							

California Independent System Operator
2004 GMC Cost Allocation

Vice President, Market Services Division

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1711	Vice President, Market Services	SCC	$ (11,963)	$ (1,694)	$ (6,601)	$ (6,555)	$ (14,201)	$ (28,774)	$ (69,788)
1751	Market Operations - General	DA	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540	$ 979,523
1752	Manager of Markets	DA	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -	$ 2,773,203
1753	Market Engineering	DA	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975	$ 1,955,609
1755	Business Solutions	DA	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443	$ 1,175,260
1757	Market Integration	DA	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706	$ 998,732
1721	Billing and Settlements-General	DA	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066	$ 450,755
1722	Business Development Support	DA	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
1723	RMR Settlements	DA	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -	$ 992,025
1724	BBS - PSS	DA	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
1725	BBS - FSS	DA	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
1731	Contracts and Special Projects	DA	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838	$ 1,525,676
1741	Client Relations	DA	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
1756	Market Quality	DA	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
	Total (not including Officer)		$ 3,185,517	$ 451,132	$ 1,757,782	$ 1,745,574	$ 3,781,481	$ 7,662,331	$ 18,583,817
	Ratio of total (not including Officer)		17.1%	2.4%	9.5%	9.4%	20.3%	41.2%	100.0%
	Total (including Officer)		$ 3,173,554	$ 449,438	$ 1,751,181	$ 1,739,019	$ 3,767,280	$ 7,633,557	$ 18,514,029
	Ratio of total (including Officer)		17.1%	2.4%	9.5%	9.4%	20.3%	41.2%	100.0%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS
Supervised cost center (directors/officers)	SCC
Allocated by personnel headcount	FTE
Overhead	OH
System Direct - Proportional to allocation of directly functionalized systems	SD
Calculated Direct - Calculated as a function of expenditures on applications (software) or hardware	CD
Department Direct - proportional to the cost assignments of departments utilizing applications	DD
Proportional to Salaries	PS

Exh. No. ISO- 10, Page 383 of 442

California Independent System Operator
2004 GMC Cost Allocation

Vice President, Corporate and Strategic Development Division

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1811	VP Corporate and Strategic Development - General	SCC	$ 194,145	$ 109,642	$ 17,220	$ 20,041	$ 48,988	$ 77,539	$ 467,576
1821	Communications	OH	$ 357,170	$ 188,270	$ 33,058	$ 40,370	$ 91,475	$ 136,834	$ 847,176
1831	Strategic Development	OH	$ 310,863	$ 163,861	$ 28,772	$ 35,136	$ 79,615	$ 119,093	$ 737,340
1841	Human Resources	FTE	$ 1,899,707	$ 1,124,145	$ 163,245	$ 182,741	$ 474,198	$ 780,914	$ 4,624,949
1851	Project Office	OH	$ 293,783	$ 154,858	$ 27,191	$ 33,206	$ 75,241	$ 112,550	$ 696,828
1861	Regulatory Policy	OH	$ 401,281	$ 211,522	$ 37,140	$ 45,356	$ 102,772	$ 153,733	$ 951,804
	Total (not including Officer)		$ 3,262,804	$ 1,842,655	$ 289,405	$ 336,809	$ 823,300	$ 1,303,124	$ 7,858,097
	Ratio of total (not including Officer)		41.5%	23.4%	3.7%	4.3%	10.5%	16.6%	100.0%
	Total (including Officer)		$ 3,456,949	$ 1,952,297	$ 306,625	$ 356,850	$ 872,289	$ 1,380,663	$ 8,325,673
	Ratio of total (including Officer)		41.5%	23.4%	3.7%	4.3%	10.5%	16.6%	100.0%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS
Supervised cost center (directors/officers)	SCC
Allocated by personnel headcount	FTE
Overhead	OH
System Direct - Proportional to allocation of directly functionalized systems	SD
expenditures on applications (software) or hardware	CD
Department Direct - proportional to the cost assignments of departments utilizing applications	DD
Proportional to Salaries	PS

Exh. No. ISO- 10, Page 384 of 442

	A	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator** **2004 GMC Cost Allocation**								
2		**Salary Adjustments**								
3	**CC#**	**Cost Center**	**Method**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4	2111	Other	PS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5				**Salary Adjustments were allocated to the salaries of each cost center**						
6		Total		$ -	$ -	$ -	$ -	$ -	$ -	$ -
7		Ratio of total								
8										
9										
10		Key to Method Acronyms								
11		Direct Assignment	DA							
12		Direct System	DS							
13		Supervised cost center (directors/officers)	SCC							
14		Allocated by personnel headcount	FTE							
15		Overhead	OH							
16		System Direct - Proportional to allocation of directly functionalized systems	SD							
17		expenditures on applications (software) or hardware	CD							
18		Department Direct - proportional to the cost assignments of departments utilizing applications	DD							
19		Proportional to Salaries	PS							

Exh. No. ISO- 10, Page 385 of 442

California Independent System Operator
2004 GMC Cost Allocation

Totals by Cost Center

CC #	Cost Center	Sheet	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1111	CEO - General	1100	OH	$ 378,277	$ 199,396	$ 35,011	$ 42,756	$ 96,880	$ 144,920	$ 897,241
1241	MD02	1100	DS	$ 89,351	$ -	$ 178,118	$ 140,159	$ 364,559	$ 512,601	$ 1,284,788
1311	CFO - General	1300	SCC	$ 138,000	$ 77,847	$ 12,249	$ 14,268	$ 34,830	$ 55,077	$ 332,272
1321	Accounting	1300	OH	$ 1,235,752	$ 651,385	$ 114,374	$ 139,675	$ 316,488	$ 473,424	$ 2,931,098
1331	Financial Planning and Treasury	1300	OH	$ 1,463,701	$ 771,540	$ 135,472	$ 165,439	$ 374,868	$ 560,753	$ 3,471,773
1351	Facilities	1300	FTE	$ 2,520,498	$ 1,491,495	$ 216,590	$ 242,457	$ 629,157	$ 1,036,103	$ 6,136,300
1361	Security & Corporate Services	1300	FTE	$ 1,092,912	$ 646,727	$ 93,916	$ 105,132	$ 272,809	$ 449,264	$ 2,660,758
1411	Chief Information Officer	1400	SCC	$ (119,699)	$ (23,714)	$ (36,521)	$ (10,842)	$ (28,103)	$ (100,484)	$ (319,362)
1422	Corporate & Enterprise Applications	1400	SCC	$ 105,208	$ 37,607	$ 9,585	$ 12,313	$ 33,575	$ 74,114	$ 272,402
1424	Asset Management	1400	DS	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185	$ 20,455,331
1431	End User Support	1400	FTE/DS	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955	$ 6,662,499
1432	Computer Operations and Infrastructure	1400	SCC	$ 325,930	$ 90,375	$ 137,002	$ 30,594	$ 81,596	$ 316,759	$ 982,255
1433	Network Services	1400	DS	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426	$ 1,621,981
1441	Outsourced Contracts	1400	DS	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497	$ 10,669,871
1442	Production Support	1400	SD	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368	$ 2,642,634
1451	Infrastructure Services	1400	SD	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980	$ 1,696,047
1461	Control Systems	1400	DS	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253	$ 2,385,558
1462	Field Data Acquisition System (FDAS)	1400	DS	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523	$ 2,547,393
1463	Operations Systems Services	1400	SCC	$ 164,980	$ 4,562	$ 22,368	$ 3,207	$ 17,532	$ 134,846	$ 347,495
1466	Enterprise Applications	1400	CD	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331	$ 1,609,967
1467	Settlement Systems Services	1400	DS	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958	$ 1,170,354
1468	Corporate Application Support and Administration	1400	FTE	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
1469	Analytical and Reporting Applications	1400	DD	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
1471	IT Planning	1400	SD	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977	$ 950,115
1481	Markets and Scheduling System	1400	DS	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059	$ 1,516,144
1482	Market Systems Support Services	1400	DS	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368	$ 616,978
1511	VP Grid Operations	1500	SCC	$ (99,767)	$ (55,016)	$ -	$ -	$ -	$ -	$ (154,783)
1521	Grid Planning	1100	DA	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -	$ 2,497,543
1542	Outage Coordination	1500	DA	$ -	$ 93,500	$ -	$ -	$ -	$ -	$ 93,500
1543	Loads and Resources	1500	DA	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -	$ 1,185,612
1544	Real-Time Scheduling	1500	DA	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
1545	Grid Operations	1500	DA	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
1546	Security Coordination	1500	DA	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ 1,368,574
1547	Engineering and Maintenance	1500	DA	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -	$ 576,104
1548	OSAT Group - General	1500	DA	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
1549	Operations Training	1500	DA	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
1554	Special Projects Engineering	1500	DA	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -	$ 853,958
1555	Operations Support Group	1500	DA	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
1558	Transmission Maintenance	1500	DA	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -	$ 1,623,755
1559	Operations Application Support	1500	DA	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
1561	Operations Engineering South	1500	DA	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -	$ 1,241,824
1562	Operations Engineering North	1500	DA	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -	$ 1,355,194

Exh. No. ISO- 10, Page 386 of 442

California Independent System Operator
2004 GMC Cost Allocation

Totals by Cost Center

CC #	Cost Center	Sheet	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1563	Operations Coordination	1500	DA	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
1564	Operations Scheduling	1500	DA	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
1565	Pre-Scheduling and Support	1500	DA	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
1566	Regional Coordination - General	1500	DA	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
1611	VP General Counsel - General	1600	SCC	$ 98,497	$ 63,536	$ 10,878	$ 20,796	$ 49,108	$ 42,502	$ 285,317
1631	Legal and Regulatory	1600	OH	$ 5,150,539	$ 2,714,931	$ 476,704	$ 582,156	$ 1,319,104	$ 1,973,203	$ 12,216,636
1641	Market Analysis	1600	DA	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515	$ 2,948,963
1642	Market Surveillance Committee	1600	DA	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
1651	Board of Governors	1600	OH	$ 97,558	$ 51,425	$ 9,029	$ 11,027	$ 24,986	$ 37,375	$ 231,400
1661	Compliance - General	1600	DA	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514	$ 1,722,093
1662	Compliance - Audits	1600	DA	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880	$ 434,112
1711	VP Market Services - General	1700	SCC	$ (11,963)	$ (1,694)	$ (6,601)	$ (6,555)	$ (14,201)	$ (28,774)	$ (69,788)
1721	Billing and Settlements-General	1700	DA	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066	$ 450,755
1722	Business Development Support	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
1723	RMR Settlements	1700	DA	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -	$ 992,025
1724	BBS - PSS	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
1725	BBS - FSS	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
1731	Contracts and Special Projects	1700	DA	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838	$ 1,525,676
1741	Client Relations	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
1751	Market Operations - General	1700	DA	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540	$ 979,523
1752	Manager of Markets	1700	DA	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -	$ 2,773,203
1753	Market Engineering	1700	DA	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975	$ 1,955,609
1755	Business Solutions	1700	DA	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443	$ 1,175,260
1756	Market Quality - General	1700	DA	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
1757	Market Integration	1700	DA	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706	$ 998,732
1811	VP Corporate and Strategic Development - General	1800	SCC	$ 194,145	$ 109,642	$ 17,220	$ 20,041	$ 48,988	$ 77,539	$ 467,576
1821	Communications	1800	OH	$ 357,170	$ 188,270	$ 33,058	$ 40,370	$ 91,475	$ 136,834	$ 847,176
1831	Strategic Development	1800	OH	$ 310,863	$ 163,861	$ 28,772	$ 35,136	$ 79,615	$ 119,093	$ 737,340
1841	Human Resources	1800	FTE	$ 1,899,707	$ 1,124,145	$ 163,245	$ 182,741	$ 474,198	$ 780,914	$ 4,624,949
1851	Project Office	1800	OH	$ 293,783	$ 154,858	$ 27,191	$ 33,206	$ 75,241	$ 112,550	$ 696,828
1861	Regulatory Policy	1800	OH	$ 401,281	$ 211,522	$ 37,140	$ 45,356	$ 102,772	$ 153,733	$ 951,804
2111	Other	2100	PS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total			$ 60,331,435	$ 25,062,482	$ 10,147,435	$ 6,246,980	$ 14,976,695	$ 33,153,319	$ 149,918,347
	Percent			40%	17%	7%	4%	10%	22%	100%
	Key to Method Acronyms									
	Direct Assignment	DA								
	Direct System	DS								
	Supervised cost center (directors/officers)	SCC								
	Allocated by personnel headcount	FTE								

Exh. No. ISO- 10, Page 387 of 442

	A	B	C	D	E	F	G	H	I	J	K
1		**California Independent System Operator 2004 GMC Cost Allocation**									
2		**Totals by Cost Center**									
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
88		Overhead	OH								
89		System Direct - Proportional to allocation of directly functionalized systems	SD								
90		expenditures on applications (software) or hardware	CD								
91		Department Direct - proportional to the cost assignments of departments utilizing applications	DD								
92		Proportional to Salaries	PS								

Exh. No. ISO- 10, Page 388 of 442

	A	B	C	D	E	F	G	H	I	J	K
1		**California Independent System Operator 2004 GMC Cost Allocation**									
2		**Salaries as a Percentage of Totals by Cost Center**									
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4	1111	CEO - General	1100	OH	42%	22%	4%	5%	11%	16%	100%
5	1241	MD02	1100	DS	7%	0%	14%	11%	28%	40%	100%
6	1311	CFO - General	1300	SCC	42%	23%	4%	4%	10%	17%	100%
7	1321	Accounting	1300	OH	42%	22%	4%	5%	11%	16%	100%
8	1331	Financial Planning and Treasury	1300	OH	42%	22%	4%	5%	11%	16%	100%
9	1351	Facilities	1300	FTE	41%	24%	4%	4%	10%	17%	100%
10	1361	Security & Corporate Services	1300	FTE	41%	24%	4%	4%	10%	17%	100%
11	1411	Chief Information Officer	1400	SCC	37%	7%	11%	3%	9%	31%	100%
12	1422	Corporate & Enterprise Applications	1400	SCC	39%	14%	4%	5%	12%	27%	100%
13	1424	Asset Management	1400	DS	35%	6%	12%	5%	10%	31%	100%
14	1431	End User Support	1400	FTE/DS	37%	14%	10%	4%	9%	26%	100%
15	1432	Computer Operations and Infrastructure	1400	SCC	33%	9%	14%	3%	8%	32%	100%
16	1433	Network Services	1400	DS	42%	12%	11%	3%	9%	23%	100%
17	1441	Outsourced Contracts	1400	DS	41%	11%	12%	3%	9%	25%	100%
18	1442	Production Support	1400	SD	23%	0%	22%	3%	7%	45%	100%
19	1451	Infrastructure Services	1400	SD	23%	0%	22%	3%	7%	45%	100%
20	1461	Control Systems	1400	DS	96%	2%	0%	0%	1%	1%	100%
21	1462	Field Data Acquisition System (FDAS)	1400	DS	21%	0%	0%	0%	0%	79%	100%
22	1463	Operations Systems Services	1400	SCC	47%	1%	6%	1%	5%	39%	100%
23	1466	Enterprise Applications	1400	CD	48%	7%	1%	1%	3%	39%	100%
24	1467	Settlement Systems Services	1400	DS	9%	0%	0%	0%	0%	91%	100%
25	1468	Corporate Application Support and Administration	1400	FTE	44%	21%	4%	4%	10%	17%	100%
26	1469	Analytical and Reporting Applications	1400	DD	24%	18%	6%	9%	24%	18%	100%
27	1471	IT Planning	1400	SD	23%	0%	22%	3%	7%	45%	100%
28	1481	Markets and Scheduling System	1400	DS	45%	3%	27%	3%	17%	6%	100%
29	1482	Market Systems Support Services	1400	DS	44%	1%	20%	6%	23%	5%	100%
30	1511	VP Grid Operations	1500	SCC	64%	36%	0%	0%	0%	0%	100%
31	1521	Grid Planning	1100	DA	63%	38%	0%	0%	0%	0%	100%
32	1542	Outage Coordination	1500	DA	100%	0%	0%	0%	0%	0%	100%
33	1543	Loads and Resources	1500	DA	57%	43%	0%	0%	0%	0%	100%
34	1544	Real-Time Scheduling	1500	DA	60%	40%	0%	0%	0%	0%	100%
35	1545	Grid Operations	1500	DA	68%	32%	0%	0%	0%	0%	100%
36	1546	Security Coordination	1500	DA	100%	0%	0%	0%	0%	0%	100%
37	1547	Engineering and Maintenance	1500	DA	67%	33%	0%	0%	0%	0%	100%
38	1548	OSAT Group - General	1500	DA	100%	0%	0%	0%	0%	0%	100%
39	1549	Operations Training	1500	DA	61%	39%	0%	0%	0%	0%	100%
40	1554	Special Projects Engineering	1500	DA	50%	50%	0%	0%	0%	0%	100%
41	1555	Operations Support Group	1500	DA	56%	44%	0%	0%	0%	0%	100%
42	1558	Transmission Maintenance	1500	DA	67%	33%	0%	0%	0%	0%	100%
43	1559	Operations Application Support	1500	DA	60%	40%	0%	0%	0%	0%	100%
44	1561	Operations Engineering South	1500	DA	67%	33%	0%	0%	0%	0%	100%
45	1562	Operations Engineering North	1500	DA	56%	44%	0%	0%	0%	0%	100%

Exh. No. ISO- 10, Page 389 of 442

California Independent System Operator
2004 GMC Cost Allocation

Salaries as a Percentage of Totals by Cost Center

CC #	Cost Center	Sheet	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1563	Operations Coordination	1500	DA	80%	20%	0%	0%	0%	0%	100%
1564	Operations Scheduling	1500	DA	100%	0%	0%	0%	0%	0%	100%
1565	Pre-Scheduling and Support	1500	DA	77%	23%	0%	0%	0%	0%	100%
1566	Regional Coordination - General	1500	DA	100%	0%	0%	0%	0%	0%	100%
1611	VP General Counsel - General	1600	SCC	35%	22%	4%	7%	17%	15%	100%
1631	Legal and Regulatory	1600	OH	42%	22%	4%	5%	11%	16%	100%
1641	Market Analysis	1600	DA	20%	22%	0%	16%	33%	9%	100%
1642	Market Surveillance Committee	1600	DA	25%	25%	0%	25%	25%	0%	100%
1651	Board of Governors	1600	OH	42%	22%	4%	5%	11%	16%	100%
1661	Compliance - General	1600	DA	24%	22%	14%	0%	25%	15%	100%
1662	Compliance - Audits	1600	DA	8%	0%	0%	0%	50%	42%	100%
1711	VP Market Services - General	1700	SCC	17%	2%	9%	9%	20%	41%	100%
1721	Billing and Settlements-General	1700	DA	25%	0%	0%	0%	0%	75%	100%
1722	Business Development Support	1700	DA	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	1700	DA	100%	0%	0%	0%	0%	0%	100%
1724	BBS - PSS	1700	DA	0%	0%	0%	0%	0%	100%	100%
1725	BBS - FSS	1700	DA	0%	0%	0%	0%	0%	100%	100%
1731	Contracts and Special Projects	1700	DA	50%	0%	0%	0%	0%	50%	100%
1741	Client Relations	1700	DA	0%	0%	0%	0%	0%	100%	100%
1751	Market Operations - General	1700	DA	40%	0%	20%	20%	15%	5%	100%
1752	Manager of Markets	1700	DA	31%	6%	31%	25%	6%	0%	100%
1753	Market Engineering	1700	DA	30%	0%	0%	40%	20%	10%	100%
1755	Business Solutions	1700	DA	7%	0%	57%	14%	14%	7%	100%
1756	Market Quality - General	1700	DA	0%	0%	0%	0%	72%	28%	100%
1757	Market Integration	1700	DA	8%	0%	33%	33%	17%	8%	100%
1811	VP Corporate and Strategic Development - General	1800	SCC	42%	23%	4%	4%	10%	17%	100%
1821	Communications	1800	OH	42%	22%	4%	5%	11%	16%	100%
1831	Strategic Development	1800	OH	42%	22%	4%	5%	11%	16%	100%
1841	Human Resources	1800	FTE	41%	24%	4%	4%	10%	17%	100%
1851	Project Office	1800	OH	42%	22%	4%	5%	11%	16%	100%
1861	Regulatory Policy	1800	OH	42%	22%	4%	5%	11%	16%	100%
2111	Other	2100	PS							
	Total									
	Percent									
	Key to Method Acronyms									
	Direct Assignment	DA								
	Direct System	DS								
	Supervised cost center (directors/officers)	SCC								
	Allocated by personnel headcount	FTE								

Exh. No. ISO- 10, Page 390 of 442

	A	B	C	D	E	F	G	H	I	J	K
1		**California Independent System Operator 2004 GMC Cost Allocation**									
2		**Salaries as a Percentage of Totals by Cost Center**									
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
88		Overhead	OH								
89		System Direct - Proportional to allocation of directly functionalized systems	SD								
90		expenditures on applications (software) or hardware	CD								
91		Department Direct - proportional to the cost assignments of departments utilizing applications	DD								
92		Proportional to Salaries	PS								

Exh. No. ISO- 10, Page 391 of 442

	A	B	C	D	E
1		**California Independent System Operator 2004 GMC Cost Allocation**			
2		**Assignment/Allocation Method by Cost Center**			
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Description**
4	1111	CEO - General	1100	OH	Allocated using overhead ratios
5	1241	MD02	1100	DS	Direct assignment using capital expenditures for MD02
6	1311	CFO - General	1300	SCC	Allocated using supervised cost centers in 1300
7	1321	Accounting	1300	OH	Allocated using overhead ratios
8	1331	Financial Planning and Treasury	1300	OH	Allocated using overhead ratios
9	1351	Facilities	1300	FTE	Allocated proportional to FTE
10	1361	Security & Corporate Services	1300	FTE	Allocated proportional to FTE
11	1411	Chief Information Officer	1400	SCC	Allocated using supervised cost centers in 1400
12	1422	Corporate & Enterprise Applications	1400	SCC	Allocated using supervised cost centers under 1422
13	1424	Asset Management	1400	DS	Direct functionalization of contract expenditures
14	1431	End User Support	1400	FTE/DS	Allocated proportional to FTE and Monitoring (Tivoli). 67 percent weight to FTE and 33 percent to Monitorir
15	1432	Computer Operations and Infrastructure	1400	SCC	Allocated using supervised cost centers under 1432
16	1433	Network Services	1400	DS	Allocated proportional to WAN and LAN (FTE) functionalizations
17	1441	Outsourced Contracts	1400	DS	Allocated proportional to 1441 contract expenditures
18	1442	Production Support	1400	SD	Proportional to directly allocated system applications
19	1451	Infrastructure Services	1400	SD	Proportional to directly allocated system applications
20	1461	Control Systems	1400	DS	Supports EMS and PI
21	1462	Field Data Acquisition System (FDAS)	1400	DS	Supports MDAS and RIG
22	1463	Operations Systems Services	1400	SCC	Allocated using supervised cost centers under 1463
23	1466	Enterprise Applications	1400	CD	Weighted average of Chase, online settlements disputes and new resource interconnection functionalizatio
24	1467	Settlement Systems Services	1400	DS	Directly assigned to systems
25	1468	Corporate Application Support and Admini	1400	FTE	Allocated proportional to FTE
26	1469	Analytical and Reporting Applications	1400	DD	Proportional to DataWarehouse functionalization
27	1471	IT Planning	1400	SD	Proportional to directly allocated system applications
28	1481	Markets and Scheduling System	1400	DS	Directly assigned to systems
29	1482	Market Systems Support Services	1400	DS	Directly assigned to systems
30	1511	VP Grid Operations	1500	SCC	Allocated using supervised cost centers in 1500
31	1521	Grid Planning	1100	DA	Direct assignment
32	1542	Outage Coordination	1500	DA	Direct assignment
33	1543	Loads and Resources	1500	DA	Direct assignment
34	1544	Real-Time Scheduling	1500	DA	Direct assignment
35	1545	Grid Operations	1500	DA	Direct assignment
36	1546	Security Coordination	1500	DA	Direct assignment
37	1547	Engineering and Maintenance	1500	DA	Direct assignment
38	1548	OSAT Group - General	1500	DA	Direct assignment
39	1549	Operations Training	1500	DA	Direct assignment

Exh. No. ISO- 10, Page 392 of 442

	A	B	C	D	E
1		**California Independent System Operator 2004 GMC Cost Allocation**			
2		**Assignment/Allocation Method by Cost Center**			
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Description**
40	1554	Special Projects Engineering	1500	DA	Direct assignment
41	1555	Operations Support Group	1500	DA	Direct assignment
42	1558	Transmission Maintenance	1500	DA	Direct assignment
43	1559	Operations Application Support	1500	DA	Direct assignment
44	1561	Operations Engineering South	1500	DA	Direct assignment
45	1562	Operations Engineering North	1500	DA	Direct assignment
46	1563	Operations Coordination	1500	DA	Direct assignment
47	1564	Operations Scheduling	1500	DA	Direct assignment
48	1565	Pre-Scheduling and Support	1500	DA	Direct assignment
49	1566	Regional Coordination - General	1500	DA	Direct assignment
50	1611	VP General Counsel - General	1600	SCC	Allocated using supervised cost centers in 1600
51	1631	Legal and Regulatory	1600	OH	Allocated using overhead ratios
52	1641	Market Analysis	1600	DA	Direct assignment
53	1642	Market Surveillance Committee	1600	DA	Direct assignment
54	1651	Board of Governors	1600	OH	Allocated using overhead ratios
55	1661	Compliance - General	1600	DA	Direct assignment
56	1662	Compliance - Audits	1600	DA	Direct assignment
57	1711	VP Market Services - General	1700	SCC	Allocated using supervised cost centers in 1700
58	1721	Billing and Settlements-General	1700	DA	Direct assignment
59	1722	Business Development Support	1700	DA	Direct assignment
60	1723	RMR Settlements	1700	DA	Direct assignment
61	1724	BBS - PSS	1700	DA	Direct assignment
62	1725	BBS - FSS	1700	DA	Direct assignment
63	1731	Contracts and Special Projects	1700	DA	Direct assignment
64	1741	Client Relations	1700	DA	Direct assignment
65	1751	Market Operations - General	1700	DA	Direct assignment
66	1752	Manager of Markets	1700	DA	Direct assignment
67	1753	Market Engineering	1700	DA	Direct assignment
68	1755	Business Solutions	1700	DA	Direct assignment
69	1756	Market Quality - General	1700	DA	Direct assignment
70	1757	Market Integration	1700	DA	Direct assignment
71	1811	VP Corporate and Strategic Development	1800	SCC	Allocated using supervised cost centers in 1800
72	1821	Communications	1800	OH	Allocated using overhead ratios
73	1831	Strategic Development	1800	OH	Allocated using overhead ratios
74	1841	Human Resources	1800	FTE	Allocated using FTE ratios
75	1851	Project Office	1800	OH	Allocated using overhead ratios

Exh. No. ISO- 10, Page 393 of 442

	A	B	C	D	E
1		**California Independent System Operator 2004 GMC Cost Allocation**			
2		**Assignment/Allocation Method by Cost Center**			
3	**CC #**	**Cost Center**	**Sheet**	**Method**	**Description**
76	1861	Regulatory Policy	1800	OH	Allocated using overhead ratios
77	2111	Other	2100	PS	Allocated directly to cost centers
78					
79		Key to Method Acronyms			
80		Direct Assignment	DA		
81		Direct System	DS		
82		Supervised cost center (directors/officers)	SCC		
83		Allocated by personnel headcount	FTE		
84		Overhead	OH		
85		System Direct - Proportional to allocation of directly functionalized systems	SD		
86		Calculated Direct - Calculated as a function of expenditures on applications (software) or hardware	CD		
87		Department Direct - proportional to the cost assignments of departments utilizing applications	DD		
88		Proportional to Salaries	PS		

Exh. No. ISO- 10, Page 394 of 442

	B	C	D	E	F	G	H	I	J
1		**California Independent System Operator 2004 GMC Cost Allocation**							
2		**Revenue Requirement by Division**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4	**Operations and Maintenance**								
5	1100	CEO	$ 2,028,593	$ 1,135,975	$ 213,130	$ 182,915	$ 461,439	$ 657,522	$ 4,679,572
6	1300	Finance	$ 6,450,862	$ 3,638,993	$ 572,601	$ 666,971	$ 1,628,153	$ 2,574,621	$ 15,532,200
7	1400	Information Services	$ 21,639,687	$ 4,287,103	$ 6,602,375	$ 1,960,100	$ 5,080,520	$ 18,165,968	$ 57,735,753
8	1500	Grid Operations	$ 17,229,678	$ 9,501,171	$ -	$ -	$ -	$ -	$ 26,730,848
9	1600	Legal and Regulatory	$ 6,352,113	$ 4,097,505	$ 701,524	$ 1,341,126	$ 3,167,014	$ 2,740,989	$ 18,400,271
10	1700	Market Services	$ 3,173,554	$ 449,438	$ 1,751,181	$ 1,739,019	$ 3,767,280	$ 7,633,557	$ 18,514,029
11	1800	Corporate and Strategic Development	$ 3,456,949	$ 1,952,297	$ 306,625	$ 356,850	$ 872,289	$ 1,380,663	$ 8,325,673
12	2100	Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13									
14	**Total Operations and Maintenance**		**$ 60,331,435**	**$ 25,062,482**	**$ 10,147,435**	**$ 6,246,980**	**$ 14,976,695**	**$ 33,153,319**	**$ 149,918,347**
15									
16									
17									

Worksheets that follow were used to calculate the allocation of reserve credits from 2003 to new functions

Steps:

1 Arrange each cost center with its 2004 and 2003 allocations/assignments using the O&M budget. For 2003, for cost center 1482, which is new for 2004, the 1481 cost allocation is used.

2 There are three worksheets, one for CAS, CONG and ASREO. The 2004 budget dollars are used as the weights on the resulting allocations.

3 For CAS, the sum of CRS and ETS are used as the 2004 proxy. For CONG, 2003 CONG is compared to 2004 CONG. For ASREO, the sum of Forward Scheduling, Market Usage and Settlements, Metering and Client Relations is used as the 2004 proxy.

4 To do the splits from ASREO to FS, MU and SMCR, the percentage allocations to these functions are used as the weights. So, if FS (10%), MU (20%) and SMCR (15%) summed to 45%, the relative weighting of FS is 22.2% (10/45).

The general method is:

1. Check if the corresponding 2003 cost allocation is zero. If the 2003 cost allocation is zero, no portion of the credit should be passed back through this cost center. (The budget weight in this case is zero, regardless of the budget amount.) For example, if cost center has no CAS allocation, then enter a yes. This means that when allocating the CAS credit, no portion of the credit should be applied to this cost center's costs.

2. If the answer to 1 is no, then check if the 2003 allocation is less than or equal to the sum of corresponding 2004 allocation. If yes, then the entire amount of the budget is used as a weight on this specific function. For example, if, for cost center 1481, CAS=63% and the sum of CRS and ETS is 66%, then the entire budget amount for 1481 is used as a weight. The logic to this is if the credit is for CAS, all the credit should be applied back through Grid Reliability Services "GRS" (the collective name of CRS and ETS). Since GRS (CRS+ETS) is greater than CAS, none of the credit would flow back through to the other functions.

3. If the answer to 2 is no, then the portion that gets allocated to the specific function(s) is the 2004 allocation, the remainder will be spread to the other functions. For example, if CAS is 65% and GRS is 50%, then 77% (50/65) of the budget will be used as the weight for GRS. The remaining 23% of the budget for that cost center will be spread to the FS, CONG, MU and SMCR functions using their percent allocations as described above.

4. Run through the calculation for each cost center separately and sum by function. The total calculated this way will not equal the total O&M routinely if there are cost centers in the 2003 GMC did not have a specific allocation to one of the functions. For example, 1524, 1542 and 1543 were 100% CAS. Their budgets would not be used as weights for allocation of the credit of CONG and ASREO.

The resulting allocations (in %) of the reserve credits are:

	CRS	ETS	FS	CON	MU	SMCR
CAS	81%	0%	3%	2%	4%	11%
CONG	25%	10%	3%	38%	6%	17%
ASREO	11%	6%	14%	0%	24%	45%

	A	B	C	D	E
1		**California Independent System Operator 2004 GMC Cost Allocation**			
2	**Percentage Share of Personnel by Functions From 2003 Cost Allocation Matrix**				
3	**CC #**	**Cost Center**	**Control Area Services**	**Congestion Management**	**ASREO**
4					
5	1111	CEO - General	63%	11%	26%
6	1241	MD02	32%	33%	35%
7	1311	CFO - General	61%	11%	28%
8	1321	Accounting	47%	8%	45%
9	1331	Financial Planning and Treasury	60%	10%	30%
10	1351	Facilities	64%	11%	25%
11	1361	Office Administration	64%	11%	25%
12	1411	Chief Information Officer- General	62%	9%	29%
13	1422	Corporate & Enterprise Applications - General	62%	10%	28%
14	1424	Asset Management	67%	7%	26%
15	1431	End User Support	63%	10%	27%
16	1432	Computer Operations - General	61%	10%	29%
17	1433	Network Operations	63%	10%	27%
18	1441	Outsourced Contracts	60%	11%	29%
19	1442	Production Support	56%	9%	35%
20	1451	Information Security	63%	10%	27%
21	1461	Control Systems	100%	0%	0%
22	1462	Field Data Acquisition System (FDAS)	30%	8%	62%
23	1463	Operations Applications - General	74%	2%	24%
24	1466	Enterprise Applications	62%	9%	29%
25	1467	Settlement Systems Services	15%	7%	78%
26	1468	Corporate Application Support	61%	10%	29%
27	1469	Analytical and Reporting	63%	10%	27%
28	1471	IT Planning	63%	10%	27%
29	1481	Markets and Scheduling	56%	9%	35%
30	1482	Market Systems Support Services	56%	9%	35%
31	1511	VP Grid Operations - General	66%	18%	15%
32	1521	Grid Planning	100%	0%	0%
33	1542	Outage Coordination	100%	0%	0%
34	1543	Loads and Resources	100%	0%	0%
35	1544	Real-Time Scheduling	75%	15%	10%
36	1545	Grid Operations - General	80%	10%	10%
37	1546	Security Coordination	100%	0%	0%
38	1547	Engineering and Maintenance - General	99%	0%	1%
39	1548	OSAT Group - General	77%	6%	17%
40	1549	Operations Training	62%	24%	14%
41	1554	Special Projects Engineering	84%	0%	16%
42	1555	Operations Support Group	61%	21%	18%

	A	B	C	D	E
1		**California Independent System Operator 2004 GMC Cost Allocation**			
2	**Percentage Share of Personnel by Functions From 2003 Cost Allocation Matrix**				
3	**CC #**	**Cost Center**	**Control Area Services**	**Congestion Management**	**ASREO**
4					
43	1558	Transmission Maintenance	98%	0%	2%
44	1559	Operations Application Support	79%	10%	11%
45	1561	Operations Engineering South	100%	0%	0%
46	1562	Operations Engineering North	100%	0%	0%
47	1563	Coordinated Operations	60%	10%	30%
48	1564	Operations Scheduling - General	82%	11%	8%
49	1565	Pre-Scheduling and Support	74%	15%	11%
50	1566	Regional Coordination - General	83%	0%	17%
51	1611	VP General Counsel - General	57%	11%	32%
52	1631	Legal and Regulatory	62%	10%	28%
53	1641	Market Analysis	23%	19%	58%
54	1642	Market Surveillance Committee	9%	25%	66%
55	1651	Board of Governors	63%	11%	26%
56	1661	Compliance - General	82%	5%	13%
57	1662	Compliance - Audits	84%	5%	12%
58	1711	VP Market Services - General	37%	18%	45%
59	1721	Billing and Settlements-General	34%	6%	60%
60	1722	Application Support	19%	7%	74%
61	1723	Tariff and Contract Implementation	90%	0%	10%
62	1724	BBS - PSS	17%	8%	75%
63	1725	BBS - FSS	16%	7%	77%
64	1731	Contracts and Special Projects	77%	2%	21%
65	1741	Client Relations	38%	9%	53%
66	1751	Market Operations - General	20%	30%	50%
67	1752	Manager of Markets	29%	30%	41%
68	1753	Market Engineering	32%	28%	40%
69	1755	Business Solutions	25%	10%	64%
70	1756	Market Quality - General	37%	33%	30%
71	1757	Market Integration	25%	30%	45%
72	1811	VP Corporate and Strategic Development - Gener	63%	11%	26%
73	1821	Communications	64%	11%	25%
74	1831	Strategic Development	64%	11%	25%
75	1841	Human Resources	63%	11%	26%
76	1851	Project Office	63%	10%	27%
77	1861	Regulatory Policy	63%	10%	27%
78	2111	Salary Adjustments	62%	10%	27%

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation**							
2		**Percentage of Total Cost by Cost Center**							
3									
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
5	1111	CEO - General	42%	22%	4%	5%	11%	16%	100%
6	1241	MD02	7%	0%	14%	11%	28%	40%	100%
7	1311	CFO - General	42%	23%	4%	4%	10%	17%	100%
8	1321	Accounting	42%	22%	4%	5%	11%	16%	100%
9	1331	Financial Planning and Treasury	42%	22%	4%	5%	11%	16%	100%
10	1351	Facilities	41%	24%	4%	4%	10%	17%	100%
11	1361	Security & Corporate Services	41%	24%	4%	4%	10%	17%	100%
12	1411	Chief Information Officer	37%	7%	11%	3%	9%	31%	100%
13	1422	Corporate & Enterprise Applications	39%	14%	4%	5%	12%	27%	100%
14	1424	Asset Management	35%	6%	12%	5%	10%	31%	100%
15	1431	End User Support	37%	14%	10%	4%	9%	26%	100%
16	1432	Computer Operations and Infrastructure	33%	9%	14%	3%	8%	32%	100%
17	1433	Network Services	42%	12%	11%	3%	9%	23%	100%
18	1441	Outsourced Contracts	41%	11%	12%	3%	9%	25%	100%
19	1442	Production Support	23%	0%	22%	3%	7%	45%	100%
20	1451	Infrastructure Services	23%	0%	22%	3%	7%	45%	100%
21	1461	Control Systems	96%	2%	0%	0%	1%	1%	100%
22	1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%	100%
23	1463	Operations Systems Services	47%	1%	6%	1%	5%	39%	100%
24	1466	Enterprise Applications	48%	7%	1%	1%	3%	39%	100%
25	1467	Settlement Systems Services	9%	0%	0%	0%	0%	91%	100%
26	1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%	100%
27	1469	Analytical and Reporting Applications	24%	18%	6%	9%	24%	18%	100%
28	1471	IT Planning	23%	0%	22%	3%	7%	45%	100%
29	1481	Markets and Scheduling System	45%	3%	27%	3%	17%	6%	100%
30	1482	Market Systems Support Services	44%	1%	20%	6%	23%	5%	100%
31	1511	VP Grid Operations	64%	36%	0%	0%	0%	0%	100%
32	1521	Grid Planning	63%	38%	0%	0%	0%	0%	100%
33	1542	Outage Coordination	0%	100%	0%	0%	0%	0%	100%
34	1543	Loads and Resources	49%	51%	0%	0%	0%	0%	100%
35	1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%	100%

Exh. No. ISO- 10, Page 399 of 442

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation**							
2		**Percentage of Total Cost by Cost Center**							
3									
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
36	1545	Grid Operations	67%	33%	0%	0%	0%	0%	100%
37	1546	Security Coordination	100%	0%	0%	0%	0%	0%	100%
38	1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%	100%
39	1548	OSAT Group - General	93%	7%	0%	0%	0%	0%	100%
40	1549	Operations Training	50%	50%	0%	0%	0%	0%	100%
41	1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%	100%
42	1555	Operations Support Group	56%	44%	0%	0%	0%	0%	100%
43	1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%	100%
44	1559	Operations Application Support	60%	40%	0%	0%	0%	0%	100%
45	1561	Operations Engineering South	65%	35%	0%	0%	0%	0%	100%
46	1562	Operations Engineering North	55%	45%	0%	0%	0%	0%	100%
47	1563	Operations Coordination	75%	25%	0%	0%	0%	0%	100%
48	1564	Operations Scheduling	100%	0%	0%	0%	0%	0%	100%
49	1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%	100%
50	1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%	100%
51	1611	VP General Counsel - General	35%	22%	4%	7%	17%	15%	100%
52	1631	Legal and Regulatory	42%	22%	4%	5%	11%	16%	100%
53	1641	Market Analysis	15%	26%	0%	20%	31%	7%	100%
54	1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
55	1651	Board of Governors	42%	22%	4%	5%	11%	16%	100%
56	1661	Compliance - General	22%	20%	12%	0%	29%	17%	100%
57	1662	Compliance - Audits	8%	0%	0%	0%	50%	42%	100%
58	1711	VP Market Services - General	17%	2%	9%	9%	20%	41%	100%
59	1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%	100%
60	1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
61	1723	RMR Settlements	80%	20%	0%	0%	0%	0%	100%
62	1724	BBS - PSS	0%	0%	0%	0%	0%	100%	100%
63	1725	BBS - FSS	0%	0%	0%	0%	0%	100%	100%
64	1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%	100%
65	1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
66	1751	Market Operations - General	31%	0%	15%	15%	35%	4%	100%

Exh. No. ISO- 10, Page 400 of 442

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation**							
2		**Percentage of Total Cost by Cost Center**							
3									
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
67	1752	Manager of Markets	27%	5%	27%	22%	18%	0%	100%
68	1753	Market Engineering	21%	0%	0%	28%	43%	7%	100%
69	1755	Business Solutions	6%	0%	47%	12%	29%	6%	100%
70	1756	Market Quality - General	0%	0%	0%	0%	71%	29%	100%
71	1757	Market Integration	7%	0%	30%	30%	26%	7%	100%
72	1811	VP Corporate and Strategic Development - Genera	42%	23%	4%	4%	10%	17%	100%
73	1821	Communications	42%	22%	4%	5%	11%	16%	100%
74	1831	Strategic Development	42%	22%	4%	5%	11%	16%	100%
75	1841	Human Resources	41%	24%	4%	4%	10%	17%	100%
76	1851	Project Office	42%	22%	4%	5%	11%	16%	100%
77	1861	Regulatory Policy	42%	22%	4%	5%	11%	16%	100%
78	2111	Other	0%	0%	0%	0%	0%	0%	0%
79									
80									
81									
82									
83									
84									

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
5	1111	CEO - General	44%	22%	4%	5%	10%	16%
6	1241	MD02	7%	0%	14%	11%	28%	40%
7	1311	CFO - General	44%	21%	4%	4%	10%	16%
8	1321	Accounting	44%	22%	4%	5%	10%	16%
9	1331	Financial Planning and Treasury	44%	22%	4%	5%	10%	16%
10	1351	Facilities	44%	21%	4%	4%	10%	17%
11	1361	Security & Corporate Services	44%	21%	4%	4%	10%	17%
12	1411	Chief Information Officer	38%	7%	10%	5%	9%	31%
13	1422	Corporate & Enterprise Applications	33%	7%	1%	25%	13%	21%
14	1424	Asset Management	35%	6%	11%	5%	11%	32%
15	1431	End User Support	38%	14%	8%	3%	9%	27%
16	1432	Computer Operations and Infrastructure	34%	9%	12%	3%	9%	33%
17	1433	Network Services	43%	12%	9%	3%	9%	24%
18	1441	Outsourced Contracts	42%	11%	10%	3%	9%	25%
19	1442	Production Support	25%	0%	18%	3%	8%	47%
20	1451	Infrastructure Services	25%	0%	18%	3%	8%	47%
21	1461	Control Systems	96%	2%	0%	0%	1%	1%
22	1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%
23	1463	Operations Systems Services	50%	3%	6%	1%	6%	33%
24	1466	Enterprise Applications	48%	7%	1%	1%	3%	39%
25	1467	Settlement Systems Services	27%	11%	2%	2%	5%	52%
26	1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%
27	1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%
28	1471	IT Planning	25%	0%	18%	3%	8%	47%
29	1481	Markets and Scheduling System	47%	3%	24%	3%	18%	6%
30	1482	Market Systems Support Services	45%	1%	19%	6%	24%	6%
31	1511	VP Grid Operations	67%	33%	0%	0%	0%	0%
32	1521	Grid Planning	63%	38%	0%	0%	0%	0%
33	1542	Outage Coordination	95%	5%	0%	0%	0%	0%
34	1543	Loads and Resources	49%	51%	0%	0%	0%	0%

Exh. No. ISO- 10, Page 402 of 442

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does CAS=0	Is CAS < CRS+ETS	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
5	1111	63%	11%	26%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
6	1241	32%	33%	35%	no	no	78%	22%	0%	11.7%	9.2%	23.9%	33.6%
7	1311	61%	11%	28%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
8	1321	47%	8%	45%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
9	1331	60%	10%	30%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
10	1351	64%	11%	25%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
11	1361	64%	11%	25%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
12	1411	62%	9%	29%	no	no	27%	73%	0%	4.8%	2.4%	4.6%	15.3%
13	1422	62%	10%	28%	no	no	35%	65%	0%	0.7%	14.7%	7.3%	12.0%
14	1424	67%	7%	26%	no	no	38%	62%	0%	7.2%	3.2%	6.9%	21.2%
15	1431	63%	10%	27%	no	no	17%	83%	0%	3.0%	1.3%	3.3%	9.6%
16	1432	61%	10%	29%	no	no	29%	71%	0%	5.9%	1.6%	4.4%	16.7%
17	1433	63%	10%	27%	no	no	12%	88%	0%	2.6%	0.7%	2.6%	6.5%
18	1441	60%	11%	29%	no	no	12%	88%	0%	2.6%	0.6%	2.3%	6.4%
19	1442	56%	9%	35%	no	no	55%	45%	0%	13.2%	1.9%	5.5%	34.3%
20	1451	63%	10%	27%	no	no	60%	40%	0%	14.4%	2.1%	6.0%	37.4%
21	1461	100%	0%	0%	no	no	1%	99%	0%	0.0%	0.0%	0.6%	0.6%
22	1462	30%	8%	62%	no	no	28%	72%	0%	0.0%	0.0%	0.0%	28.2%
23	1463	74%	2%	24%	no	no	28%	72%	0%	3.6%	0.7%	3.6%	20.3%
24	1466	62%	9%	29%	no	no	10%	90%	0%	0.3%	0.3%	0.8%	9.1%
25	1467	15%	7%	78%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
26	1468	61%	10%	29%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
27	1469	63%	10%	27%	no	no	84%	16%	0%	0.0%	60.8%	23.4%	0.0%
28	1471	63%	10%	27%	no	no	60%	40%	0%	14.4%	2.1%	6.0%	37.4%
29	1481	56%	9%	35%	no	no	11%	89%	0%	5.4%	0.6%	4.0%	1.5%
30	1482	56%	9%	35%	no	no	18%	82%	0%	6.2%	2.1%	8.0%	1.9%
31	1511	66%	18%	15%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
32	1521	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
33	1542	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
34	1543	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
5	1111	$ 897,241	$ 897,241	$ -	$ -	$ -	$ -	$ -	$ 897,241
6	1241	$ 1,284,788	$ 279,222	$ -	$ 149,828	$ 117,897	$ 306,656	$ 431,185	$ 1,284,788
7	1311	$ 332,272	$ 332,272	$ -	$ -	$ -	$ -	$ -	$ 332,272
8	1321	$ 2,931,098	$ 2,931,098	$ -	$ -	$ -	$ -	$ -	$ 2,931,098
9	1331	$ 3,471,773	$ 3,471,773	$ -	$ -	$ -	$ -	$ -	$ 3,471,773
10	1351	$ 6,136,300	$ 6,136,300	$ -	$ -	$ -	$ -	$ -	$ 6,136,300
11	1361	$ 2,660,758	$ 2,660,758	$ -	$ -	$ -	$ -	$ -	$ 2,660,758
12	1411	$ (319,362)	$ (232,897)	$ -	$ (15,424)	$ (7,574)	$ (14,615)	$ (48,852)	$ (319,362)
13	1422	$ 272,402	$ 178,109	$ -	$ 1,826	$ 39,963	$ 19,891	$ 32,613	$ 272,402
14	1424	$ 20,455,331	$ 12,593,604	$ -	$ 1,463,608	$ 655,466	$ 1,409,301	$ 4,333,354	$ 20,455,331
15	1431	$ 6,662,499	$ 5,519,436	$ -	$ 198,332	$ 83,759	$ 223,073	$ 637,899	$ 6,662,499
16	1432	$ 982,255	$ 701,111	$ -	$ 58,363	$ 15,308	$ 43,131	$ 164,343	$ 982,255
17	1433	$ 1,621,981	$ 1,421,089	$ -	$ 42,154	$ 11,718	$ 41,455	$ 105,564	$ 1,621,981
18	1441	$ 10,669,871	$ 9,389,648	$ -	$ 278,289	$ 68,801	$ 246,459	$ 686,674	$ 10,669,871
19	1442	$ 2,642,634	$ 1,188,256	$ -	$ 349,827	$ 51,053	$ 146,313	$ 907,185	$ 2,642,634
20	1451	$ 1,696,047	$ 679,466	$ -	$ 244,522	$ 35,685	$ 102,270	$ 634,104	$ 1,696,047
21	1461	$ 2,385,558	$ 2,359,052	$ -	$ -	$ -	$ 13,253	$ 13,253	$ 2,385,558
22	1462	$ 2,547,393	$ 1,827,871	$ -	$ -	$ -	$ -	$ 719,522	$ 2,547,393
23	1463	$ 347,495	$ 249,360	$ -	$ 12,632	$ 2,553	$ 12,504	$ 70,446	$ 347,495
24	1466	$ 1,609,967	$ 1,441,099	$ -	$ 4,510	$ 5,047	$ 13,104	$ 146,207	$ 1,609,967
25	1467	$ 1,170,354	$ 1,170,354	$ -	$ -	$ -	$ -	$ -	$ 1,170,354
26	1468	$ 609,686	$ 609,686	$ -	$ -	$ -	$ -	$ -	$ 609,686
27	1469	$ 1,298,406	$ 205,878	$ -	$ -	$ 789,048	$ 303,480	$ -	$ 1,298,406
28	1471	$ 950,115	$ 380,633	$ -	$ 136,980	$ 19,990	$ 57,291	$ 355,221	$ 950,115
29	1481	$ 1,516,144	$ 1,341,796	$ -	$ 82,083	$ 8,666	$ 61,136	$ 22,462	$ 1,516,144
30	1482	$ 616,978	$ 505,289	$ -	$ 38,286	$ 12,769	$ 49,174	$ 11,459	$ 616,978
31	1511	$ (154,783)	$ (154,783)	$ -	$ -	$ -	$ -	$ -	$ (154,783)
32	1521	$ 2,497,543	$ 2,497,543	$ -	$ -	$ -	$ -	$ -	$ 2,497,543
33	1542	$ 93,500	$ 93,500	$ -	$ -	$ -	$ -	$ -	$ 93,500
34	1543	$ 1,185,612	$ 1,185,612	$ -	$ -	$ -	$ -	$ -	$ 1,185,612

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
35	1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%
36	1545	Grid Operations	67%	33%	0%	0%	0%	0%
37	1546	Security Coordination	100%	0%	0%	0%	0%	0%
38	1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%
39	1548	OSAT Group - General	93%	7%	0%	0%	0%	0%
40	1549	Operations Training	50%	50%	0%	0%	0%	0%
41	1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%
42	1555	Operations Support Group	56%	44%	0%	0%	0%	0%
43	1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%
44	1559	Operations Application Support	60%	40%	0%	0%	0%	0%
45	1561	Operations Engineering South	65%	35%	0%	0%	0%	0%
46	1562	Operations Engineering North	55%	45%	0%	0%	0%	0%
47	1563	Operations Coordination	75%	25%	0%	0%	0%	0%
48	1564	Operations Scheduling	100%	0%	0%	0%	0%	0%
49	1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%
50	1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%
51	1611	VP General Counsel - General	36%	22%	4%	7%	17%	15%
52	1631	Legal and Regulatory	44%	22%	4%	5%	10%	16%
53	1641	Market Analysis	15%	26%	0%	20%	31%	7%
54	1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%
55	1651	Board of Governors	44%	22%	4%	5%	10%	16%
56	1661	Compliance - General	22%	20%	12%	0%	29%	17%
57	1662	Compliance - Audits	8%	0%	0%	0%	50%	42%
58	1711	VP Market Services - General	17%	2%	9%	9%	20%	41%
59	1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%
60	1722	Business Development Support	0%	0%	0%	0%	0%	100%
61	1723	RMR Settlements	80%	20%	0%	0%	0%	0%
62	1724	BBS - PSS	0%	0%	0%	0%	0%	100%
63	1725	BBS - FSS	0%	0%	0%	0%	0%	100%
64	1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%

Exh. No. ISO- 10, Page 405 of 442

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does CAS=0	Is CAS < CRS+ETS	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
35	1544	75%	15%	10%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
36	1545	80%	10%	10%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
37	1546	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
38	1547	99%	0%	1%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
39	1548	77%	6%	17%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
40	1549	62%	24%	14%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
41	1554	84%	0%	16%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
42	1555	61%	21%	18%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
43	1558	98%	0%	2%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
44	1559	79%	10%	11%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
45	1561	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
46	1562	100%	0%	0%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
47	1563	60%	10%	30%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
48	1564	82%	11%	8%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
49	1565	74%	15%	11%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
50	1566	83%	0%	17%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
51	1611	57%	11%	32%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
52	1631	62%	10%	28%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
53	1641	23%	19%	58%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
54	1642	9%	25%	66%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
55	1651	63%	11%	26%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
56	1661	82%	5%	13%	no	no	48%	52%	0%	10.0%	0.0%	23.9%	14.5%
57	1662	84%	5%	12%	no	no	90%	10%	0%	0.0%	0.0%	49.1%	40.9%
58	1711	37%	18%	45%	no	no	47%	53%	0%	5.5%	5.5%	11.9%	24.0%
59	1721	34%	6%	60%	no	no	26%	74%	0%	0.0%	0.0%	0.0%	26.1%
60	1722	19%	7%	74%	no	no	100%	0%	0%	0.0%	0.0%	0.0%	100.0%
61	1723	90%	0%	10%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
62	1724	17%	8%	75%	no	no	100%	0%	0%	0.0%	0.0%	0.0%	100.0%
63	1725	16%	7%	77%	no	no	100%	0%	0%	0.0%	0.0%	0.0%	100.0%
64	1731	77%	2%	21%	no	no	35%	65%	0%	0.0%	0.0%	0.0%	34.7%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
35	1544	$ 2,786,442	$ 2,786,442	$ -	$ -	$ -	$ -	$ -	$ 2,786,442
36	1545	$ 7,545,786	$ 7,545,786	$ -	$ -	$ -	$ -	$ -	$ 7,545,786
37	1546	$ 1,368,574	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ 1,368,574
38	1547	$ 576,104	$ 576,104	$ -	$ -	$ -	$ -	$ -	$ 576,104
39	1548	$ 293,953	$ 293,953	$ -	$ -	$ -	$ -	$ -	$ 293,953
40	1549	$ 2,882,700	$ 2,882,700	$ -	$ -	$ -	$ -	$ -	$ 2,882,700
41	1554	$ 853,958	$ 853,958	$ -	$ -	$ -	$ -	$ -	$ 853,958
42	1555	$ 1,111,667	$ 1,111,667	$ -	$ -	$ -	$ -	$ -	$ 1,111,667
43	1558	$ 1,623,755	$ 1,623,755	$ -	$ -	$ -	$ -	$ -	$ 1,623,755
44	1559	$ 584,623	$ 584,623	$ -	$ -	$ -	$ -	$ -	$ 584,623
45	1561	$ 1,241,824	$ 1,241,824	$ -	$ -	$ -	$ -	$ -	$ 1,241,824
46	1562	$ 1,355,194	$ 1,355,194	$ -	$ -	$ -	$ -	$ -	$ 1,355,194
47	1563	$ 704,967	$ 704,967	$ -	$ -	$ -	$ -	$ -	$ 704,967
48	1564	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
49	1565	$ 1,834,525	$ 1,834,525	$ -	$ -	$ -	$ -	$ -	$ 1,834,525
50	1566	$ 547,417	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
51	1611	$ 285,317	$ 285,317	$ -	$ -	$ -	$ -	$ -	$ 285,317
52	1631	$ 12,216,636	$ 12,216,636	$ -	$ -	$ -	$ -	$ -	$ 12,216,636
53	1641	$ 2,948,963	$ 2,948,963	$ -	$ -	$ -	$ -	$ -	$ 2,948,963
54	1642	$ 561,750	$ 561,750	$ -	$ -	$ -	$ -	$ -	$ 561,750
55	1651	$ 231,400	$ 231,400	$ -	$ -	$ -	$ -	$ -	$ 231,400
56	1661	$ 1,722,093	$ 889,617	$ -	$ 171,572	$ -	$ 410,962	$ 249,943	$ 1,722,093
57	1662	$ 434,112	$ 43,220	$ -	$ -	$ -	$ 213,214	$ 177,678	$ 434,112
58	1711	$ (69,788)	$ (37,051)	$ -	$ (3,850)	$ (3,823)	$ (8,282)	$ (16,782)	$ (69,788)
59	1721	$ 450,755	$ 333,159	$ -	$ -	$ -	$ -	$ 117,596	$ 450,755
60	1722	$ 700,651	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
61	1723	$ 992,025	$ 992,025	$ -	$ -	$ -	$ -	$ -	$ 992,025
62	1724	$ 1,280,172	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
63	1725	$ 1,283,046	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
64	1731	$ 1,525,676	$ 996,232	$ -	$ -	$ -	$ -	$ 529,443	$ 1,525,676

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
65	1741	Client Relations	0%	0%	0%	0%	0%	100%
66	1751	Market Operations - General	31%	0%	15%	15%	35%	4%
67	1752	Manager of Markets	27%	5%	27%	22%	18%	0%
68	1753	Market Engineering	21%	0%	0%	28%	43%	7%
69	1755	Business Solutions	6%	0%	47%	12%	29%	6%
70	1756	Market Quality - General	0%	0%	0%	0%	71%	29%
71	1757	Market Integration	7%	0%	30%	30%	26%	7%
72	1811	VP Corporate and Strategic Development - Genera	44%	21%	4%	4%	10%	16%
73	1821	Communications	44%	22%	4%	5%	10%	16%
74	1831	Strategic Development	44%	22%	4%	5%	10%	16%
75	1841	Human Resources	44%	21%	4%	4%	10%	17%
76	1851	Project Office	44%	22%	4%	5%	10%	16%
77	1861	Regulatory Policy	44%	22%	4%	5%	10%	16%
78	2111	Other	0%	0%	0%	0%	0%	0%
79								

Exh. No. ISO- 10, Page 408 of 442

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREQ	Does CAS=0	Is CAS < CRS+ETS	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
65	1741	38%	9%	53%	no	no	100%	0%	0%	0.0%	0.0%	0.0%	100.0%
66	1751	20%	30%	50%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
67	1752	29%	30%	41%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
68	1753	32%	28%	40%	no	no	33%	67%	0%	0.0%	11.8%	18.0%	3.0%
69	1755	25%	10%	64%	no	no	77%	23%	0%	38.5%	9.6%	23.7%	4.8%
70	1756	37%	33%	30%	no	no	100%	0%	0%	0.0%	0.0%	70.9%	29.1%
71	1757	25%	30%	45%	no	no	71%	29%	0%	22.5%	22.5%	20.0%	5.6%
72	1811	63%	11%	26%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
73	1821	64%	11%	25%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
74	1831	64%	11%	25%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
75	1841	63%	11%	26%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
76	1851	63%	10%	27%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
77	1861	63%	10%	27%	no	yes	0%	100%	0%	0.0%	0.0%	0.0%	0.0%
78	2111	0%	0%	0%									
79													

Exh. No. ISO- 10, Page 409 of 442

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
65	1741	$ 2,366,671	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
66	1751	$ 979,523	$ 979,523	$ -	$ -	$ -	$ -	$ -	$ 979,523
67	1752	$ 2,773,203	$ 2,773,203	$ -	$ -	$ -	$ -	$ -	$ 2,773,203
68	1753	$ 1,955,609	$ 1,315,086	$ -	$ -	$ 231,411	$ 351,260	$ 57,853	$ 1,955,609
69	1755	$ 1,175,260	$ 275,536	$ -	$ 452,007	$ 113,002	$ 278,214	$ 56,501	$ 1,175,260
70	1756	$ 2,102,495	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
71	1757	$ 998,732	$ 293,234	$ -	$ 224,857	$ 224,857	$ 199,569	$ 56,214	$ 998,732
72	1811	$ 467,576	$ 467,576	$ -	$ -	$ -	$ -	$ -	$ 467,576
73	1821	$ 847,176	$ 847,176	$ -	$ -	$ -	$ -	$ -	$ 847,176
74	1831	$ 737,340	$ 737,340	$ -	$ -	$ -	$ -	$ -	$ 737,340
75	1841	$ 4,624,949	$ 4,624,949	$ -	$ -	$ -	$ -	$ -	$ 4,624,949
76	1851	$ 696,828	$ 696,828	$ -	$ -	$ -	$ -	$ -	$ 696,828
77	1861	$ 951,804	$ 951,804	$ -	$ -	$ -	$ -	$ -	$ 951,804
78	2111	$ 149,918,347	$ 120,889,417	$ -	$ 3,890,401	$ 2,475,596	$ 5,970,085	$ 16,692,847	$ 149,918,347
79			81%	0%	3%	2%	4%	11%	

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
5	1111	CEO - General	44%	22%	4%	5%	10%	16%
6	1241	MD02	7%	0%	14%	11%	28%	40%
7	1311	CFO - General	44%	21%	4%	4%	10%	16%
8	1321	Accounting	44%	22%	4%	5%	10%	16%
9	1331	Financial Planning and Treasury	44%	22%	4%	5%	10%	16%
10	1351	Facilities	44%	21%	4%	4%	10%	17%
11	1361	Security & Corporate Services	44%	21%	4%	4%	10%	17%
12	1411	Chief Information Officer	38%	7%	10%	5%	9%	31%
13	1422	Corporate & Enterprise Applications	33%	7%	1%	25%	13%	21%
14	1424	Asset Management	35%	6%	11%	5%	11%	32%
15	1431	End User Support	38%	14%	8%	3%	9%	27%
16	1432	Computer Operations and Infrastructure	34%	9%	12%	3%	9%	33%
17	1433	Network Services	43%	12%	9%	3%	9%	24%
18	1441	Outsourced Contracts	42%	11%	10%	3%	9%	25%
19	1442	Production Support	25%	0%	18%	3%	8%	47%
20	1451	Infrastructure Services	25%	0%	18%	3%	8%	47%
21	1461	Control Systems	96%	2%	0%	0%	1%	1%
22	1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%
23	1463	Operations Systems Services	50%	3%	6%	1%	6%	33%
24	1466	Enterprise Applications	48%	7%	1%	1%	3%	39%
25	1467	Settlement Systems Services	27%	11%	2%	2%	5%	52%
26	1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%
27	1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%
28	1471	IT Planning	25%	0%	18%	3%	8%	47%
29	1481	Markets and Scheduling System	47%	3%	24%	3%	18%	6%
30	1482	Market Systems Support Services	45%	1%	19%	6%	24%	6%
31	1511	VP Grid Operations	67%	33%	0%	0%	0%	0%
32	1521	Grid Planning	63%	38%	0%	0%	0%	0%
33	1542	Outage Coordination	95%	5%	0%	0%	0%	0%
34	1543	Loads and Resources	49%	51%	0%	0%	0%	0%

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does CONG 2003 =0	Is CONG 2003 < CONG 2004	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
5	1111	63%	11%	26%	no	no	58%	26.9%	13.2%	2.3%	41.6%	6.4%	9.6%
6	1241	32%	33%	35%	no	no	67%	5.2%	0.0%	10.4%	33.1%	21.3%	30.0%
7	1311	61%	11%	28%	no	no	60%	27.8%	13.6%	2.3%	39.6%	6.5%	10.3%
8	1321	47%	8%	45%	no	no	41%	18.8%	9.2%	1.6%	59.2%	4.5%	6.7%
9	1331	60%	10%	30%	no	no	55%	25.5%	12.5%	2.2%	44.7%	6.1%	9.1%
10	1351	64%	11%	25%	no	no	64%	29.3%	14.3%	2.3%	36.0%	6.8%	11.2%
11	1361	64%	11%	25%	no	no	64%	29.3%	14.3%	2.3%	36.0%	6.8%	11.2%
12	1411	62%	9%	29%	no	no	45%	17.9%	3.4%	4.6%	55.4%	4.3%	14.4%
13	1422	62%	10%	28%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
14	1424	67%	7%	26%	no	no	29%	10.7%	1.9%	3.3%	71.1%	3.2%	9.8%
15	1431	63%	10%	27%	no	no	66%	26.0%	9.9%	5.7%	33.7%	6.4%	18.3%
16	1432	61%	10%	29%	no	no	69%	24.4%	6.6%	8.4%	30.8%	6.2%	23.6%
17	1433	63%	10%	27%	no	no	75%	33.4%	9.1%	7.2%	25.1%	7.1%	18.1%
18	1441	60%	11%	29%	no	no	76%	33.1%	8.3%	8.0%	23.7%	7.1%	19.8%
19	1442	56%	9%	35%	no	no	72%	18.5%	0.1%	13.2%	28.3%	5.5%	34.3%
20	1451	63%	10%	27%	no	no	75%	19.3%	0.1%	13.8%	25.2%	5.8%	35.8%
21	1461	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
22	1462	30%	8%	62%	no	no	100%	21.4%	0.0%	0.0%	0.0%	0.0%	78.6%
23	1463	74%	2%	24%	no	no	23%	11.6%	0.7%	1.4%	77.3%	1.4%	7.7%
24	1466	62%	9%	29%	no	no	86%	41.7%	6.3%	1.0%	14.3%	3.0%	33.6%
25	1467	15%	7%	78%	no	no	71%	19.7%	8.1%	1.3%	29.3%	3.8%	37.7%
26	1468	61%	10%	29%	no	no	61%	27.8%	13.6%	2.2%	39.3%	6.4%	10.6%
27	1469	63%	10%	27%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
28	1471	63%	10%	27%	no	no	75%	19.3%	0.1%	13.8%	25.2%	5.8%	35.8%
29	1481	56%	9%	35%	no	no	73%	35.1%	2.1%	17.7%	27.0%	13.2%	4.9%
30	1482	56%	9%	35%	no	no	33%	16.0%	0.4%	6.6%	66.7%	8.4%	2.0%
31	1511	66%	18%	15%	no	no	100%	66.7%	33.3%	0.0%	0.0%	0.0%	0.0%
32	1521	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
33	1542	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
34	1543	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
5	1111	$ 897,241	$ 241,750	$ 118,174	$ 20,744	$ 373,307	$ 57,401	$ 85,864	$ 897,241
6	1241	$ 1,284,788	$ 67,138	$ -	$ 133,837	$ 424,723	$ 273,926	$ 385,164	$ 1,284,788
7	1311	$ 332,272	$ 92,350	$ 45,062	$ 7,599	$ 131,430	$ 21,617	$ 34,214	$ 332,272
8	1321	$ 2,931,098	$ 551,772	$ 269,722	$ 47,346	$ 1,735,270	$ 131,012	$ 195,977	$ 2,931,098
9	1331	$ 3,471,773	$ 885,094	$ 432,659	$ 75,947	$ 1,553,551	$ 210,156	$ 314,365	$ 3,471,773
10	1351	$ 6,136,300	$ 1,800,215	$ 877,247	$ 143,513	$ 2,211,382	$ 416,975	$ 686,968	$ 6,136,300
11	1361	$ 2,660,758	$ 780,590	$ 380,383	$ 62,229	$ 958,877	$ 180,804	$ 297,876	$ 2,660,758
12	1411	$ (319,362)	$ (57,220)	$ (10,712)	$ (14,570)	$ (176,906)	$ (13,806)	$ (46,148)	$ (319,362)
13	1422	$ 272,402	$ -	$ -	$ -	$ 272,402	$ -	$ -	$ 272,402
14	1424	$ 20,455,331	$ 2,195,129	$ 380,664	$ 678,235	$ 14,540,159	$ 653,069	$ 2,008,074	$ 20,455,331
15	1431	$ 6,662,499	$ 1,731,678	$ 661,637	$ 379,550	$ 2,241,986	$ 426,896	$ 1,220,753	$ 6,662,499
16	1432	$ 982,255	$ 239,547	$ 64,600	$ 82,477	$ 302,436	$ 60,951	$ 232,244	$ 982,255
17	1433	$ 1,621,981	$ 541,079	$ 148,192	$ 117,120	$ 407,115	$ 115,178	$ 293,297	$ 1,621,981
18	1441	$ 10,669,871	$ 3,529,510	$ 887,124	$ 855,988	$ 2,527,025	$ 758,082	$ 2,112,142	$ 10,669,871
19	1442	$ 2,642,634	$ 488,134	$ 3,378	$ 349,703	$ 748,295	$ 146,261	$ 906,863	$ 2,642,634
20	1451	$ 1,696,047	$ 326,779	$ 2,261	$ 234,107	$ 427,888	$ 97,914	$ 607,097	$ 1,696,047
21	1461	$ 2,385,558	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	1462	$ 2,547,393	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523	$ 2,547,393
23	1463	$ 347,495	$ 40,258	$ 2,319	$ 4,794	$ 268,643	$ 4,745	$ 26,735	$ 347,495
24	1466	$ 1,609,967	$ 671,148	$ 102,117	$ 16,706	$ 229,898	$ 48,539	$ 541,559	$ 1,609,967
25	1467	$ 1,170,354	$ 230,951	$ 94,644	$ 15,483	$ 342,865	$ 44,986	$ 441,425	$ 1,170,354
26	1468	$ 609,686	$ 169,633	$ 82,662	$ 13,523	$ 239,843	$ 39,291	$ 64,733	$ 609,686
27	1469	$ 1,298,406	$ -	$ -	$ -	$ 1,298,406	$ -	$ -	$ 1,298,406
28	1471	$ 950,115	$ 183,060	$ 1,267	$ 131,146	$ 239,700	$ 54,851	$ 340,092	$ 950,115
29	1481	$ 1,516,144	$ 531,792	$ 32,460	$ 268,806	$ 409,316	$ 200,210	$ 73,559	$ 1,516,144
30	1482	$ 616,978	$ 98,489	$ 2,312	$ 40,569	$ 411,360	$ 52,107	$ 12,143	$ 616,978
31	1511	$ (154,783)	$ (103,249)	$ (51,534)	$ -	$ -	$ -	$ -	$ (154,783)
32	1521	$ 2,497,543	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	1542	$ 93,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	1543	$ 1,185,612	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
35	1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%
36	1545	Grid Operations	67%	33%	0%	0%	0%	0%
37	1546	Security Coordination	100%	0%	0%	0%	0%	0%
38	1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%
39	1548	OSAT Group - General	93%	7%	0%	0%	0%	0%
40	1549	Operations Training	50%	50%	0%	0%	0%	0%
41	1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%
42	1555	Operations Support Group	56%	44%	0%	0%	0%	0%
43	1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%
44	1559	Operations Application Support	60%	40%	0%	0%	0%	0%
45	1561	Operations Engineering South	65%	35%	0%	0%	0%	0%
46	1562	Operations Engineering North	55%	45%	0%	0%	0%	0%
47	1563	Operations Coordination	75%	25%	0%	0%	0%	0%
48	1564	Operations Scheduling	100%	0%	0%	0%	0%	0%
49	1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%
50	1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%
51	1611	VP General Counsel - General	36%	22%	4%	7%	17%	15%
52	1631	Legal and Regulatory	44%	22%	4%	5%	10%	16%
53	1641	Market Analysis	15%	26%	0%	20%	31%	7%
54	1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%
55	1651	Board of Governors	44%	22%	4%	5%	10%	16%
56	1661	Compliance - General	22%	20%	12%	0%	29%	17%
57	1662	Compliance - Audits	8%	0%	0%	0%	50%	42%
58	1711	VP Market Services - General	17%	2%	9%	9%	20%	41%
59	1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%
60	1722	Business Development Support	0%	0%	0%	0%	0%	100%
61	1723	RMR Settlements	80%	20%	0%	0%	0%	0%
62	1724	BBS - PSS	0%	0%	0%	0%	0%	100%
63	1725	BBS - FSS	0%	0%	0%	0%	0%	100%
64	1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does CONG 2003 =0	Is CONG 2003 < CONG 2004	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
35	1544	75%	15%	10%	no	no	100%	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%
36	1545	80%	10%	10%	no	no	100%	67.5%	32.5%	0.0%	0.0%	0.0%	0.0%
37	1546	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
38	1547	99%	0%	1%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
39	1548	77%	6%	17%	no	no	100%	93.2%	6.8%	0.0%	0.0%	0.0%	0.0%
40	1549	62%	24%	14%	no	no	100%	50.5%	49.5%	0.0%	0.0%	0.0%	0.0%
41	1554	84%	0%	16%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
42	1555	61%	21%	18%	no	no	100%	55.6%	44.4%	0.0%	0.0%	0.0%	0.0%
43	1558	98%	0%	2%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
44	1559	79%	10%	11%	no	no	100%	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%
45	1561	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
46	1562	100%	0%	0%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
47	1563	60%	10%	30%	no	no	100%	74.6%	25.4%	0.0%	0.0%	0.0%	0.0%
48	1564	82%	11%	8%	no	no	100%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	1565	74%	15%	11%	no	no	100%	76.9%	23.1%	0.0%	0.0%	0.0%	0.0%
50	1566	83%	0%	17%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
51	1611	57%	11%	32%	no	no	35%	13.7%	8.3%	1.4%	64.5%	6.5%	5.6%
52	1631	62%	10%	28%	no	no	54%	25.0%	12.2%	2.1%	45.8%	5.9%	8.9%
53	1641	23%	19%	58%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
54	1642	9%	25%	66%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
55	1651	63%	11%	26%	no	no	58%	26.9%	13.2%	2.3%	41.6%	6.4%	9.6%
56	1661	82%	5%	13%	no	no	100%	21.9%	20.4%	11.9%	0.0%	28.5%	17.3%
57	1662	84%	5%	12%	no	no	100%	8.3%	0.0%	0.0%	0.0%	50.0%	41.7%
58	1711	37%	18%	45%	no	no	48%	9.0%	1.3%	5.0%	52.4%	10.7%	21.7%
59	1721	34%	6%	60%	no	no	100%	25.0%	0.0%	0.0%	0.0%	0.0%	75.0%
60	1722	19%	7%	74%	no	no	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
61	1723	90%	0%	10%	yes	NA	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
62	1724	17%	8%	75%	no	no	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
63	1725	16%	7%	77%	no	no	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
64	1731	77%	2%	21%	no	no	100%	43.2%	6.8%	0.0%	0.0%	0.0%	50.0%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
35	1544	$ 2,786,442	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
36	1545	$ 7,545,786	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
37	1546	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	1547	$ 576,104	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	1548	$ 293,953	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
40	1549	$ 2,882,700	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
41	1554	$ 853,958	$ -	$ -	$ -	$ 853,958	$ -	$ -	$ 853,958
42	1555	$ 1,111,667	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
43	1558	$ 1,623,755	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	1559	$ 584,623	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
45	1561	$ 1,241,824	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46	1562	$ 1,355,194	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1563	$ 704,967	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
48	1564	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
49	1565	$ 1,834,525	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
50	1566	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51	1611	$ 285,317	$ 39,051	$ 23,763	$ 4,065	$ 184,058	$ 18,517	$ 15,862	$ 285,317
52	1631	$ 12,216,636	$ 3,053,116	$ 1,492,450	$ 261,978	$ 5,599,766	$ 724,929	$ 1,084,397	$ 12,216,636
53	1641	$ 2,948,963	$ -	$ -	$ -	$ 2,948,963	$ -	$ -	$ 2,948,963
54	1642	$ 561,750	$ -	$ -	$ -	$ 561,750	$ -	$ -	$ 561,750
55	1651	$ 231,400	$ 62,348	$ 30,477	$ 5,350	$ 96,277	$ 14,804	$ 22,145	$ 231,400
56	1661	$ 1,722,093	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514	$ 1,722,093
57	1662	$ 434,112	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880	$ 434,112
58	1711	$ (69,788)	$ (6,286)	$ (890)	$ (3,469)	$ (36,562)	$ (7,462)	$ (15,120)	$ (69,788)
59	1721	$ 450,755	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066	$ 450,755
60	1722	$ 700,651	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
61	1723	$ 992,025	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62	1724	$ 1,280,172	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
63	1725	$ 1,283,046	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
64	1731	$ 1,525,676	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838	$ 1,525,676

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
65	1741	Client Relations	0%	0%	0%	0%	0%	100%
66	1751	Market Operations - General	31%	0%	15%	15%	35%	4%
67	1752	Manager of Markets	27%	5%	27%	22%	18%	0%
68	1753	Market Engineering	21%	0%	0%	28%	43%	7%
69	1755	Business Solutions	6%	0%	47%	12%	29%	6%
70	1756	Market Quality - General	0%	0%	0%	0%	71%	29%
71	1757	Market Integration	7%	0%	30%	30%	26%	7%
72	1811	VP Corporate and Strategic Development - General	44%	21%	4%	4%	10%	16%
73	1821	Communications	44%	22%	4%	5%	10%	16%
74	1831	Strategic Development	44%	22%	4%	5%	10%	16%
75	1841	Human Resources	44%	21%	4%	4%	10%	17%
76	1851	Project Office	44%	22%	4%	5%	10%	16%
77	1861	Regulatory Policy	44%	22%	4%	5%	10%	16%
78	2111	Other	0%	0%	0%	0%	0%	0%
79								

Exh. No. ISO- 10, Page 417 of 442

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does CONG 2003 =0	Is CONG 2003 < CONG 2004	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
65	1741	38%	9%	53%	no	no	100%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
66	1751	20%	30%	50%	no	no	49%	17.7%	0.0%	8.9%	51.1%	20.1%	2.2%
67	1752	29%	30%	41%	no	no	27%	9.5%	1.9%	9.5%	72.8%	6.3%	0.0%
68	1753	32%	28%	40%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
69	1755	25%	10%	64%	no	yes	0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
70	1756	37%	33%	30%	no	no	100%	0.0%	0.0%	0.0%	0.0%	70.9%	29.1%
71	1757	25%	30%	45%	no	no	2%	0.2%	0.0%	0.7%	98.4%	0.6%	0.2%
72	1811	63%	11%	26%	no	no	60%	27.7%	13.5%	2.3%	39.8%	6.5%	10.3%
73	1821	64%	11%	25%	no	no	58%	26.6%	13.0%	2.3%	42.3%	6.3%	9.5%
74	1831	64%	11%	25%	no	no	58%	26.6%	13.0%	2.3%	42.3%	6.3%	9.5%
75	1841	63%	11%	26%	no	no	65%	29.6%	14.4%	2.4%	35.5%	6.9%	11.3%
76	1851	63%	10%	27%	no	no	55%	25.5%	12.5%	2.2%	44.7%	6.1%	9.1%
77	1861	63%	10%	27%	no	no	55%	25.5%	12.5%	2.2%	44.7%	6.1%	9.1%
78	2111	0%	0%	0%									
79													

Exh. No. ISO- 10, Page 418 of 442

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
65	1741	$ 2,366,671	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
66	1751	$ 979,523	$ 173,447	$ -	$ 86,723	$ 500,534	$ 197,138	$ 21,681	$ 979,523
67	1752	$ 2,773,203	$ 263,387	$ 52,677	$ 263,387	$ 2,019,336	$ 174,415	$ -	$ 2,773,203
68	1753	$ 1,955,609	$ -	$ -	$ -	$ 1,955,609	$ -	$ -	$ 1,955,609
69	1755	$ 1,175,260	$ -	$ -	$ -	$ 1,175,260	$ -	$ -	$ 1,175,260
70	1756	$ 2,102,495	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
71	1757	$ 998,732	$ 1,673	$ -	$ 6,693	$ 982,752	$ 5,941	$ 1,673	$ 998,732
72	1811	$ 467,576	$ 129,371	$ 63,124	$ 10,637	$ 186,206	$ 30,275	$ 47,963	$ 467,576
73	1821	$ 847,176	$ 225,601	$ 110,280	$ 19,358	$ 358,242	$ 53,566	$ 80,128	$ 847,176
74	1831	$ 737,340	$ 196,352	$ 95,982	$ 16,848	$ 311,796	$ 46,622	$ 69,740	$ 737,340
75	1841	$ 4,624,949	$ 1,369,130	$ 667,179	$ 109,147	$ 1,639,905	$ 317,125	$ 522,464	$ 4,624,949
76	1851	$ 696,828	$ 177,911	$ 86,968	$ 15,266	$ 311,250	$ 42,243	$ 63,190	$ 696,828
77	1861	$ 951,804	$ 243,011	$ 118,790	$ 20,852	$ 425,139	$ 57,700	$ 86,312	$ 951,804
78	2111	$ 149,918,347	$ 34,586,135	$ 14,070,150	$ 4,686,600	$ 52,193,209	$ 7,856,131	$ 22,659,013	$ 136,051,239
79			25%	10%	3%	38%	6%	17%	100%

Exh. No. ISO- 10, Page 419 of 442

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
5	1111	CEO - General	44%	22%	4%	5%	10%	16%
6	1241	MD02	7%	0%	14%	11%	28%	40%
7	1311	CFO - General	44%	21%	4%	4%	10%	16%
8	1321	Accounting	44%	22%	4%	5%	10%	16%
9	1331	Financial Planning and Treasury	44%	22%	4%	5%	10%	16%
10	1351	Facilities	44%	21%	4%	4%	10%	17%
11	1361	Security & Corporate Services	44%	21%	4%	4%	10%	17%
12	1411	Chief Information Officer	38%	7%	10%	5%	9%	31%
13	1422	Corporate & Enterprise Applications	33%	7%	1%	25%	13%	21%
14	1424	Asset Management	35%	6%	11%	5%	11%	32%
15	1431	End User Support	38%	14%	8%	3%	9%	27%
16	1432	Computer Operations and Infrastructure	34%	9%	12%	3%	9%	33%
17	1433	Network Services	43%	12%	9%	3%	9%	24%
18	1441	Outsourced Contracts	42%	11%	10%	3%	9%	25%
19	1442	Production Support	25%	0%	18%	3%	8%	47%
20	1451	Infrastructure Services	25%	0%	18%	3%	8%	47%
21	1461	Control Systems	96%	2%	0%	0%	1%	1%
22	1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%
23	1463	Operations Systems Services	50%	3%	6%	1%	6%	33%
24	1466	Enterprise Applications	48%	7%	1%	1%	3%	39%
25	1467	Settlement Systems Services	27%	11%	2%	2%	5%	52%
26	1468	Corporate Application Support and Administration	44%	21%	4%	4%	10%	17%
27	1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%
28	1471	IT Planning	25%	0%	18%	3%	8%	47%
29	1481	Markets and Scheduling System	47%	3%	24%	3%	18%	6%
30	1482	Market Systems Support Services	45%	1%	19%	6%	24%	6%

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does ASREO=0	Is ASREO < FS+MU+SM CR	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
5	1111	63%	11%	26%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
6	1241	32%	33%	35%	no	yes	0%	0.0%	0.0%	16.9%	0.0%	34.5%	48.6%
7	1311	61%	11%	28%	no	yes	0%	0.0%	0.0%	12.0%	0.0%	34.1%	53.9%
8	1321	47%	8%	45%	no	no	33%	21.0%	10.2%	8.4%	2.2%	23.3%	34.9%
9	1331	60%	10%	30%	no	no	0%	0.1%	0.0%	12.6%	0.0%	34.9%	52.3%
10	1351	64%	11%	25%	no	yes	0%	0.0%	0.0%	11.5%	0.0%	33.4%	55.1%
11	1361	64%	11%	25%	no	yes	0%	0.0%	0.0%	11.5%	0.0%	33.4%	55.1%
12	1411	62%	9%	29%	no	yes	0%	0.0%	0.0%	19.6%	0.0%	18.5%	61.9%
13	1422	62%	10%	28%	no	yes	0%	0.0%	0.0%	3.4%	0.0%	36.6%	60.0%
14	1424	67%	7%	26%	no	yes	0%	0.0%	0.0%	20.3%	0.0%	19.6%	60.1%
15	1431	63%	10%	27%	no	yes	0%	0.0%	0.0%	18.7%	0.0%	21.1%	60.2%
16	1432	61%	10%	29%	no	yes	0%	0.0%	0.0%	22.0%	0.0%	16.2%	61.8%
17	1433	63%	10%	27%	no	yes	0%	0.0%	0.0%	22.3%	0.0%	21.9%	55.8%
18	1441	60%	11%	29%	no	yes	0%	0.0%	0.0%	23.0%	0.0%	20.3%	56.7%
19	1442	56%	9%	35%	no	yes	0%	0.0%	0.0%	24.9%	0.0%	10.4%	64.6%
20	1451	63%	10%	27%	no	yes	0%	0.0%	0.0%	24.9%	0.0%	10.4%	64.6%
21	1461	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
22	1462	30%	8%	62%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
23	1463	74%	2%	24%	no	yes	0%	0.0%	0.0%	13.2%	0.0%	13.1%	73.7%
24	1466	62%	9%	29%	no	yes	0%	0.0%	0.0%	2.8%	0.0%	8.0%	89.2%
25	1467	15%	7%	78%	no	no	24%	16.1%	6.6%	2.3%	1.2%	6.8%	67.0%
26	1468	61%	10%	29%	no	yes	0%	0.0%	0.0%	11.5%	0.0%	33.4%	55.1%
27	1469	63%	10%	27%	no	no	6%	0.8%	0.0%	0.0%	5.0%	94.2%	0.0%
28	1471	63%	10%	27%	no	yes	0%	0.0%	0.0%	24.9%	0.0%	10.4%	64.6%
29	1481	56%	9%	35%	no	yes	0%	0.0%	0.0%	49.5%	0.0%	36.9%	13.6%
30	1482	56%	9%	35%	no	yes	0%	0.0%	0.0%	38.7%	0.0%	49.7%	11.6%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
5	1111	$ 897,241	$ -	$ -	$ 113,483	$ -	$ 314,022	$ 469,735	$ 897,241
6	1241	$ 1,284,788	$ -	$ -	$ 216,857	$ -	$ 443,846	$ 624,086	$ 1,284,788
7	1311	$ 332,272	$ -	$ -	$ 39,806	$ -	$ 113,238	$ 179,228	$ 332,272
8	1321	$ 2,931,098	$ 614,407	$ 300,339	$ 246,885	$ 64,383	$ 683,164	$ 1,021,921	$ 2,931,098
9	1331	$ 3,471,773	$ 3,514	$ 1,718	$ 438,401	$ 368	$ 1,213,115	$ 1,814,657	$ 3,471,773
10	1351	$ 6,136,300	$ -	$ -	$ 705,947	$ -	$ 2,051,123	$ 3,379,230	$ 6,136,300
11	1361	$ 2,660,758	$ -	$ -	$ 306,105	$ -	$ 889,386	$ 1,465,267	$ 2,660,758
12	1411	$ (319,362)	$ -	$ -	$ (62,440)	$ -	$ (59,163)	$ (197,760)	$ (319,362)
13	1422	$ 272,402	$ -	$ -	$ 9,156	$ -	$ 99,729	$ 163,517	$ 272,402
14	1424	$ 20,455,331	$ -	$ -	$ 4,154,522	$ -	$ 4,000,370	$ 12,300,439	$ 20,455,331
15	1431	$ 6,662,499	$ -	$ -	$ 1,247,410	$ -	$ 1,403,018	$ 4,012,070	$ 6,662,499
16	1432	$ 982,255	$ -	$ -	$ 215,650	$ -	$ 159,366	$ 607,239	$ 982,255
17	1433	$ 1,621,981	$ -	$ -	$ 361,430	$ -	$ 355,439	$ 905,111	$ 1,621,981
18	1441	$ 10,669,871	$ -	$ -	$ 2,451,089	$ -	$ 2,170,741	$ 6,048,041	$ 10,669,871
19	1442	$ 2,642,634	$ -	$ -	$ 658,767	$ -	$ 275,526	$ 1,708,341	$ 2,642,634
20	1451	$ 1,696,047	$ -	$ -	$ 422,798	$ -	$ 176,833	$ 1,096,416	$ 1,696,047
21	1461	$ 2,385,558	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	1462	$ 2,547,393	$ -	$ -	$ -	$ -	$ -	$ 2,547,393	$ 2,547,393
23	1463	$ 347,495	$ -	$ -	$ 45,924	$ -	$ 45,459	$ 256,112	$ 347,495
24	1466	$ 1,609,967	$ -	$ -	$ 44,324	$ -	$ 128,782	$ 1,436,861	$ 1,609,967
25	1467	$ 1,170,354	$ 187,869	$ 76,989	$ 27,499	$ 14,093	$ 79,899	$ 784,005	$ 1,170,354
26	1468	$ 609,686	$ -	$ -	$ 70,141	$ -	$ 203,794	$ 335,751	$ 609,686
27	1469	$ 1,298,406	$ 10,013	$ -	$ -	$ 65,086	$ 1,223,306	$ -	$ 1,298,406
28	1471	$ 950,115	$ -	$ -	$ 236,849	$ -	$ 99,061	$ 614,206	$ 950,115
29	1481	$ 1,516,144	$ -	$ -	$ 751,139	$ -	$ 559,456	$ 205,548	$ 1,516,144
30	1482	$ 616,978	$ -	$ -	$ 238,794	$ -	$ 306,709	$ 71,474	$ 616,978

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
31	1511	VP Grid Operations	67%	33%	0%	0%	0%	0%
32	1521	Grid Planning	63%	38%	0%	0%	0%	0%
33	1542	Outage Coordination	95%	5%	0%	0%	0%	0%
34	1543	Loads and Resources	49%	51%	0%	0%	0%	0%
35	1544	Real-Time Scheduling	60%	40%	0%	0%	0%	0%
36	1545	Grid Operations	67%	33%	0%	0%	0%	0%
37	1546	Security Coordination	100%	0%	0%	0%	0%	0%
38	1547	Engineering and Maintenance	46%	54%	0%	0%	0%	0%
39	1548	OSAT Group - General	93%	7%	0%	0%	0%	0%
40	1549	Operations Training	50%	50%	0%	0%	0%	0%
41	1554	Special Projects Engineering	43%	57%	0%	0%	0%	0%
42	1555	Operations Support Group	56%	44%	0%	0%	0%	0%
43	1558	Transmission Maintenance	58%	42%	0%	0%	0%	0%
44	1559	Operations Application Support	60%	40%	0%	0%	0%	0%
45	1561	Operations Engineering South	65%	35%	0%	0%	0%	0%
46	1562	Operations Engineering North	55%	45%	0%	0%	0%	0%
47	1563	Operations Coordination	75%	25%	0%	0%	0%	0%
48	1564	Operations Scheduling	100%	0%	0%	0%	0%	0%
49	1565	Pre-Scheduling and Support	77%	23%	0%	0%	0%	0%
50	1566	Regional Coordination - General	100%	0%	0%	0%	0%	0%
51	1611	VP General Counsel - General	36%	22%	4%	7%	17%	15%
52	1631	Legal and Regulatory	44%	22%	4%	5%	10%	16%
53	1641	Market Analysis	15%	26%	0%	20%	31%	7%
54	1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%
55	1651	Board of Governors	44%	22%	4%	5%	10%	16%
56	1661	Compliance - General	22%	20%	12%	0%	29%	17%
57	1662	Compliance - Audits	8%	0%	0%	0%	50%	42%

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does ASREO=0	Is ASREO < FS+MU+SM CR	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
31	1511	66%	18%	15%	no	no	100%	66.7%	33.3%	0.0%	0.0%	0.0%	0.0%
32	1521	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
33	1542	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
34	1543	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
35	1544	75%	15%	10%	no	no	100%	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%
36	1545	80%	10%	10%	no	no	100%	67.5%	32.5%	0.0%	0.0%	0.0%	0.0%
37	1546	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
38	1547	99%	0%	1%	no	no	100%	46.4%	53.6%	0.0%	0.0%	0.0%	0.0%
39	1548	77%	6%	17%	no	no	100%	93.2%	6.8%	0.0%	0.0%	0.0%	0.0%
40	1549	62%	24%	14%	no	no	100%	50.5%	49.5%	0.0%	0.0%	0.0%	0.0%
41	1554	84%	0%	16%	no	no	100%	42.9%	57.1%	0.0%	0.0%	0.0%	0.0%
42	1555	61%	21%	18%	no	no	100%	55.6%	44.4%	0.0%	0.0%	0.0%	0.0%
43	1558	98%	0%	2%	no	no	100%	58.5%	41.5%	0.0%	0.0%	0.0%	0.0%
44	1559	79%	10%	11%	no	no	100%	60.0%	40.0%	0.0%	0.0%	0.0%	0.0%
45	1561	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
46	1562	100%	0%	0%	yes	na	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
47	1563	60%	10%	30%	no	no	100%	74.6%	25.4%	0.0%	0.0%	0.0%	0.0%
48	1564	82%	11%	8%	no	no	100%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
49	1565	74%	15%	11%	no	no	100%	76.9%	23.1%	0.0%	0.0%	0.0%	0.0%
50	1566	83%	0%	17%	no	no	100%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
51	1611	57%	11%	32%	no	yes	0%	0.0%	0.0%	10.6%	0.0%	48.2%	41.3%
52	1631	62%	10%	28%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
53	1641	23%	19%	58%	no	no	34%	8.4%	14.5%	0.0%	10.9%	54.0%	12.2%
54	1642	9%	25%	66%	no	no	62%	20.7%	20.7%	0.0%	20.7%	38.0%	0.0%
55	1651	63%	11%	26%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
56	1661	82%	5%	13%	no	yes	0%	0.0%	0.0%	20.6%	0.0%	49.4%	30.0%
57	1662	84%	5%	12%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	54.5%	45.5%

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
31	1511	$ (154,783)	$ (103,249)	$ (51,534)	$ -	$ -	$ -	$ -	$ (154,783)
32	1521	$ 2,497,543	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	1542	$ 93,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	1543	$ 1,185,612	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	1544	$ 2,786,442	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
36	1545	$ 7,545,786	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
37	1546	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	1547	$ 576,104	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -	$ 576,104
39	1548	$ 293,953	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
40	1549	$ 2,882,700	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
41	1554	$ 853,958	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -	$ 853,958
42	1555	$ 1,111,667	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
43	1558	$ 1,623,755	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -	$ 1,623,755
44	1559	$ 584,623	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
45	1561	$ 1,241,824	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46	1562	$ 1,355,194	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1563	$ 704,967	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
48	1564	$ 295,029	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
49	1565	$ 1,834,525	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
50	1566	$ 547,417	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
51	1611	$ 285,317	$ -	$ -	$ 30,171	$ -	$ 137,425	$ 117,721	$ 285,317
52	1631	$ 12,216,636	$ -	$ -	$ 1,545,158	$ -	$ 4,275,662	$ 6,395,816	$ 12,216,636
53	1641	$ 2,948,963	$ 248,558	$ 427,183	$ -	$ 322,790	$ 1,591,799	$ 358,633	$ 2,948,963
54	1642	$ 561,750	$ 116,085	$ 116,085	$ -	$ 116,085	$ 213,495	$ -	$ 561,750
55	1651	$ 231,400	$ -	$ -	$ 29,267	$ -	$ 80,987	$ 121,146	$ 231,400
56	1661	$ 1,722,093	$ -	$ -	$ 354,920	$ -	$ 850,131	$ 517,042	$ 1,722,093
57	1662	$ 434,112	$ -	$ -	$ -	$ -	$ 236,789	$ 197,324	$ 434,112

	A	B	C	D	E	F	G	H
1		**California Independent System Operator 2004 GMC Cost Allocation**						
2		**Percentage of Total Cost by Cost Center**						
3			**2004 Cost Allocations/Assignments**					
4	**CC #**	**Cost Center**	**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**
58	1711	VP Market Services - General	17%	2%	9%	9%	20%	41%
59	1721	Billing and Settlements-General	25%	0%	0%	0%	0%	75%
60	1722	Business Development Support	0%	0%	0%	0%	0%	100%
61	1723	RMR Settlements	80%	20%	0%	0%	0%	0%
62	1724	BBS - PSS	0%	0%	0%	0%	0%	100%
63	1725	BBS - FSS	0%	0%	0%	0%	0%	100%
64	1731	Contracts and Special Projects	43%	7%	0%	0%	0%	50%
65	1741	Client Relations	0%	0%	0%	0%	0%	100%
66	1751	Market Operations - General	31%	0%	15%	15%	35%	4%
67	1752	Manager of Markets	27%	5%	27%	22%	18%	0%
68	1753	Market Engineering	21%	0%	0%	28%	43%	7%
69	1755	Business Solutions	6%	0%	47%	12%	29%	6%
70	1756	Market Quality - General	0%	0%	0%	0%	71%	29%
71	1757	Market Integration	7%	0%	30%	30%	26%	7%
72	1811	VP Corporate and Strategic Development - Genera	44%	21%	4%	4%	10%	16%
73	1821	Communications	44%	22%	4%	5%	10%	16%
74	1831	Strategic Development	44%	22%	4%	5%	10%	16%
75	1841	Human Resources	44%	21%	4%	4%	10%	17%
76	1851	Project Office	44%	22%	4%	5%	10%	16%
77	1861	Regulatory Policy	44%	22%	4%	5%	10%	16%
78	2111	Other	0%	0%	0%	0%	0%	0%
79								

	A	I	J	K	L	M	N	O	P	Q	R	S	T
1													
2													
3		2003 Cost Allocation						Allocators to:					
4	CC #	CAS	CONG	ASREO	Does ASREO=0	Is ASREO < FS+MU+SM CR	% to allocate to other functions	CRS	ETS	FS	CONG	MU	SMCR
58	1711	37%	18%	45%	no	yes	0%	0.0%	0.0%	13.3%	0.0%	28.6%	58.0%
59	1721	34%	6%	60%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
60	1722	19%	7%	74%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
61	1723	90%	0%	10%	no	no	100%	80.3%	19.7%	0.0%	0.0%	0.0%	0.0%
62	1724	17%	8%	75%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
63	1725	16%	7%	77%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
64	1731	77%	2%	21%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
65	1741	38%	9%	53%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
66	1751	20%	30%	50%	no	yes	0%	0.0%	0.0%	28.4%	0.0%	64.5%	7.1%
67	1752	29%	30%	41%	no	yes	0%	0.0%	0.0%	60.2%	0.0%	39.8%	0.0%
68	1753	32%	28%	40%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	85.9%	14.1%
69	1755	25%	10%	64%	no	yes	0%	0.0%	0.0%	57.5%	0.0%	35.4%	7.2%
70	1756	37%	33%	30%	no	yes	0%	0.0%	0.0%	0.0%	0.0%	70.9%	29.1%
71	1757	25%	30%	45%	no	yes	0%	0.0%	0.0%	46.8%	0.0%	41.5%	11.7%
72	1811	63%	11%	26%	no	yes	0%	0.0%	0.0%	12.0%	0.0%	34.1%	54.0%
73	1821	64%	11%	25%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
74	1831	64%	11%	25%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
75	1841	63%	11%	26%	no	yes	0%	0.0%	0.0%	11.5%	0.0%	33.4%	55.1%
76	1851	63%	10%	27%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
77	1861	63%	10%	27%	no	yes	0%	0.0%	0.0%	12.6%	0.0%	35.0%	52.4%
78	2111	0%	0%	0%									
79													

	A	U	V	W	X	Y	Z	AA	AB
1									
2									
3									
4	CC #	Budget	CRS	ETS	FS	CONG	MU	SMCR	Total
58	1711	$ (69,788)	$ -	$ -	$ (9,292)	$ -	$ (19,990)	$ (40,506)	$ (69,788)
59	1721	$ 450,755	$ -	$ -	$ -	$ -	$ -	$ 450,755	$ 450,755
60	1722	$ 700,651	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
61	1723	$ 992,025	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -	$ 992,025
62	1724	$ 1,280,172	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
63	1725	$ 1,283,046	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
64	1731	$ 1,525,676	$ -	$ -	$ -	$ -	$ -	$ 1,525,676	$ 1,525,676
65	1741	$ 2,366,671	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
66	1751	$ 979,523	$ -	$ -	$ 278,022	$ -	$ 631,995	$ 69,506	$ 979,523
67	1752	$ 2,773,203	$ -	$ -	$ 1,668,395	$ -	$ 1,104,808	$ -	$ 2,773,203
68	1753	$ 1,955,609	$ -	$ -	$ -	$ -	$ 1,679,066	$ 276,543	$ 1,955,609
69	1755	$ 1,175,260	$ -	$ -	$ 675,240	$ -	$ 415,615	$ 84,405	$ 1,175,260
70	1756	$ 2,102,495	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
71	1757	$ 998,732	$ -	$ -	$ 467,235	$ -	$ 414,689	$ 116,809	$ 998,732
72	1811	$ 467,576	$ -	$ -	$ 55,963	$ -	$ 159,278	$ 252,335	$ 467,576
73	1821	$ 847,176	$ -	$ -	$ 107,151	$ -	$ 296,500	$ 443,525	$ 847,176
74	1831	$ 737,340	$ -	$ -	$ 93,259	$ -	$ 258,059	$ 386,022	$ 737,340
75	1841	$ 4,624,949	$ -	$ -	$ 532,074	$ -	$ 1,545,938	$ 2,546,937	$ 4,624,949
76	1851	$ 696,828	$ -	$ -	$ 88,135	$ -	$ 243,881	$ 364,813	$ 696,828
77	1861	$ 951,804	$ -	$ -	$ 120,384	$ -	$ 333,119	$ 498,301	$ 951,804
78	2111	$ 149,918,347	$ 15,695,769	$ 8,885,160	$ 18,976,620	$ 582,805	$ 32,876,736	$ 62,773,450	$ 139,790,541
79			11%	6%	14%	0%	24%	45%	100%

	A	B
1	California Independent System Operator 2004 GMC Cost Allocation Model Revenue Requirement and Rate Calculations	
2	This spreadsheet takes the O&M requirement requirement and functionalizes the debt service requirement, capital project funding, expense recovery budget and the excess Operating and Capital Reserve. It sums these, applies the functional association of Settlements, Metering and Client Relations costs and calculates rates.	
3		
4		
5	**Sheet Index:**	Description
6	Billing Determinants	Historical and Forecast Billing Determinants
7	Rev Req Detail	Shows the detailed calculation of revenue requirement as the sum of O&M, Financing Budget, Capital Project Funding, Expense Recovery Budget and the Financial and Capital Operating Reserve
8	Rev Req Summary	Shows the summary calculation of revenue requirement as the sum of O&M, Financing Budget, Capital Project Funding, Expense Recovery Budget and the Financial and Capital Operating Reserve
9	Rates	Summarizes revenue requirement calculation, applies functional association of charge types and billing determinants to calculate rates
10	Worksheet divider	
11	O&M	Table showing O&M expenditures by division
12	Financing Budget	Functionalization of the debt service costs
13	Capital Project Funding	Functionalization of expenditures on new capital projects
14	Expense Recovery Budget	Functionalization of miscellaneous credits and interest
15	F&C Op Reserve	Functionalization of excess Operating and Capital Reserve
16	Revenue Requirement	Shows the summary calculation of revenue requirement as the sum of O&M, Financing Budget, Capital Project Funding, Expense Recovery Budget and the Financial and Capital Operating Reserve

Exh. No. ISO- 10, Page 429 of 442

	A	B	C	D	E	F	G	H
1	California Independent System Operator 2004 GMC Cost Allocation Model Billing Determinant Forecast							
2		Core Reliability Services	Energy & Transmission Services: Energy	Energy & Transmission Services: Deviations	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering & Client Relations
3	**Date**	**NCP by Mo**	**Control Area Metered Load**	**Monthly Net UE**	**Total Sch Count**	**CONG**	**Mkt Usage**	**Cust Mo**
4	Jan-01	62,988	21,020,259	2,911,491		6,506,580	10,894,763	70
5	Feb-01	52,117	19,183,430	3,024,146		5,319,097	9,978,095	74
6	Mar-01	38,655	21,038,733	2,483,998		5,844,512	9,344,004	63
7	Apr-01	55,293	19,760,795	2,114,664		5,780,140	8,161,451	72
8	May-01	46,786	21,378,549	2,278,700		5,794,088	8,400,994	66
9	Jun-01	50,572	21,453,157	2,133,676		6,361,512	7,100,606	79
10	Jul-01	54,428	23,041,969	1,925,623		6,985,699	5,746,227	85
11	Aug-01	53,831	23,648,669	1,837,372		7,284,895	5,561,496	80
12	Sep-01	47,128	20,830,881	1,680,360	939,898	6,376,523	4,787,223	82
13	Oct-01	46,544	19,999,759	1,605,215	1,000,028	6,408,260	4,303,568	69
14	Nov-01	41,383	18,742,663	1,344,346	994,180	6,684,232	3,600,328	82
15	Dec-01	40,347	19,594,018	1,371,277	1,017,915	6,703,725	3,720,998	87
16	Jan-02	39,650	19,762,706	1,271,309	966,442	7,221,308	3,756,413	70
17	Feb-02	38,248	17,493,126	911,266	928,685	6,452,561	3,157,194	73
18	Mar-02	36,879	19,145,884	967,145	1,031,549	6,782,106	3,484,324	74
19	Apr-02	37,773	18,565,485	1,149,512	1,007,846	7,634,142	3,439,526	72
20	May-02	43,702	19,894,564	1,303,706	1,077,546	7,146,983	3,703,240	73
21	Jun-02	50,740	21,410,086	1,528,504	1,068,867	8,391,100	3,996,023	75
22	Jul-02	54,466	23,927,916	1,695,332	1,141,240	9,468,986	4,092,762	78
23	Aug-02	50,045	23,089,531	1,634,715	1,133,562	8,657,460	3,744,858	76
24	Sep-02	50,475	21,611,036	1,682,331	1,135,685	8,016,125	3,804,609	75
25	Oct-02	41,971	19,684,915	1,308,466	1,158,201	7,396,523	3,012,013	72
26	Nov-02	41,102	18,988,767	1,663,907	1,097,196	7,271,549	3,388,105	82
27	Dec-02	39,870	20,025,912	1,606,764	1,105,911	7,094,691	3,467,227	90
28	Jan-03	36,850	19,254,725	1,233,250	1,095,854	7,922,043	3,106,399	84
29	Feb-03	35,120	16,942,271	1,349,006	1,011,712	6,136,275	3,004,778	83
30	Mar-03	37,734	19,349,409	1,723,985	1,137,646	6,922,043	3,658,018	84
31	Apr-03	32,772	18,122,112	1,348,446	1,081,013	7,027,777	3,430,525	95
32	May-03	47,648	19,824,838	1,641,420	1,086,239	7,849,194	3,970,160	95
33	Jun-03	50,389	20,901,763	1,452,295	1,077,433	7,794,004	3,983,216	85
34	Jul-03				1,120,865			
35	Aug-03				1,102,845			
36								
37	**Totals 7-02 to 6-03**	518,443	241,723,194	18,339,917	13,261,692	91,556,671	42,662,669	999
38	Totals 5-02 to 4-03	514,847	242,301,243	18,078,413	13,244,433	91,451,555	42,408,557	967
39	Totals 9-01 to 8-02	526,904	242,456,619	16,462,686	12,307,758	87,927,387	45,786,457	911
40								
41	**Est Escl Factor**	1.57%	0.56%	0.00%	0.00%	0.56%	0.00%	8.08%
42	**Est 7-03 to 6-04**	526,563	243,073,337	18,339,917	13,261,692	92,068,060	42,662,669	1,080
43	**Est 1-04 to 12-04**	530,670	243,751,234	18,339,917	13,261,692	92,324,825	42,662,669	1,122
44	**Est 7-04 to 6-05**	534,810	244,431,022	18,339,917	13,261,692	92,582,306	42,662,669	1,167

	A	B	C	D	E	F	G	H	I
1		California Independent System Operator 2004 GMC Cost Allocation Model							
2		Detailed Revenue Requirement							
3			Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4	Operations and Maintenance								
5	1111	CEO - General	$ 394,905	$ 193,041	$ 33,886	$ 41,381	$ 93,766	$ 140,261	$ 897,241
6	1241	MD02	$ 89,351	$ -	$ 178,118	$ 140,159	$ 364,559	$ 512,601	$ 1,284,788
7	1311	CFO - General	$ 146,340	$ 71,406	$ 12,041	$ 14,014	$ 34,254	$ 54,216	$ 332,272
8	1321	Accounting	$ 1,290,074	$ 630,625	$ 110,697	$ 135,185	$ 306,314	$ 458,205	$ 2,931,098
9	1331	Financial Planning and Treasury	$ 1,528,042	$ 746,950	$ 131,116	$ 160,121	$ 362,817	$ 542,726	$ 3,471,773
10	1351	Facilities	$ 2,703,870	$ 1,317,599	$ 215,552	$ 241,189	$ 626,284	$ 1,031,805	$ 6,136,300
11	1361	Security & Corporate Services	$ 1,172,424	$ 571,324	$ 93,465	$ 104,582	$ 271,563	$ 447,401	$ 2,660,758
12	1411	Chief Information Officer	$ (119,699)	$ (23,714)	$ (36,521)	$ (10,842)	$ (28,103)	$ (100,484)	$ (319,362)
13	1422	Corporate & Enterprise Applications	$ 105,208	$ 37,607	$ 9,585	$ 12,313	$ 33,575	$ 74,114	$ 272,402
14	1424	Asset Management	$ 7,086,102	$ 1,296,474	$ 2,549,214	$ 999,390	$ 2,083,966	$ 6,440,185	$ 20,455,331
15	1431	End User Support	$ 2,482,662	$ 962,353	$ 635,689	$ 234,380	$ 606,459	$ 1,740,955	$ 6,662,499
16	1432	Computer Operations and Infrastructure	$ 325,930	$ 90,375	$ 137,002	$ 30,594	$ 81,596	$ 316,759	$ 982,255
17	1433	Network Services	$ 688,219	$ 191,454	$ 179,942	$ 42,507	$ 144,434	$ 375,426	$ 1,621,981
18	1441	Outsourced Contracts	$ 4,396,546	$ 1,124,882	$ 1,299,187	$ 271,779	$ 928,981	$ 2,648,497	$ 10,669,871
19	1442	Production Support	$ 619,872	$ 4,640	$ 575,596	$ 70,826	$ 181,333	$ 1,190,368	$ 2,642,634
20	1451	Infrastructure Services	$ 397,835	$ 2,978	$ 369,418	$ 45,456	$ 116,380	$ 763,980	$ 1,696,047
21	1461	Control Systems	$ 2,300,738	$ 58,314	$ -	$ -	$ 13,253	$ 13,253	$ 2,385,558
22	1462	Field Data Acquisition System (FDAS)	$ 545,870	$ -	$ -	$ -	$ -	$ 2,001,523	$ 2,547,393
23	1463	Operations Systems Services	$ 164,980	$ 4,562	$ 22,368	$ 3,207	$ 17,532	$ 134,846	$ 347,495
24	1466	Enterprise Applications	$ 772,488	$ 117,536	$ 19,228	$ 21,515	$ 55,868	$ 623,331	$ 1,609,967
25	1467	Settlement Systems Services	$ 106,396	$ -	$ -	$ -	$ -	$ 1,063,958	$ 1,170,354
26	1468	Corporate Application Support and Administrati	$ 268,649	$ 130,913	$ 21,417	$ 23,964	$ 62,226	$ 102,517	$ 609,686
27	1469	Analytical and Reporting Applications	$ 317,618	$ 237,242	$ 83,140	$ 113,545	$ 315,526	$ 231,334	$ 1,298,406
28	1471	IT Planning	$ 222,865	$ 1,668	$ 206,946	$ 25,464	$ 65,195	$ 427,977	$ 950,115
29	1481	Markets and Scheduling System	$ 685,877	$ 43,352	$ 405,118	$ 37,904	$ 257,834	$ 86,059	$ 1,516,144
30	1482	Market Systems Support Services	$ 271,532	$ 6,468	$ 125,046	$ 38,098	$ 144,465	$ 31,368	$ 616,978
31	1511	VP Grid Operations	$ (103,249)	$ (51,534)	$ -	$ -	$ -	$ -	$ (154,783)
32	1521	Grid Planning	$ 1,560,965	$ 936,579	$ -	$ -	$ -	$ -	$ 2,497,543
33	1542	Outage Coordination	$ 1,816,711	$ 93,500	$ -	$ -	$ -	$ -	$ 1,910,211
34	1543	Loads and Resources	$ 580,350	$ 605,262	$ -	$ -	$ -	$ -	$ 1,185,612
35	1544	Real-Time Scheduling	$ 1,671,865	$ 1,114,577	$ -	$ -	$ -	$ -	$ 2,786,442
36	1545	Grid Operations	$ 5,090,879	$ 2,454,908	$ -	$ -	$ -	$ -	$ 7,545,786
37	1546	Security Coordination	$ 1,368,574	$ -	$ -	$ -	$ -	$ -	$ 1,368,574
38	1547	Engineering and Maintenance	$ 267,403	$ 308,701	$ -	$ -	$ -	$ -	$ 576,104

Exh. No. ISO- 10, Page 431 of 442

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation Model**							
2		**Detailed Revenue Requirement**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
39	1548	OSAT Group - General	$ 273,953	$ 20,000	$ -	$ -	$ -	$ -	$ 293,953
40	1549	Operations Training	$ 1,455,116	$ 1,427,583	$ -	$ -	$ -	$ -	$ 2,882,700
41	1554	Special Projects Engineering	$ 366,029	$ 487,929	$ -	$ -	$ -	$ -	$ 853,958
42	1555	Operations Support Group	$ 617,593	$ 494,074	$ -	$ -	$ -	$ -	$ 1,111,667
43	1558	Transmission Maintenance	$ 949,170	$ 674,585	$ -	$ -	$ -	$ -	$ 1,623,755
44	1559	Operations Application Support	$ 350,774	$ 233,849	$ -	$ -	$ -	$ -	$ 584,623
45	1561	Operations Engineering South	$ 811,216	$ 430,608	$ -	$ -	$ -	$ -	$ 1,241,824
46	1562	Operations Engineering North	$ 747,330	$ 607,864	$ -	$ -	$ -	$ -	$ 1,355,194
47	1563	Operations Coordination	$ 525,574	$ 179,393	$ -	$ -	$ -	$ -	$ 704,967
48	1564	Operations Scheduling	$ 295,029	$ -	$ -	$ -	$ -	$ -	$ 295,029
49	1565	Pre-Scheduling and Support	$ 1,411,173	$ 423,352	$ -	$ -	$ -	$ -	$ 1,834,525
50	1566	Regional Coordination - General	$ 547,417	$ -	$ -	$ -	$ -	$ -	$ 547,417
51	1611	VP General Counsel - General	$ 102,130	$ 62,148	$ 10,632	$ 20,495	$ 48,427	$ 41,484	$ 285,317
52	1631	Legal and Regulatory	$ 5,376,947	$ 2,628,404	$ 461,379	$ 563,441	$ 1,276,697	$ 1,909,768	$ 12,216,636
53	1641	Market Analysis	$ 451,783	$ 776,456	$ -	$ 586,709	$ 925,499	$ 208,515	$ 2,948,963
54	1642	Market Surveillance Committee	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
55	1651	Board of Governors	$ 101,847	$ 49,786	$ 8,739	$ 10,672	$ 24,182	$ 36,174	$ 231,400
56	1661	Compliance - General	$ 377,122	$ 350,720	$ 204,913	$ -	$ 490,823	$ 298,514	$ 1,722,093
57	1662	Compliance - Audits	$ 36,176	$ -	$ -	$ -	$ 217,056	$ 180,880	$ 434,112
58	1711	VP Market Services - General	$ (11,963)	$ (1,694)	$ (6,601)	$ (6,555)	$ (14,201)	$ (28,774)	$ (69,788)
59	1721	Billing and Settlements-General	$ 112,689	$ -	$ -	$ -	$ -	$ 338,066	$ 450,755
60	1722	Business Development Support	$ -	$ -	$ -	$ -	$ -	$ 700,651	$ 700,651
61	1723	RMR Settlements	$ 796,597	$ 195,428	$ -	$ -	$ -	$ -	$ 992,025
62	1724	BBS - PSS	$ -	$ -	$ -	$ -	$ -	$ 1,280,172	$ 1,280,172
63	1725	BBS - FSS	$ -	$ -	$ -	$ -	$ -	$ 1,283,046	$ 1,283,046
64	1731	Contracts and Special Projects	$ 658,584	$ 104,254	$ -	$ -	$ -	$ 762,838	$ 1,525,676
65	1741	Client Relations	$ -	$ -	$ -	$ -	$ -	$ 2,366,671	$ 2,366,671
66	1751	Market Operations - General	$ 300,321	$ -	$ 150,160	$ 150,160	$ 341,341	$ 37,540	$ 979,523
67	1752	Manager of Markets	$ 757,251	$ 151,450	$ 757,251	$ 605,801	$ 501,450	$ -	$ 2,773,203
68	1753	Market Engineering	$ 416,926	$ -	$ -	$ 555,901	$ 843,807	$ 138,975	$ 1,955,609
69	1755	Business Solutions	$ 69,443	$ -	$ 555,545	$ 138,886	$ 341,942	$ 69,443	$ 1,175,260
70	1756	Market Quality - General	$ -	$ -	$ -	$ -	$ 1,491,272	$ 611,223	$ 2,102,495
71	1757	Market Integration	$ 73,706	$ -	$ 294,825	$ 294,825	$ 261,669	$ 73,706	$ 998,732
72	1811	VP Corporate and Strategic Development - Gene	$ 205,934	$ 100,481	$ 16,932	$ 19,689	$ 48,192	$ 76,347	$ 467,576
73	1821	Communications	$ 372,870	$ 182,269	$ 31,995	$ 39,072	$ 88,534	$ 132,435	$ 847,176

Exh. No. ISO- 10, Page 432 of 442

	A	B	C	D	E	F	G	H	I
1		**California Independent System Operator 2004 GMC Cost Allocation Model**							
2		**Detailed Revenue Requirement**							
3			**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
74	1831	Strategic Development	$ 324,528	$ 158,638	$ 27,847	$ 34,007	$ 77,056	$ 115,265	$ 737,340
75	1841	Human Resources	$ 2,037,915	$ 993,079	$ 162,462	$ 181,785	$ 472,033	$ 777,675	$ 4,624,949
76	1851	Project Office	$ 306,697	$ 149,922	$ 26,317	$ 32,138	$ 72,822	$ 108,932	$ 696,828
77	1861	Regulatory Policy	$ 418,921	$ 204,780	$ 35,946	$ 43,898	$ 99,468	$ 148,791	$ 951,804
78	2111	Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79									
80	Total Operations and Maintenance		$ 62,995,426	$ 24,505,839	$ 10,115,593	$ 6,208,095	$ 14,888,585	$ 33,021,519	$ 151,735,058
81									
82	Financing and Capital Project Budgets								
83		Bond Financed Capital	$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
84		Operating Systems	$ 2,414,155	$ 155,156	$ 278,805	$ 266,718	$ 525,324	$ 1,049,842	$ 4,690,000
85		Facilities/Furniture/Office Furniture	$ 66,095	$ 32,208	$ 5,269	$ 5,896	$ 15,309	$ 25,222	$ 150,000
86		Corporate Systems	$ 2,034,020	$ 271,593	$ 465,393	$ 124,250	$ 514,223	$ 1,750,521	$ 5,160,000
87		MD02	$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	$ 22,000,000
88	Total Financing and Capital Project Budgets		$ 24,332,319	$ 4,790,375	$ 12,134,521	$ 5,632,936	$ 12,453,952	$ 27,270,972	$ 86,615,075
89									
90	Revenue Requirement before application of credits (debits)		$ 87,327,745	$ 29,296,214	$ 22,250,114	$ 11,841,031	$ 27,342,537	$ 60,292,491	$ 238,350,133
91			37%	12%	9%	5%	11%	25%	100%
92	Credits								
93		Expense Recovery Budget	$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
94		Operating and Capital Reserves	$ (563,648)	$ (1,414,862)	$ (2,424,656)	$ (1,119,667)	$ (4,208,609)	$ (8,103,308)	$ (17,834,751)
95	Total Credits		$ (2,183,944)	$ (1,518,109)	$ (2,503,071)	$ (1,161,398)	$ (4,304,971)	$ (8,435,792)	$ (20,107,284)
96									
97	Total Revenue Requirement		$ 85,143,801	$ 27,778,105	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
98		Percent of Total	39%	13%	9%	5%	11%	24%	100%

Exh. No. ISO- 10, Page 433 of 442

California Independent System Operator
2004 GMC Cost Allocation Model

Summary of Revenue Requirement

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Operations and Maintenance								
1100	CEO	$ 2,045,221	$ 1,129,620	$ 212,004	$ 181,540	$ 458,325	$ 652,863	$ 4,679,572
1300	Finance	$ 6,840,749	$ 3,337,904	$ 562,872	$ 655,090	$ 1,601,233	$ 2,534,352	$ 15,532,200
1400	Information Services	$ 21,639,687	$ 4,287,103	$ 6,602,375	$ 1,960,100	$ 5,080,520	$ 18,165,968	$ 57,735,753
1500	Grid Operations	$ 19,042,906	$ 9,504,653	$ -	$ -	$ -	$ -	$ 28,547,559
1600	Legal and Regulatory	$ 6,586,443	$ 4,007,951	$ 685,663	$ 1,321,756	$ 3,123,124	$ 2,675,335	$ 18,400,271
1700	Market Services	$ 3,173,554	$ 449,438	$ 1,751,181	$ 1,739,019	$ 3,767,280	$ 7,633,557	$ 18,514,029
1800	Corporate and Strategic Development	$ 3,666,865	$ 1,789,170	$ 301,499	$ 350,590	$ 858,104	$ 1,359,445	$ 8,325,673
2100	Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Operations and Maintenance		$ 62,995,426	$ 24,505,839	$ 10,115,593	$ 6,208,095	$ 14,888,585	$ 33,021,519	$ 151,735,058
	Percent Allocations	42%	16%	7%	4%	10%	22%	100%
Total Financing Budget		$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
	Percent Allocations	33%	8%	15%	5%	9%	29%	100%
Total Capital Project Funding		$ 6,044,270	$ 458,957	$ 3,799,468	$ 2,796,863	$ 7,297,356	$ 11,603,085	$ 32,000,000
	Percent Allocations	19%	1%	12%	9%	23%	36%	100%
Total Expense Recovery Budget		$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
	Percent Allocations	71%	5%	3%	2%	4%	15%	100%
Total Operating and Capital Reserves Credit		$ (563,648)	$ (1,414,862)	$ (2,424,656)	$ (1,119,667)	$ (4,208,609)	$ (8,103,308)	$ (17,834,751)
	Percent Allocations	3%	8%	14%	6%	24%	45%	100%
Total Revenue Requirement		$ 85,143,801	$ 27,778,105	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
	Percent Allocations	39%	13%	9%	5%	11%	24%	100%

	A	B	C	D	E	F	G	H	I	J	K
1		California Independent System Operator 2004 GMC Cost Allocation Model									
2		Summary of Revenue Requirement and Rates									
3				Core Reliability	Energy & Transmission (Load)	Energy & Transmission (Deviations)	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4											
5		Revenue Requirement		$ 85,143,801	$ 22,222,484	$ 5,555,621	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
6				39%	10%	3%	9%	5%	11%	24%	
7		Functional Association of SMCR		$ -	$ 28,865,361	$ 7,216,340	$ -	$ 4,220,407	$ 10,993,378	$ 561,213	$ 51,856,699
8			Percent of SMCR	0.0%	56.3%	14.1%	0.0%	8.2%	21.4%		
9		Adjusted Revenue Requirement		$ 85,143,801	$ 51,087,845	$ 12,771,961	$ 19,747,044	$ 14,900,040	$ 34,030,944	$ 561,213	$ 218,242,849
10				39%	23%	6%	9%	7%	16%	0%	100%
11		Billing Determinants		530,670	243,751,234	18,339,917	13,261,692	92,324,825	42,662,669	1,122	
12			Units	MW-months	MWh	MWh	Schedules	MWh	MWh	customer-months	
13		Rate		$ 160.446	$ 0.210	$ 0.696	$ 1.489	$ 0.161	$ 0.798	$ 500.00	
14											
15			last updated: 10/23/2003								

Worksheets on O&M, Financing Budget, Capital Project Funding, Expense Recovery Budget, Operating and Capital Reserve and Revenue Requirement follow

Exh. No. ISO- 10, Page 436 of 442

	A	B	C	D	E	F	G	H	I	J
1				**California Independent System Operator**						
2				**2004 GMC Cost Allocation Model**						
3				**Summary of Operations and Maintenance Revenue Requirement**						
4				**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
5		**Operations and Maintenance**								
6		**1100**	**CEO**	**$ 2,045,221**	**$ 1,129,620**	**$ 212,004**	**$ 181,540**	**$ 458,325**	**$ 652,863**	**$ 4,679,572**
7		**1300**	**Finance**	**$ 6,840,749**	**$ 3,337,904**	**$ 562,872**	**$ 655,090**	**$ 1,601,233**	**$ 2,534,352**	**$ 15,532,200**
8		**1400**	**Information Services**	**$ 21,639,687**	**$ 4,287,103**	**$ 6,602,375**	**$ 1,960,100**	**$ 5,080,520**	**$ 18,165,968**	**$ 57,735,753**
9		**1500**	**Grid Operations**	**$ 19,042,906**	**$ 9,504,653**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 28,547,559**
10		**1600**	**Legal and Regulatory**	**$ 6,586,443**	**$ 4,007,951**	**$ 685,663**	**$ 1,321,756**	**$ 3,123,124**	**$ 2,675,335**	**$ 18,400,271**
11		**1700**	**Market Services**	**$ 3,173,554**	**$ 449,438**	**$ 1,751,181**	**$ 1,739,019**	**$ 3,767,280**	**$ 7,633,557**	**$ 18,514,029**
12		**1800**	**Corporate and Strategic Development**	**$ 3,666,865**	**$ 1,789,170**	**$ 301,499**	**$ 350,590**	**$ 858,104**	**$ 1,359,445**	**$ 8,325,673**
13		**2100**	**Other**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
14										
15		**Total Operations and Maintenance**		**$ 62,995,426**	**$ 24,505,839**	**$ 10,115,593**	**$ 6,208,095**	**$ 14,888,585**	**$ 33,021,519**	**$ 151,735,058**
16			**Percent**	**42%**	**16%**	**7%**	**4%**	**10%**	**22%**	**100%**
17										
18			last updated: 10/23/2003							
19										

Exh. No. ISO- 10, Page 437 of 442

California Independent System Operator
2004 GMC Cost Allocation Model

Summary of Financing Budget Revenue Requirement

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Financing Budget								
	1999 Bond Financed Capital	$ 95,461,851	$ 24,125,891	$ 46,835,790	$ 16,303,674	$ 28,102,419	$ 90,570,375	$ 301,400,000
	2000 Bond Financed Capital	$ 17,551,206	$ 2,640,593	$ 4,671,610	$ 1,222,155	$ 3,763,345	$ 6,251,091	$ 36,100,000
Total Bond Financed Capital Functionalization		$ 113,013,057	$ 26,766,483	$ 51,507,400	$ 17,525,829	$ 31,865,764	$ 96,821,467	$ 337,500,000
	Percent of total	33%	8%	15%	5%	9%	29%	100%
	Debt Service Requirements	$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
Total Financing Budget		$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
Historical Capital Allocation Factors								
	Total Bond Financed Capital Functionalization	$ 113,013,057	$ 26,766,483	$ 51,507,400	$ 17,525,829	$ 31,865,764	$ 96,821,467	$ 337,500,000
	2004 Capital Expenditures	6,044,270	458,957	3,799,468	2,796,863	7,297,356	11,603,085	32,000,000
	Total	$ 119,057,327	$ 27,225,441	$ 55,306,868	$ 20,322,692	$ 39,163,120	$ 108,424,552	$ 369,500,000
	Percent of Total	32.2%	7.4%	15.0%	5.5%	10.6%	29.3%	100%
	last updated: 10/23/2003							

Exh. No. ISO- 10, Page 438 of 442

	A	B	C	D	E	F	G	H	I	J
1				**California Independent System Operator**						
				2004 GMC Cost Allocation Model						
2				**Summary of Capital Project Funding Revenue Requirement**						
3				**Core Reliability**	**Energy & Transmission**	**Forward Scheduling**	**Congestion Management**	**Market Usage**	**Settlements, Metering and Client Relations**	**Total**
4										
5		**Capital Project Funding**								
6			**Operating Systems**	**$ 2,414,155**	**$ 155,156**	**$ 278,805**	**$ 266,718**	**$ 525,324**	**$ 1,049,842**	**$ 4,690,000**
7			**Facilities/Furniture/Office Furniture**	**$ 66,095**	**$ 32,208**	**$ 5,269**	**$ 5,896**	**$ 15,309**	**$ 25,222**	**$ 150,000**
8			**Corporate Systems**	**$ 2,034,020**	**$ 271,593**	**$ 465,393**	**$ 124,250**	**$ 514,223**	**$ 1,750,521**	**$ 5,160,000**
9			**MD02**	**$ 1,530,000**	**$ -**	**$ 3,050,000**	**$ 2,400,000**	**$ 6,242,500**	**$ 8,777,500**	**$ 22,000,000**
10										
11										
12		**Total Capital Project Funding**		**$ 6,044,270**	**$ 458,957**	**$ 3,799,468**	**$ 2,796,863**	**$ 7,297,356**	**$ 11,603,085**	**$ 32,000,000**
13										
14			last updated: 10/23/2003							
15										

Exh. No. ISO- 10, Page 439 of 442

	A	B	C	D	E	F	G	H	I	J	K
1				California Independent System Operator 2004 GMC Cost Allocation Model							
2				Summary of Expense Recovery Budget							
3				Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4											
5		Expense Recovery Budget									
6											
7			SC Application and Training Fees	$ (120,000)	$ -	$ -	$ -	$ -	$ -	$ (120,000)	$ (120,000)
8			WECC Reimbursement/NERC Reimbursement	$ (1,312,533)	$ (1,312,533)	$ -	$ -	$ -	$ -	$ -	$ (1,312,533)
9			Interest Earnings	$ (840,000)	$ (307,763)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (212,484)	$ (840,000)
10											
11		Total Expense Recovery Budget		$ (2,272,533)	$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
12			Percent		71%	5%	3%	2%	4%	15%	100%
13											
14			last updated: 10/23/2003								
15											
16											
17											
18											
19											

Exh. No. ISO- 10, Page 440 of 442

California Independent System Operator
2004 GMC Cost Allocation Model
Summary of Operating and Capital Reserves

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Operating and Capital Reserves								
Reallocation factors from old rate structure to new								
	Control Area Services	81%	0%	3%	2%	4%	11%	100%
	Congestion Management	25%	10%	3%	38%	6%	17%	100%
	ASREO	11%	6%	14%	0%	24%	45%	100%
Reallocated Costs to new rate structure								
	Control Area Services	$ (2,138,814)	$ -	$ (67,811)	$ (43,151)	$ (104,061)	$ (290,963)	$ (2,644,799)
	Congestion Management	$ 721,813	$ 293,644	$ 97,809	$ 1,089,274	$ 163,958	$ 472,894	$ 2,839,393
	ASREO	$ 1,980,648	$ 1,121,218	$ 2,394,658	$ 73,544	$ 4,148,712	$ 7,921,376	$ 17,640,155
Total Operating and Capital Reserves Credit		$ 563,648	$ 1,414,862	$ 2,424,656	$ 1,119,667	$ 4,208,609	$ 8,103,308	$ 17,834,751
	Percent	3%	8%	14%	6%	24%	45%	100%
	last updated: 10/23/2003							

	A	B	C	D	E	F	G	H	I	J
1				California Independent System Operator 2004 GMC Cost Allocation Model						
2				Summary of Revenue Requirement Calculation						
3				Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
4		Revenue Requirement								
5										
6			Operations and Maintenance	$ 62,995,426	$ 24,505,839	$ 10,115,593	$ 6,208,095	$ 14,888,585	$ 33,021,519	$ 151,735,058
7			Financing Budget	$ 18,288,049	$ 4,331,418	$ 8,335,053	$ 2,836,072	$ 5,156,596	$ 15,667,886	$ 54,615,075
8			Capital Project Funding	$ 6,044,270	$ 458,957	$ 3,799,468	$ 2,796,863	$ 7,297,356	$ 11,603,085	$ 32,000,000
9										
10		Revenue Requirement before application of other credits		$ 87,327,745	$ 29,296,214	$ 22,250,114	$ 11,841,031	$ 27,342,537	$ 60,292,491	$ 238,350,133
11			Percent of Total	37%	12%	9%	5%	11%	25%	100%
12										
13		Other Credits								
14			Expense Recovery Budget	$ (1,620,296)	$ (103,247)	$ (78,414)	$ (41,730)	$ (96,361)	$ (332,484)	$ (2,272,533)
15			Operating and Capital Reserves	$ (563,648)	$ (1,414,862)	$ (2,424,656)	$ (1,119,667)	$ (4,208,609)	$ (8,103,308)	$ (17,834,751)
16										
17		Total Other Credits		$ (2,183,944)	$ (1,518,109)	$ (2,503,071)	$ (1,161,398)	$ (4,304,971)	$ (8,435,792)	$ (20,107,284)
18										
19										
20		Total Revenue Requirement		$ 85,143,801	$ 27,778,105	$ 19,747,044	$ 10,679,633	$ 23,037,566	$ 51,856,699	$ 218,242,849
21			Percent of Total	39%	13%	9%	5%	11%	24%	100%
22										
23			last updated: 10/23/2003							
24										
25										

Exh. No. ISO- 10, Page 442 of 442