UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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

GRID MANAGEMENT CHARGE

VOLUME IV OF IX

- Exhibit Numbers ISO-40 through ISO-50

October 31, 2003

Development of ISO Rates for 2004

Public Budget Workshop
October 3, 2003

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Topics

- ISO Board adopted rate structure
- Process of "cost assignment/allocation"
- Preliminary results
- Additional steps

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Adopted Rate Structure

- Grid Reliability Services
  - Core Reliability
  - Energy and Transmission
- Market Services
  - Forward Scheduling
  - Congestion Management
  - Market Usage
- Settlements, Metering and Client Relations

Process

- Build on experience of 2004 GMC Rate Structure Project
- Re-evaluate work from this Spring

Process (cont.)

- Under direction of Barkovich & Yap:
  - Directors and managers reviewed and updated cost assignments previously done
  - Some cost centers are now directly assigned that were not previously
  - IS cost centers associated with systems
  - Systems are functionalized

Process (cont.)

- Cost Allocation Matrix (CAM) redesigned
  - Many spreadsheets instead of one
  - Modified reporting
- Billing determinants forecast
  - Using historical data through April 2003

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Preliminary Results

Function	Revenue Requirement	% of total
Core Reliability	$87.9 million	40%
Energy and Transmission – load	$24.9 million	11%
Energy and Transmission – deviations	$6.2 million	3%
Forward Scheduling	$14.9 million	7%
Congestion Management	$9.8 million	4%
Market Usage	$22.5 million	10%
Settlements, Metering, Client Relations	$52.0 million	24%

Preliminary Results

Charge	Rate
Core Reliability	$164 per MW-month NCP
Energy and Transmission – load	$0.22 per MWh (load and exports)
Energy and Transmission – deviations	$0.74 per MWh (net uninstructed deviations)
Forward Scheduling	$1.15 per final HA hourly schedule
Congestion Management	$0.16 per MWh of net final HA scheduled interzonal flows
Market Usage	$0.79 per MWh of AS, IE or net uninstructed deviation
Settlements, Metering, Client Relations	$500 per month per SC ID

Additional Steps

- Review
  - Method of assignment/allocation
  - Calculations for errors
- Prepare for October 15 Finance Committee meeting
- Prepare for FERC Filing

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Instructions for using the GMC spreadsheets contained in the zipped file.

There are 10 files in the zipped files. These are:

1424GMC.xls – allocation of costs in cost center 1424
1441GMC1.xls – allocation of costs in cost center 1441
2004 Capital 9-28.xls – listing of capital projects (bond financed and expensed) and their functionalization
2004pre labor.xls – Direct labor assignments for cost centers other than Information Services
2004prel contract.xls – Direct contract staff and consultants assignments for cost centers other than Information Services
newCAM5.xls – Calculation of operations and maintenance revenue requirement
OMusingo.xls – Calculation of operations and maintenance costs to the current GMC rate design
Revenue3.xls – Calculation of total revenue requirement and rates
Systema4.xls – Direct assignments, functionalization of Information Services cost centers
Systems 9-28.xls - Functionalization of ISO systems

The files are interlinked. The best way to use the files, if you want to make changes, is to have all 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.

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:

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California Independent System Operator
2004 GMC Cost Allocation

Functionalization of Cost Center 1424 Expenses
Draft and Preliminary
Subject to both review and approval

This spreadsheet allocates expenditures in cost center 1424 to systems, utilizing detailed analysis of

Sheet Index:	Description
Summary	Summary of allocations to systems
1424-GMC	Detailed allocation of expenditures to systems
hw mtc - ongoing annual est.	Worksheet showing estimated annual cost of hardware maintenance
hw mtc end of lease	Worksheet showing estimated cost of hardware lease buyouts
Leases	Worksheet showing estimated lease buyout costs
software maint.	Worksheet showing software maintenance costs
Middleware	Worksheet showing allocation of programming software costs to systems
Infra Storage Allocation	Worksheet showing allocation of EMC costs to systems

California Independent System Operator
2004 GMC Cost Allocation

System Allocation

Draft and Preliminary
Subject to both review and approval

Cost Center Name	Asset Management
Cost Center Number	1424

	Description of Activities	Percent of total activity
ACC Upgrades (Communication between ISO & IOUs)		0.00%
Ancillary Services Management (ASM) Part of SA		0.00%
App Development Tools		1.40%
Automated Dispatch System (ADS)		1.47%
Automated Load Forecast System (ALFS)		0.33%
Automated Mitigation Procedure (AMP)		0.00%
Backup systems (Legato/Veritas)		2.75%
Balance of Business Systems (BBS)		9.23%
Balancing Energy Ex Post Price (BEEP) Part of SA		0.00%
Bill's Interchange Schedule (BITS)		0.48%
CaseWise (process modeling tool)		0.15%
CHASE		3.57%
Common Information Model Project (CIM)		0.00%
Compliance (Blaze)		0.33%
Congestion Management (CONG) Part of SA		0.00%
Congestion Reform-DSOW		0.00%
Congestion Revenue Rights (CRR)		0.00%
DataWarehouse		5.55%
Dept. of Market Analysis Tools (SAS/MARS)		1.06%
Dispute Tracking System (Remedy)		0.00%
Documentum		1.45%
Electronic Tagging (Etag)		1.02%
Energy Management System (EMS)		10.18%
Engineering Analysis Tools		0.15%
Evaluation of Market Separation		0.00%

Existing Transmission Contracts Calculator (ETCC)		0.00%
Ferc Study Software		0.00%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)		2.89%
Global Resource Reliability Management Application (GRRMA)		0.05%
Grid Operations Training Simulator (GOTS)		0.00%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%
Human Resources		0.68%
IBM Contract		0.00%
Integrated Forward Market (IFM)		0.00%
Internal Development		0.00%
Interzonal Congestion Management reform - Real Time		0.00%
Land and Building Costs		0.00%
Local Area Network (LAN)		0.00%
Locational Marginal Pricing (LMPM)		0.10%
Market Transaction System (MTS)		0.00%
Masterfile		0.00%
Meter Data Acquisition System (MDAS)		1.14%
Miscellaneous		18.36%
Monitoring (Tivoli)		0.60%
New System Equipment (replacement of owned equipment)		0.00%
NT/web servers		1.27%
NT-servers		0.55%
OEM		0.00%
Office Automation - desktop/laptop (OA)		13.01%
Office equipment (scanner, printer, copier, fax)		1.42%
Open Access Same Time Information System (OASIS)		3.12%
Operational Meter Analysis and Reporting (OMAR)		1.50%
Oracle Corporate Financials		0.19%
Oracle Licenses		3.79%
Oracle Market Financials BBS		0.00%
Out of Sequence Market Operation Settlements Information System (OOS)		0.00%
Outage Scheduler (OS)		0.00%

Physical Facilities Software Application/Furniture/Leasehold Improvements		0.02%
Process Information System (PI)		0.66%
Rational Buyer		0.00%
Real Time Nodal Market		0.00%
Reliability Management System (RMS)		0.00%
Remedy		0.39%
Remote Intelligence Gateway (RIG) & DPG's		0.16%
Resource Register (RR)		0.00%
RMR Application Validation Engine:(RAVE)		0.15%
Scheduling & Logging for ISO California (SLIC)		0.40%
Scheduling Architecture (SA)		1.23%
Scheduling Infrastructure (SI)		2.97%
Scheduling Infrastructure Business Rules (SIBR)		0.00%
Security Constrained Economic Dispatch (SCED)		1.99%
Security- External/Physical		0.15%
Security-ISS (CUDA)		2.68%
Settlements and Market Clearing		0.00%
Sign Board (Symon Board maint.)		0.02%
Startup Costs through 3/31/98, Working Capital-3 months		0.00%
Storage (EMC symmetrix)		0.00%
System Equipment Buyouts (lease buyouts)		0.00%
Telephone/PBX		0.00%
Training Systems		0.05%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation		0.00%
Transmission Map Plotting & Display		0.04%
Trustee Costs, Interest-Capitalized, User Groups		0.00%
Utilities - System ie Print drivers		0.13%
Vitria (Middleware)		0.27%
Wide Area Network (WAN)		0.87%
		100.00%

California Independent System Operator
2004 GMC Cost Allocation
Draft and Preliminary
Subject to both review and approval

System Assignments by Cost Center

Cost Center Name: Asset Management
Cost Center #: 1424/20038

	Equipment Leases	Hardware Maintenance Ongoing - eol/eol - capital projects			Software Maintenance	Software	Hardware	Oracle	Storage EMC	Totals	Percent of Total
		$6,618,000						Reallocation	Reallocation		
$ 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%
Ancillary Services Management (ASM) Part of SA											0.0%
App Development Tools		$ 10,144.73			$261,495					$271,640	1.4%
Automated Dispatch System (ADS)	$2,735	$ 226,365.57	$ 6,430.50		$37,109				$12,480	$285,120	1.5%
Automated Load Forecast System (ALFS)	$8,967		$ 2,693.02		$21,600				$31,200	$64,460	0.3%
Automated Mitigation Procedure (AMP)											0.0%
Backup systems (Legato/Veritas)	$78,219	$ 118,629.88	$ 55,433.69		$281,735					$534,018	2.8%
Balance of Business Systems (BBS)	$172,937	$ 121,283.67	$ 113,351.97		$386,315				$998,408	$1,792,296	9.2%
Balancing Energy Ex Post Price (BEEP) Part of SA											0.0%
Bill's Interchange Schedule (BITS)		$ 43,003.02			$30,078				$19,968	$93,049	0.5%
CaseWise (process modeling tool)					$29,300					$29,300	0.2%
CHASE					$692,500					$692,500	3.6%
Compliance (Blaze)					$64,072					$64,072	0.3%
Congestion Management (CONG) Part of SA											0.0%
Congestion Revenue Rights (CRR)											0.0%
DataWarehouse	$1,221	$ 15,394.40			$162,425				$898,567	$1,077,607	5.6%
Dept. of Market Analysis Tools (SAS/MARS)	$46,247	$ 39,800.00	$ 42,027.76		$78,525					$206,599	1.1%
Dispute Tracking System (Remedy)											0.0%
Documentum		$ 34,414.87			$119,000				$128,961	$282,376	1.5%
Electronic Tagging (Etag)	$9,654	$ 90,620.88	$16,909		$80,000					$197,184	1.0%
Energy Management System (EMS)	$283,468	$ 27,485.20	$ 596,099.39		$1,069,340					$1,976,392	10.2%
Engineering Analysis Tools					$14,800				$14,976	$29,776	0.2%
Existing Transmission Contracts Calculator (ETCC)											0.0%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)		$ 539,712.50							$20,800	$560,513	2.9%
Global Resource Reliability Management Application (GRRMA)					$8,984					$8,984	0.0%
Grid Operations Training Simulator (GOTS)											0.0%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,											0.0%
Human Resources	$3,891	$ 7,937.04	$ 9,240.15		$110,000					$131,068	0.7%
Integrated Forward Market (IFM)											0.0%
Local Area Network (LAN)											0.0%
Locational Marginal Pricing (LMPM)					$18,810					$18,810	0.1%
Market Transaction System (MTS)											0.0%
Masterfile											0.0%
Meter Data Acquisition System (MDAS)		$ 87,497.32	$756		$133,540					$221,793	1.1%
Miscellaneous	($62,744)	$ 459,456.77	$773,832	$1,250,000	$838,881	$171,808	$131,873			$3,563,107	18.4%
Monitoring (Tivoli)		$ 13,004.60			$102,900					$115,905	0.6%
NT/web servers		$ 113,609.08			$132,510					$246,119	1.3%
NT-servers	$27,592	$ 51,981.70	$13,848		$12,950					$106,372	0.5%
OEM											0.0%
Office Automation - desktop/laptop (OA)	$257,578	$ 609,237.66	$142,950		$829,795				$686,405	$2,525,966	13.0%
Office equipment (scanner, printer, copier, fax)	$142,103	$ 92,693.04	$ 40,601.49							$275,398	1.4%

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2004 GMC Cost Allocation
System Assignments by Cost Center

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Cost Center Name: Asset Management
Cost Center #: 1424/20038

	Equipment Leases	Hardware Maintenance Ongoing	Hardware Maintenance eol/eol	Hardware Maintenance capital projects	Software Maintenance	Software	Hardware	Oracle Reallocation	Storage EMC Reallocation	Totals	Percent of Total
		$6,618,000									
Open Access Same Time Information System (OASIS)	$5,390	$ 213,708.70	$7,204		$174,956				$203,842	$605,100	3.1%
Operational Meter Analysis and Reporting (OMAR)	$101,550				$39,240				$149,761	$290,551	1.5%
Oracle Corporate Financials		$ 36,934.79								$36,935	0.2%
Oracle Licenses					$736,500					$736,500	3.8%
Oracle Market Financials BBS											
Out of Sequence Market Operation Settlements Information System (OOS)											0.0%
Outage Scheduler (OS)											0.0%
Physical Facilities Software Application					$3,727					$3,727	0.0%
Process Information System (PI)	$14,738	$ 27,206.40	$ 19,026.60		$67,145					$128,116	0.7%
Rational Buyer											0.0%
Real Time Nodal Market											0.0%
Reliability Management System (RMS)										$0	0.0%
Remedy	$8,494	$ 55,361.57	$ 3,426.20		$8,470					$75,751	0.4%
Remote Intelligence Gateway (RIG) & DPG's					$30,225					$30,225	0.2%
RMR Application Validation Engine:(RAVE)	$3,782	$ 3,393.11	$8,894		$13,500					$29,569	0.2%
Scheduling & Logging for ISO California (SLIC)	$29,562		$ 22,271.96		$10,000				$16,640	$78,474	0.4%
Scheduling Architecture (SA)		$ 47,643.67			$175,000				$16,640	$239,284	1.2%
Scheduling Infrastructure (SI)		$ 47,643.67			$175,000				$353,603	$576,246	3.0%
Scheduling Infrastructure Business Rules (SIBR)											0.0%
Security Constrained Economic Dispatch (SCED)									$386,883	$386,883	2.0%
Security- External/Physical					$30,000					$30,000	0.2%
Security-ISS (CUDA)	$1,756	$ 145,186.18	$ 4,692.81		$368,530					$520,165	2.7%
Settlements and Market Clearing											0.0%
Sign Board (Symon Board maint.)					$4,400					$4,400	0.0%
Storage (EMC symmetrix)	$2,367,941		$667,682		$981,720				($4,017,343)	$0	0.0%
Telephone/PBX											0.0%
Training Systems					$10,090					$10,090	0.1%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation											0.0%
Transmission Map Plotting & Display					$8,300					$8,300	0.0%
Utilities - System ie Print drivers									$24,960	$24,960	0.1%
Vitria (Middleware)									$53,248	$53,248	0.3%
Wide Area Network (WAN)	$109,920		$ 52,629.53		$7,275					$169,825	0.9%
	$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%

California Independent System Operator
2004 GMC Cost Allocation

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	P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	SYSTEM	Description		
032	991980	4/30/99	$ 162,492.34	3.0461%	ADS		$ 32,498.47	
055	992220	7/16/99	$ 30,080.00	3.2820%	ADS		$ 6,016.00	
027	991881	Total	$ 55,322.54	2.8600%	ADS		$ 11,064.51	
035	992003	Total	$ 842,352.97	3.0740%	ADS		$ 168,470.59	
054	992191	7/08/99	$ 41,580.00	4.5580%	ADS		$ 8,316.00	$ 226,365.57
002	Leaseback	7/28/98	$ 192,000.00	2.8185%	BACKUP		$ 38,400.00	
026	991871	4/05/99	$ 9,664.00	2.8600%	BACKUP		$ 1,932.80	
079	992973	12/28/99	$ 97,298.94	2.9431%	BACKUP		$ 19,459.79	
080	992972	12/28/99	$ 217,314.00	2.9873%	BACKUP		$ 43,462.80	
100	203742	6/21/00	$ 2,491.00	3.4332%	BACKUP		$ 498.20	
196	215842	10/05/01	$ 74,381.45	6.3212%	BACKUP		$ 14,876.29	$ 118,629.88
003	Leaseback	7/28/98	$ 390,000.00	2.8140%	BBS		$ 78,000.00	
004	Leaseback	10/06/98	$ 47,706.00	2.9994%	BBS		$ 9,541.20	
103	203882	7/21/00	$ 21,200.00	6.0450%	BBS		$ 4,240.00	
010	981630	1/25/99	$ 714,651.88	2.9479%	BBS		$ 23,821.83	
036	991989	5/03/99	$ 28,403.20	4.0650%	BBS		$ 5,680.64	$ 121,283.67
108	203906	Total	$ 140,685.34	2.9737%	BITS		$ 28,137.07	
109	203907	Total	$ 74,329.77	2.9375%	BITS		$ 14,865.95	$ 43,003.02
001	Leaseback	7/28/98	$ 195,000.00	2.8187%	DMA		$ 39,000.00	
005	981174	9/17/98	$ 4,000.00	3.0970%	DMA		$ 800.00	$ 39,800.00
072	992557	11/04/99	$ 99,553.73	2.8588%	DOC		$ 19,910.75	
073	992558	Total	$ 54,702.60	2.8782%	DOC		$ 10,940.52	
083	203208	2/04/00	$ 7,874.00	2.9091%	DOC		$ 1,574.80	
116	204014	8/18/00	$ 5,306.00	2.9201%	DOC		$ 1,061.20	
031	991935	4/30/99	$ 4,638.00	3.3920%	DOC		$ 927.60	$ 34,414.87
136	204353	11/06/00	$ 76,972.00	2.9780%	DW		$ 15,394.40	$ 15,394.40
008	981534	Total	$ 121,510.20	2.9607%	EMS		$ 24,302.04	
094	203531	4/17/00	$ 15,915.78	2.9942%	EMS		$ 3,183.16	$ 27,485.20
084	203256	2/16/00	$ 27,202.00	2.8929%	ETAG		$ 5,440.40	
085	203310	2/24/00	$ 20,961.95	2.9498%	ETAG		$ 4,192.39	
117	204094	9/12/00	$ 53,603.64	3.0255%	ETAG		$ 10,720.73	
118	204095	9/12/00	$ 26,801.82	2.9808%	ETAG		$ 5,360.36	
119	204096	Total	$ 106,573.00	2.9780%	ETAG		$ 21,314.60	
120	204097	Total	$ 55,718.00	2.9780%	ETAG		$ 11,143.60	
121	204150	9/22/00	$ 25,889.00	2.9780%	ETAG		$ 5,177.80	
122	204151	9/22/00	$ 25,889.00	2.9780%	ETAG		$ 5,177.80	
125	204159	9/25/00	$ 11,127.00	2.9200%	ETAG		$ 2,225.40	
143	204419	11/21/00	$ 52,050.00	2.9780%	ETAG		$ 10,410.00	
144	204420	11/21/00	$ 47,289.00	2.9779%	ETAG		$ 9,457.80	$ 90,620.88
111	203982	8/11/00	$ 87,192.03	2.9713%	FINANCIAL		$ 17,438.41	
112	203989	8/14/00	$ 34,234.14	2.9675%	FINANCIAL		$ 6,846.83	
113	203990	8/14/00	$ 63,247.78	3.0392%	FINANCIAL		$ 12,649.56	$ 36,934.79
081	203240	2/14/00	$ 13,471.00	2.8995%	HR		$ 2,694.20	
086	992809	Total	$ 26,214.20	2.9019%	HR		$ 5,242.84	$ 7,937.04
095	203532	4/17/00	$ 2,384.00	5.2731%	MDAS		$ 476.80	
010	981630	1/25/99	$ 714,651.88	2.9479%	MDAS		$ 23,821.83	
037	992013	Total	$ 43,567.00	3.0330%	MDAS		$ 8,713.40	
019	991747	3/31/99	$ 44,497.00	2.8370%	MDAS		$ 8,899.40	
042	992065	6/09/99	$ 130,923.15	2.8204%	MDAS		$ 26,184.63	
048	992055	6/12/99	$ 61,328.83	2.8209%	MDAS		$ 12,265.77	
053	992192	Total	$ 35,677.44	2.8720%	MDAS		$ 7,135.49	$ 87,497.32
024	991874	Total	$ 65,022.98	2.7243%	MONITOR		$ 13,004.60	$ 13,004.60
040	992031	5/28/99	$ 37,244.00	2.7976%	NT		$ 7,448.80	
068	992410	9/22/99	$ 95,825.00	2.7920%	NT		$ 19,165.00	
126	204184	9/28/00	$ 10,116.00	2.9200%	NT		$ 2,023.20	
140	204387	11/20/00	$ 37,102.00	2.9200%	NT		$ 7,420.40	
017	991791	Total	$ 50,252.50	2.8370%	NT		$ 10,050.50	
050	992053	Total	$ 15,788.00	2.7950%	NT		$ 3,157.60	
082	203206	2/04/00	$ 9,426.00	2.9053%	NT		$ 1,885.20	
160	214982	2/26/01	$ 2,067.00	5.9702%	NT		$ 413.40	
161	214983	2/26/01	$ 2,088.00	3.9186%	NT		$ 417.60	$ 51,981.70
007	981484	3/31/99	$ 376,517.48	2.8997%	NT/WEB		$ 75,303.50	
057	992243	8/05/99	$ 7,665.00	2.7950%	NT/WEB		$ 1,533.00	
069	992546	11/04/99	$ 72,428.45	2.8883%	NT/WEB		$ 14,485.69	
070	992547	11/04/99	$ 72,428.45	2.8883%	NT/WEB		$ 14,485.69	
133	204337	11/03/00	$ 14,620.00	4.2160%	NT/WEB		$ 2,924.00	
134	204338	11/03/00	$ 14,620.00	4.2160%	NT/WEB		$ 2,924.00	
101	203741	6/21/00	$ 9,766.00	4.6330%	NT/WEB		$ 1,953.20	$ 113,609.08
014	--------------	Total	$ 437,375.00	3.6902%	OA		$ 87,475.00	
062	992328	8/25/99	$ 147,510.00	3.7240%	OA		$ 29,502.00	
063	992323	8/25/99	$ 62,295.00	3.7240%	OA		$ 12,459.00	
076	992876	12/10/99	$ 473,441.00	3.7270%	OA		$ 94,688.20	
012	991717	4/10/99	$ 76,158.00	2.8362%	OA		$ 15,231.60	
058	992268	9/28/99	$ 4,268.00	3.2659%	OA		$ 853.60	
087	203381	3/10/00	$ 134,233.50	3.8709%	OA		$ 26,846.70	
043	992076	6/09/99	$ 98,380.00	4.2890%	OA		$ 19,676.00	
047	992078	6/10/99	$ 86,882.00	4.2890%	OA		$ 17,376.40	
097	203672	5/31/00	$ 87,875.00	3.8791%	OA		$ 17,575.00	
099	203685	6/05/00	$ 247,300.00	3.8610%	OA		$ 49,460.00	
060	992282	8/25/99	$ 76,214.00	2.7950%	OA		$ 15,242.80	
061	992307	8/25/99	$ 44,487.00	2.7920%	OA		$ 8,897.40	
132	204311	10/27/00	$ 211,948.00	3.6426%	OA		$ 42,389.60	

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	P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	SYSTEM	Description		
141	204408	11/20/00	$ 20,075.00	3.9250%	OA		$ 4,015.00	
146	214618	12/26/00	$ 318,313.00	3.9449%	OA		$ 63,662.60	
147	214619	12/26/00	$ 152,112.00	3.9449%	OA		$ 30,422.40	
148	214621	12/26/00	$ 127,244.60	3.9852%	OA		$ 25,448.92	
149	214706	1/17/01	$ 65,008.80	3.9843%	OA		$ 13,001.76	
164	215117	3/23/01	$ 94,050.00	3.4802%	OA		$ 18,810.00	
165	215118	3/23/01	$ 55,497.40	3.4802%	OA		$ 11,099.48	
139	204386	11/20/00	$ 7,493.00	2.9201%	OA		$ 1,498.60	
025	991872	Total	$ 18,028.00	2.8600%	OA		$ 3,605.60	$ 609,237.66
092	203514	4/12/00	$ 76,795.20	4.8390%	OASIS		$ 15,359.04	
093	203515	4/12/00	$ 38,397.60	4.8390%	OASIS		$ 7,679.52	
090	203511	4/12/00	$ 202,004.47	2.9711%	OASIS		$ 40,400.89	
091	203512	4/12/00	$ 111,923.25	2.9724%	OASIS		$ 22,384.65	
104	203883	7/21/00	$ 303,140.00	3.0057%	OASIS		$ 60,628.00	
105	203884	7/21/00	$ 303,140.00	3.0057%	OASIS		$ 60,628.00	
127	204203	10/02/00	$ 3,216.00	3.0830%	OASIS		$ 643.20	
131	204306	10/27/00	$ 29,927.00	2.9780%	OASIS		$ 5,985.40	$ 213,708.70
016	991790	3/31/99	$ 46,376.00	2.8789%	OFFICE		$ 9,275.20	
049	992058	6/12/99	$ 15,205.00	2.8195%	OFFICE		$ 3,041.00	
051	992123	Total	$ 38,135.19	2.9035%	OFFICE		$ 7,627.04	
056	992223	7/16/99	$ 17,400.00	2.9970%	OFFICE		$ 3,480.00	
052	992164	7/08/99	$ 46,346.00	2.8550%	OFFICE		$ 9,269.20	
074	992564	11/04/99	$ 69,505.00	2.8280%	OFFICE		$ 13,901.00	
077	992873	12/09/99	$ 63,585.00	2.8774%	OFFICE		$ 12,717.00	
088	203447	3/30/00	$ 21,749.00	2.9130%	OFFICE		$ 4,349.80	
098	203674	5/31/00	$ 24,080.00	2.9130%	OFFICE		$ 4,816.00	
106	203881	7/21/00	$ 74,509.00	2.9350%	OFFICE		$ 14,901.80	
130	204256	10/15/00	$ 2,295.00	2.9351%	OFFICE		$ 459.00	
135	204315	10/27/00	$ 2,295.00	2.9351%	OFFICE		$ 459.00	
137	204362	11/09/00	$ 41,985.00	2.9350%	OFFICE		$ 8,397.00	$ 92,693.04
102	203841	Total	$ 35,916.64	3.0255%	Development		$ 7,183.33	Oracle Database Management
107	203927	Total	$ 6,807.00	2.9199%	Development		$ 1,361.40	
114	203995	8/18/00	$ 8,000.00	2.9200%	Development		$ 1,600.00	$ 10,144.73
018	991835	Total	$ 39,105.00	2.8422%	PI		$ 7,821.00	
044	992054	6/09/99	$ 59,337.00	2.7920%	PI		$ 11,867.40	
096	203577	5/01/00	$ 37,590.00	2.9355%	PI		$ 7,518.00	$ 27,206.40
078	992947	12/10/99	$ 16,965.55	2.9214%	RAVE		$ 3,393.11	$ 3,393.11
075	992663	11/04/99	$ 7,937.17	3.6073%	REMEDY		$ 1,587.43	
038	992039	5/28/99	$ 127,290.17	2.8600%	REMEDY		$ 25,458.03	
039	992038	5/28/99	$ 116,216.43	2.8591%	REMEDY		$ 23,243.29	
192	215837	10/05/01	$ 18,077.08	8.4096%	REMEDY		$ 3,615.42	
129	204206	10/02/00	$ 7,287.00	2.8098%	REMEDY		$ 1,457.40	$ 55,361.57
010	981630	1/25/99	$ 714,651.88	2.9479%	SA		$ 47,643.67	$ 47,643.67
020	991792	Total	$ 63,232.00	2.8627%	SECURITY		$ 12,646.40	
033	991979	4/30/99	$ 183,346.51	2.9191%	SECURITY		$ 36,669.30	
034	991981	4/30/99	$ 94,731.36	2.8762%	SECURITY		$ 18,946.27	
045	992052	6/09/99	$ 24,193.00	2.8093%	SECURITY		$ 4,838.60	
046	992077	6/09/99	$ 17,959.00	2.8331%	SECURITY		$ 3,591.80	
071	992548	11/04/99	$ 38,086.48	2.8669%	SECURITY		$ 7,617.30	
089	203482	Total	$ 28,445.00	2.9118%	SECURITY		$ 5,689.00	
015	991748	2/22/99	$ 252,693.85	2.9252%	SECURITY		$ 50,538.77	
115	204000	8/18/00	$ 23,243.68	3.0323%	SECURITY		$ 4,648.74	$ 145,186.18
010	981630	1/25/99	$ 714,651.88	2.9479%	SI		$ 47,643.67	$ 47,643.67
128	204204	10/02/00	$ 3,216.00	6.8069%	SRS		$ 643.20	
011	981629	1/25/99	$ 733,465.20	2.9250%	SRS		$ 146,693.04	
013	981521	2/22/99	$ 103,060.92	2.9837%	SRS		$ 20,612.18	
021	991800	Total	$ 171,362.48	2.8600%	SRS		$ 34,272.50	
022	991787	3/31/99	$ 164,208.07	2.8600%	SRS		$ 32,841.61	
028	991837	4/05/99	$ 71,346.35	2.9514%	SRS		$ 14,269.27	
029	991838	4/05/99	$ 165,399.35	2.9509%	SRS		$ 33,079.87	
030	991880	Total	$ 81,065.73	2.8600%	SRS		$ 16,213.15	
066	992349	Total	$ 412,699.28	2.9286%	SRS		$ 82,539.86	
067	992350	Total	$ 792,739.14	2.9435%	SRS		$ 158,547.83	$ 539,712.50
							$ 2,819,893.23	$ 2,819,893.23
							$ 459,456.77	unallocated O&M budgeted for c
							$ 3,279,350.00	

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Compaq / Digital Financial Services L

Schedule		Total Sch. Amt.	System
6741800-	155	$ 42,870.00	ADS
6741800-	191	$ 8,976.73	ALFS
6741800-	198	$ 8,976.73	ALFS
6741800-	193	$ 25,148.00	BACKUP
6741800-	194	$ 45,666.40	BACKUP
6741800-	195	$ 49,786.55	BACKUP
6741800-	199	$ 37,624.61	BACKUP
6741800-	200	$ 211,332.40	BACKUP
6741800-	167	$ 85,596.58	BBS
6741800-	168	$ 106,585.00	BBS
6741800-	172	$ 106,585.00	BBS
6741800-	173	$ 92,967.58	BBS
6741800-	171	$ 40,593.11	BBS
6741800-	202	$ 191,305.10	BBS
6741800-	176	$ 35,968.00	BBS
6741800-	177	$ 96,079.42	BBS
6741800-	169	$ 123,248.06	DMA
6741800-	170	$ 156,937.00	DMA
6741800-	159	$ 3,947,895.90	EMS
6741800-	207	$ 26,100.00	EMS
6741800-	142	$ 91,707.79	ETAG
6741800-	205	$ 21,022.00	ETAG
6741800-	182	$ 5,038.00	MDAS
6741800-	150	$ 61,601.00	HR
6741800-	189	$ 9,678.00	NT
6741800-	184	$ 11,319.00	NT
6741800-	163	$ 4,220.00	NT
6741800-	208	$ 12,668.40	NT

Compaq / Digital Financial Services L

Schedule		Total Sch. Amt.	System
6741800-	209	$ 6,334.20	NT
6741800-	210	$ 19,124.96	NT
6741800-	181	$ 28,977.00	NT
1350450-	001	$ 96,492.00	OA
514	002	$ 182,595.00	OA
514	007	$ 64,150.00	OA
1350450-	002	$ 82,140.00	OA
6741800-	219	$ 196,650.00	OA
1350450-	003	$ 80,250.00	OA
6741800-	178	$ 56,176.55	OA
6741800-	179	$ 76,550.00	OA
6741800-	183	$ 43,695.35	OA
6741800-	185	$ 74,300.00	OA
6741800-	187	$ 48,025.21	OASIS
6741800-	151	$ 24,339.00	OFFICE
6741800-	152	$ 5,763.00	OFFICE
6741800-	153	$ 21,225.60	OFFICE
6741800-	156	$ 63,960.00	OFFICE
6741800-	188	$ 2,295.00	OFFICE
6741800-	166	$ 108,940.00	OFFICE
6741800-	201	$ 19,749.00	OFFICE
6741800-	206	$ 19,749.00	OFFICE
6741800-	180	$ 4,656.00	OFFICE
6741800-	157	$ 47,146.00	PI
6741800-	204	$ 12,200.00	PI
6741800-	158	$ 13,992.00	PI
6741800-	190	$ 53,506.00	PI
6741800-	154	$ 59,292.00	RAVE
6741800-	197	$ 22,841.35	REMEDY
6741800-	162	$ 12,024.00	Security
6741800-	145	$ 19,261.39	Security
6741800-	174	$ 61,512.00	SLIC
6741800-	175	$ 86,967.75	SLIC
12033-	001	$ 1,671,010.00	~~STORAGE~~
12033-	002	$ 1,628,990.00	~~STORAGE~~

Compaq / Digital Financial Services L

Schedule		Total Sch. Amt.	System
12033-	003	$ 35,372.00	~~STORAGE~~
12033-	004	$ 15,600.00	~~STORAGE~~
12033-	005	$ 35,000.00	~~STORAGE~~
12033-	006	$ 35,000.00	~~STORAGE~~
12033-	007	$ 190,000.00	~~STORAGE~~
12033-	008	$ 190,000.00	~~STORAGE~~
12033-	009	$ 144,400.00	~~STORAGE~~
12033-	010	$ 235,600.00	~~STORAGE~~
12033-	011	$ 473,899.00	STORAGE
12033-	012	$ 350,641.00	STORAGE
12033-	013	$ 167,200.00	STORAGE
12033-	014	$ 70,000.00	STORAGE
12033-	015	$ 1,213,589.00	STORAGE
12033-	016	$ 1,352,060.00	STORAGE
12033-	017	$ 13,760.00	STORAGE
12033-	018	$ 58,400.00	STORAGE
12033-	019	$ 119,231.00	STORAGE
12033-	020	$ 194,000.00	STORAGE
12033-	021	$ 225,000.00	STORAGE
12033-	023	$ 18,100.00	STORAGE
12033-	024	$ 18,100.00	STORAGE
514	001	$ 177,232.00	STORAGE
6741800-	203	$ 24,667.50	WAN
6741800-	186	$ 326,196.00	WAN

.ease Refresh Schedule

Description	Sch. Mo. Pmt.	7.75% Fol. Pmt.	8.25% Alh. Pmt.
	$ 1,268.95	$ 1,367.29	
	$ 352.67		$ 381.76
	$ 352.67	$ 380.00	
	$ 987.98	$ 1,064.54	
	$ 1,794.08	$ 1,933.12	
	$ 1,955.95	$ 2,107.53	
	$ 1,478.15	$ 1,592.70	
	$ 8,302.55	$ 8,945.99	
	$ 2,601.42	$ 2,803.03	
	$ 3,294.04	$ 3,549.32	
	$ 3,294.04		$ 3,565.79
	$ 2,825.44		$ 3,058.54
	$ 1,254.94		$ 1,358.47
	$ 7,445.32	$ 8,022.33	
	$ 1,111.95	$ 1,198.12	
	$ 2,920.01	$ 3,146.31	
	$ 3,745.90	$ 4,036.21	
	$ 4,838.17	$ 5,213.13	
	$ 124,163.52	$ 93,409.62	$ 37,472.46
	$ 1,001.98	$ 1,079.63	
	$ 2,687.95	$ 2,896.27	
	$ 716.70	$ 772.25	
	$ 151.05	$ 162.75	
	$ 1,805.48	$ 1,945.40	
	$ 371.54	$ 400.33	
	$ 339.39	$ 365.69	
	$ 125.00	$ 134.69	
	$ 497.70	$ 536.27	

.ease Refresh Schedule

		7.75%	8.25%
Description	Sch. Mo. Pmt.	Fol. Pmt.	Alh. Pmt.
	$ 248.85		$ 269.38
	$ 751.35	$ 809.58	
	$ 868.77	$ 936.10	
	$ 3,080.00	$ 3,318.70	
	$ 6,316.00	$ 5,350.87	$ 1,461.38
	$ 2,289.00	$ 2,466.40	
	$ 2,730.00	$ 2,941.58	
	$ 6,913.50	$ 7,449.30	
	$ 2,670.00	$ 2,876.93	
	$ 1,874.67	$ 2,019.95	
	$ 2,618.50	$ 2,821.43	
	$ 1,507.25	$ 1,624.06	
	$ 2,541.67	$ 2,738.65	
	$ 1,667.35	$ 1,796.57	
	$ 720.43	$ 776.26	
	$ 170.60	$ 183.82	
	$ 628.26	$ 676.95	
	$ 1,893.31	$ 2,040.04	
	$ 79.59	$ 85.75	
	$ 3,348.45	$ 3,607.96	
	$ 684.86		$ 741.36
	$ 684.86	$ 737.94	
	$ 139.59	$ 150.41	
	$ 1,381.85	$ 1,488.94	
	$ 484.42	$ 521.96	
	$ 412.09	$ 444.03	
	$ 1,824.19	$ 1,965.57	
	$ 1,755.04	$ 1,891.06	
	$ 897.36	$ 966.91	
	$ 368.74	$ 397.31	
	$ 523.93	$ 564.53	
	$ 1,890.68		$ 2,046.66
	$ 2,673.11	$ 2,880.27	
	~~$ 33,658.00~~	~~$ 36,266.50~~	
	~~$ 32,811.00~~		~~$ 35,517.91~~

.ease Refresh Schedule

		7.75%	8.25%
Description	Sch. Mo. Pmt.	Fol. Pmt.	Alh. Pmt.
	~~$ 768.00~~	~~$ 827.52~~	
	~~$ 338.00~~		~~$ 365.89~~
	~~$ 798.00~~	~~$ 859.85~~	
	~~$ 798.00~~		~~$ 863.84~~
	~~$ 4,612.00~~	~~$ 4,969.43~~	
	~~$ 4,612.00~~		~~$ 4,992.49~~
	~~$ 3,715.00~~		~~$ 4,021.49~~
	~~$ 6,062.00~~	~~$ 6,531.81~~	
	$ 12,628.00	$ 13,606.67	
	$ 9,344.00		$ 10,114.88
	$ 4,717.00	$ 717.62	$ 4,385.21
	$ 2,164.00	$ 2,331.71	
	$ 35,133.00		$ 38,031.47
	$ 39,142.00	$ 42,175.51	
	$ 424.00	$ 456.86	
	$ 2,078.00		$ 2,249.44
	$ 4,227.00	$ 4,554.59	
	$ 6,534.00		$ 7,073.06
	$ 7,515.00	$ 8,097.41	
	$ 680.00		$ 736.10
	$ 680.00	$ 732.70	
	$ 5,315.00	$ 2,863.46	$ 2,876.74
	$ 1,001.33	$ 1,078.94	
	$ 10,778.59	$ 11,613.93	

Co-Term	Start Date	Mos.	End Date	Projected maintenance on lease buyout based on annual renewal @ 15% of orig equip cost (col E)	
	3/01/2001	36	2/28/2004	$ 6,430.50	$ 6,430.50
	12/01/2001	30	5/31/2004	$ 1,346.51	
	12/01/2001	30	5/31/2004	$ 1,346.51	$ 2,693.02
	12/01/2001	30	5/31/2004	$ 3,772.20	
	12/01/2001	30	5/31/2004	$ 6,849.96	
	12/01/2001	30	5/31/2004	$ 7,467.98	
	12/01/2001	30	5/31/2004	$ 5,643.69	
	12/01/2001	30	5/31/2004	$ 31,699.86	$ 55,433.69
	6/01/2001	36	5/31/2004	$ 12,839.49	
	6/01/2001	36	5/31/2004	$ 15,987.75	
	6/01/2001	36	5/31/2004	$ 15,987.75	
	6/01/2001	36	5/31/2004	$ 13,945.14	
	6/01/2001	36	5/31/2004	$ 6,088.97	
	12/01/2001	30	5/31/2004	$ 28,695.77	
	7/01/2001	36	6/30/2004	$ 5,395.20	
	7/01/2001	36	6/30/2004	$ 14,411.91	$ 113,351.97
	6/01/2001	36	5/31/2004	$ 18,487.21	
	6/01/2001	36	5/31/2004	$ 23,540.55	$ 42,027.76
	4/01/2001	36	3/31/2004	$ 592,184.39	
159	12/01/2001	28	3/31/2004	$ 3,915.00	$ 596,099.39
	3/01/2001	36	2/28/2004	$ 13,756.17	
	12/01/2001	30	5/31/2004	$ 3,153.30	$ 16,909.47
	9/01/2001	36	8/31/2004	$ 755.70	$ 755.70
	3/01/2001	36	2/28/2004	$ 9,240.15	$ 9,240.15
157	11/01/2001	28	2/28/2004	$ 1,451.70	
	9/01/2001	36	2/28/2004	$ 1,697.85	
	4/01/2001	36	3/31/2004	$ 633.00	
	12/01/2001	30	5/31/2004	$ 1,900.26	

Co-Term	Start Date	Mos.	End Date	Projected maintenance on lease buyout based on annual renewal @ 15% of orig equip cost (col E)	
	12/01/2001	30	5/31/2004	$ 950.13	
	12/01/2001	30	5/31/2004	$ 2,868.74	
	8/01/2001	36	7/31/2004	$ 4,346.55	$ 13,848.23
	12/01/2001	30	5/31/2004	$ 14,473.80	
	3/01/2002	30	8/31/2004	$ 27,389.25	
	4/01/2002	30	9/30/2004	$ 9,622.50	
	5/01/2002	30	10/31/2004	$ 12,321.00	
	6/01/2002	30	11/30/2004	$ 29,497.50	
	7/01/2002	30	12/31/2004	$ 12,037.50	
	9/01/2001	30	2/28/2004	$ 8,426.48	
	9/01/2001	30	2/28/2004	$ 11,482.50	
	9/01/2001	30	2/28/2004	$ 6,554.30	
	9/01/2001	30	2/28/2004	$ 11,145.00	$ 142,949.84
	10/01/2001	30	3/31/2004	$ 7,203.78	$ 7,203.78
	3/01/2001	36	2/28/2004	$ 3,650.85	
	3/01/2001	36	2/28/2004	$ 864.45	
	3/01/2001	36	2/28/2004	$ 3,183.84	
	3/01/2001	36	2/28/2004	$ 9,594.00	
	10/01/2001	30	3/31/2004	$ 344.25	
	5/01/2001	36	4/30/2004	$ 16,341.00	
	12/01/2001	30	5/31/2004	$ 2,962.35	
	12/01/2001	30	5/31/2004	$ 2,962.35	
	8/01/2001	36	7/31/2004	$ 698.40	$ 40,601.49
	3/01/2001	36	2/28/2004	$ 7,071.90	
157	12/01/2001	27	2/28/2004	$ 1,830.00	
	3/01/2001	36	2/28/2004	$ 2,098.80	
	12/01/2001	30	5/31/2004	$ 8,025.90	$ 19,026.60
	3/01/2001	36	2/28/2004	$ 8,893.80	$ 8,893.80
	12/01/2001	30	5/31/2004	$ 3,426.20	$ 3,426.20
	4/01/2001	36	3/31/2004	$ 1,803.60	
	2/01/2001	36	1/31/2004	$ 2,889.21	$ 4,692.81
	7/01/2001	36	6/30/2004	$ 9,226.80	
	7/01/2001	36	6/30/2004	$ 13,045.16	$ 22,271.96
	~~11/01/1999~~	~~60~~	~~10/31/2004~~		
	~~11/01/1999~~	~~60~~	~~10/31/2004~~		

Co-Term	Start Date	Mos.	End Date	Projected maintenance on lease buyout based on annual renewal @ 15% of orig equip cost (col E)	
~~001~~	~~2/01/2000~~	~~57~~	~~10/31/2004~~		
~~002~~	~~2/01/2000~~	~~57~~	~~10/31/2004~~		
~~001~~	~~4/01/2000~~	~~55~~	~~10/31/2004~~		
~~002~~	~~4/01/2000~~	~~55~~	~~10/31/2004~~		
~~001~~	~~8/01/2000~~	~~51~~	~~10/31/2004~~		
~~002~~	~~8/01/2000~~	~~51~~	~~10/31/2004~~		
~~002~~	~~12/01/2000~~	~~47~~	~~10/31/2004~~		
~~001~~	~~12/01/2000~~	~~47~~	~~10/31/2004~~		
001	4/01/2001	43	10/31/2004	$ 71,084.85	
002	4/01/2001	43	10/31/2004	$ 52,596.15	
	6/01/2001	41	10/31/2004	$ 25,080.00	
001	11/01/2001	36	10/31/2004	$ 10,500.00	
002	11/01/2001	36	10/31/2004	$ 182,038.35	
001	11/01/2001	36	10/31/2004	$ 202,809.00	
001	1/01/2002	34	10/31/2004	$ 2,064.00	
015	4/01/2002	31	10/31/2004	$ 8,760.00	
016	4/01/2002	31	10/31/2004	$ 17,884.65	
015	6/01/2002	29	10/31/2004	$ 29,100.00	
016	6/01/2002	29	10/31/2004	$ 33,750.00	
015	9/01/2002	26	10/31/2004	$ 2,715.00	
016	9/01/2002	26	10/31/2004	$ 2,715.00	
	12/01/2001	36	11/30/2004	$ 26,584.80	$ 667,681.80
	12/01/2001	30	5/31/2004	$ 3,700.13	
	10/01/2001	36	9/30/2004	$ 48,929.40	$ 52,629.53
				$ 1,826,167.68	$ 1,826,167.68

California Independent System Operator
2004 GMC Cost Allocation
Draft and Preliminary
Subject to both review and approval
Compaq / Digital Financial Services Lease Refresh Schedule

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	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.)	
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS		2/28/2004	$ 8,574.00	$ 2,734.59	$ 2,734.59
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS		5/31/2004	$ 1,795.35	$ 1,908.80	
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS		5/31/2004	$ 1,795.35	$ 1,899.98	
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS		3/31/2005	$ 2,605.20	$ 5,158.20	$ 8,966.98
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP		5/31/2004	$ 5,029.60	$ 5,322.72	
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP		5/31/2004	$ 9,133.28	$ 9,665.61	
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP		5/31/2004	$ 9,957.31	$ 10,537.65	
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP		5/31/2004	$ 7,524.92	$ 7,963.51	
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP		5/31/2004	$ 42,266.48	$ 44,729.96	$ 78,219.45
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS		5/31/2004	$ 17,119.32	$ 14,015.16	
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS		5/31/2004	$ 21,317.00	$ 17,746.61	
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS		5/31/2004	$ 21,317.00	$ 17,828.96	
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS		5/31/2004	$ 18,593.52	$ 15,292.68	
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS		5/31/2004	$ 8,118.62	$ 6,792.35	
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS		5/31/2004	$ 38,261.02	$ 40,111.66	
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS		6/30/2004	$ 7,193.60	$ 7,188.75	
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS		6/30/2004	$ 19,215.88	$ 18,877.86	
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS		1/31/2005	$ 6,481.60	$ 12,973.57	
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS		1/31/2005	$ 6,480.10	$ 13,030.92	
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS		6/30/2005	$ 4,237.62	$ 9,078.67	$ 172,937.20
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DW		6/30/2005	$ 615.20	$ 1,220.85	$ 1,220.85
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA		5/31/2004	$ 24,649.61	$ 20,181.05	
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA		5/31/2004	$ 31,387.40	$ 26,065.64	$ 46,246.70
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS		3/31/2004	$ 789,579.18	$ 280,228.86	
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS		3/31/2004	$ 5,220.00	$ 3,238.89	$ 283,467.75
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG		2/28/2004	$ 18,341.56	$ 5,792.53	
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG		5/31/2004	$ 4,204.40	$ 3,861.24	$ 9,653.77
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS		8/31/2004	$ 1,007.60	$ 1,302.02	
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMAR		8/31/2005	$ 16,758.15	$ 32,250.92	
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMAR		8/31/2005	$ 1,179.20	$ 2,394.19	
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMAR		10/31/2005	$ 34,246.50	$ 65,602.42	$ 101,549.56
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR		2/28/2004	$ 12,320.20	$ 3,890.81	$ 3,890.81
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT		2/28/2004	$ 1,935.60	$ 800.67	
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT		2/28/2004	$ 2,263.80	$ 731.39	
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT		3/31/2004	$ 844.00	$ 404.06	
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT		5/31/2004	$ 2,533.68	$ 2,681.36	
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT		5/31/2004	$ 1,266.84	$ 1,346.90	
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT		5/31/2004	$ 3,824.99	$ 4,047.92	
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT		7/31/2004	$ 5,795.40	$ 6,552.67	
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT		1/31/2005	$ 677.60	$ 1,344.85	
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT		2/28/2005	$ 945.60	$ 1,823.13	$ 19,732.94
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB		5/31/2005	$ 422.28	$ 904.71	
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB		6/30/2005	$ 3,390.00	$ 6,954.01	$ 7,858.72
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA		5/31/2004	$ 19,298.40	$ 16,593.50	
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA		8/31/2004	$ 36,519.00	$ 54,498.00	
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA		9/30/2004	$ 12,830.00	$ 22,197.58	
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA		10/31/2004	$ 16,428.00	$ 29,415.75	
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA		11/30/2004	$ 39,330.00	$ 81,942.26	
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA		12/31/2004	$ 16,050.00	$ 34,523.10	
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA		2/28/2004	$ 11,235.31	$ 4,039.91	
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA		2/28/2004	$ 15,310.00	$ 5,642.87	
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA		2/28/2004	$ 8,739.07	$ 3,248.11	
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA		2/28/2004	$ 14,860.00	$ 5,477.29	$ 257,578.37
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS		3/31/2004	$ 9,605.04	$ 5,389.71	$ 5,389.71
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE		2/28/2004	$ 4,867.80	$ 1,552.53	
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE		2/28/2004	$ 1,152.60	$ 367.64	
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE		2/28/2004	$ 4,245.12	$ 1,353.90	
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE		2/28/2004	$ 12,792.00	$ 4,080.08	
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE		3/31/2004	$ 459.00	$ 257.26	
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE		4/30/2004	$ 21,788.00	$ 14,431.83	
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE		5/31/2004	$ 3,949.80	$ 3,706.81	
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE		5/31/2004	$ 3,949.80	$ 3,689.69	
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE		7/31/2004	$ 931.20	$ 1,052.88	
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE		2/28/2005	$ 4,348.80	$ 9,206.16	
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE		3/31/2005	$ 2,547.00	$ 5,225.88	
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE		3/31/2005	$ 15,290.00	$ 29,338.17	
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE		4/30/2005	$ 3,949.80	$ 8,465.88	
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE		5/31/2005	$ 1,399.00	$ 2,836.32	
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE		5/31/2005	$ 3,100.00	$ 6,285.01	
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE		5/31/2005	$ 964.44	$ 2,055.87	
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE		6/30/2005	$ 4,747.80	$ 9,702.54	
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE		7/31/2005	$ 10,587.80	$ 21,564.52	
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE		7/31/2005	$ 8,271.00	$ 16,930.32	$ 142,103.32
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI		2/28/2004	$ 9,429.20	$ 2,977.89	
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI		2/28/2004	$ 2,440.00	$ 1,043.93	
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI		2/28/2004	$ 2,798.40	$ 888.05	
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI		5/31/2004	$ 10,701.20	$ 9,827.83	$ 14,737.70
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE		2/28/2004	$ 11,858.40	$ 3,782.11	$ 3,782.11
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY		5/31/2004	$ 4,568.27	$ 4,834.54	
514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY		2/28/2005	$ 1,912.50	$ 3,659.19	$ 8,493.73
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security		3/31/2004	$ 2,404.80	$ 1,191.94	
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security		1/31/2004	$ 3,852.28	$ 564.53	$ 1,756.48
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC		6/30/2004	$ 12,302.40	$ 12,279.97	

Compaq / Digital Financial Services Lease Refresh Schedule

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	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.)	
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC		6/30/2004	$ 17,393.55	$ 17,281.63	$ 29,561.60
12033-	001	992736	11/11/99	$ 1,671,010.00	2.0142%	STORAGE		10/31/2004	$ -	$ 362,664.95	
12033-	002	992735	11/11/99	$ 1,628,990.00	2.0142%	STORAGE		10/31/2004	$ -	$ 355,179.08	
12033-	003	992736-1	1/13/00	$ 35,372.00	2.1712%	STORAGE		10/31/2004	$ -	$ 8,275.20	
12033-	004	992735-1	1/13/00	$ 15,600.00	2.1667%	STORAGE		10/31/2004	$ -	$ 3,658.85	
12033-	005	203301	2/23/00	$ 35,000.00	2.2800%	STORAGE		10/31/2004	$ -	$ 8,598.45	
12033-	006	203301	2/23/00	$ 35,000.00	2.2800%	STORAGE		10/31/2004	$ -	$ 8,638.35	
12033-	007	203736	6/22/00	$ 190,000.00	2.4274%	STORAGE		10/31/2004	$ -	$ 49,694.30	
12033-	008	203735	6/22/00	$ 190,000.00	2.4274%	STORAGE		10/31/2004	$ -	$ 49,924.90	
12033-	009	204394	11/16/00	$ 144,400.00	2.5727%	STORAGE		10/31/2004	$ -	$ 40,214.88	
12033-	010	204393	11/16/00	$ 235,600.00	2.5730%	STORAGE		10/31/2004	$ -	$ 65,318.05	
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE		10/31/2004	$ 94,779.80	$ 136,066.70	
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE		10/31/2004	$ 70,128.20	$ 101,148.80	
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE		10/31/2004	$ 33,440.00	$ 51,028.30	
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE		10/31/2004	$ 14,000.00	$ 23,317.10	
12033-	015	215912		$ 1,213,589.00	2.8950%	STORAGE		10/31/2004	$ 242,717.80	$ 380,314.73	
12033-	016	215911		$ 1,352,060.00	2.8950%	STORAGE		10/31/2004	$ 270,412.00	$ 421,755.05	
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE		10/31/2004	$ 2,752.00	$ 4,568.60	
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE		10/31/2004	$ 11,680.00	$ 22,494.35	
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE		10/31/2004	$ 23,846.20	$ 45,545.93	
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE		10/31/2004	$ 38,800.00	$ 70,730.55	
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE		10/31/2004	$ 45,000.00	$ 80,974.13	
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE		10/31/2004	$ 3,620.00	$ 7,361.00	
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE		10/31/2004	$ 3,620.00	$ 7,327.00	
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE		11/30/2004	$ 35,446.40	$ 63,142.20	$ 2,367,941.43
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN		5/31/2004	$ 4,933.50	$ 5,394.68	
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN		9/30/2004	$ 65,239.20	$ 104,525.41	$ 109,920.09
										$ 3,677,743.85	$ 3,677,743.85
										$ 3,615,000.00	
										$ (62,743.85)	

SYSTEM	SOFTWARE	$		NOTES
ADS (Automated Dispatch System)		37,109	37,109	Middleware Software for Marketing Software support.
BITS		30,078	30,078	Middleware Software for Marketing Software support.
GRRMA Pre-Dispatch		8,984	8,984	Middleware Software for Marketing Software support.
ALFS		21,600	21,600	
BACKUP		165,000		Back Up Software Annual support
BACKUP		360		
BACKUP		4,975		
BACKUP		4,975		
BACKUP		6,425		
BACKUP		100,000	281,735	
BBS		1,165		Compiler for Settlements.
BBS		8,200		EDI Gateway for Billing
BBS		15,000		
BBS		300,000		
BBS		30,450		
BBS		31,500	386,315	
CASEWISE		1,550		Modeling Software support.
CASEWISE		3,650		Modeling Software support.
CASEWISE		24,100	29,300	Support for Casewise Modeling
CAP(Compliance Automation Project)		13,672		Middleware Software for Marketing Software support.
CMPL		50,400	64,072	Business Rules Software Support for Mark Myers
COMM		4,400	4,400	Communication sign board software support.
~~CRR~~		~~300,000~~		
DEVELOPMENT		810		
DEVELOPMENT		3,025		
DEVELOPMENT		6,110		
DEVELOPMENT		8,400		
DEVELOPMENT		12,175		
DEVELOPMENT		14,000		
DEVELOPMENT		16,600		
DEVELOPMENT		30,675		
DEVELOPMENT		43,000		
DEVELOPMENT		68,950		
DEVELOPMENT		1,500		
DEVELOPMENT		3,000		
DEVELOPMENT		30,000		Tool for Oracle Application Development
DEVELOPMENT		10,000		Looking at Unix data from NT Machines
DEVELOPMENT		12,800		JBuilder Application Development Tool
DEVELOPMENT		450	261,495	
DMA		63,525		SAS Analytical Software Support.
DMA		15,000	78,525	
DOC		23,000		Documentum Software Support
DOC		96,000	119,000	Documentum Software Support
DW		1,000		
DW		28,100		
DW		30,000		
DW		30,725		
DW		72,600	162,425	
~~EMS~~		~~460,000~~		
EMS/HP		390,000		HP operating system licenses (non-EMS equip)
EMS		4,000		
EMS		85,340		

SYSTEM	SOFTWARE	$		NOTES
EMS		400,000		Major EMS Software support.
EMS		190,000	1,069,340	
ENGRG		10,000		Mathworks mathmatical/analytical tool software support.
ENGRG		4,800	14,800	
LMP		18,810	18,810	
ETAG		80,000	80,000	
FAC		120		Physical Facilities software & support
FAC		302		Physical Facilities software & support
FAC		1,325		Facilities/AutoCad software Support
FAC		1,980	3,727	
HR		50,000		HR Module Licenses from Oracle
HR		60,000	110,000	HR Security Licenses from Oracle
~~IFM/LMP~~		~~300,000~~		
MDAS		2,000		MDViewer Site License Annual Support
MDAS		2,240		
MDAS		129,300	133,540	FDAS Primary Software Annual Support
monitoring		10,000		
monitoring		92,900	102,900	
NT		600		Web Support for Bob Breedlove
NT		3,200		
NT		2,150		
NT		7,000	12,950	
NT/WEB		300		Web/PDF Support for Bob Breedlove
NT/WEB		300		
NT/WEB		5,000		
NT/WEB		2,910		Web Support for Bob Breedlove
NT/WEB		29,000		Web Support for Bob Breedlove
NT/WEB		10,000		
NT/WEB		5,000		OA Spam Filtering Software
NT/WEB		80,000	132,510	
OA		800,000		OA Microsoft Procured Licenses
OA		1,005		
OA		3,290		UNIX box Inventory Tool, summarizes software products deployed on Svrs.
OA		8,000		PC Inventory Tool, summarizes software products deployed on PCs.
OA		17,500	829,795	
OASIS		4,800		
OASIS		20,000		OASIS reporting Software support.
OASIS		30,000		OASIS QA/QC Software support.
OASIS		10,156		Middleware Software for Marketing Software support.(from Talarian tab)
OASIS		110,000	174,956	OASIS Production Software support.
OMAR		3,000		
OMAR		4,000		
OMAR		9,570		
OMAR		22,670	39,240	
ORACLE		65,000		
ORACLE		113,000		
ORACLE		181,000		Original Purchase Database and Developer Licenses
ORACLE		377,500	736,500	Amendment to Orig Purchase to True-Up first year Oracle Licenses.
PI		67,145	67,145	NSI Software Support for all of PI reporting system.
RAVE		13,500	13,500	
REMEDY		8,470	8,470	
Chase		692,500	692,500	All Remedy/Chase Licenses

SYSTEM	SOFTWARE	$		NOTES
RIG		2,125		
RIG		28,100	30,225	
~~SA/SI~~		~~300,000~~		
SECURITY -EXT		30,000	30,000	Physical Facilities Access Control software & support
Security-ISS		6,980		
Security-ISS		1,250		
Security-ISS		1,550		
Security-ISS		1,800		
Security-ISS		5,625		Funk Steel Belted Radius - Security software support.
Security-ISS		6,000		
Security-ISS		6,000		
Security-ISS		6,600		
Security-ISS		8,000		
Security-ISS		8,000		
Security-ISS		8,360		
Security-ISS		19,000		
Security-ISS		19,700		
Security-ISS		22,925		
Security-ISS		43,440		CheckPoint - Security Monitoring software support.
Security-ISS		49,000		Tripwire - Security Monitoring software support.
Security-ISS		60,000		Enterprise Security Manager support.
Security-ISS		94,300	368,530	Primary Encryption Software support.
SA		175,000	175,000	Major Marketing Software support.
SI		175,000	175,000	
SLIC		10,000	10,000	
STORAGE		0		NT Storage Software Annual Support
STORAGE		0		
STORAGE		6,720		
STORAGE		10,000		NT Storage Software Annual Support
STORAGE		36,000		
STORAGE		42,000		
STORAGE		49,000		
STORAGE		65,000		
STORAGE		82,000		
STORAGE		226,000		Primary ISO Data Storage works
STORAGE		465,000	981,720	Primary ISO Data Storage works
transmission/plotting		3,600		Mapping system software support.
transmission/plotting		4,700	8,300	Mapping system software support.
Training		1,100		
Training		8,990	10,090	
WAN		1,600		Hummingbird
WAN		5,675	7,275	

7,521,862

determination needs to be made on what these systems 838,881

California Independent System Operator
2004 GMC Cost Allocation
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PRODUCTION	
Application Name	
ADS (Automated Dispatch System)	$ 33,593.75
CAP(Compliance Automation Proje	$ 13,671.88
OASIS	$ 10,156.25
Miscellaneous	$ 3,515.63
BITS	$ 30,078.13
GRRMA Pre-Dispatch	$ 8,984.38
	$100,000.00
Total Production	
Total Development-QA	
Total	

DEVELOPMENT
Application Name
ADS (Automated Dispatch System)
CAP(Compliance Automation Project)
OASIS
Miscellaneous
BITS
GRRMA Pre-Dispatch
Total Development-QA

Infrastructure STORAGE Allocated (Usable)

Subsystem	Alhambra	Folsom		% of storage	Budgeted amt
	Allocated (GB)				**$4,017,343**
ADS	30	30	60	0.3107%	$12,480.10
ALFS	100	50	150	0.7766%	$31,200.24
BBS	800	800	1600	8.2841%	$332,802.59
MHAP (settlements)	380	380	760	3.9350%	$158,081.23
MHAP (SRDF)	70	70	140	0.7249%	$29,120.23
Settlements	60		60	0.3107%	$12,480.10
Settlements - Folierun1		900	900	4.6598%	$187,201.46
Settlements - Folierun2		900	900	4.6598%	$187,201.46
Development - Foliapp82		240	240	1.2426%	$49,920.39
Development - Foliapp83		200	200	1.0355%	$41,600.32
BITS	48	48	96	0.4970%	$19,968.16
DW	2000	2000	4000	20.7104%	$832,006.47
DW (SRDF)	160	160	320	1.6568%	$66,560.52
Documentum	310	310	620	3.2101%	$128,961.00
MOOSE-SA	80		80	0.4142%	$16,640.13
MOOSE-SI	340		340	1.7604%	$70,720.55
SI Workspace (MD02)	680	680	1360	7.0415%	$282,882.20
OA	800	2500	3300	17.0861%	$686,405.34
OASIS	670	310	980	5.0740%	$203,841.58
OEM	48	24	72	0.3728%	$14,976.12
OMAR	360	360	720	3.7279%	$149,761.16
SCED(MD02) production	620	620	1240	6.4202%	$257,922.00
SCED(MD02) stagging		620	620	3.2101%	$128,961.00
SLIC	40	40	80	0.4142%	$16,640.13
SRS	50	50	100	0.5178%	$20,800.16
Utilities	60	60	120	0.6213%	$24,960.19
Vitria App	48	48	96	0.4970%	$19,968.16
Vitria DB	90	20	110	0.5695%	$22,880.18
Vitria Test		50	50	0.2589%	$10,400.08
Single server (no replication)		0			
TOTAL USABLE Storage (GB)	**7844**	**11470**	**19314**	100.0000%	$4,017,343.23

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California Independent System Operator
2004 GMC Cost Allocation

Functionalization of Cost Center 1441 Expenses
Draft and Preliminary
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This spreadsheet allocates expenditures in cost center 1441 to systems, utilizing

Sheet Index:	Description
Summary	Summary of allocations to systems
1441	Detailed allocation of expenditures to systems
Software Mtc	Worksheet showing software maintenance costs
WAN - Internal Ntwk	Worksheet showing estimated internal use of WAN for traffic between Folsom and Alhambra as a function of data
WAN - External Ntwk	Worksheet showing number of connected entities on external WAN and type of connection. Connections are single use.

California Independent System Operator
System Allocation
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Cost Center Name	Outsourced contracts
Cost Center Number	1441

	Description of Activities	Percent of total activity
Ancillary Services Management (ASM) Part of SA		0.00%
App Development Tools		0.00%
Automated Dispatch System (ADS)		0.11%
Automated Load Forecast System (ALFS)		0.37%
Automated Mitigation Procedure (AMP)		0.00%
Backup systems (Legato/Veritas)		0.00%
Balance of Business Systems (BBS)		3.44%
Balancing Energy Ex Post Price (BEEP) Part of SA		0.00%
Bill's Interchange Schedule (BITS)		0.18%
CaseWise (process modeling tool)		0.00%
CHASE		0.00%
Compliance (Blaze)		0.00%
Congestion Management (CONG) Part of SA		0.00%
Congestion Revenue Rights (CRR)		0.00%
DataWarehouse		0.59%
Dept. of Market Analysis Tools (SAS/MARS)		0.00%
Dispute Tracking System (Remedy)		0.00%
Documentum		1.15%
Electronic Tagging (Etag)		0.00%
Energy Management System (EMS)		15.08%

Engineering Analysis Tools		0.18%
Existing Transmission Contracts Calculator (ETCC)		0.00%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)		0.18%
Global Resource Reliability Management Application (GRRMA)		0.00%
Grid Operations Training Simulator (GOTS)		0.00%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%
Human Resources		0.00%
Integrated Forward Market (IFM)		0.00%
Local Area Network (LAN)		7.78%
Locational Marginal Pricing (LMPM)		0.00%
Market Transaction System (MTS)		0.00%
Masterfile		0.00%
Meter Data Acquisition System (MDAS)		8.62%
Miscellaneous		5.95%
Monitoring (Tivoli)		0.00%
NT/web servers		0.00%
NT-servers		0.00%
OEM		0.00%
Office Automation - desktop/laptop (OA)		2.96%
Office equipment (scanner, printer, copier, fax)		0.00%
Open Access Same Time Information System (OASIS)		2.48%
Operational Meter Analysis and Reporting (OMAR)		0.00%
Oracle Corporate Financials		0.00%
Oracle Licenses		0.00%
Oracle Market Financials BBS		0.00%
Out of Sequence Market Operation Settlements Information System (OOS)		0.00%

Outage Scheduler (OS)		0.00%
Physical Facilities Software Application		0.00%
Process Information System (PI)		0.00%
Rational Buyer		0.00%
Real Time Nodal Market		0.00%
Reliability Management System (RMS)		0.00%
Remedy		0.00%
Remote Intelligence Gateway (RIG) & DPG's		0.00%
RMR Application Validation Engine:(RAVE)		0.00%
Scheduling & Logging for ISO California (SLIC)		0.15%
Scheduling Architecture (SA)		0.02%
Scheduling Infrastructure Business Rules (SIBR)		0.00%
Scheduling Infrastructure (SI)		8.09%
Security Constrained Economic Dispatch (SCED)		2.29%
Security- External/Physical		0.00%
Security-ISS (CUDA)		0.00%
Settlements and Market Clearing		0.00%
Sign Board (Symon Board maint.)		0.00%
Storage (EMC symmetrix)		0.00%
Telephone/PBX		36.30%
Training Systems		0.00%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation		0.00%
Transmission Map Plotting & Display		0.00%
Utilities - System ie Print drivers		0.00%
Vitria (Middleware)		0.51%
Wide Area Network (WAN)		3.58%
		100.00%

California Independent System Operator
2004 GMC Cost Allocation
System Assignments by Cost Center

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Cost Center Name: Outsourced Contracts
Cost Center Number: 1441/20041

	Acct 416 - Enterprise MGMT WAN		Acct 417	Acct 418	Acct 667	Other Cost in Cost Center Acct 440	Acct 445	Acct 665	Acct 666	616			Used to allocator Enterprise Mgmt and Transition/Transformation	
	Enterprise Management	Transition/ Transformation	Internal WAN	External WAN	Voice Services	Hardware Maintenance	Software Maintenance	Telephone	Internet	Hardware		Percent of Total		
$	Values removed due to confidentiality provisions of contract					$1,209,000	$164,500	$1,405,200	$352,000	$85,000	Total		$7,341,527	100.000%
Ancillary Services Management (ASM) Part of SA											$0	0.00%	$0	
App Development Tools											$0	0.00%	$0	
Automated Dispatch System (ADS)											$11,528	0.11%	$8,143	0.111%
Automated Load Forecast System (ALFS)											$38,426	0.37%	$27,144	0.370%
Automated Mitigation Procedure (AMP)											$0	0.00%	$0	0.000%
Backup systems (Legato/Veritas)											$0	0.00%	$0	0.000%
Balance of Business Systems (BBS)											$357,363	3.44%	$252,436	3.438%
Balancing Energy Ex Post Price (BEEP) Part of SA											$0	0.00%	$0	0.000%
Bill's Interchange Schedule (BITS)											$18,445	0.18%	$13,029	0.177%
CaseWise (process modeling tool)											$0	0.00%	$0	0.000%
CHASE												0.00%	$0	0.000%
Compliance (Blaze)											$0	0.00%	$0	0.000%
Congestion Management (CONG) Part of SA											$0	0.00%	$0	0.000%
Congestion Revenue Rights (CRR)												0.00%	$0	0.000%
DataWarehouse											$61,482	0.59%	$43,430	0.592%
Dept. of Market Analysis Tools (SAS/MARS)											$0	0.00%	$0	0.000%
Dispute Tracking System (Remedy)												0.00%	$0	0.000%
Documentum											$119,121	1.15%	$84,145	1.146%
Electronic Tagging (Etag)											$0	0.00%	$0	0.000%
Energy Management System (EMS)											$1,566,769	15.08%	$1,106,743	15.075%
Engineering Analysis Tools											$18,445	0.18%	$13,029	0.177%
Existing Transmission Contracts Calculator (ETCC)											$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%
Integrated Forward Market (IFM)												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)													0.00%	$0	0.000%
Masterfile													0.00%	$0	0.000%
Meter Data Acquisition System (MDAS)												$895,730	8.62%	$632,730	8.619%
Miscellaneous										$352,000	$85,000	$618,643	5.95%	$437,000	5.952%
Monitoring (Tivoli)												$0	0.00%	$0	0.000%
NT/web servers												$0	0.00%	$0	0.000%
NT-servers												$0	0.00%	$0	0.000%
OEM												$0	0.00%	$0	0.000%
Office Automation - desktop/laptop (OA)												$307,409	2.96%	$217,149	2.958%
Office equipment (scanner, printer, copier, fax)												$0	0.00%	$0	0.000%
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															
Oracle Market Financials BBS													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%
Physical Facilities Software Application												$0	0.00%	$0	0.000%
Process Information System (PI)												$0	0.00%	$0	0.000%
Rational Buyer												$0	0.00%	$0	0.000%
Real Time Nodal Market													0.00%	$0	0.000%
Reliability Management System (RMS)												$0	0.00%	$0	0.000%
Remedy												$0	0.00%	$0	0.000%
Remote Intelligence Gateway (RIG) & DPG's												$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 Business Rules (SIBR)													0.00%	$0	0.000%
Scheduling Infrastructure (SI)												$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													0.00%	$0	0.000%
Sign Board (Symon Board maint.)												$0	0.00%	$0	0.000%
Storage (EMC symmetrix)												$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 Obligation												$0	0.00%	$0	0.000%
Transmission Map Plotting & Display												$0	0.00%	$0	0.000%
Utilities - System le Print drivers													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	100.00%	$7,341,527	100.0%
	#VALUE!	$0	$0	$0	$0		$0	$0	$0	$0	$0				

Description	Total	Type
Descriptions removed due to confidentiality concerns	$10,000	LAN
	$10,000	LAN
	$12,000	LAN
	$12,000	LAN
	$4,000	LAN
	$12,000	LAN
	$11,000	LAN
	$8,000	Voice
	$6,000	Voice
	$26,000	Voice
	$2,000	WAN
	$25,000	WAN
	$10,000	WAN
	$2,500	WAN
	$4,000	WAN
	$10,000	WAN
	$164,500	

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EMC STORAGE Allocated (Usable)

Subsystem	Alhambra Allocated (GD)	Folsom Allocated (GD)		% of storage	Budgeted amt		
ADS	30	0	30	0.4980%			
ALFS	100	0	100	1.6600%			
BBS	800	0	800	13.2802%			
MHAP (SRDF)	70	0	70	1.1620%			
Settlements	60		60	0.9960%			
BITS	48	0	48	0.7968%			
DW (SRDF)	160	0	160	2.6560%			
Documentum	310	0	310	5.1461%			
OA	800	0	800	13.2802%			
OASIS	670	0	670	11.1222%			
OEM	48	0	48	0.7968%			
OMAR	360	0	360	5.9761%			
SCED(MD02) production	620	0	620	10.2922%			
SLIC	40	0	40	0.6640%			
SRS	50	0	50	0.8300%			
Vitria App	48	0	48	0.7968%			
Vitria DB	90	0	90	1.4940%			
SI Workspace (MD02)	680		680	11.2882%			
SI Storage Amount	54		54	0.8964%			
EMS/PI	980		980	16.2683%	$ -		
SA Storage	6		6	0.0996%	$ -	$ -	
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%			

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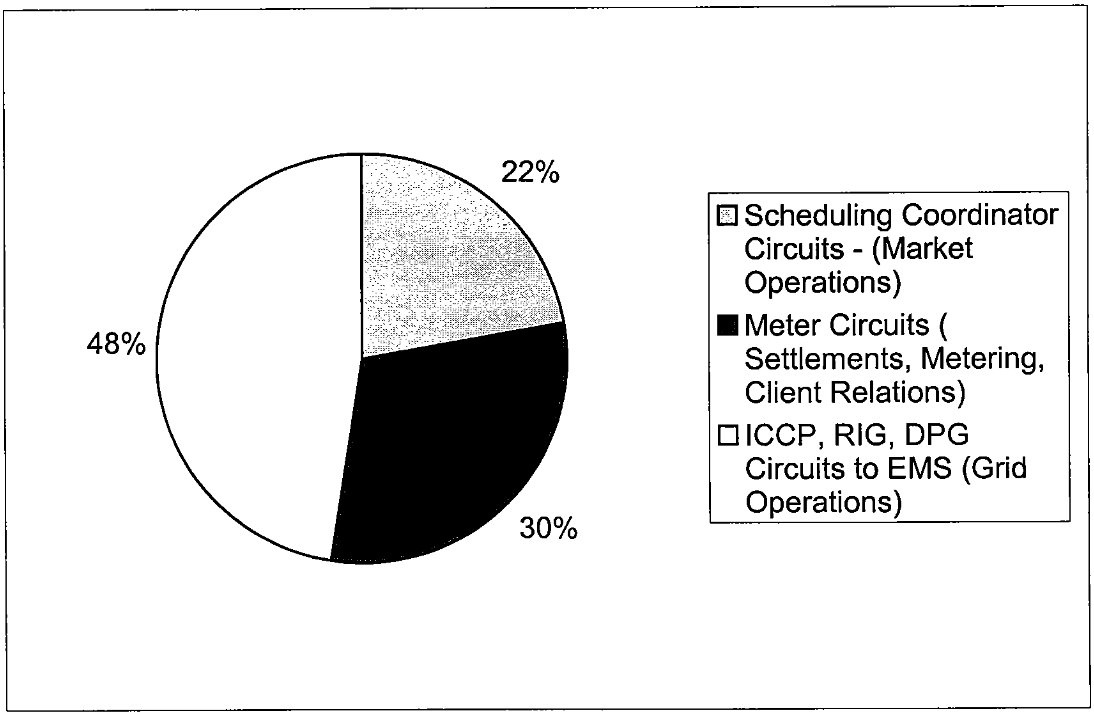
Scheduling Coordinator Circuits - (Market Operations)	Meter Circuits (Settlements, Metering, Client Relations)	ICCP, RIG, DPG Circuits to EMS (Grid Operations)
62	84	132



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California Independent System Operator
2004 GMC Cost Allocation

Capital Expenditure Detail and Functionalization
Draft and Preliminary
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This spreadsheet contains the detailed listing of bond financed capital projects and startup expenditures and expensed capital

Sheet Index:	**Description**
Summary Capital$	Summary of systems with costs where known. Used in System 9-28.xls spreadsheet to calculate System Direct allocators.
Capital sublisting detail	Detailed listing of past bond financed projects and those planned for 2004 with functionalizations
12012 Project Mgt.	Detailed listing of capitalized expenses on various projects

California Independent System Operator
2004 GMC Cost Allocation
Listing of Systems
Direct Functionalization
Draft and Preliminary
Subject to both review and approval

System	Acronym	Method	Total Dollars
ACC Upgrades (Communication between ISO & IOUs)		Direct	$ 1,162,000
Ancillary Services Management (ASM) Part of SA	ASM	Direct	$ 580,086
Automated Dispatch System (ADS)	ADS	Direct	$ 2,440,958
Automated Load Forecast System (ALFS)	ALFS	Direct	$ -
Automated Mitigation Procedure (AMP)	AMP	Direct	$ -
Balance of Business Systems (BBS)	BBS	Direct	$ 51,910,435
Balancing Energy Ex Post Price (BEEP) Part of SA	BEEP	Direct	$ 3,240,516
Bill's Interchange Schedule (BITS)	BITS	Direct	$ 626,004
Common Information Model Project (CIM)	CIM	Direct	$ 983,313
Congestion Management (CONG) Part of SA	CONG	Direct	$ -
Congestion Reform-DSOW		Direct	$ 339,496
Congestion Revenue Rights (CRR)	CRR	Direct	$ -
Dispute Tracking System (Remedy)	Remedy	Direct	$ 692,000
Electronic Tagging (Etag)	E-TAG	Direct	$ 1,326,259
Energy Management System (EMS)	EMS	Direct	$ 23,082,201
Engineering Analysis Tools		Direct	$ -
Evaluation of Market Separation		Direct	$ 158,303
Existing Transmission Contracts Calculator (ETCC)	ETCC	Direct	$ 1,179,265
FERC Study Software		Direct	$ 11,000
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	FTR	Direct	$ 1,236,721
Global Resource Reliability Management Application (GRRMA)	GRRMA	Direct	$ -

California Independent System Operator
2004 GMC Cost Allocation
Listing of Systems
Direct Functionalization
Draft and Preliminary
Subject to both review and approval

System	Acronym	Method	Total Dollars
Grid Operations Training Simulator (GOTS)	GOTS	Direct	$ 356,860
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		Direct	$ 350,813
Integrated Forward Market (IFM)	IFM	Direct	$ -
Intrazonal Congestion Management reform - Real Time		Direct	$ 257,439
Locational Marginal Pricing (LMPM)	LMPM	Direct	$ -
Market Transaction System (MTS)	MTS	Direct	$ -
Masterfile		Direct	$ -
Meter Data Acquisition System (MDAS)	MDAS	Direct	$ 8,512,935
Open Access Same Time Information System (OASIS)	OASIS	Direct	$ 1,975,179
Operational Meter Analysis and Reporting (OMAR)	OMAR	Direct	$ 662,698
Oracle Licenses		Direct	$ 1,152,118
Oracle Market Financials BBS		Direct	$ 1,706,010
Out of Sequence Market Operation Settlements Information System (OOS)	OSMOSIS	Direct	$ -
Outage Scheduler (OS)	OS	Direct	$ -
Process Information System (PI)	PI	Direct	$ 996,037
Rational Buyer		Direct	$ -
Real Time Nodal Market		Direct	$ -
Reliability Management System (RMS)	RMS	Direct	$ -
Remedy		Direct	$ -
Remote Intelligence Gateway (RIG) & DPG's		Direct	$ 1,687,689
Resource Register (RR)		Direct	$ 66,462

California Independent System Operator
2004 GMC Cost Allocation
Listing of Systems
Direct Functionalization
Draft and Preliminary
Subject to both review and approval

System	Acronym	Method	Total Dollars
RMR Application Validation Engine:(RAVE)	RAVE	Direct	$ 335,452
Scheduling & Logging for ISO California (SLIC)	SLIC	Direct	$ 99,999
Scheduling Infrastructure (SI)	SI	Direct	$ 31,153,253
Scheduling Infrastructure Business Rules (SIBR)	SIBR	Direct	$ -
Security Constrained Economic Dispatch (SCED)	SCED	Direct	$ -
Settlements and Market Clearing		Direct	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	TCUC	Direct	$ -
Transmission Map Plotting & Display		Direct	$ 139,000
Total			$ 137,258,501

California Independent System Operator
2004 GMC Cost Allocation

Capital Spending Unbundling Information: FY2004 Budget

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Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	% Allocation CRS	ETS	Sch	Cong.	MU	SMCR	Dollar Allocation Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
Trust	Original	Original EMS	EMS		$ 16,470,000	100%	0%	0%	0%	0%	0%	$ 16,470,000	$ -	$ -	$ -	$ -	$ -	
2000	13002	Advanced applications for Original EMS System	EMS		$ 546,367	100%	0%	0%	0%	0%	0%	$ 546,367	$ -	$ -	$ -	$ -	$ -	
2000	13003	DSOW for New EMS- Bailey	Ranger EMS		$ 470,315	100%	0%	0%	0%	0%	0%	$ 470,315	$ -	$ -	$ -	$ -	$ -	
2000	13004	Operator Training Simulator	GOTS		$ 97,989	56%	44%	0%	0%	0%	0%	$ 54,874	$ 43,115	$ -	$ -	$ -	$ -	
Trust	Original	GCP/RIG (Generator Communication with ISO)	RIG		$ 975,000	100%	0%	0%	0%	0%	0%	$ 975,000	$ -	$ -	$ -	$ -	$ -	
2000	12015	GCP/RIG Development System	RIG		$ 88,148	100%	0%	0%	0%	0%	0%	$ 88,148	$ -	$ -	$ -	$ -	$ -	
2000	12018	GCP/RIG Workstation License	RIG		$ 33,499	100%	0%	0%	0%	0%	0%	$ 33,499	$ -	$ -	$ -	$ -	$ -	
2000	14006	2 Used Vehicles for RIG Engineers	RIG		$ 47,848	100%	0%	0%	0%	0%	0%	$ 47,848	$ -	$ -	$ -	$ -	$ -	
2000	12005	Bridge RIG (PLP)	RIG		$ 215,367	100%	0%	0%	0%	0%	0%	$ 215,367	$ -	$ -	$ -	$ -	$ -	
Trust	Original	SI	SI		$ 27,102,000	10%	0%	75%	0%	10%	5%	$ 2,710,200	$ -	$ 20,326,500	$ -	$ 2,710,200	$ 1,355,100	
2000	11029	New Parser	SI		$ 17,580	10%	0%	75%	0%	10%	5%	$ 1,758	$ -	$ 13,185	$ -	$ 1,758	$ 879	Replacing APX parser, template changes are required for all changes/ enhancement made to SI system. -
2000	11002	Adjustment Bid on Inter SC trades	SI	$ 1,708,777	$ 843,133	10%	0%	75%	0%	10%	5%	$ 84,313	$ -	$ 632,350	$ -	$ 84,313	$ 42,157	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.
2000	11002	Adjustment Bid on Inter SC trades	SA		$ 865,644	24%	0%	20%	26%	30%	0%	$ 207,392	$ -	$ 171,773	$ 223,924	$ 262,555	$ -	
Trust	Original	SA	SA		$ 31,681,000	24%	0%	20%	26%	30%	0%	$ 7,590,181	$ -	$ 6,286,579	$ 8,195,204	$ 9,609,036	$ -	

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2000	11010	ASM Using Bid based Operating Limits	SA/ASM		$ 50,000	15%	0%	40%	0%	45%	0%	$ 7,500	$ -	$ 20,000	$ -	$ 22,500	$ -	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.
2000	11022	To Accommodate Import of Regulation Service	SA/ASM	$ 212,000	$ 141,333	15%	0%	40%	0%	45%	0%	$ 21,200	$ -	$ 56,533	$ -	$ 63,600	$ -	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
2000	11022	To Accommodate Import of Regulation Service	SA/BEEP		$ 70,667	50%	0%	20%	10%	20%	0%	$ 35,333	$ -	$ 14,133	$ 7,067	$ 14,133	$ -	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
2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SA/BEEP	$ 36,800	$ 25,760	50%	0%	20%	10%	20%	0%	$ 12,880	$ -	$ 5,152	$ 2,576	$ 5,152	$ -	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.
2000	11023	To Accommodate Target Price Changes & Default Usage Charge	SI		$ 11,040	10%	0%	75%	0%	10%	5%	$ 1,104	$ -	$ 8,280	$ -	$ 1,104	$ 552	
2000	11032	FERC Price Cap	SA/ASM		$ 74,000	15%	0%	40%	0%	45%	0%	$ 11,100	$ -	$ 29,600	$ -	$ 33,300	$ -	Enhancement to SA application for FERC order for new price cap of $150 for all A/S-
2000	11012	Hour Ahead Data Analysis Tool	HADAT		$ 284,054	0%	0%	100%	0%	0%	0%	$ -	$ -	$ 284,054	$ -	$ -	$ -	Developed Tool for Day/Hour-ahead desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. ---
2000	11015	System Testing 2000 -	SA	$ 559,528	$ 269,115	24%	0%	20%	26%	30%	0%	$ 64,475	$ -	$ 53,401	$ 69,614	$ 81,624	$ -	Internal testing of systems applications, prior to us building this into each project.

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2000	11015	System Testing 2000 -	SI		$ 259,025	10%	0%	75%	0%	10%	5%	$ 25,902	$ -	$ 194,269	$ -	$ 25,902	$ 12,951	Internal testing of systems applications, prior to us building this into each project.
2000	11015	System Testing 2000 -	FTR		$ 31,388	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 4,708	$ 18,833	$ 4,708	$ 3,139	Internal testing of systems applications, prior to us building this into each project.
Trust	Original	BBS (Billing & Settlements)	BBS		$ 48,173,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 48,173,000	
2000	11019	Payment Calendar Phase II	BBS		$ 303,274	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 303,274	Settlement System --Allowed for payment on prelim statements and trueup after final statements
Trust	Original	MDAS (Metering)	MDAS		$ 8,166,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 8,166,000	
Trust	Original	Vehicles MDAS/Metering	MDAS		$ 96,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 96,000	
2000	12013	Portable field test kit and adapters	MDAS		$ 41,600	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 41,600	
2000	12019	SEVAR - Metering renamed OMAR	OMAR		$ 157,870	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 157,870	
Trust	Original	GRRMA-Software	GRRMA		$ 56,000	75%	15%	0%	0%	10%	0%	$ 42,000	$ 8,400	$ -	$ -	$ 5,600	$ -	
Trust	Original	Market Analysis Software	DMA		$ 238,000	15%	26%	0%	20%	31%	7%	$ 36,093	$ 62,994	$ -	$ 47,666	$ 74,588	$ 16,658	
2000	12014	Market Monitoring System - Enhancemer	DMA/MMS		$ 40,748	15%	26%	0%	20%	31%	7%	$ 6,180	$ 10,785	$ -	$ 8,161	$ 12,770	$ 2,852	
Trust	Original	FERC Study Software	MKT		$ 11,000	0%	0%	0%	0%	100%	0%	$ -	$ -	$ -	$ -	$ 11,000	$ -	FERC request Study on ISO Markets
Trust	Original	SRS Software (FTR related)	SRS		$ 1,049,000	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 157,350	$ 629,400	$ 157,350	$ 104,900	
2000	11026	SRS Enhancements Oracle Upgrade	SRS		$ 129,840	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 19,476	$ 77,904	$ 19,476	$ 12,984	Upgrade of Secondary Registration System (SRS) to handle thread management issues and take to next Oracle version 8i
Trust	Original	FTR Auction software	FTR		$ 17,000	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 2,550	$ 10,200	$ 2,550	$ 1,700	

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Trust	Original	ETCC Software	ETCC		$ 891,000	25%	0%	20%	15%	20%	20%	$ 222,750	$ -	$ 178,200	$ 133,650	$ 178,200	$ 178,200	
Trust	Original	Transmission Map Plotting & Display Software - TMPD	TMPD		$ 139,000	50%	50%	0%	0%	0%	0%	$ 69,500	$ 69,500	$ -	$ -	$ -	$ -	
2000	13001	E-Tag Phase 1	E-Tag		$ 186,042	100%	0%	0%	0%	0%	0%	$ 186,042	$ -	$ -	$ -	$ -	$ -	NERC Requirement
Trust	Original	Dispute Tracking System -Remedy for CS	Remedy DTS		$ 692,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 692,000	
Trust	Original	Security System - CUDA	CUDA	$ 6,993,000	$ 5,930,259	25%	0%	18%	3%	8%	47%	$ 1,456,199	$ 10,371	$ 1,073,668	$ 156,688	$ 449,056	$ 2,784,278	Impacts on all operating system, allocate based on total costs of operational systems.
Trust	Original	Security System - CUDA	RIG		$ 258,456	100%	0%	0%	0%	0%	0%	$ 258,456	$ -	$ -	$ -	$ -	$ -	System Security requirements system direct
Trust	Original	Security System - CUDA	FTR		$ 139,333	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 20,900	$ 83,600	$ 20,900	$ 13,933	System Security requirements system direct
Trust	Original	Security System - CUDA	SRS		$ 131,786	0%	0%	15%	60%	15%	10%	$ -	$ -	$ 19,768	$ 79,071	$ 19,768	$ 13,179	System Security requirements system direct
Trust	Original	Security System - CUDA	MDAS		$ 115,955	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 115,955	System Security requirements system direct
Trust	Original	Security System - CUDA	GRRMA		$ 73,919	75%	15%	0%	0%	10%	0%	$ 55,439	$ 11,088	$ -	$ -	$ 7,392	$ -	System Security requirements system direct
Trust	Original	Security System - CUDA	ADS		$ 343,292	25%	0%	18%	3%	8%	47%	$ 84,297	$ 600	$ 62,153	$ 9,070	$ 25,995	$ 161,177	System Security requirements system direct
2000	12101	Information Security Architecture - CUDA	CUDA		$ 560,085	25%	0%	18%	3%	8%	47%	$ 137,531	$ 979	$ 101,403	$ 14,798	$ 42,411	$ 262,962	Impacts on all operating system, allocate based on total costs of operational systems.
Trust	Original	Tivoli -System Management and Monitoring	Tivoli		$ 200,000	25%	0%	18%	3%	8%	47%	$ 49,111	$ 350	$ 36,210	$ 5,284	$ 15,145	$ 93,901	Calculation
2000	12011	Enterprise System Management/Monitoring Enhancements-Tivoli	Tivoli		$ 893,131	25%	0%	18%	3%	8%	47%	$ 219,312	$ 1,562	$ 161,701	$ 23,598	$ 67,630	$ 419,328	Enterprise Monitoring of Core systems. Impacts on all operating system, allocate based on total costs of operational systems.
2000	12016	Legato Software License- EMC backup system	EMC		$ 71,449	25%	0%	18%	3%	8%	47%	$ 17,545	$ 125	$ 12,936	$ 1,888	$ 5,410	$ 33,546	Back up of Core systems. Impacts on all operating systems, allocate based on total costs of operational systems
Trust	Original	Data Warehouse	DW	$ 1,279,000	$ 941,563	24%	18%	6%	9%	24%	18%	$ 228,006	$ 172,713	$ 59,844	$ 82,482	$ 229,285	$ 169,234	

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Trust	Original	Data Warehouse	PI		$ 337,437	80%	0%	0%	0%	10%	10%	$ 269,950	$ -	$ -	$ -	$ 33,744	$ 33,744	
2000	11020	Intrazonal Congestion management reform-Real Time			$ 257,439	50%	0%	0%	50%	0%	0%	$ 128,719	$ -	$ -	$ 128,719	$ -	$ -	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**
2000	11003	Evaluation of the Market Separation			$ 158,303	0%	0%	0%	50%	50%	0%	$ -	$ -	$ -	$ 79,152	$ 79,152	$ -	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
2000	11021	Congestion Reform.– DSOW			$ 339,496	50%	0%	0%	50%	0%	0%	$ 169,748	$ -	$ -	$ 169,748	$ -	$ -	Design phase due to FERC Order, for congestion in the forward & real-time markets, RMR reform, FTR, LARS, New Generator policy. Affects congestion and
Trust	Original	Network Software	NT		$ 630,000	50%	23%	0%	0%	6%	21%	$ 311,967	$ 147,796	$ 2,679	$ 2,198	$ 35,035	$ 130,325	
Trust	Original	Internal Development	System Direct	$ 3,482,000	$ 1,405,037	25%	0%	18%	3%	8%	47%	$ 345,012	$ 2,457	$ 254,381	$ 37,124	$ 106,393	$ 659,670	
Trust	Original	MOOSE / SI Data Base	SI		$ 176,590	10%	0%	75%	0%	10%	5%	$ 17,659	$ -	$ 132,442	$ -	$ 17,659	$ 8,829	
Trust	Original	OTS/DTS Simulator	GOTS		$ 258,871	56%	44%	0%	0%	0%	0%	$ 144,968	$ 113,903	$ -	$ -	$ -	$ -	
Trust	Original	GRRMA-Software	GRRMA		$ 158,050	75%	15%	0%	0%	10%	0%	$ 118,537	$ 23,707	$ -	$ -	$ 15,805	$ -	
Trust	Original	BITS	BITS		$ 152,378	85%	0%	0%	0%	15%	0%	$ 129,521	$ -	$ -	$ -	$ 22,857	$ -	
Trust	Original	SI Phase 2'	SI		$ 331,762	10%	0%	75%	0%	10%	5%	$ 33,176	$ -	$ 248,822	$ -	$ 33,176	$ 16,588	
Trust	Original	Parser - APX	SI		$ 63,704	10%	0%	75%	0%	10%	5%	$ 6,370	$ -	$ 47,778	$ -	$ 6,370	$ 3,185	
Trust	Original	Market Surveillance	DMA		$ 488,027	15%	26%	0%	20%	31%	7%	$ 74,010	$ 129,171	$ -	$ 97,742	$ 152,946	$ 34,159	
Trust	Original	BBS Phase 2	BBS		$ 443,219	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 443,219	
Trust	Original	OASIS	OASIS		$ 4,362	10%	0%	25%	10%	35%	20%	$ 436	$ -	$ 1,091	$ 436	$ 1,527	$ 872	
2000	12008	Office Automation Software- Company wide	OA		$ 2,024,147	50%	23%	0%	0%	6%	21%	$ 1,002,329	$ 474,858	$ 8,607	$ 7,061	$ 112,567	$ 418,726	

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2000	12022	Office 2000 Licenses	OA		$ 146,967	50%	23%	0%	0%	6%	21%	$ 72,776	$ 34,478	$ 625	$ 513	$ 8,173	$ 30,402	
Trust	Original	Oracle Financials - Corporate (43%)	Oracle- Fin	$ 2,993,000	$ 1,286,990	50%	23%	0%	0%	6%	21%	$ 637,299	$ 301,923	$ 5,472	$ 4,489	$ 71,572	$ 266,234	
Trust	Original	Oracle Financials - Market (57%)	Oracle- Mkt		$ 1,706,010	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 1,706,010	
Trust	Original	Document Management System - EDMS	Documentum		$ 1,715,000	50%	23%	0%	0%	6%	21%	$ 849,244	$ 402,333	$ 7,292	$ 5,982	$ 95,374	$ 354,774	
Trust	Original	HR System - Imperativ	HR		$ 136,000	50%	23%	0%	0%	6%	21%	$ 67,345	$ 31,905	$ 578	$ 474	$ 7,563	$ 28,134	
Trust	Original	HR System - ABRA	HR		$ 38,000	50%	23%	0%	0%	6%	21%	$ 18,817	$ 8,915	$ 162	$ 133	$ 2,113	$ 7,861	
2000	12010	HR system - Imperativ	HR		$ 496,617	50%	23%	0%	0%	6%	21%	$ 245,918	$ 116,505	$ 2,112	$ 1,732	$ 27,618	$ 102,733	
Trust	Original	Facilities Leaseholds	Facilities		$ 10,566,000	50%	23%	0%	0%	6%	21%	$ 5,232,133	$ 2,478,748	$ 44,928	$ 36,856	$ 587,595	$ 2,185,740	
Trust	Original	Furniture	Facilities		$ 5,391,000	50%	23%	0%	0%	6%	21%	$ 2,669,546	$ 1,264,710	$ 22,923	$ 18,805	$ 299,804	$ 1,115,212	
Trust	Original	Facilities-Office Equipment	Facilities		$ 1,330,000	50%	23%	0%	0%	6%	21%	$ 658,597	$ 312,013	$ 5,655	$ 4,639	$ 73,964	$ 275,131	
2000	14101	Office Furniture	Facilities		$ 798,815	50%	23%	0%	0%	6%	21%	$ 395,562	$ 187,399	$ 3,397	$ 2,786	$ 44,424	$ 165,247	
2000	14102	Board Room Equip./Video Conference/Security Equip	Facilities		$ 294,028	0%	0%	0%	0%	100%	0%	$ -	$ -	$ -	$ -	$ 294,028	$ -	
2000	14103	Leaseholds all Facilities	Facilities		$ 380,398	50%	23%	0%	0%	6%	21%	$ 188,368	$ 89,240	$ 1,618	$ 1,327	$ 21,155	$ 78,691	
Trust	Original	MCI Contract	WAN		$ 27,040,000	42%	3%	8%	1%	8%	37%	$ 11,471,424	$ 826,781	$ 2,112,588	$ 326,452	$ 2,244,940	$ 10,057,815	
Trust	Original	ACC Upgrades (Communication btw ISO and IOUs)	Startup		$ 1,162,000	100%	0%	0%	0%	0%	0%	$ 1,162,000	$ -	$ -	$ -	$ -	$ -	
Trust	Original	IBM Contract	Startup		$ 6,816,000	41%	16%	6%	1%	6%	29%	$ 2,813,694	$ 1,075,270	$ 426,649	$ 75,360	$ 424,286	$ 2,000,742	
Trust	Original	Trustee Costs	Infrastructure		$ 5,692,000	45%	1%	13%	16%	26%	0%	$ 2,558,931	$ 29,479	$ 721,932	$ 904,026	$ 1,476,936	$ 697	
Trust	Original	Interest-Capitalized	Infrastructure		$ 1,261,000	45%	1%	13%	16%	26%	0%	$ 566,903	$ 6,531	$ 159,936	$ 200,277	$ 327,199	$ 154	

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Trust	Original	User Groups	Infrastructure		$ 957,000	45%	1%	13%	16%	26%	0%	$ 430,235	$ 4,956	$ 121,379	$ 151,994	$ 248,318	$ 117	
Trust	Original	Startup Costs-through 3/31/98	Startup		$ 52,897,000	50%	23%	0%	0%	6%	21%	$ 26,193,840	$ 12,409,456	$ 224,926	$ 184,515	$ 2,941,701	$ 10,942,562	
Trust	Original	Working Capital-3 months	Startup		$ 21,692,000	50%	23%	0%	0%	6%	21%	$ 10,741,569	$ 5,088,869	$ 92,238	$ 75,666	$ 1,206,333	$ 4,487,325	
2000	12012	Project Management Costs - 2000	RIG	$ 252,189	$ 69,371	100%	0%	0%	0%	0%	0%	$ 69,371	$ -	$ -	$ -	$ -	$ -	
2000	12012	Project Management Costs - 2001	ETAG		$ 28,288	100%	0%	0%	0%	0%	0%	$ 28,288	$ -	$ -	$ -	$ -	$ -	
2000	12012	Project Management Costs - 2001 Miscellaneous	System Direct		$ 70,810	25%	0%	18%	3%	8%	47%	$ 17,388	$ 124	$ 12,820	$ 1,871	$ 5,362	$ 33,245	
2000	12012	Project Management Costs - 2001	DW		$ 22,521	24%	18%	6%	9%	24%	18%	$ 5,454	$ 4,131	$ 1,431	$ 1,973	$ 5,484	$ 4,048	
2000	12012	Project Management Costs - 2001	Tivoli		$ 61,200	25%	0%	18%	3%	8%	47%	$ 15,028	$ 107	$ 11,080	$ 1,617	$ 4,634	$ 28,733	
2000	12002	Oracle License (New purchases)	Direct		$ 1,152,118	28%	0%	16%	5%	9%	42%	$ 318,686	$ 2,139	$ 180,517	$ 62,597	$ 108,510	$ 479,669	
2000	12006	Software Purchased - Non Project	OA		$ 88,102	50%	23%	0%	0%	6%	21%	$ 43,627	$ 20,668	$ 375	$ 307	$ 4,900	$ 18,225	
2000	12007	Computer Equipment Purchases	OA		$ 159,070	50%	23%	0%	0%	6%	21%	$ 78,769	$ 37,317	$ 676	$ 555	$ 8,846	$ 32,906	
		Total 1998 Bond Issuance			$ 301,400,000							$ 103,046,430	$ 26,018,473	$ 34,863,785	$ 12,467,803	$ 25,422,474	$ 99,581,036	
		Actual % and $'s										34.19%	8.63%	11.57%	4.14%	8.43%	33.04%	

Total 2000 Bonds

Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	CRS	ETS	Sch	Cong.	MU	SMCR	Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
2000	14019	Land & Building Costs	General		$ 9,300,000	50%	23%	0%	0%	6%	21%	$ 4,605,227	$ 2,181,748	$ 39,545	$ 32,440	$ 517,190	$ 1,923,849	

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Draft and Preliminary, Subject to both review and approval

Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	% Allocation CRS	ETS	Sch	Cong.	MU	SMCR	Dollar Allocation Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
2000	11000	Oasis FERC Order 888 and 889	Oasis	$ 1,970,817	$ 1,583,817	10%	0%	25%	10%	35%	20%	$ 158,382	$ -	$ 395,954	$ 158,382	$ 554,336	$ 316,763	
2000	11000	Oasis FERC Order 888 and 890	SI		$ 387,000	10%	0%	75%	0%	10%	5%	$ 38,700	$ -	$ 290,250	$ -	$ 38,700	$ 19,350	
2001	13024	BEEP Split	SA/BEEP	$ 398,530	$ 253,120	50%	0%	20%	10%	20%	0%	$ 126,560	$ -	$ 50,624	$ 25,312	$ 50,624	$ -	Enhancement to split the Operating Reserve from the Imbalance energy in the SA & SI systems and the Rational Buyer procurement program. --
2001	13024	BEEP Split	SI		$ 145,410	10%	0%	75%	0%	10%	5%	$ 14,541	$ -	$ 109,058	$ -	$ 14,541	$ 7,271	
2001	13030	Real Time SC Specific Publication	SI		$ 55,200	10%	0%	75%	0%	10%	5%	$ 5,520	$ -	$ 41,400	$ -	$ 5,520	$ 2,760	SI enhancement to make information unit specific information only available to the scheduling SC. Not public information.
2001	11001	SI Workspace DSOW	SI		$ 299,130	10%	0%	75%	0%	10%	5%	$ 29,913	$ -	$ 224,348	$ -	$ 29,913	$ 14,957	SI data storage mechanism for SC to submit and retrieve, scheduling and billing data. Has validation rules.

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2000	11004	ADS	ADS	$ 2,520,666	$ 2,097,666	50%	0%	25%	0%	20%	5%	$ 1,048,833	$ -	$ 524,417	$ -	$ 419,533	$ 104,883	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, -
2000	11004	ADS	SA		$ 423,000	24%	0%	20%	26%	30%	0%	$ 101,343	$ -	$ 83,937	$ 109,421	$ 128,298	$ -	Interface needed to work with new ADS application
2000	11005	RMR Generation	GRRMA	$ 2,391,336	$ 188,024	75%	15%	0%	0%	10%	0%	$ 141,018	$ 28,204	$ -	$ -	$ 18,802	$ -	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
2000	11005	RMR Generation	SA/ASM	$ 629,505	$ 314,753	15%	0%	40%	0%	45%	0%	$ 47,213	$ -	$ 125,901	$ -	$ 141,639	$ -	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
2000	11005	RMR Generation	SA/BEEP		$ 314,753	50%	0%	20%	10%	20%	0%	$ 157,376	$ -	$ 62,951	$ 31,475	$ 62,951	$ -	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
2000	11005	RMR Generation	SI		$ 610,637	10%	0%	75%	0%	10%	5%	$ 61,064	$ -	$ 457,978	$ -	$ 61,064	$ 30,532	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
2000	11005	RMR Generation	BBS		$ 963,170	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 963,170	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

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Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	% Allocation CRS	ETS	Sch	Cong.	MU	SMCR	Dollar Allocation Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
2000	11006	10 Minute Dispatch and Settlement	OMAR	$ 4,798,351	$ 157,328	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 157,328	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.**
2000	11006	10 Minute Dispatch and Settlement	MDAS		$ 93,379	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 93,379	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.**
2000	11006	10 Minute Dispatch and Settlement	SA/BEEP		$ 2,576,216	50%	0%	20%	10%	20%	0%	$ 1,288,108	$ -	$ 515,243	$ 257,622	$ 515,243	$ -	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.**
2000	11006	10 Minute Dispatch and Settlement	SI		$ 812,763	10%	0%	75%	0%	10%	5%	$ 81,276	$ -	$ 609,572	$ -	$ 81,276	$ 40,638	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.**

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Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	% Allocation CRS	ETS	Sch	Cong.	MU	SMCR	Dollar Allocation Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
2000	11006	10 Minute Dispatch and Settlement	BBS		$ 1,158,665	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 1,158,665	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.**
2001	13021	Soft Price Cap	SA	$ 358,870	$ 111,470	24%	0%	20%	26%	30%	0%	$ 26,706	$ -	$ 22,119	$ 28,835	$ 33,810	$ -	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
2001	13021	Soft Price Cap	SI		$ 38,280	10%	0%	75%	0%	10%	5%	$ 3,828	$ -	$ 28,710	$ -	$ 3,828	$ 1,914	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
2001	13021	Soft Price Cap	BBS		$ 200,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 200,000	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
2001	13021	Soft Price Cap	BITS		$ 9,120	85%	0%	0%	0%	15%	0%	$ 7,752	$ -	$ -	$ -	$ 1,368	$ -	Enhancement to Settlement, Master Files, SI, SA(BEEP, ASM) & BITS to support the new soft price cap mandated by FERC order.
2000	11030	GMC Unbundling-	BBS		$ 271,600	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 271,600	Enhancements to **Settlements** system to accommodate Unbundled GMC
2000	11031	Transmission Access Charge:	BBS		$ 366,000	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 366,000	Enhancements to **Settlements** system to accommodate Transmission Access Charge(TAC) per Tariff
2001	13022	Statement Neutrality	BBS		$ 31,507	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 31,507	Settlements system enhancements to prevent adverse cash flow problems with market invoices.
2000	11009	Day Ahead Data Analysis Tool	DADAT		$ 66,759	0%	0%	100%	0%	0%	0%	$ -	$ -	$ 66,759	$ -	$ -	$ -	Developed **Tool for Day/Hour-ahead** desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. –
2000	11013	Management Information System (MIS) Sign Boards	Sign Board		$ 44,196	50%	23%	0%	0%	6%	21%	$ 21,885	$ 10,368	$ 188	$ 154	$ 2,458	$ 9,143	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**
2000	11027	E-Tag Part II	E-Tag		$ 1,111,929	100%	0%	0%	0%	0%	0%	$ 1,111,929	$ -	$ -	$ -	$ -	$ -	E-Tag phase 2 to meet new requirements and take to new platform.
2000	11034	RMR Data Tool (RAVE)	RAVE		$ 335,452	100%	0%	0%	0%	0%	0%	$ 335,452	$ -	$ -	$ -	$ -	$ -	Enhancement to RMR validation tool for settlements validation of the RMR invoices.

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2000	11014	Existing Transmission Contracts (Phase 2)	ETCC		$ 288,265	25%	0%	20%	15%	20%	20%	$ 72,066	$ -	$ 57,653	$ 43,240	$ 57,653	$ 57,653	Phase 2 is to move application to 3 tier environment and add additional functionality.
2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	BITS	$ 669,006	$ 464,506	85%	0%	0%	0%	15%	0%	$ 394,830	$ -	$ -	$ -	$ 69,676	$ -	To establish a base interchange schedule application to fully integrate with SI & EMS. -
2000	11017	BITS to EMS & Conversion to 3 Tier High availability infrastructure	EMS		$ 204,500	100%	0%	0%	0%	0%	0%	$ 204,500	$ -	$ -	$ -	$ -	$ -	To establish a base interchange schedule application to fully integrate with SI & EMS. -
2000	13008	BRIG to SCADA Interface Conversion	EMS		$ 77,534	100%	0%	0%	0%	0%	0%	$ 77,534	$ -	$ -	$ -	$ -	$ -	
2000	13009	Critical Event Recorder	EMS		$ 23,740	100%	0%	0%	0%	0%	0%	$ 23,740	$ -	$ -	$ -	$ -	$ -	
2000	13007	EMS Communication Test Equipment	EMS		$ 3,067	100%	0%	0%	0%	0%	0%	$ 3,067	$ -	$ -	$ -	$ -	$ -	
2001	13020	ABB Bailey Ranger EMS	EMS		$ 5,286,678	100%	0%	0%	0%	0%	0%	$ 5,286,678	$ -	$ -	$ -	$ -	$ -	
2000	20.15/.16	Process Information.	PI		$ 658,600	80%	0%	0%	0%	10%	10%	$ 526,880	$ -	$ -	$ -	$ 65,860	$ 65,860	Process Information, Historical part of EMS -What the units actual do. Used by Compliance to determine and penalties that would then pass to Settlements -
2000	13005	CIM (Common Information Model) Project	CIM		$ 983,313	100%	0%	0%	0%	0%	0%	$ 983,313	$ -	$ -	$ -	$ -	$ -	
2000	11025	SLIC DSOW	SLIC		$ 99,999	65%	0%	15%	5%	15%	0%	$ 64,999	$ -	$ 15,000	$ 5,000	$ 15,000	$ -	System Design to replace original system to have single Outage scheduler, process outage requests electronically, direct interfaces to EMS,SA, GRRMA,BITS, ETC.-
2000	13006	OMAR - Metering system consolidation Project	OMAR		$ 347,500	0%	0%	0%	0%	0%	100%	$ -	$ -	$ -	$ -	$ -	$ 347,500	
2000	12003	Data Warehousing - Phase 2	DW		$ 1,343,050	24%	18%	6%	9%	24%	18%	$ 325,228	$ 246,358	$ 85,362	$ 117,652	$ 327,053	$ 241,397	
2000	20.1	Market Monitoring System - Enhancements	DMA/MMS		$ 46,193	15%	26%	0%	20%	31%	7%	$ 7,005	$ 12,226	$ -	$ 9,251	$ 14,477	$ 3,233	
2000	20.19	Resource Register	RR		$ 66,462	100%	0%	0%	0%	0%	0%	$ 66,462	$ -	$ -	$ -	$ -	$ -	

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						% Allocation						Dollar Allocation						
Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	CRS	ETS	Sch	Cong.	MU	SMCR	Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
2000	12004	EDMS - Documentum	Documentum		$ 497,709	50%	23%	0%	0%	6%	21%	$ 246,458	$ 116,761	$ 2,116	$ 1,736	$ 27,679	$ 102,959	
2000	12009	Corporate Accounting Modules	Oracle Fin.		$ 144,194	50%	23%	0%	0%	6%	21%	$ 71,403	$ 33,827	$ 613	$ 503	$ 8,019	$ 29,829	
2000	12021	CHASE - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle	CHASE		$ 800,249	50%	23%	0%	0%	6%	21%	$ 396,272	$ 187,736	$ 3,403	$ 2,791	$ 44,503	$ 165,544	
2000	12023	Video Bridging Conferencing Equipment	Office Equipment		$ 33,281	50%	23%	0%	0%	6%	21%	$ 16,480	$ 7,808	$ 142	$ 116	$ 1,851	$ 6,885	
2000	12030	Enterprise Modeling Program Casewise Licenses	Casewise		$ 117,277	50%	23%	0%	0%	6%	21%	$ 58,074	$ 27,513	$ 499	$ 409	$ 6,522	$ 24,261	
2000	12024	Remote Network Access - VPN	WAN		$ 69,365	42%	3%	8%	1%	8%	37%	$ 29,427	$ 2,121	$ 5,419	$ 837	$ 5,759	$ 25,801	
2000	12029	Internet Apps. Network Redesign	WAN		$ 222,852	42%	3%	8%	1%	8%	37%	$ 94,543	$ 6,814	$ 17,411	$ 2,690	$ 18,502	$ 82,892	
2000	12027	WSCC Net Messaging System	WAN		$ 1,323	42%	3%	8%	1%	8%	37%	$ 561	$ 40	$ 103	$ 16	$ 110	$ 492	
		Total 2000 Bond Issuance			$ 36,100,000							$ 18,362,149	$ 2,861,524	$ 3,836,674	$ 827,884	$ 3,343,757	$ 6,868,012	
		Actual % and $'s										50.86%	7.93%	10.63%	2.29%	9.26%	19.02%	
		Cash Funded Cap Ex: 2004 Capital Budget																
2004	140	EMS Grid Operations Training Simulator (GOTS)	GOTS			56%	44%	0%	0%	0%	0%							
2004	160	EMS User Interface Upgrade	EMS			100%	0%	0%	0%	0%	0%							
2004	172	Market Rules	SA			24%	0%	20%	26%	30%	0%							
2004	183	Accelerated or early market payments (Payment Acceleration)	BBS			0%	0%	0%	0%	0%	100%							
2004	201	Must Offer Waiver	SA			24%	0%	20%	26%	30%	0%							
2004	203	Reference Price Calculation - Internal Calculation	AMP			85%	0%	0%	0%	15%	0%							
2004	210	Upgrade Tie-Line Metering and Real Time data	EMS			100%	0%	0%	0%	0%	0%							
2004	210	Upgrade Tie-Line Metering and Real Time data	WAN			42%	3%	8%	1%	8%	37%							
2004	210	Upgrade Tie-Line Metering and Real Time data	MDAS			0%	0%	0%	0%	0%	100%							
2004	073	Oversight and Investigation	Compliance			19%	16%	9%	0%	33%	22%							

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2004	193	WAPA MSS	Compliance			19%	16%	9%	0%	33%	22%							
2004	200	RAVE Test & Development Server	RAVE			100%	0%	0%	0%	0%	0%							
		2004Spending: Operating Systems			$ 4,690,000							$ 2,413,770	$ 156,178	$ 269,560	$ 266,595	$ 525,701	$ 1,058,196	
		Actual % and $'s										51.47%	3.33%	5.75%	5.68%	11.21%	22.56%	
2004	013	Facilities Leasehold Improvements	Facilities			50%	23%	0%	0%	6%	21%							
		2004 Budget: Facilities/Furniture/Office Furniture			$ 150,000							$ 74,278	$ 35,189	$ 638	$ 523	$ 8,342	$ 31,030	
		Actual % and $'s										49.52%	23.46%	0.43%	0.35%	5.56%	20.69%	
2004	173	Computer Lease Buyouts				45%	2%	4%	2%	12%	36%							
2004	173	Equipment Purchases				25%	0%	18%	3%	8%	47%							
2004	173	Misc. Computer & Software	OA			50%	23%	0%	0%	6%	21%							
2004	198	Telephony Technology Pilot	WAN			42%	3%	8%	1%	8%	37%							
2004	213	HR System Oracle Implementation	HR			50%	23%	0%	0%	6%	21%							
		2004 Budget: Corporate Systems			$ 5,160,000							$ 2,109,081	$ 314,808	$ 349,083	$ 79,359	$ 477,670	$ 1,829,998	
		Actual % and $'s										40.87%	6.10%	6.77%	1.54%	9.26%	35.47%	
2004		MD02 Implementation			$ 22,000,000	7%	0%	14%	11%	28%	40%	$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	
		2004 Budget: MD02			$ 22,000,000							$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	
		Actual % and $'s										6.95%	0.00%	13.86%	10.91%	28.38%	39.90%	
		Total 2004 Capital Budget Cash Funding			$ 32,000,000													

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						% Allocation						Dollar Allocation						
Year	Capital ID #	Project Description	System	Totals for allocation	2004 Filing Totals	CRS	ETS	Sch	Cong.	MU	SMCR	Core Reliability Services	Energy & Transmission Services	Scheduling	Congestion	Market Usage	SMCR	Description of Enhancement of System
		MD02																
		Settlements and Market Clearing	SaMC			0%	0%	0%	0%	0%	100%							
		Scheduling Infrastructure Business Rules	SIBR			10%	0%	75%	0%	10%	5%							
		Integrated Forward Market and Locational Marginal Pricing	IFM/LMP			10%	0%	35%	0%	55%	0%							RUC/DA Schedules, validation /Market
		Market Transaction System	MTS			0%	0%	0%	0%	100%	0%							Market Transaction System - holds data after market runs
		Real Time Nodal	RTN			35%	0%	10%	0%	55%	0%							Real Time Energy Market, Reliability, Schedules. No Congestion as resolved in IFM.
		Congestion Revenue Rights	CRR			0%	0%	0%	80%	20%	0%							Congestion management also market Auctions
		Master File	MF			20%	0%	20%	0%	55%	5%							Constraints /Validations/ SC info / settlement
					$ 22,000,000													
												6.95%	0.00%	13.86%	10.91%	28.38%	39.90%	

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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
193258	12012	10.99	Consultants	18-May-00	KENDA SYSTEMS, INC.	$	1,881.00	SPECTOR 4/29/00
193251	12012	10.99	Consultants	20-Apr-00	KENDA SYSTEMS, INC.	$	2,871.00	SPECTOR 4/8/00
187348	12012	10.99	Consultants	20-Apr-00	KENDA SYSTEMS, INC.	$	396.00	SPECTOR 4/8/00
192657	12012	10.99	Consultants	15-Jun-00	KENDA SYSTEMS, INC.	$	693.00	SPECTOR 5/13/00
193043	12012	10.99	Consultants	15-Jun-00	KENDA SYSTEMS, INC.	$	1,089.00	SPECTOR 5/20/00
193051	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$	792.00	SPECTOR 5/27/00

California Independent System Operator
2004 GMC Cost Allocation
Detail From Project Management Account 12012 2000

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Trans Id	Project	Task	Expnd Type	Item Date	Employee/Supplier		Quantity	Comment
					GCP/RIG Project			
194441	12012	10.99	Consultants	18-May-00	KENDA SYSTEMS, INC.	$	1,089.00	SPECTOR 5/6/00
193053	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$	990.00	SPECTOR 6/10/00
193083	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$	1,089.00	SPECTOR 6/17/00
193099	12012	10.99	Consultants	31-Jul-00	KENDA SYSTEMS, INC.	$	891.00	SPECTOR 6/24/00 9 HRS
193071	12012	10.99	Consultants	14-Aug-00	KENDA SYSTEMS, INC.	$	594.00	SPECTOR 7/1/00
194433	12012	10.99	Consultants	21-Aug-00	KENDA SYSTEMS, INC.	$	990.00	SPECTOR 7/15/00
193107	12012	10.99	Consultants	14-Aug-00	KENDA SYSTEMS, INC.	$	1,584.00	SPECTOR 7/22/00
193121	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$	990.00	SPECTOR 7/29/00
190889	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$	1,188.00	SPECTOR 8/12/00
190901	12012	10.99	Consultants	30-Aug-00	KENDA SYSTEMS, INC.	$	297.00	SPECTOR 8/5/00
193091	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$	1,100.00	SPECTOR WE 10/14/00
193097	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$	660.00	SPECTOR WE 10/21/00 6 HRS
193125	12012	10.99	Consultants	30-Nov-00	KENDA SYSTEMS, INC.	$	770.00	SPECTOR WE 10/28/00 7.0 HRS
193131	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	1,595.00	SPECTOR WE 10/7/00
193145	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$	1,386.00	SPECTOR WE 8/19 14 HRS
190893	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$	1,138.50	Spector WE 8/26/00 4 HRS
193155	12012	10.99	Consultants	30-Sep-00	KENDA SYSTEMS, INC.	$	1,320.00	SPECTOR WE 9/2 12 HRS
193137	12012	10.99	Consultants	16-Nov-00	KENDA SYSTEMS, INC.	$	770.00	SPECTOR WE 9/30/00
193161	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	880.00	SPECTOR, 8 HRS WE 12/23/00
193151	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	990.00	SPECTOR, 9 HRS 1/5/01
193167	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$	1,980.00	Spector, Week Ending 9/16/00
193181	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	(1,430.00)	Spector, Week Ending 9/16/00
193175	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$	880.00	Spector, Week Ending 9/23/00
193187	12012	10.99	Consultants	16-Oct-00	KENDA SYSTEMS, INC.	$	1,540.00	Spector, Week Ending 9/9/00
193195	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	(1,540.00)	Spector, Week Ending 9/9/00
193203	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	330.00	Spector, Week Ending 9/9/00
194436	12012	10.99	Consultants	31-Dec-00	KENDA SYSTEMS, INC.	$	1,045.00	SPECTOR,9.5 HRS WE 12/15/00
194430	12012	10.99	Consultants	20-Dec-00	KENDA SYSTEMS, INC.	$	297.00	SPECTOR: W/E 11/11/00 3 HRS
194427	12012	10.99	Consultants	20-Dec-00	KENDA SYSTEMS, INC.	$	693.00	SPECTOR: W/E 11/3/00 7 HRS
194035	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	2,720.00	CONSULTING: D. WIMBERLY PERIOD ENDING 9/23/00
194037	12012	10.99	Consultants	31-Oct-00	MAXIM GROUP	$	3,200.00	CONSULTING: L. KAIMER PERIOD ENDING 9/23/00
191753	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	2,720.00	D. WIMBERLY WE 10/14/00
191751	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	2,720.00	D. WIMBERLY WE 10/7/00
191755	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	2,720.00	D. WIMBERLY WE 9/30/00
191759	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	3,200.00	L KAIMER WE 10/14/00
191757	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	3,200.00	L KAIMER WE 10/7/00
191761	12012	10.99	Consultants	30-Oct-00	MAXIM GROUP	$	3,200.00	L KAIMER WE 9/30/00
					System Allocation	**$**	**70,809.50**	
					Data Warehouse			
190980	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$	700.00	DI BONA 6/10/00
190976	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$	272.00	DI BONA 6/17/00
190984	12012	10.99	Consultants	30-Jun-00	MAXIM GROUP	$	312.00	DI BONA 6/3/00
191725	12012	10.99	Consultants	20-Apr-00	MAXIM GROUP	$	2,720.00	DIBONA 04/01/00
191729	12012	10.99	Consultants	20-Apr-00	MAXIM GROUP	$	2,520.00	DIBONA 3/18/00
191743	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$	2,244.00	DIBONA 4/15/00
191745	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$	2,040.00	DIBONA 4/22/00
191749	12012	10.99	Consultants	18-May-00	MAXIM GROUP	$	1,836.00	DIBONA 4/29/00
191741	12012	10.99	Consultants	16-May-00	MAXIM GROUP	$	1,972.00	DIBONA 4/8/00
191881	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$	1,224.00	DIBONA 5/13/00 18 HRS

California Independent System Operator
2004 GMC Cost Allocation
Detail From Project Management Account 12012 2000

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Trans Id	Project	Task	Expnd Type	Item Date	Employee/Supplier		Quantity	Comment
					GCP/RIG Project			
191885	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$	544.00	DIBONA 5/20/00 8 HRS
190964	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$	408.00	DIBONA 5/27/00 6 HRS
191879	12012	10.99	Consultants	13-Jun-00	MAXIM GROUP	$	2,480.00	DIBONA 5/6/00 35 HRS
190986	12012	10.99	Consultants	31-Jul-00	MAXIM GROUP	$	136.00	DIBONA 6/24/00
190996	12012	10.99	Consultants	15-Aug-00	MAXIM GROUP	$	272.00	DIBONA 7/15/00
191006	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$	272.00	DIBONA 7/29/00
191004	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$	68.00	DIBONA 8/12/00
191008	12012	10.99	Consultants	30-Aug-00	MAXIM GROUP	$	272.00	DIBONA 8/5/00
191763	12012	10.99	Consultants	16-Nov-00	MAXIM GROUP	$	214.00	F. DIBONA WE 10/14/00 3 HRS
191765	12012	10.99	Consultants	16-Nov-00	MAXIM GROUP	$	1,050.00	F. DIBONA WE 10/7/00
191026	12012	10.99	Consultants	30-Sep-00	MAXIM GROUP	$	136.00	F. DIBONA WE 8/19/00 2 HRS
191024	12012	10.99	Consultants	30-Sep-00	MAXIM GROUP	$	136.00	F. DIBONA WE 8/26/00 2 HRS
193063	12012	10.99	Consultants	30-Jun-00	KENDA SYSTEMS, INC.	$	693.00	SPECTOR 6/3/00 PUBLIC BID DATA
					Data Warehouse	**$**	**22,521.00**	
					Tivoli Project			
191433	12012	10.99	Consultant Expenses	22-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$	2,262.52	01/09-01/21/00 MALCOLM EXPENSES
194029	12012	10.99	Consultants	25-Feb-00	NORTHWIND CONSULTING SERVICES, LLC	$	10,425.00	1/10-1/16/00
191437	12012	10.99	Consultants	23-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$	9,750.00	MALCOLM 1/17-1/23/00 65 HRS
191403	12012	10.99	Consultant Expenses	16-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$	1,146.24	MALCOLM TRAVEL
191419	12012	10.99	Consultant Expenses	21-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$	121.00	MALCOLM TRAVEL 01/31
191373	12012	10.99	Consultants	25-Feb-00	NORTHWIND CONSULTING SERVICES, LLC	$	8,625.00	MALCOM 1/3-1/9/00
191399	12012	10.99	Consultants	16-Mar-00	NORTHWIND CONSULTING SERVICES, LLC	$	1,500.00	MALCOM 1/31-2/6/00
187369	12012	10.99	Consultants	29-Feb-00	PROJECT SPEARS, INC.	$	450.00	2/14-2/20/00 L MALCOME
187373	12012	10.99	Consultant Expenses	29-Feb-00	PROJECT SPEARS, INC.	$	974.03	2/14-2/20/00 L. MALCOME
187361	12012	10.99	Consultant Expenses	28-Feb-00	PROJECT SPEARS, INC.	$	1,721.63	MALCOLM 02/1-2/17/00
187363	12012	10.99	Consultants	28-Feb-00	PROJECT SPEARS, INC.	$	14,775.00	MALCOLM 02/1-2/17/00
187386	12012	10.99	Consultants	17-Mar-00	PROJECT SPEARS, INC.	$	975.00	MALCOLM 02/27/00
187382	12012	10.99	Consultant Expenses	17-Mar-00	PROJECT SPEARS, INC.	$	987.02	MALCOLM 02/27/00 EXPENSES
187375	12012	10.99	Consultants	17-Mar-00	PROJECT SPEARS, INC.	$	975.00	MALCOLM 03/02/00
187379	12012	10.99	Consultant Expenses	17-Mar-00	PROJECT SPEARS, INC.	$	1,029.66	MALCOLM 03/02/00 EXPENSES
187395	12012	10.99	Consultants	31-Mar-00	PROJECT SPEARS, INC.	$	600.00	MALCOLM 3/19/00 4 HRS FOSS
187397	12012	10.99	Consultant Expenses	31-Mar-00	PROJECT SPEARS, INC.	$	1,448.83	MALCOLM 3/19/00 EXPENSES
187403	12012	10.99	Consultants	20-Apr-00	PROJECT SPEARS, INC.	$	1,200.00	MALCOLM 3/22-3/24/00
187409	12012	10.99	Consultants	21-Apr-00	PROJECT SPEARS, INC.	$	1,200.00	MALCOLM 3/27-4/01/00
187411	12012	10.99	Consultant Expenses	21-Apr-00	PROJECT SPEARS, INC.	$	1,033.79	MALCOLM 3/27-4/01/00 EXPENSES
					Tivoli Project	**$**	**61,199.72**	

California Independent System Operator
2004 GMC Cost Allocation

Direct Labor Assignments
Draft and Preliminary
Subject to both review and approval

This spreadsheet takes the labor assignment templates compiled by the various cost centers

Sheet Index:	Description
Direct %	Summary of direct assignments by cost center. Used in newCAM.xls spreadsheet
Direct count	Summary of FTE assignments by cost center. Used in newCAM.xls spreadsheet
1521	Template for cost center specified
1542	Template for cost center specified
1543	Template for cost center specified
1544	Template for cost center specified
1545G	Template for generation resource dispatchers under 1545
1545T	Template for transmission resource dispatchers under 1545
1545M&S	Template for management under 1545
1546	Template for cost center specified
1547	Template for cost center specified
1548	Template for cost center specified
1549	Template for cost center specified
1554	Template for cost center specified
1555	Template for cost center specified
1558	Template for cost center specified
1559	Template for cost center specified
1561	Template for cost center specified
1562	Template for cost center specified

1563	Template for cost center specified
1564	Template for cost center specified
1565	Template for cost center specified
1566	Template for cost center specified
1641	Template for cost center specified
1642	Template for cost center specified
1661	Template for cost center specified
1662	Template for cost center specified
1721	Template for cost center specified
1722	Template for cost center specified
1723	Template for cost center specified
1725	Template for cost center specified
1724	Template for cost center specified
1731	Template for cost center specified
1741	Template for cost center specified
1751	Template for cost center specified
1752	Template for cost center specified
1753	Template for cost center specified
1755	Template for cost center specified
1756	Template for cost center specified
1757	Template for cost center specified

California Independent System Operator
2004 GMC Cost Allocation
Direct Personnel by Subfunctions

Draft and Preliminary
Subject to both review and approval

CC#	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1521	Grid Planning	63%	38%	0%	0%	0%	0%	100%
1542	Outage Coordination	100%	0%	0%	0%	0%	0%	100%
1543	Loads and Resources	57%	43%	0%	0%	0%	0%	100%
1544	Real-time Scheduling	60%	40%	0%	0%	0%	0%	100%
1545	Grid Operations	68%	32%	0%	0%	0%	0%	100%
1546	Reliability Coordinators	100%	0%	0%	0%	0%	0%	100%
1547	Engineering and Maintenance - General	67%	33%	0%	0%	0%	0%	100%
1548	OSAT General	100%	0%	0%	0%	0%	0%	100%
1549	Operations Training	61%	39%	0%	0%	0%	0%	100%
1554	Special Projects Engineering	50%	50%	0%	0%	0%	0%	100%
1555	Operations Support	56%	44%	0%	0%	0%	0%	100%
1558	Transmission Maintenance	67%	33%	0%	0%	0%	0%	100%
1559	Operations Applications Support	60%	40%	0%	0%	0%	0%	100%
1561	Operations Engineering South	67%	33%	0%	0%	0%	0%	100%
1562	Operations Engineering North	56%	44%	0%	0%	0%	0%	100%
1563	Operations Coordination	80%	20%	0%	0%	0%	0%	100%
1564	Scheduling Department Director	100%	0%	0%	0%	0%	0%	100%
1565	Scheduling Support	77%	23%	0%	0%	0%	0%	100%
1566	Regional Coordination	100%	0%	0%	0%	0%	0%	100%
1641	Market Analysis	20%	22%	0%	16%	33%	9%	100%
1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%	100%
1661	Compliance - General	24%	22%	14%	0%	25%	15%	100%
1662	Compliance - Audits	8%	0%	0%	0%	50%	42%	100%
1721	Billing & Settlements	0%	0%	0%	0%	0%	100%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	100%	0%	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%
1731	Contracts & Special Projects	50%	0%	0%	0%	0%	50%	100%
1741	Client Relations	0%	0%	0%	0%	0%	100%	100%
1751	Market Operations - General	40%	0%	20%	20%	15%	5%	100%
1752	Manager, Markets	31%	6%	31%	25%	6%	0%	100%
1753	Market Engineering	30%	0%	0%	40%	20%	10%	100%
1755	Business Solutions	7%	0%	57%	14%	14%	7%	100%
1756	Market Quality	0%	0%	0%	0%	72%	28%	100%
1757	Market Integration	8%	0%	33%	33%	17%	8%	100%

California Independent System Operator
2004 GMC Cost Allocation
Direct Personnel by Subfunctions
Draft and Preliminary

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	4.0	1.0	-	-	-	-	5.0
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 Survelliance 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	-	-	-	-	-	3.0	3.0
1722	Business Development Support	-	-	-	-	-	6.0	6.0
1723	RMR Settlements	9.0	-	-	-	-	-	9.0
1724	BBS Settlements - Preliminary Settlements	-	-	-	-	-	7.0	7.0
1725	BBS Settlements - Final Settlements	-	-	-	-	-	10.0	10.0
1731	Contracts & Special Projects	5.0	-	-	-	-	5.0	10.0
1741	Client Relations	-	-	-	-	-	17.0	17.0
1751	Market Operations - General	1.2	-	0.6	0.6	0.5	0.2	3.0
1752	Manager, Markets	5.0	1.0	5.0	4.0	1.0	-	16.0
1753	Market Engineering	3.0	-	-	4.0	2.0	1.0	10.0
1755	Business Solutions	0.5	-	4.0	1.0	1.0	0.5	7.0
1756	Market Quality	-	-	-	-	13.0	5.0	18.0
1757	Market Integration	0.5	-	2.0	2.0	1.0	0.5	6.0
	Total	170.4	69.5	13.0	14.4	28.0	59.4	354.5

California Independent System Operator
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Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Grid Planning 1521

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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.	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.				
# of People	10	6				
Position descriptions	Director, Grid Planning, Administrative Assistant, Manager, Regional Transmission (2), Lead Grid Planning Engineer (2), Sr. Grid Planning Engineer (2), Grid Planning Engineer (2)	Sr. Grid Planning Engineer (4), Grid Planning Engineer (2)				
Justification	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.	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.				

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completed by: Armey Perez
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1542
Outage Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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						
# of People	12						12
Position descriptions	1 Manager, 2 lead Outage Coordinators, 8 Outage Coordinators, and 1 Administrative Assistant						
Justification	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.						

completed by: G. P. Van Pelt, Manager of Outage Coordination
Date: 22-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
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For Cost Center: 1543 Loads and Resources

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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)	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)				
# of People	4	3				
Justification	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.					

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completed by: Ron Calvert
Date: 08/26/03

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Labor Assignments by Cost Center

Draft and Preliminary
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For Cost Center: 1544
Real-time Scheduling

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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	All the activities listed for core except increased volumes with the exception of branchgroup hourly checkouts.				
# of People	12	8				
Position descriptions	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.	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.				
Justification	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, atleast one scheduler must be at each facility for control back-up requirements.	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.				

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completed by: Lonnie J. Rush
Date: 4-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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Subject to both review and approval

For Cost Center: 1545
Grid Operations - Generation Dispatcher

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	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.					
# of People	10	7					17
Position descriptions							
Justification	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)	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.					

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1545
Grid Operations - Transmission Dispatcher

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	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 Alhambra and 1 in Folsom on straight days to cover training, sick leave usage, map board maintenance and projects.					
# of People	15	6					21
Position descriptions							
Justification	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.	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.					

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
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For Cost Center: 1545
Grid Operations - Management & Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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.	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.				
# of People	9	3				
Position descriptions						
Justification	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.	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.				

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completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1546
Reliability Coordinators

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Reliability Coordination for Calif.-Mexico Subregion - one of three Reliability Coordination Centers for the Western Interconnection						
# of People	8						8
Position descriptions							
Justification	NERC and WECC Requirement - the majority of expenses associated with this function are reimbursed by WECC						

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1547 Engineering and Maintenance - General

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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. Same as core. Scalable based on the number of department employees supported. (1FTE)				
# of People	2	1				
Justification	1. Required work to support shift personnel with technical tools and engineering solutions.					

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completed by: Pam Moore
Date: 08/25/03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1548
OSAT Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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 enhance system reliability as well as to	N/A				
# of People	2	0				
Position descriptions						
Justification	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.	N/A				

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completed by: Deane Lyon
Date: 17-Sep-03

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Labor Assignments by Cost Center
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Subject to both review and approval

For Cost Center: 1549
Operations Training

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	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.					
# of People	11	7					18
Position descriptions	Training Manager; Trainers; Analyst; Technician; Admin.	Operators-In-Training					
Justification	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 and tools d	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 the ISO.					

completed by: Sanjay Dutta
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
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For Cost Center: 1554
Special Projects Engineering

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	Number of operating issues to be analyzed, number of transmission maps to maintain, number of DG and Intermittent Resources in the control area.					
# of People	2	2					4
Position descriptions							
Justification	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	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.					

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1555
Operations Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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) Commitiee representation	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				
# of People	5	4				
Position descriptions						
Justification	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 Commitiee 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 operating procedures; Mandatory reporting functions, including WECC RMS data collection and reporting; Development and ma	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.				

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completed by: Tami Elliott
Date: 25-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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For Cost Center: 1558
Transmission Engineering and Maintenance

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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)	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).					
# of People	6	3					9
Position descriptions							
Justification	1. Required by AB1890, ISO Tariff, and TCA. 2. Same as above. 3 and 4. Required by TCA, ISO Tariff, and AB 970						

completed by: Tom French
Date: 19-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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For Cost Center: 1559
Operations Applications Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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, MO02 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.	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 existing 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.					
# of People	3	2					5
Position descriptions							
Justification	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 followed; Coordinate project transition from factory development and testing to a production environment, develop general system information for all ISO personnel and delivery of all applicable manuals; Adhere to ISO change and configuration management policies and procedures.	The workload in this department has increased but is manageable with the current FTE positions and budget.					

completed by: Michael Iverson
Date: 20-Aug-03

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For Cost Center: 1561
Operations Engineering South

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	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 area.					
# of People	5	2.5					7.5
Position descriptions							
Justification	1-8 Required functions in support of real time operations.						

completed by: Chuck-yan Wu
Date: 08/22/03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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For Cost Center: 1562
Operations Engineering North

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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.	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).				
# of People	5	4				
Position descriptions						
Justification	1-6 Required functions in support of real time operations.					

0

completed by: Ty Larson
Date: 08/25/03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

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For Cost Center: 1563
Operations Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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 operations audit required by the ISO tariff, as well as NERC and WECC compliance audits	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.				
# of People	4	1				
Position descriptions						
Justification	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.	The group currently is staffed at the appropriate level for Core Activities, and employs one contract position for administrative support. This position could conceivably 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 basis.				

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completed by: Deane Lyon/Kevin Graves
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1564
Scheduling Department Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities	Manages entire department. Ensures the ISO is represented at NERC, WECC, and other functions to ensure rules, laws 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 to accomplish them.	These core functions remain the same basically.				
# of People	2	0				
Position descriptions	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.	0 increase				
Justification	SEE ABOVE	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.				

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completed by: Tracy R. Bibb
Date: 4-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1565
Scheduling Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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)	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.					
# of People	10	3					13
Position descriptions	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.	2 preschedulers (3 per shift, days only, 7 days a week) plus 1 additional After-the-Fact staff. Total FTEs 13.					
Justification	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.	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 additional FTEs are used for vacation, sick time and training coverage also to minimize premimum pay					

completed by: Robert E. Sullivan
Date: 8-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1566
Regional Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Coordinate representation and official 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	No scalable activities					
# of People	3	0					3
Position descriptions							
Justification	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						

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1641
Market Analysis

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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	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		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	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	1) Respond to customer inquiries; 2) Provide input to settlements processes
# of People	3.25	3.5		2.5	5.25	1.5
Position descriptions	1.5 Principal Economists, .5 Manager, .25 MSC Liaison, .25 Director and .75 Support Staff	1.75 Principal Economists, .5 Manager, .25 MSC Liaison, .25 Director and .75 Support Staff		.75 Principal Economist, .5 Manager, .25 Director, .25 MSC Liaison and .75 Support Staff	3 Principal Economists, 1 Manager, .25 Director, .25 MSC Liaison and .75 Support Staff	1 Principal Economist, .5 Manager
Justification	Promotes reliable operation and effective coordination with other control areas.	Promotes reliable operation and effective coordination with other control areas.		Leads to more effective and efficient market structures that promote competitive outcomes.	Satisfies FERC requirement for monitoring market performance. Leads to more effective and efficient market structures that promote competitive outcomes.	Enhances customer relations

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completed by: Greg Cook/Pearl O'Connor
Date: 28-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Market Surveillance Committee 1842

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities						
# of People	0.25	0.25		0.25	0.25	
Position descriptions						
Justification						

1

completed by: Greg Cook/Pearl O'Connor
Date: 26-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Compliance - General 1661

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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 associated compliance measures.	[Same as core reliability services, greater intensity]	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.		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.	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 Penalty and No Pay.	
# of People	2.4	2.2	1.4		2.5	1.5	10
Position descriptions							
Justification	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).	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).	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).		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).	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).	

completed by: Eric Leuze / Glen Perez
Date: 23-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: Compliance - Audits 1662

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
	Assist in establishing new UDCs and in meter data issues for Metered Subsystems.				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.	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;	
# of People	0.25				1.5	1.25	3
Position descriptions							
Justification	Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).				Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).	Fulfillment of obligations under the ISO Tariff is essential to reliable operations and responsible commercial operations (i.e., settlements).	

completed by: Eric Leuze / Glen Perez
Date: 23-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Settlements, Director
1721

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
# of People						3	3
Position descriptions							
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: Business Development Support
1722

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities						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.	
# of People						6	6
Position descriptions						Manager, Lead Senior Settlement Analyst, Senior Settlement Analyst, Settlement Analyst, Contractor	
Justification						Required to support the FERC Tariff and Settlements and Billing Protocols.	

completed by: Christine Vangelatos
Date: 3-Sep-03

# of People includes Contractor to support Development

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Tariff and Contract Implementation
1723

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Timely validation of Reliability Must Run (RMR) & Summer Reliability Agreement (SRA) invoices. Timely processing of RMR & SRA invoices for Payment.						
# of People	9						9
Position descriptions	Manager, Lead Senior Settlements Analyst, Senior Settlements Analyst & Settlements Analyst						
Justification	Required under Must Run Service Agreement & Summer Reliability Agreement.						

completed by: Catherine Bodine
Date: 13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Settlements and Billing - Final Settlements
1725

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities						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.	
# of People						10	10
Position descriptions						Manager, Lead Senior Settlements Analyst, Senior Settlement Analysts & Settlement Analysts, Contractor	
Justification						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).	

completed by: Brad Bouillon
Date: 13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Settlements and Billing - Preliminary Settlements
1724

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities						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
# of People						7
Position descriptions						Manager, Lead Senior Settlements Analyst, Senior Settlement Analysts & Settlement Analysts, Contractor
Justification						Daily deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC.

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completed by: Masoud Shafa
Date: 13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1731
Contracts and Special Projects

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.					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.).	
# of People	5					5	10
Position descriptions	Manager, Reliability Contracts Senior Reliability Contracts Engineer Senior Contracts Analyst Reliability Contracts Analyst Director (portion) Administrative Assistant (portion)					Manager, Contracts Senior Contracts Engineer Contracts Analyst Director (portion) Administrative Assistant (portion)	
Justification	RMR is an essential aspect needed to support a functioning control area. Without RMR, the ISO Control Area can not be reliably operated.					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.	

completed by: Debi Le Vine
Date: 3-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1741
Client Relations

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities						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.,	
# of People						17	17
Position descriptions						4 Senior Client Relations Reps, 2 Client Relations Reps, 1 Technical Assistant, 1 Administrative Assistant, 2 Managers, 1 Director, 6 Account Managers	
Justification						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.	

completed by: Dave Timson / Jacquie DeRosa
Date: 20-Aug-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1751
Market Operations, Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.		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 direction.	Director reviews MO Daily Report for ETCs. Reviews deviations in OTC and ATC data as it relates to congestion.	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	Provide direction on Market related issues.	
# of People	1.2		0.6	0.6	0.45	0.15	3
Position descriptions							
Justification	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.		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.	Ensuring that the proper data is being used in the Congestion management process is the key to a successful open access transmission system.	Having an accurate and reliable market system promotes confidence in the market results and encourages participation.		

completed by: Shelley Groom JMc
Date: 10-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: Manager, Markets 1752

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Control room operations. With the DA and HA GRCs they spend a portion of their time running 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.	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 basis.	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 transmission equipment outages.	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.	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		
# of People	5	1	5	4	1		16
Justification	The services performed by the GRCs in procuring AS and the running of the imbalance energy market are essential to the reliable operation of the Control Area.	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.	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.	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).	Training is an integral part of any market structure in which interfaces are required between the ISO and the market participants.		

Completed by: Jack Bellnap JMc
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Market Engineering
1753

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.			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	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.	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.	
# of People	3			4	2	1	10
Position descriptions							
Justification	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 correctly.			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.	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 monitoring. Without such maintenance tasks, SA (ASM) would not function correctly. Maintains Rational Buyer algorithm, self provision rules and A/S auction.	The Business Solutions team assists SC's and Facilities owners with issues related to SA, ADS, RMR (Real Time Client) and ALFS.	

completed by: Brian Rahman JMc
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: Business Solutions 1755

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.		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.	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.	The Business Solutions team provides on call support. Maintain OASIS site and data integrity.	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.	
# of People	0.5		4	1	1	0.5	7
Position descriptions							
Justification	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.		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	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.	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.	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.	

completed by: Benik DerGevorgian JMc
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Labor Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1756
Market Quality

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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	Dispute analysis and resolution	
# of People					13	5	18
Position descriptions					1 Manager, 1 Sr. Design Engineer, 1 Design Engineer, 3 Sr. Engineering Analysts, 5 Engineering Analysts and 1 Technical Assistant.	1 Manager, 1 Sr Engineering Analyst, 3 Engineering Analyst	
Justification					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.	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.	

completed by: Nancy Traweek
Date: 12-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

For Cost Center: Market Integration 1757

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.		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.	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	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.	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.	
# of People	0.5		2	2	1	0.5	6
Position descriptions							
Justification	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 communication of imbalance energy to SCs. Incorrect RMR (Real Time Client) affects the communication of RMR resources under contract in real time.		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 A/S.	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.	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.	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.	

completed by: Steve Auradou JMc
Date: 12-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Direct Assignments of Temporary/Contract Staff and Consultants
Draft and Preliminary
Subject to both review and approval
This spreadsheet takes temporary/contract staff and consultant assignment

Sheet Index:	Description
Direct %	Summary of direct assignments by cost center. Used in newCAM.xls spreadsheet
1521	Template for cost center specified
1542	Template for cost center specified
1543	Template for cost center specified
1544	Template for cost center specified
1545G	Template for generation resource dispatchers under 1545
1545T	Template for transmission resource dispatchers under 1545
1545M&S	Template for management under 1545
1546	Template for cost center specified
1547	Template for cost center specified
1548	Template for cost center specified
1549	Template for cost center specified
1554	Template for cost center specified
1555	Template for cost center specified
1558	Template for cost center specified
1559	Template for cost center specified
1561	Template for cost center specified
1562	Template for cost center specified
1563	Template for cost center specified
1564	Template for cost center specified
1565	Template for cost center specified
1566	Template for cost center specified
1641	Template for cost center specified
1642	Template for cost center specified
1661	Template for cost center specified
1662	Template for cost center specified
1721	Template for cost center specified
1722	Template for cost center specified
1723	Template for cost center specified
1724	Template for cost center specified
1725	Template for cost center specified
1731	Template for cost center specified
1741	Template for cost center specified

1751	Template for cost center specified
1752	Template for cost center specified
1753	Template for cost center specified
1755	Template for cost center specified
1756	Template for cost center specified
1757	Template for cost center specified

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff by Subfunctions
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling
1521	Grid Planning	0%	100%	0%
1542	Outage Coordination	0%	100%	0%
1543	Loads and Resources	0%	100%	0%
1544	Real-time Scheduling	0%	100%	0%
1545	Grid Operations	0%	100%	0%
1546	Reliability Coordinators	0%	100%	0%
1547	Engineering and Maintenance - General	0%	100%	0%
1548	OSAT General	0%	100%	0%
1549	Operations Training	0%	100%	0%
1554	Special Projects Engineering	0%	100%	0%
1555	Operations Support	0%	100%	0%
1558	Transmission Maintenance	0%	100%	0%
1559	Operations Applications Support	0%	100%	0%
1561	Operations Engineering South	0%	100%	0%
1562	Operations Engineering North	0%	100%	0%
1563	Operations Coordination	0%	100%	0%
1564	Scheduling Department Director	0%	100%	0%
1565	Scheduling Support	0%	100%	0%
1566	Regional Coordination	0%	100%	0%
1641	Market Analysis	0%	40%	0%
1642	Market Survelliance Committee	25%	25%	0%
1661	Compliance - General	15%	15%	5%
1662	Compliance - Audits	15%	15%	5%
1721	Billing & Settlements	0%	0%	0%
1722	Business Development Support	0%	0%	0%
1723	RMR Settlements	0%	100%	0%
1724	BBS Settlements - Preliminary Settlements	0%	0%	0%
1725	BBS Settlements - Final Settlements	0%	0%	0%
1731	Contracts & Special Projects	0%	50%	0%
1741	Client Relations	0%	0%	0%
1751	Market Operations - General	0%	0%	0%
1752	Manager, Markets	0%	0%	0%
1753	Market Engineering	0%	0%	0%

1755	Business Solutions	0%	0%	0%
1756	Market Quality	0%	0%	0%
1757	Market Integration	0%	0%	0%

Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
0%	0%	0%	100%
33%	27%	0%	100%
25%	25%	0%	100%
0%	40%	25%	100%
0%	40%	25%	100%
0%	0%	100%	100%
0%	0%	100%	100%
0%	0%	0%	100%
0%	0%	100%	100%
0%	0%	100%	100%
0%	0%	50%	100%
0%	0%	100%	100%
0%	100%	0%	100%
0%	100%	0%	100%
0%	100%	0%	100%

0%	100%	0%	100%
0%	0%	100%	100%
0%	100%	0%	100%

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: Grid Planning 1521

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							####
Percent of Contract Costs		100%					
Justification							

completed by: Arney Perez
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1542
Outage Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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						
		100%					####
Justification	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.						

completed by: G. P. Van Pelt, Manager of Outage Coordination
Date: 22-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1543 Loads and Resources

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities		Support EMS Advanced Applications (initial implementation) Create and document processes. Manage project start-up and schedule. Recognize gaps and fatal flaws (1 FTE) Assist in initial validation of Network model and associated databases. Support development of interface tools with other applications (1 FTE)					####
Percent of Contract Costs		100%					
Justification							

completed by: Ron Calvert
Date: 08/26/03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1544
Real-time Scheduling

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Lonnie J. Rush
Date: 4-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1545
Grid Operations - Generation Dispatcher

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of 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.	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.					
Percent of Contract Costs	0%	100%					####
Justification	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)	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.					

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1545
Grid Operations - Transmission Dispatcher

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1545
Grid Operations - Management & Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1546
Reliability Coordinators

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							####
Percent of Contract Costs		100%					
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1547 Engineering and Maintenance - General

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Pam Moore
Date: 08/25/03

California Independent System Operator
2004 GMC Cost Allocation
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1548
OSAT Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Deane Lyon
Date: 17-Sep-03

California Independent System Operator
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1549
Operations Training

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					100%
Justification							

completed by: Sanjay Dutta
Date: 17-Sep-03

California Independent System Operator
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Subject to both review and approval

For Cost Center: 1554
Special Projects Engineering

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							####
Percent of Contract Costs		100%					
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
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Subject to both review and approval

For Cost Center: 1555
Operations Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Tami Elliott
Date: 25-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1558
Transmission Engineering and Maintenance

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Tom French
Date: 19-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1559
Operations Applications Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					100%
Justification							

completed by: Michael Iverson
Date: 20-Aug-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1561
Operations Engineering South

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Chuck-yan Wu
Date: 06/22/03

California Independent System Operator
2004 GMC Cost Allocation
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Subject to both review and approval

For Cost Center: 1562
Operations Engineering North

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities						
Percent of Contract Costs		100%				
Justification						

completed by: Ty Larson
Date: 08/25/03

California Independent System Operator
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Subject to both review and approval

For Cost Center: 1563
Operations Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Deane Lyon/Kevin Graves
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1564
Scheduling Department Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Tracy R. Bibb
Date: 4-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
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Draft and Preliminary
Subject to both review and approval

For Cost Center: 1565
Scheduling Support

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs		100%					####
Justification							

completed by: Robert E. Sullivan
Date: 8-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1566
Regional Coordination

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities						
Percent of Contract Costs		100%				
Justification						

####

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: 1641
Market Analysis

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities						
Percent of contract costs		40%		33%	27%	
Justification						

completed by: Greg Cook/Pearl O'Connor
Date: 26-Aug-03

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center

Development of California ISO Rates

Draft and Preliminary

Subject to both review and approval

For Cost Center:

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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	1) Perform economic evaluation of transmission capacity expansion; 2) Promote open access to the grid		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	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	
Percent of contract costs	25%	25%		25%	25%	
Justification	Promotes reliable operation and effective coordination with other control areas.	Promotes reliable operation and effective coordination with other control areas.		Leads to more effective and efficient market structures that promote competitive outcomes.	Satisfies FERC requirement for monitoring market performance. Leads to more effective and efficient market structures that promote competitive outcomes.	

1

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: Compliance - General
1661

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of Activities	Develop business rules and provide analysis supporting reliability services	Develop business rules and provide analysis supporting reliability services	Develop and maintain business rules required to monitor and analyze schedules.		Develop business rules and procedures required to document investigations and publish compliance reports.	Develop business rules and applications required to document investigations and publish compliance reports.
	15%	15%	0.05		40%	0.25
Justification	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).	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).	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).		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).	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).

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completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: Compliance - Audits
1662

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
	Same as 1661						
Percent of Contract Costs	15%	15%	0.05	0%	40%	0.25	1
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center

Development of California ISO Rates

Draft and Preliminary

Subject to both review and approval

For Cost Center:

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs						100%	####
Justification							

completed by:

Date:

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates

Draft and Preliminary
Subject to both review and approval

For Cost Center: Business Development Support
1722

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	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.					Provide support to other Settlements' and ISO teams to ensure: -timely production of Settlement statements -timely production of invoices -disputes and inquiries	
Percent of Contract Costs						100%	####
Justification	Required to support the FERC Tariff and Settlements and Billing Protocols.						

completed by: Christine Vangelatos
Date: 3-Sep-03

# of People includes Contractor to support Development

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center:	Tariff and Contract Implementation
	1723

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Timely validation of Reliability Must Run (RMR) & Summer Reliability Agreement (SRA) invoices. Timely processing of RMR & SRA Invoices for Payment.						
Percent of Contract Costs		100%					####
Justification	Required under Must Run Service Agreement & Summer Reliability Agreement.						

completed by:	Catherine Bodine
Date:	13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates

Draft and Preliminary
Subject to both review and approval

For Cost Center: Settlements and Billing - Preliminary Settlements
1724

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Market design activities including participation in MD02 core design activities, tariff write up, system and integration tests, market simulation and implementation.					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.	
Percent of Contract Costs						100%	####
Justification	Deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC.					Daily deliverables are required under existing ISO tariff and Settlement and Billing Protocol. Project work is generally mandated by FERC.	

completed by: Masoud Shafa
Date: 13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
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For Cost Center: Settlements and Billing - Final Settlements
1725

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities	Timely and accurate monthly invoice production. Supporting internal ISO initiatives including MDO2, phase 1B, 2, and 3. FERC mandated re-runs.					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.	
Percent of Contract Costs	0%					100%	####
Justification	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).					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).	

completed by: Brad Bouillon
Date: 13-Aug-03

# of People includes 2 contractors that will be working throughout 2004.

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates

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For Cost Center: 1731
Contracts and Special Projects

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations
Description of 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.					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)
Percent of Contract Costs		50%				50%
Justification	RMR is an essential aspect needed to support a functioning control area. Without RMR, the ISO Control Area can not be reliably operated.					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

####

completed by: Debi Le Vine
Date: 3-Sep-03

California Independent System Operator
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Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
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For Cost Center: 1741

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs						100%	####
Justification							

completed by: Dave Timson / Jacquie DeRosa
Date: 20-Aug-03

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center

Development of California ISO Rates

Draft and Preliminary

Subject to both review and approval

For Cost Center: 1751
Market Operations - Director

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs					100%		####
Justification							

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
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For Cost Center: Manager, Markets
1752

	Core Reliability Services Activities	Energy and Transmission Services	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs					100%		####
Justification							

Completed by: Jack Belnap JMc
Date: 17-Sep-03

California Independent System Operator
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For Cost Center: Market Engineering 1753

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities					Potomac Economics calculations of AMP and intra-zonal dec pricing.		
Percent of Contract Costs					100%		####
Justification					This service is being provided by Potomac Economics solely to provide a third party evaluation/calculation of appropriate bid structures for operating in the ISO Markets.		

completed by: Brian Rahman JMc
Date: 17-Sep-03

California Independent System Operator
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Development of California ISO Rates
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For Cost Center: Business Solutions 1755

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs					100%		####
Justification							

completed by: Benik DerGevorgian JMc
Date: 17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center

Development of California ISO Rates

Draft and Preliminary
Subject to both review and approval

For Cost Center: 1756
Market Quality

	Core Reliability Services Activities	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs						100%	####
Justification							

completed by: Nancy Traweek
Date: 12-Sep-03

California Independent System Operator
2004 GMC Cost Allocation

Temporary/Contract Staff Assignments by Cost Center
Development of California ISO Rates
Draft and Preliminary
Subject to both review and approval

For Cost Center: Market Integration 1757

	Core Reliability Services	Energy and Transmission Services Activities	Forward Scheduling Activities	Congestion Management Activities	Market Usage Activities	Settlements, Metering and Client Relations	
Description of Activities							
Percent of Contract Costs					100%		####
Justification							

completed by: Steve Auradou JMc
Date: 12-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Calculation of Operations and Maintenance Revenue Requirement
Draft and Preliminary
Subject to both review and approval

This spreadsheet compiles budget expenditure data, calculates allocations to functions and provides a summary of these allocations at the cost center and division levels.

Sheet Index:	Description
Budget data	Budget data by cost center, including total proposed budget, salaries, temporary/contract staff, consultants and other expenses
Direct Labor %	Direct assignments for non IS staff, pulled from 2004 pre labor.xls spreadsheet
Direct Contract %	Direct assignments for temporary/contract staff and consultants for not IS staff, pulled from 2004 prel contract.xls spreadsheet
System Direct%	Assignments, allocations and functionalizations for IS staff pulled from Systema4.xls spreadsheet
Direct Labor$	Pulls salaries from Budget data worksheet, applies factors in Direct Labor % and calculates costs to functions
Direct Contract$	Pulls temporary/contract staff and consultants expenditures from Budget data worksheet, applies factors in Direct Contract % and calculates costs to functions
System Direct$	Pulls IS cost center expenditures from Budget data worksheet, applies factors in System Direct% and calculates costs to functions
Total Directs$	Pulls functionalized costs from Direct Labor$, Direct Contract$, System Direct$ and sums them.
Total Directs%	Calculates percentage allocations to functions
FTE	Shows FTE calculations, using direct assignments of non-ISO staff
OH	Shows overhead calculations, using direct assignments of non-ISO staff
Dept Direct	Shows calculation of allocation for DataWarehouse. The calculation is a weighted average of the departments shown.
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.
1100	Summary of cost centers under division 1100. Includes MD02 and Grid Planning. Shows calculation of CEO cost allocation.
1300	Summary of cost centers under division 1300. Includes CFO cost allocation.
1400	Summary of cost centers under division 1400. Includes CIO cost allocation, as well as supervisory cost centers.
1500	Summary of cost centers under division 1500. Includes VP, Grid Operations cost allocation, as well as supervisory cost centers.

California Independent System Operator
2004 GMC Cost Allocation
Calculation of Operations and Maintenance Revenue Requirement
Draft and Preliminary
Subject to both review and approval

This spreadsheet compiles budget expenditure data, calculates allocations to functions and provides a summary of these allocations at the cost center and division levels.

Sheet Index:	Description
1600	Summary of cost centers under division 1600. Includes General Counsel cost allocation.
1700	Summary of cost centers under division 1700. Includes VP, Market Services cost allocation.
1800	Summary of cost centers under division 1800. Includes VP, Corporate and Strategic Development cost allocation as well as supervisory cost centers
2100	Shows allocation of employee salary adjustments
Totals	Summaries totals for all cost centers individually
Methods	Brief description of assignment, allocation, functionalization methods
Revenue Req	Summaries totals by division. Data in this table is pushed to Revenue3.xls spreadsheet for calculation of total revenue requirement

California Independent System Operator
2004 GMC Cost Allocation
2004 Budget Data

Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
1111	CEO - General	$877,537	$ 510,978	$ -	$ 150,000	$ 216,559	2.0
1241	MD02	$1,232,611	$ 1,063,054	$ 35,000	$ -	$ 134,557	7.0
1311	CFO - General	$319,728	$ 344,804	$ -	$ -	$ (25,076)	1.5
1321	Accounting	$2,891,592	$ 804,894	$ 42,000	$ 80,000	$ 1,964,698	9.5
1331	Financial Planning and Treasury	$3,438,051	$ 687,035	$ 30,000	$ 120,000	$ 2,601,016	6.5
1351	Facilities	$6,105,942	$ 618,499	$ -	$ 62,782	$ 5,424,661	7.0
1361	Security & Corporate Services	$2,628,787	$ 651,378	$ 17,500	$ 35,000	$ 1,924,909	10.0
1411	Chief Information Officer	($311,780)	$ 331,174	$ -	$ 82,550	$ (725,504)	2.0
1422	Corporate & Enterprise Applications	$261,872	$ 214,531	$ -	$ -	$ 47,341	2.0
1424	Asset Management	$20,414,618	$ 829,488	$ 210,000	$ 70,000	$ 19,305,130	8.0
1431	End User Support	$6,639,682	$ 464,857	$ 164,290	$ -	$ 6,010,535	4.0
1432	Computer Operations and Infrastructure	$942,638	$ 807,153	$ -	$ -	$ 135,485	6.0
1433	Network Services	$1,555,448	$ 1,355,525	$ -	$ -	$ 199,923	11.0
1441	Outsourced Contracts	$10,662,100	$ 158,329	$ 85,000	$ -	$ 10,418,771	2.0
1442	Production Support	$2,538,085	$ 2,130,064	$ -	$ 80,000	$ 328,021	17.0
1451	Infrastructure Services	$1,647,970	$ 979,516	$ -	$ 198,000	$ 470,454	9.0
1461	Control Systems	$2,291,444	$ 1,917,459	$ 81,000	$ -	$ 292,985	19.0
1462	Field Data Acquisition System (FDAS)	$2,460,663	$ 1,767,015	$ 97,595	$ 185,004	$ 411,049	15.0
1463	Operations Systems Services	$333,896	$ 277,062	$ -	$ -	$ 56,834	3.0
1466	Enterprise Applications	$1,550,354	$ 1,214,541	$ -	$ 120,685	$ 215,128	10.0
1467	Settlement Systems Services	$1,123,694	$ 950,640	$ -	$ -	$ 173,054	9.0
1468	Corporate Application Support and Administration	$584,523	$ 512,665	$ -	$ -	$ 71,858	4.0
1469	Analytical and Reporting Applications	$1,244,713	$ 1,093,924	$ -	$ -	$ 150,789	9.0
1471	IT Planning	$920,751	$ 598,262	$ 115,087	$ 97,853	$ 109,549	5.0
1481	Markets and Scheduling System	$1,461,712	$ 1,108,978	$ 150,000	$ 39,128	$ 163,606	9.0

California Independent System Operator
2004 GMC Cost Allocation
2004 Budget Data

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CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
1482	Market Systems Support Services	$592,213	$ -	$ -	$ -	$ 592,213	4.0
1511	VP Grid Operations	($137,696)	$ 301,745	$ -	$ 240,000	$ (679,441)	1.5
1521	Grid Planning	$2,393,731	$ 1,988,042	$ -	$ -	$ 405,689	16.0
1542	Outage Coordination	$1,835,110	$ 1,500,731	$ 18,500	$ 75,000	$ 240,879	12.0
1543	Loads and Resources	$1,144,050	$ 846,786	$ 170,000	$ -	$ 127,264	7.0
1544	Real-Time Scheduling	$2,671,336	$ 2,345,153	$ -	$ -	$ 326,183	20.0
1545	Grid Operations	$7,241,970	$ 6,189,887	$ 48,000	$ 11,200	$ 992,883	50.0
1546	Security Coordination	$1,312,533	$ 1,141,765	$ -	$ -	$ 170,768	8.0
1547	Engineering and Maintenance	$562,442	$ 278,350	$ 100,000	$ 75,000	$ 109,092	3.0
1548	OSAT Group - General	$283,212	$ 218,841	$ -	$ 20,000	$ 44,371	2.0
1549	Operations Training	$2,791,756	$ 1,852,868	$ 36,000	$ 465,600	$ 437,288	18.0
1554	Special Projects Engineering	$825,342	$ 583,009	$ -	$ 121,900	$ 120,433	4.0
1555	Operations Support Group	$1,065,814	$ 934,199	$ -	$ -	$ 131,615	9.0
1558	Transmission Maintenance	$1,565,867	$ 1,095,616	$ 110,000	$ 90,000	$ 270,251	9.0
1559	Operations Application Support	$559,892	$ 503,860	$ -	$ -	$ 56,032	5.0
1561	Operations Engineering South	$1,194,570	$ 962,751	$ 25,000	$ -	$ 206,819	7.5
1562	Operations Engineering North	$1,299,176	$ 1,141,303	$ 10,000	$ -	$ 147,873	9.0
1563	Operations Coordination	$677,635	$ 556,864	$ 48,000	$ -	$ 72,771	4.0
1564	Operations Scheduling	$284,207	$ 220,476	$ -	$ -	$ 63,731	2.0
1565	Pre-Scheduling and Support	$1,756,127	$ 1,597,273	$ -	$ -	$ 158,854	13.0
1566	Regional Coordination - General	$528,077	$ 394,034	$ -	$ -	$ 134,043	3.0
1611	VP General Counsel - General	$275,638	$ 387,889	$ -	$ 20,000	$ (132,251)	2.0
1631	Legal and Regulatory	$12,070,202	$ 2,983,418	$ 90,000	$ 70,640	$ 8,926,144	22.0
1641	Market Analysis	$2,860,248	$ 1,807,461	$ 41,000	$ 683,800	$ 327,987	16.0
1642	Market Surveillance Committee	$561,750	$ -	$ -	$ 558,750	$ 3,000	-

California Independent System Operator
2004 GMC Cost Allocation
2004 Budget Data

Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Amount (total)	Salaries	Temp/Contract Staff	Consultants and Expenses	Other	FTE
1651	Board of Governors	$231,400	$ -	$ -	$ -	$ 231,400	-
1661	Compliance - General	$1,667,162	$ 1,119,155	$ 265,000	$ 137,000	$ 146,007	10.0
1662	Compliance - Audits	$416,551	$ 357,795	$ -	$ -	$ 58,756	3.0
1711	VP Market Services - General	($66,938)	$ 327,378	$ -	$ -	$ (394,316)	2.0
1721	Billing and Settlements-General	$432,329	$ 375,412	$ -	$ -	$ 56,917	3.0
1722	Business Development Support	$674,329	$ 536,270	$ 89,360	$ -	$ 48,699	5.0
1723	RMR Settlements	$958,715	$ 678,653	$ 195,428	$ -	$ 84,634	7.0
1724	BBS - PSS	$1,232,710	$ 966,982	$ 178,720	$ -	$ 87,008	9.0
1725	BBS - FSS	$1,239,550	$ 886,172	$ 267,524	$ -	$ 85,854	9.0
1731	Contracts and Special Projects	$1,471,832	$ 1,096,999	$ 34,042	$ 174,466	$ 166,325	9.0
1741	Client Relations	$2,276,105	$ 1,845,178	$ -	$ 108,500	$ 322,427	17.0
1751	Market Operations - General	$963,496	$ 326,521	$ 85,105	$ 143,616	$ 408,254	3.0
1752	Manager of Markets	$2,674,160	$ 2,017,882	$ -	$ 350,000	$ 306,278	17.0
1753	Market Engineering	$1,896,260	$ 1,209,172	$ 285,105	$ 280,751	$ 121,232	10.0
1755	Business Solutions	$1,134,296	$ 834,598	$ -	$ 203,056	$ 96,642	7.0
1756	Market Quality - General	$2,013,923	$ 1,804,541	$ -	$ 37,657	$ 171,725	18.0
1757	Market Integration	$960,805	$ 772,725	$ -	$ 114,256	$ 73,824	6.0
1811	VP Corporate and Strategic Development - Genera	$456,066	$ 334,048	$ -	$ 155,000	$ (32,982)	2.0
1821	Communications	$825,635	$ 438,863	$ 2,500	$ 145,000	$ 239,272	4.0
1831	Strategic Development	$713,306	$ 449,291	$ -	$ 155,500	$ 108,515	3.0
1841	Human Resources	$4,543,963	$ 1,149,998	$ 50,000	$ 510,000	$ 2,833,965	13.0
1851	Project Office	$669,517	$ 556,434	$ 45,000	$ 11,000	$ 57,083	4.0
1861	Regulatory Policy	$924,641	$ 553,417	$ -	$ 270,000	$ 101,224	4.0
2111	Other	$3,393,412	$ -	$ -	$ -	$ 3,393,412	-
		###########	$ 69,861,630	$ 3,221,756	$ 6,548,694	$ 72,102,978	599.5

California Independent System Operator
2004 GMC Cost Allocation
Percentage Share of Direct Personnel by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	63%	38%	0%	0%	0%	0%
1542	Outage Coordination	100%	0%	0%	0%	0%	0%
1543	Loads and Resources	57%	43%	0%	0%	0%	0%
1544	Real-time Scheduling	60%	40%	0%	0%	0%	0%
1545	Grid Operations	68%	32%	0%	0%	0%	0%
1546	Reliability Coordinators	100%	0%	0%	0%	0%	0%
1547	Engineering and Maintenance - General	67%	33%	0%	0%	0%	0%
1548	OSAT General	100%	0%	0%	0%	0%	0%
1549	Operations Training	61%	39%	0%	0%	0%	0%
1554	Special Projects Engineering	50%	50%	0%	0%	0%	0%
1555	Operations Support	56%	44%	0%	0%	0%	0%
1558	Transmission Maintenance	67%	33%	0%	0%	0%	0%
1559	Operations Applications Support	60%	40%	0%	0%	0%	0%
1561	Operations Engineering South	67%	33%	0%	0%	0%	0%
1562	Operations Engineering North	56%	44%	0%	0%	0%	0%
1563	Operations Coordination	80%	20%	0%	0%	0%	0%
1564	Scheduling Department Director	100%	0%	0%	0%	0%	0%
1565	Scheduling Support	77%	23%	0%	0%	0%	0%
1566	Regional Coordination	100%	0%	0%	0%	0%	0%
1641	Market Analysis	20%	22%	0%	16%	33%	9%
1642	Market Survelliance Committee	25%	25%	0%	25%	25%	0%
1661	Compliance - General	24%	22%	14%	0%	25%	15%
1662	Compliance - Audits	8%	0%	0%	0%	50%	42%
1721	Billing & Settlements	0%	0%	0%	0%	0%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%
1723	RMR Settlements	100%	0%	0%	0%	0%	0%
1724	BBS Settlements - Preliminary Settlements	0%	0%	0%	0%	0%	100%
1725	BBS Settlements - Final Settlements	0%	0%	0%	0%	0%	100%
1731	Contracts & Special Projects	50%	0%	0%	0%	0%	50%
1741	Client Relations	0%	0%	0%	0%	0%	100%
1751	Market Operations - General	40%	0%	20%	20%	15%	5%
1752	Manager, Markets	31%	6%	31%	25%	6%	0%
1753	Market Engineering	30%	0%	0%	40%	20%	10%
1755	Business Solutions	7%	0%	57%	14%	14%	7%
1756	Market Quality	0%	0%	0%	0%	72%	28%
1757	Market Integration	8%	0%	33%	33%	17%	8%

California Independent System Operator
2004 GMC Cost Allocation
Percentage Share of Temporary/Contract Staff and Consultants by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	0%	100%	0%	0%	0%	0%
1542	Outage Coordination	0%	100%	0%	0%	0%	0%
1543	Loads and Resources	0%	100%	0%	0%	0%	0%
1544	Real-time Scheduling	0%	100%	0%	0%	0%	0%
1545	Grid Operations	0%	100%	0%	0%	0%	0%
1546	Reliability Coordinators	0%	100%	0%	0%	0%	0%
1547	Engineering and Maintenance - General	0%	100%	0%	0%	0%	0%
1548	OSAT General	0%	100%	0%	0%	0%	0%
1549	Operations Training	0%	100%	0%	0%	0%	0%
1554	Special Projects Engineering	0%	100%	0%	0%	0%	0%
1555	Operations Support	0%	100%	0%	0%	0%	0%
1558	Transmission Maintenance	0%	100%	0%	0%	0%	0%
1559	Operations Applications Support	0%	100%	0%	0%	0%	0%
1561	Operations Engineering South	0%	100%	0%	0%	0%	0%
1562	Operations Engineering North	0%	100%	0%	0%	0%	0%
1563	Operations Coordination	0%	100%	0%	0%	0%	0%
1564	Scheduling Department Director	0%	100%	0%	0%	0%	0%
1565	Scheduling Support	0%	100%	0%	0%	0%	0%
1566	Regional Coordination	0%	100%	0%	0%	0%	0%
1641	Market Analysis	0%	40%	0%	33%	27%	0%
1642	Market Surveillance Committee	25%	25%	0%	25%	25%	0%
1661	Compliance - General	15%	15%	5%	0%	40%	25%
1662	Compliance - Audits	15%	15%	5%	0%	40%	25%
1721	Billing & Settlements	0%	0%	0%	0%	0%	100%
1722	Business Development Support	0%	0%	0%	0%	0%	100%
1723	RMR Settlements	0%	100%	0%	0%	0%	0%
1724	BBS Settlements - Preliminary Settlements	0%	0%	0%	0%	0%	100%
1725	BBS Settlements - Final Settlements	0%	0%	0%	0%	0%	100%
1731	Contracts & Special Projects	0%	50%	0%	0%	0%	50%
1741	Client Relations	0%	0%	0%	0%	0%	100%
1751	Market Operations - General	0%	0%	0%	0%	100%	0%
1752	Manager, Markets	0%	0%	0%	0%	100%	0%
1753	Market Engineering	0%	0%	0%	0%	100%	0%
1755	Business Solutions	0%	0%	0%	0%	100%	0%
1756	Market Quality	0%	0%	0%	0%	0%	100%
1757	Market Integration	0%	0%	0%	0%	100%	0%

California Independent System Operator
2004 GMC Cost Allocation
Percentage Share of Direct System by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1424	Asset Management	36%	7%	10%	4%	9%	33%
1431	End User Support	41%	16%	6%	1%	6%	29%
1433	Network Services	46%	13%	8%	1%	7%	26%
1441	Outsourced Contracts	45%	12%	8%	1%	7%	27%
1442	Production Support Services	25%	0%	18%	3%	8%	47%
1451	Infrastructure Services	25%	0%	18%	3%	8%	47%
1461	Control Systems	96%	2%	0%	0%	1%	1%
1462	Field Data Acquisition System (FDAS)	21%	0%	0%	0%	0%	79%
1466	Enterprise Applications	38%	9%	0%	0%	2%	50%
1467	Settlement Systems Services	30%	12%	0%	0%	3%	54%
1468	Corporate Application Support and Administration	50%	23%	0%	0%	6%	21%
1469	Analytical and Reporting Applications	10%	0%	0%	65%	25%	0%
1471	IT Planning	25%	0%	18%	3%	8%	47%
1481	Markets and Scheduling System	59%	5%	10%	2%	18%	6%
1482	Market Systems Support Services	59%	5%	10%	2%	18%	6%

California Independent System Operator
2004 GMC Cost Allocation
Dollars of Direct Personnel by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Budget (Salaries and other expenses)	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	$ 2,393,731	$ 1,496,082	$ 897,649	$ -	$ -	$ -	$ -
1542	Outage Coordination	$ 1,741,610	$ 1,741,610	$ -	$ -	$ -	$ -	$ -
1543	Loads and Resources	$ 974,050	$ 556,600	$ 417,450	$ -	$ -	$ -	$ -
1544	Real-time Scheduling	$ 2,671,336	$ 1,602,802	$ 1,068,534	$ -	$ -	$ -	$ -
1545	Grid Operations	$ 7,182,770	$ 4,884,284	$ 2,298,486	$ -	$ -	$ -	$ -
1546	Reliability Coordinators	$ 1,312,533	$ 1,312,533	$ -	$ -	$ -	$ -	$ -
1547	Engineering and Maintenance - General	$ 387,442	$ 258,295	$ 129,147	$ -	$ -	$ -	$ -
1548	OSAT General	$ 263,212	$ 263,212	$ -	$ -	$ -	$ -	$ -
1549	Operations Training	$ 2,290,156	$ 1,399,540	$ 890,616	$ -	$ -	$ -	$ -
1554	Special Projects Engineering	$ 703,442	$ 351,721	$ 351,721	$ -	$ -	$ -	$ -
1555	Operations Support	$ 1,065,814	$ 592,119	$ 473,695	$ -	$ -	$ -	$ -
1558	Transmission Maintenance	$ 1,365,867	$ 910,578	$ 455,289	$ -	$ -	$ -	$ -
1559	Operations Applications Support	$ 559,892	$ 335,935	$ 223,957	$ -	$ -	$ -	$ -
1561	Operations Engineering South	$ 1,169,570	$ 779,713	$ 389,857	$ -	$ -	$ -	$ -
1562	Operations Engineering North	$ 1,289,176	$ 716,209	$ 572,967	$ -	$ -	$ -	$ -
1563	Operations Coordination	$ 629,635	$ 503,708	$ 125,927	$ -	$ -	$ -	$ -
1564	Scheduling Department Director	$ 284,207	$ 284,207	$ -	$ -	$ -	$ -	$ -
1565	Scheduling Support	$ 1,756,127	$ 1,350,867	$ 405,260	$ -	$ -	$ -	$ -
1566	Regional Coordination	$ 528,077	$ 528,077	$ -	$ -	$ -	$ -	$ -
1641	Market Analysis	$ 2,135,448	$ 433,763	$ 467,129	$ -	$ 333,664	$ 700,694	$ 200,198
1642	Market Surveillance Committee	$ 3,000	$ 750	$ 750	$ -	$ 750	$ 750	$ -
1661	Compliance - General	$ 1,265,162	$ 303,639	$ 278,336	$ 177,123	$ -	$ 316,291	$ 189,774
1662	Compliance - Audits	$ 416,551	$ 34,713	$ -	$ -	$ -	$ 208,275	$ 173,563
1721	Billing & Settlements	$ 432,329	$ -	$ -	$ -	$ -	$ -	$ 432,329
1722	Business Development Support	$ 584,969	$ -	$ -	$ -	$ -	$ -	$ 584,969
1723	RMR Settlements	$ 763,287	$ 763,287	$ -	$ -	$ -	$ -	$ -
1724	BBS Settlements - Preliminary Settlements	$ 1,053,990	$ -	$ -	$ -	$ -	$ -	$ 1,053,990
1725	BBS Settlements - Final Settlements	$ 972,026	$ -	$ -	$ -	$ -	$ -	$ 972,026
1731	Contracts & Special Projects	$ 1,263,324	$ 631,662	$ -	$ -	$ -	$ -	$ 631,662
1741	Client Relations	$ 2,167,605	$ -	$ -	$ -	$ -	$ -	$ 2,167,605
1751	Market Operations - General	$ 734,775	$ 293,910	$ -	$ 146,955	$ 146,955	$ 110,216	$ 36,739
1752	Manager, Markets	$ 2,324,160	$ 726,300	$ 145,260	$ 726,300	$ 581,040	$ 145,260	$ -
1753	Market Engineering	$ 1,330,404	$ 399,121	$ -	$ -	$ 532,162	$ 266,081	$ 133,040
1755	Business Solutions	$ 931,240	$ 66,517	$ -	$ 532,137	$ 133,034	$ 133,034	$ 66,517
1756	Market Quality	$ 1,976,266	$ -	$ -	$ -	$ -	$ 1,427,303	$ 548,963
1757	Market Integration	$ 846,549	$ 70,546	$ -	$ 282,183	$ 282,183	$ 141,092	$ 70,546
	Total Direct Personnel	$ 47,769,732	$ 23,592,298	$ 9,592,031	$ 1,864,698	$ 2,009,788	$ 3,448,996	$ 7,261,921

California Independent System Operator
2004 GMC Cost Allocation
Dollars of Temporary/Contract Staff and Consultants by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Budget (Contract Staff and Consultants)	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1521	Grid Planning	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1542	Outage Coordination	$ 93,500	$ -	$ 93,500	$ -	$ -	$ -	$ -
1543	Loads and Resources	$ 170,000	$ -	$ 170,000	$ -	$ -	$ -	$ -
1544	Real-time Scheduling	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1545	Grid Operations	$ 59,200	$ -	$ 59,200	$ -	$ -	$ -	$ -
1546	Reliability Coordinators	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1547	Engineering and Maintenance - General	$ 175,000	$ -	$ 175,000	$ -	$ -	$ -	$ -
1548	OSAT General	$ 20,000	$ -	$ 20,000	$ -	$ -	$ -	$ -
1549	Operations Training	$ 501,600	$ -	$ 501,600	$ -	$ -	$ -	$ -
1554	Special Projects Engineering	$ 121,900	$ -	$ 121,900	$ -	$ -	$ -	$ -
1555	Operations Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1558	Transmission Maintenance	$ 200,000	$ -	$ 200,000	$ -	$ -	$ -	$ -
1559	Operations Applications Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1561	Operations Engineering South	$ 25,000	$ -	$ 25,000	$ -	$ -	$ -	$ -
1562	Operations Engineering North	$ 10,000	$ -	$ 10,000	$ -	$ -	$ -	$ -
1563	Operations Coordination	$ 48,000	$ -	$ 48,000	$ -	$ -	$ -	$ -
1564	Scheduling Department Director	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1565	Scheduling Support	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1566	Regional Coordination	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1641	Market Analysis	$ 724,800	$ -	$ 289,920	$ -	$ 239,184	$ 195,696	$ -
1642	Market Surveillance Committee	$ 558,750	$ 139,688	$ 139,688	$ -	$ 139,688	$ 139,688	$ -
1661	Compliance - General	$ 402,000	$ 60,300	$ 60,300	$ 20,100	$ -	$ 160,800	$ 100,500
1662	Compliance - Audits	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1721	Billing & Settlements	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1722	Business Development Support	$ 89,360	$ -	$ -	$ -	$ -	$ -	$ 89,360
1723	RMR Settlements	$ 195,428	$ -	$ 195,428	$ -	$ -	$ -	$ -
1724	BBS Settlements - Preliminary Settlements	$ 178,720	$ -	$ -	$ -	$ -	$ -	$ 178,720
1725	BBS Settlements - Final Settlements	$ 267,524	$ -	$ -	$ -	$ -	$ -	$ 267,524
1731	Contracts & Special Projects	$ 208,508	$ -	$ 104,254	$ -	$ -	$ -	$ 104,254
1741	Client Relations	$ 108,500	$ -	$ -	$ -	$ -	$ -	$ 108,500
1751	Market Operations - General	$ 228,721	$ -	$ -	$ -	$ -	$ 228,721	$ -
1752	Manager, Markets	$ 350,000	$ -	$ -	$ -	$ -	$ 350,000	$ -
1753	Market Engineering	$ 565,856	$ -	$ -	$ -	$ -	$ 565,856	$ -
1755	Business Solutions	$ 203,056	$ -	$ -	$ -	$ -	$ 203,056	$ -
1756	Market Quality	$ 37,657	$ -	$ -	$ -	$ -	$ -	$ 37,657
1757	Market Integration	$ 114,256	$ -	$ -	$ -	$ -	$ 114,256	$ -
	Total Direct Contracts	$ 5,657,336	$ 199,988	$ 2,213,790	$ 20,100	$ 378,872	$ 1,958,073	$ 886,515

California Independent System Operator
2004 GMC Cost Allocation
Dollars of Direct System Expenditures by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1424	Asset Management	$ 20,414,618	$ 7,449,297	$ 1,387,834	$ 2,056,299	$ 831,229	$ 1,933,209	$ 6,756,749
1431	End User Support	$ 6,639,682	$ 2,740,909	$ 1,047,455	$ 415,612	$ 73,410	$ 413,310	$ 1,948,986
1433	Network Services	$ 1,555,448	$ 720,795	$ 201,616	$ 119,910	$ 10,280	$ 104,307	$ 398,540
1441	Outsourced Contracts	$ 10,662,100	$ 4,779,807	$ 1,237,260	$ 906,247	$ 85,893	$ 729,396	$ 2,923,497
1442	Production Support Services	$ 2,538,085	$ 623,237	$ 4,439	$ 459,518	$ 67,061	$ 192,191	$ 1,191,640
1451	Infrastructure Services	$ 1,647,970	$ 404,666	$ 2,882	$ 298,364	$ 43,542	$ 124,789	$ 773,728
1461	Control Systems	$ 2,291,444	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730
1462	Field Data Acquisition System (FDAS)	$ 2,460,663	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378
1466	Enterprise Applications	$ 1,550,354	$ 588,103	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 777,940
1467	Settlement Systems Services	$ 1,123,694	$ 339,171	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 609,843
1468	Corporate Application Support and Administration	$ 584,523	$ 289,447	$ 137,127	$ 2,485	$ 2,039	$ 32,506	$ 120,918
1469	Analytical and Reporting Applications	$ 1,244,713	$ 124,471	$ -	$ -	$ 809,063	$ 311,178	$ -
1471	IT Planning	$ 920,751	$ 226,094	$ 1,610	$ 166,701	$ 24,328	$ 69,722	$ 432,296
1481	Markets and Scheduling System	$ 1,461,712	$ 868,765	$ 72,048	$ 145,799	$ 23,574	$ 269,653	$ 81,872
1482	Market Systems Support Services	$ 592,213	$ 351,980	$ 29,190	$ 59,071	$ 9,551	$ 109,250	$ 33,170
	Totals	$ 55,687,970	$ 22,243,998	$ 4,460,134	$ 4,635,130	$ 1,984,174	$ 4,369,248	$ 17,995,285

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Dollars of Direct Expenditures by Subfunctions
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CC#	Cost Center	FTE	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1424	Asset Management	8	$ 20,414,618	$ 7,449,297	$ 1,387,834	$ 2,056,299	$ 831,229	$ 1,933,209	$ 6,756,749
1431	End User Support	4	$ 6,639,682	$ 2,740,909	$ 1,047,455	$ 415,612	$ 73,410	$ 413,310	$ 1,948,986
1433	Network Services	11	$ 1,555,448	$ 720,795	$ 201,616	$ 119,910	$ 10,280	$ 104,307	$ 398,540
1441	Outsourced Contracts	2	$ 10,662,100	$ 4,779,807	$ 1,237,260	$ 906,247	$ 85,893	$ 729,396	$ 2,923,497
1442	Production Support Services	17	$ 2,538,085	$ 623,237	$ 4,439	$ 459,518	$ 67,061	$ 192,191	$ 1,191,640
1451	Infrastructure Services	9	$ 1,647,970	$ 404,666	$ 2,882	$ 298,364	$ 43,542	$ 124,789	$ 773,728
1461	Control Systems	19	$ 2,291,444	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730
1462	Field Data Acquisition System (FDAS)	15	$ 2,460,663	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378
1466	Enterprise Applications	10	$ 1,550,354	$ 588,103	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 777,940
1467	Settlement Systems Services	9	$ 1,123,694	$ 339,171	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 609,843
1468	Corporate Application Support and Administration	4	$ 584,523	$ 289,447	$ 137,127	$ 2,485	$ 2,039	$ 32,506	$ 120,918
1469	Analytical and Reporting Applications	9	$ 1,244,713	$ 124,471	$ -	$ -	$ 809,063	$ 311,178	$ -
1471	IT Planning	5	$ 920,751	$ 226,094	$ 1,610	$ 166,701	$ 24,328	$ 69,722	$ 432,296
1481	Markets and Scheduling System	9	$ 1,461,712	$ 868,765	$ 72,048	$ 145,799	$ 23,574	$ 269,653	$ 81,872
1482	Market Systems Support Services	4	$ 592,213	$ 351,980	$ 29,190	$ 59,071	$ 9,551	$ 109,250	$ 33,170
1521	Grid Planning	16	$ 2,393,731	$ 1,496,082	$ 897,649	$ -	$ -	$ -	$ -
1542	Outage Coordination	12	$ 1,835,110	$ 1,741,610	$ 93,500	$ -	$ -	$ -	$ -
1543	Loads and Resources	7	$ 1,144,050	$ 556,600	$ 587,450	$ -	$ -	$ -	$ -
1544	Real-time Scheduling	20	$ 2,671,336	$ 1,602,802	$ 1,068,534	$ -	$ -	$ -	$ -
1545	Grid Operations	50	$ 7,241,970	$ 4,884,284	$ 2,357,686	$ -	$ -	$ -	$ -
1546	Reliability Coordinators	8	$ 1,312,533	$ 1,312,533	$ -	$ -	$ -	$ -	$ -
1547	Engineering and Maintenance - General	3	$ 562,442	$ 258,295	$ 304,147	$ -	$ -	$ -	$ -
1548	OSAT General	2	$ 283,212	$ 263,212	$ 20,000	$ -	$ -	$ -	$ -
1549	Operations Training	18	$ 2,791,756	$ 1,399,540	$ 1,392,216	$ -	$ -	$ -	$ -
1554	Special Projects Engineering	4	$ 825,342	$ 351,721	$ 473,621	$ -	$ -	$ -	$ -
1555	Operations Support	9	$ 1,065,814	$ 592,119	$ 473,695	$ -	$ -	$ -	$ -
1558	Transmission Maintenance	9	$ 1,565,867	$ 910,578	$ 655,289	$ -	$ -	$ -	$ -
1559	Operations Applications Support	5	$ 559,892	$ 335,935	$ 223,957	$ -	$ -	$ -	$ -
1561	Operations Engineering South	7.5	$ 1,194,570	$ 779,713	$ 414,857	$ -	$ -	$ -	$ -
1562	Operations Engineering North	9	$ 1,299,176	$ 716,209	$ 582,967	$ -	$ -	$ -	$ -
1563	Operations Coordination	4	$ 677,635	$ 503,708	$ 173,927	$ -	$ -	$ -	$ -
1564	Scheduling Department Director	2	$ 284,207	$ 284,207	$ -	$ -	$ -	$ -	$ -
1565	Scheduling Support	13	$ 1,756,127	$ 1,350,867	$ 405,260	$ -	$ -	$ -	$ -
1566	Regional Coordination	3	$ 528,077	$ 528,077	$ -	$ -	$ -	$ -	$ -

California Independent System Operator
2004 GMC Cost Allocation
Dollars of Direct Expenditures by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	FTE	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1641	Market Analysis	16	$ 2,860,248	$ 433,763	$ 757,049	$ -	$ 572,848	$ 896,390	$ 200,198
1642	Market Survelliance Committee	0	$ 561,750	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -
1661	Compliance - General	10	$ 1,667,162	$ 363,939	$ 338,636	$ 197,223	$ -	$ 477,091	$ 290,274
1662	Compliance - Audits	3	$ 416,551	$ 34,713	$ -	$ -	$ -	$ 208,275	$ 173,563
1721	Billing & Settlements	3	$ 432,329	$ -	$ -	$ -	$ -	$ -	$ 432,329
1722	Business Development Support	5	$ 674,329	$ -	$ -	$ -	$ -	$ -	$ 674,329
1723	RMR Settlements	7	$ 958,715	$ 763,287	$ 195,428	$ -	$ -	$ -	$ -
1724	BBS Settlements - Preliminary Settlements	9	$ 1,232,710	$ -	$ -	$ -	$ -	$ -	$ 1,232,710
1725	BBS Settlements - Final Settlements	9	$ 1,239,550	$ -	$ -	$ -	$ -	$ -	$ 1,239,550
1731	Contracts & Special Projects	9	$ 1,471,832	$ 631,662	$ 104,254	$ -	$ -	$ -	$ 735,916
1741	Client Relations	17	$ 2,276,105	$ -	$ -	$ -	$ -	$ -	$ 2,276,105
1751	Market Operations - General	3	$ 963,496	$ 293,910	$ -	$ 146,955	$ 146,955	$ 338,937	$ 36,739
1752	Manager, Markets	17	$ 2,674,160	$ 726,300	$ 145,260	$ 726,300	$ 581,040	$ 495,260	$ -
1753	Market Engineering	10	$ 1,896,260	$ 399,121	$ -	$ -	$ 532,162	$ 831,937	$ 133,040
1755	Business Solutions	7	$ 1,134,296	$ 66,517	$ -	$ 532,137	$ 133,034	$ 336,090	$ 66,517
1756	Market Quality	18	$ 2,013,923	$ -	$ -	$ -	$ -	$ 1,427,303	$ 586,620
1757	Market Integration	6	$ 960,805	$ 70,546	$ -	$ 282,183	$ 282,183	$ 255,348	$ 70,546
		485.5	$ 109,115,038	$ 46,036,284	$ 16,265,955	$ 6,519,928	$ 4,372,834	$ 9,776,316	$ 26,143,722

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CC#	Cost Center	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1424	Asset Management	100%	36%	7%	10%	4%	9%	33%	100%
1431	End User Support	100%	41%	16%	6%	1%	6%	29%	
1433	Network Services	100%	46%	13%	8%	1%	7%	26%	100%
1441	Outsourced Contracts	100%	45%	12%	8%	1%	7%	27%	100%
1442	Production Support Services	100%	25%	0%	18%	3%	8%	47%	100%
1451	Infrastructure Services	100%	25%	0%	18%	3%	8%	47%	
1461	Control Systems	100%	96%	2%	0%	0%	1%	1%	100%
1462	Field Data Acquisition System (FDAS)	100%	21%	0%	0%	0%	0%	79%	100%
1466	Enterprise Applications	100%	38%	9%	0%	0%	2%	50%	100%
1467	Settlement Systems Services	100%	30%	12%	0%	0%	3%	54%	100%
1468	Corporate Application Support and Administration	100%	50%	23%	0%	0%	6%	21%	100%
1469	Analytical and Reporting Applications	100%	10%	0%	0%	65%	25%	0%	100%
1471	IT Planning	100%	25%	0%	18%	3%	8%	47%	
1481	Markets and Scheduling System	100%	59%	5%	10%	2%	18%	6%	100%
1482	Market Systems Support Services	100%	59%	5%	10%	2%	18%	6%	100%
1521	Grid Planning	100%	63%	38%	0%	0%	0%	0%	100%
1542	Outage Coordination	100%	95%	5%	0%	0%	0%	0%	100%
1543	Loads and Resources	100%	49%	51%	0%	0%	0%	0%	100%
1544	Real-time Scheduling	100%	60%	40%	0%	0%	0%	0%	100%
1545	Grid Operations	100%	67%	33%	0%	0%	0%	0%	100%
1546	Reliability Coordinators	100%	100%	0%	0%	0%	0%	0%	100%
1547	Engineering and Maintenance - General	100%	46%	54%	0%	0%	0%	0%	100%
1548	OSAT General	100%	93%	7%	0%	0%	0%	0%	100%
1549	Operations Training	100%	50%	50%	0%	0%	0%	0%	100%
1554	Special Projects Engineering	100%	43%	57%	0%	0%	0%	0%	100%
1555	Operations Support	100%	56%	44%	0%	0%	0%	0%	100%
1558	Transmission Maintenance	100%	58%	42%	0%	0%	0%	0%	100%
1559	Operations Applications Support	100%	60%	40%	0%	0%	0%	0%	100%
1561	Operations Engineering South	100%	65%	35%	0%	0%	0%	0%	100%
1562	Operations Engineering North	100%	55%	45%	0%	0%	0%	0%	100%
1563	Operations Coordination	100%	74%	26%	0%	0%	0%	0%	100%
1564	Scheduling Department Director	100%	100%	0%	0%	0%	0%	0%	100%
1565	Scheduling Support	100%	77%	23%	0%	0%	0%	0%	100%
1566	Regional Coordination	100%	100%	0%	0%	0%	0%	0%	100%
1641	Market Analysis	100%	15%	26%	0%	20%	31%	7%	100%
1642	Market Surveillance Committee	100%	25%	25%	0%	25%	25%	0%	100%
1661	Compliance - General	100%	22%	20%	12%	0%	29%	17%	100%

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CC#	Cost Center	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1662	Compliance - Audits	100%	8%	0%	0%	0%	50%	42%	100%
1721	Billing & Settlements	100%	0%	0%	0%	0%	0%	100%	100%
1722	Business Development Support	100%	0%	0%	0%	0%	0%	100%	100%
1723	RMR Settlements	100%	80%	20%	0%	0%	0%	0%	100%
1724	BBS Settlements - Preliminary Settlements	100%	0%	0%	0%	0%	0%	100%	100%
1725	BBS Settlements - Final Settlements	100%	0%	0%	0%	0%	0%	100%	100%
1731	Contracts & Special Projects	100%	43%	7%	0%	0%	0%	50%	100%
1741	Client Relations	100%	0%	0%	0%	0%	0%	100%	100%
1751	Market Operations - General	100%	31%	0%	15%	15%	35%	4%	100%
1752	Manager, Markets	100%	27%	5%	27%	22%	19%	0%	100%
1753	Market Engineering	100%	21%	0%	0%	28%	44%	7%	100%
1755	Business Solutions	100%	6%	0%	47%	12%	30%	6%	100%
1756	Market Quality	100%	0%	0%	0%	0%	71%	29%	100%
1757	Market Integration	100%	7%	0%	29%	29%	27%	7%	100%

California Independent System Operator
2004 GMC Cost Allocation
FTE allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Method	FTE	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1111	CEO - General	OH	Not used						
1241	MD02	DS	7.0	0.49	-	0.97	0.76	1.99	2.79
1311	CFO - General	SCC	Not used						
1321	Accounting	OH	Not used						
1331	Financial Planning and Treasury	OH	Not used						
1351	Facilities	FTE	Not used						
1361	Security & Corporate Services	FTE	Not used						
1411	Chief Information Officer	SCC	Not used						
1422	Corporate & Enterprise Applications	SCC	Not used						
1424	Asset Management	DS	Not used						
1431	End User Support	FTE	Not used						
1432	Computer Operations and Infrastructure	SCC	Not used						
1433	Network Services	DS	Not used						
1441	Outsourced Contracts	DS	Not used						
1442	Production Support	SD	Not used						
1451	Infrastructure Services	DS	Not used						
1461	Control Systems	DS	Not used						
1462	Field Data Acquisition System (FDAS)	DS	Not used						
1463	Operations Systems Services	SCC	Not used						
1466	Enterprise Applications	CD	Not used						
1467	Settlement Systems Services	DS	Not used						
1468	Corporate Application Support and Administration	FTE	Not used						
1469	Analytical and Reporting Applications	DD	Not used						
1471	IT Planning	DS	Not used						
1481	Markets and Scheduling System	DS	Not used						
1482	Market Systems Support Services	DS	Not used						
1511	VP Grid Operations	SCC	1.5	1.00	0.50	-	-	-	-
1521	Grid Planning	DA	16.0	10.00	6.00	-	-	-	-
1542	Outage Coordination	DA	12.0	11.39	0.61	-	-	-	-
1543	Loads and Resources	DA	7.0	3.41	3.59	-	-	-	-
1544	Real-Time Scheduling	DA	20.0	12.00	8.00	-	-	-	-
1545	Grid Operations	DA	50.0	33.72	16.28	-	-	-	-
1546	Security Coordination	DA	8.0	8.00	-	-	-	-	-
1547	Engineering and Maintenance	DA	3.0	1.38	1.62	-	-	-	-

California Independent System Operator
2004 GMC Cost Allocation
FTE allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Method	FTE	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1548	OSAT Group - General	DA	2.0	1.86	0.14	-	-	-	-
1549	Operations Training	DA	18.0	9.02	8.98	-	-	-	-
1554	Special Projects Engineering	DA	4.0	1.70	2.30	-	-	-	-
1555	Operations Support Group	DA	9.0	5.00	4.00	-	-	-	-
1558	Transmission Maintenance	DA	9.0	5.23	3.77	-	-	-	-
1559	Operations Application Support	DA	5.0	3.00	2.00	-	-	-	-
1561	Operations Engineering South	DA	Not used						
1562	Operations Engineering North	DA	Not used						
1563	Operations Coordination	DA	4.0	2.97	1.03	-	-	-	-
1564	Operations Scheduling	DA	2.0	2.00	-	-	-	-	-
1565	Pre-Scheduling and Support	DA	13.0	10.00	3.00	-	-	-	-
1566	Regional Coordination - General	DA	3.0	3.00	-	-	-	-	-
1611	VP General Counsel - General	SCC	Not used						
1631	Legal and Regulatory	OH	Not used						
1641	Market Analysis	DA	Not used						
1642	Market Surveillance Committee	DA	-	-	-	-	-	-	-
1651	Board of Governors	OH	Not used						
1661	Compliance - General	DA	Not used						
1662	Compliance - Audits	DA	Not used						
1711	VP Market Services - General	SCC	2.0	0.33	0.05	0.19	0.19	0.41	0.83
1721	Billing and Settlements-General	DA	3.0	-	-	-	-	-	3.00
1722	Business Development Support	DA	5.0	-	-	-	-	-	5.00
1723	RMR Settlements	DA	7.0	5.57	1.43	-	-	-	-
1724	BBS - PSS	DA	9.0	-	-	-	-	-	9.00
1725	BBS - FSS	DA	9.0	-	-	-	-	-	9.00
1731	Contracts and Special Projects	DA	9.0	3.86	0.64	-	-	-	4.50
1741	Client Relations	DA	17.0	-	-	-	-	-	17.00
1751	Market Operations - General	DA	Not used						
1752	Manager of Markets	DA	Not used						
1753	Market Engineering	DA	Not used						
1755	Business Solutions	DA	Not used						
1756	Market Quality - General	DA	18.0	-	-	-	-	12.76	5.24
1757	Market Integration	DA	Not used						
1811	VP Corporate and Strategic Development - General	SCC	Not used						

California Independent System Operator
2004 GMC Cost Allocation
FTE allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Method	FTE	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1821	Communications	OH	Not used						
1831	Strategic Development	OH	Not used						
1841	Human Resources	FTE	Not used						
1851	Project Office	OH	Not used						
1861	Regulatory Policy	OH	Not used						
2111	Other	PS	-						
	Totals		272.5	134.9	63.9	1.2	1.0	15.2	56.4
			100%	50%	23%	0%	0%	6%	21%

California Independent System Operator
2004 GMC Cost Allocation
Overhead allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center		Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1111	CEO - General	OH	Not used						
1241	MD02	DS	$ 1,232,611	$ 85,722	$ -	$ 170,885	$ 134,467	$ 349,753	$ 491,784
1311	CFO - General	SCC	Not used						
1321	Accounting	OH	Not used						
1331	Financial Planning and Treasury	OH	Not used						
1351	Facilities	FTE	Not used						
1361	Security & Corporate Services	FTE	Not used						
1411	Chief Information Officer	SCC	Not used						
1422	Corporate & Enterprise Applications	SCC	Not used						
1424	Asset Management	DS	Not used						
1431	End User Support	FTE	Not used						
1432	Computer Operations and Infrastructure	SCC	Not used						
1433	Network Services	DS	Not used						
1441	Outsourced Contracts	DS	Not used						
1442	Production Support	SD	Not used						
1451	Infrastructure Services	SD	Not used						
1461	Control Systems	DS	Not used						
1462	Field Data Acquisition System (FDAS)	DS	Not used						
1463	Operations Systems Services	SCC	Not used						
1466	Enterprise Applications	CD	Not used						
1467	Settlement Systems Services	DS	Not used						
1468	Corporate Application Support and Administratior	FTE	Not used						
1469	Analytical and Reporting Applications	DD	Not used						
1471	IT Planning	SD	Not used						
1481	Markets and Scheduling System	DS	Not used						
1482	Market Systems Support Services	DS	Not used						
1511	VP Grid Operations	SCC	$ (137,696)	$ (91,661)	$ (46,035)	$ -	$ -	$ -	$ -
1521	Grid Planning	DA	$ 2,393,731	$ 1,496,082	$ 897,649	$ -	$ -	$ -	$ -
1542	Outage Coordination	DA	$ 1,835,110	$ 1,741,610	$ 93,500	$ -	$ -	$ -	$ -
1543	Loads and Resources	DA	$ 1,144,050	$ 556,600	$ 587,450	$ -	$ -	$ -	$ -
1544	Real-Time Scheduling	DA	$ 2,671,336	$ 1,602,802	$ 1,068,534	$ -	$ -	$ -	$ -
1545	Grid Operations	DA	$ 7,241,970	$ 4,884,284	$ 2,357,686	$ -	$ -	$ -	$ -
1546	Security Coordination	DA	$ 1,312,533	$ 1,312,533	$ -	$ -	$ -	$ -	$ -
1547	Engineering and Maintenance	DA	$ 562,442	$ 258,295	$ 304,147	$ -	$ -	$ -	$ -

California Independent System Operator
2004 GMC Cost Allocation
Overhead allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center		Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1548	OSAT Group - General	DA	$ 283,212	$ 263,212	$ 20,000	$ -	$ -	$ -	$ -
1549	Operations Training	DA	$ 2,791,756	$ 1,399,540	$ 1,392,216	$ -	$ -	$ -	$ -
1554	Special Projects Engineering	DA	$ 825,342	$ 351,721	$ 473,621	$ -	$ -	$ -	$ -
1555	Operations Support Group	DA	$ 1,065,814	$ 592,119	$ 473,695	$ -	$ -	$ -	$ -
1558	Transmission Maintenance	DA	$ 1,565,867	$ 910,578	$ 655,289	$ -	$ -	$ -	$ -
1559	Operations Application Support	DA	$ 559,892	$ 335,935	$ 223,957	$ -	$ -	$ -	$ -
1561	Operations Engineering South	DA	$ 1,194,570	$ 779,713	$ 414,857	$ -	$ -	$ -	$ -
1562	Operations Engineering North	DA	$ 1,299,176	$ 716,209	$ 582,967	$ -	$ -	$ -	$ -
1563	Operations Coordination	DA	$ 677,635	$ 503,708	$ 173,927	$ -	$ -	$ -	$ -
1564	Operations Scheduling	DA	$ 284,207	$ 284,207	$ -	$ -	$ -	$ -	$ -
1565	Pre-Scheduling and Support	DA	$ 1,756,127	$ 1,350,867	$ 405,260	$ -	$ -	$ -	$ -
1566	Regional Coordination - General	DA	$ 528,077	$ 528,077	$ -	$ -	$ -	$ -	$ -
1611	VP General Counsel - General	SCC	Not used						
1631	Legal and Regulatory	OH	Not used						
1641	Market Analysis	DA	$ 2,860,248	$ 433,763	$ 757,049	$ -	$ 572,848	$ 896,390	$ 200,198
1642	Market Surveillance Committee	DA	$ 561,750	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -
1651	Board of Governors	OH	Not used						
1661	Compliance - General	DA	$ 1,667,162	$ 363,939	$ 338,636	$ 197,223	$ -	$ 477,091	$ 290,274
1662	Compliance - Audits	DA	$ 416,551	$ 34,713	$ -	$ -	$ -	$ 208,275	$ 173,563
1711	VP Market Services - General	SCC	$ (66,938)	$ (11,019)	$ (1,661)	$ (6,301)	$ (6,255)	$ (13,758)	$ (27,944)
1721	Billing and Settlements-General	DA	$ 432,329	$ -	$ -	$ -	$ -	$ -	$ 432,329
1722	Business Development Support	DA	$ 674,329	$ -	$ -	$ -	$ -	$ -	$ 674,329
1723	RMR Settlements	DA	$ 958,715	$ 763,287	$ 195,428	$ -	$ -	$ -	$ -
1724	BBS - PSS	DA	$ 1,232,710	$ -	$ -	$ -	$ -	$ -	$ 1,232,710
1725	BBS - FSS	DA	$ 1,239,550	$ -	$ -	$ -	$ -	$ -	$ 1,239,550
1731	Contracts and Special Projects	DA	$ 1,471,832	$ 631,662	$ 104,254	$ -	$ -	$ -	$ 735,916
1741	Client Relations	DA	$ 2,276,105	$ -	$ -	$ -	$ -	$ -	$ 2,276,105
1751	Market Operations - General	DA	$ 963,496	$ 293,910	$ -	$ 146,955	$ 146,955	$ 338,937	$ 36,739
1752	Manager of Markets	DA	$ 2,674,160	$ 726,300	$ 145,260	$ 726,300	$ 581,040	$ 495,260	$ -
1753	Market Engineering	DA	$ 1,896,260	$ 399,121	$ -	$ -	$ 532,162	$ 831,937	$ 133,040
1755	Business Solutions	DA	$ 1,134,296	$ 66,517	$ -	$ 532,137	$ 133,034	$ 336,090	$ 66,517
1756	Market Quality - General	DA	$ 2,013,923	$ -	$ -	$ -	$ -	$ 1,427,303	$ 586,620
1757	Market Integration	DA	$ 960,805	$ 70,546	$ -	$ 282,183	$ 282,183	$ 255,348	$ 70,546
1811	VP Corporate and Strategic Development - Gene	SCC	Not used						

California Independent System Operator
2004 GMC Cost Allocation
Overhead allocations by Function
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center		Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations
1821	Communications	OH	Not used						
1831	Strategic Development	OH	Not used						
1841	Human Resources	FTE	Not used						
1851	Project Office	OH	Not used						
1861	Regulatory Policy	OH	Not used						
2111	Other	PS	Not used						
	Totals		$ 54,455,045	$ 23,775,328	$ 11,758,124	$ 2,049,382	$ 2,516,871	$ 5,743,064	$ 8,612,276
			100%	44%	22%	4%	5%	11%	16%

California Independent System Operator
2004 GMC Cost Allocation
Department Directs
Draft and Preliminary, Subject to both review and approval

Data Warehouse Calculations		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Dept Directs								
Compliance		$ 398,651	$ 338,636	$ 197,223	$ -	$ 685,366	$ 463,837	$ 2,083,713
Dept Market Analysis		$ 433,763	$ 757,049	$ -	$ 572,848	$ 896,390	$ 200,198	$ 2,860,248
Market Operations		$ 1,556,394	$ 145,260	$ 1,687,575	$ 1,675,374	$ 2,257,572	$ 306,842	$ 7,629,017
Operations Engineering		$ 1,495,922	$ 997,824	$ -	$ -	$ -	$ -	$ 2,493,746
Legal		$ 5,269,907	$ 2,606,240	$ 454,255	$ 557,876	$ 1,272,976	$ 1,908,949	$ 12,070,202
Settlements		$ 763,287	$ 195,428	$ -	$ -	$ -	$ 3,578,918	$ 4,537,633
Compliance		19.1%	16.3%	9.5%	0.0%	32.9%	22.3%	100.0%
Dept Market Analysis		15.2%	26.5%	0.0%	20.0%	31.3%	7.0%	100.0%
Market Operations		20.4%	1.9%	22.1%	22.0%	29.6%	4.0%	100.0%
Operations Engineering		60.0%	40.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Legal		43.7%	21.6%	3.8%	4.6%	10.5%	15.8%	100.0%
Settlements		16.8%	4.3%	0.0%	0.0%	0.0%	78.9%	100.0%
	Weights							
Compliance	50%	$ 199,326	$ 169,318	$ 98,611	$ -	$ 342,683	$ 231,919	$ 1,041,856
Dept Market Analysis	30%	$ 130,129	$ 227,115	$ -	$ 171,854	$ 268,917	$ 60,059	$ 858,074
Market Operations	5%	$ 77,820	$ 7,263	$ 84,379	$ 83,769	$ 112,879	$ 15,342	$ 381,451
Operations Engineering	5%	$ 74,796	$ 49,891	$ -	$ -	$ -	$ -	$ 124,687
Legal	5%	$ 263,495	$ 130,312	$ 22,713	$ 27,894	$ 63,649	$ 95,447	$ 603,510
Settlements	5%	$ 38,164	$ 9,771	$ -	$ -	$ -	$ 178,946	$ 226,882
	100%	$ 783,730	$ 593,670	$ 205,703	$ 283,517	$ 788,127	$ 581,714	$ 3,236,461
Data Warehouse		24%	18%	6%	9%	24%	18%	100%

California Independent System Operator

Calculation of Allocation Factors, etc.

Draft and Preliminary, Subject to both review and approval

Costs	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Direct Labor Costs	$ 47,769,732	$ 23,592,298	$ 9,592,031	$ 1,864,698	$ 2,009,788	$ 3,448,996	$ 7,261,921	$ 47,769,732
Direct Contract Costs	$ 5,657,336	$ 199,988	$ 2,213,790	$ 20,100	$ 378,872	$ 1,958,073	$ 886,515	$ 5,657,336
Direct Operating Costs	$ 53,427,068	$ 23,792,286	$ 11,805,821	$ 1,884,798	$ 2,388,659	$ 5,407,068	$ 8,148,436	$ 53,427,068
Ratios								
Direct Labor Costs	89.4%	44.2%	18.0%	3.5%	3.8%	6.5%	13.6%	89.4%
Direct Contract Costs	10.6%	0.4%	4.1%	0.0%	0.7%	3.7%	1.7%	10.6%
Direct Operating Costs		44.5%	22.1%	3.5%	4.5%	10.1%	15.3%	100.0%
Direct FTE Ratios (FTE)		49.5%	23.5%	0.4%	0.3%	5.6%	20.7%	100.0%
Overhead Allocator (OH)		43.7%	21.6%	3.8%	4.6%	10.5%	15.8%	100.0%
Operating Costs (OC)		43.4%	17.3%	4.8%	4.0%	9.2%	21.3%	100.0%
MD 02 Capital Allocator		7.0%	0.0%	13.9%	10.9%	28.4%	39.9%	100.0%

California Independent System Operator

Chief Executive Officer

Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1111	Chief Executive Officer	OH	$ 383,137	$ 189,481	$ 33,026	$ 40,559	$ 92,549	$ 138,786	$ 877,537
1241	MD02	DS	$ 85,722	$ -	$ 170,885	$ 134,467	$ 349,753	$ 491,784	$ 1,232,611
1521	Grid Planning	DA	$ 1,496,082	$ 897,649	$ -	$ -	$ -	$ -	$ 2,393,731
	Total (not including Officer)		$ 1,581,804	$ 897,649	$ 170,885	$ 134,467	$ 349,753	$ 491,784	$ 3,626,342
	Ratio of total (not including Officer)		43.6%	24.8%	4.7%	3.7%	9.6%	13.6%	100%

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

California Independent System Operator

Chief Financial Officer
Draft and Preliminary, Subject to both review and approval

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	$ 139,595	$ 69,037	$ 12,033	$ 14,778	$ 33,720	$ 50,566	$ 319,728
1321	Accounting	OH	$ 1,262,483	$ 624,363	$ 108,823	$ 133,647	$ 304,960	$ 457,316	$ 2,891,592
1331	Financial Planning	OH	$ 1,501,069	$ 742,356	$ 129,389	$ 158,904	$ 362,592	$ 543,741	$ 3,438,051
1351	Facilities	FTE	$ 2,665,883	$ 1,318,416	$ 229,793	$ 282,212	$ 643,959	$ 965,678	$ 6,105,942
1361	Security & Corporate Services	FTE	$ 1,147,741	$ 567,617	$ 98,933	$ 121,501	$ 277,243	$ 415,753	$ 2,628,787
	Total (not including Officer)		$ 6,577,176	$ 3,252,752	$ 566,938	$ 696,264	$ 1,588,754	$ 2,382,489	$ 15,064,372
	Ratio of total (not including Officer)		43.7%	21.6%	3.8%	4.6%	10.5%	15.8%	100.0%
	Total (including Officer)		$ 6,716,770	$ 3,321,789	$ 578,971	$ 711,041	$ 1,622,474	$ 2,433,055	$ 15,384,100
	Ratio of total (including Officer)		43.7%	21.6%	3.8%	4.6%	10.5%	15.8%	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

California Independent System Operator

Chief Information Officer

Draft and Preliminary, Subject to both review and approval

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	$ (131,332)	$ (31,417)	$ (20,973)	$ (10,611)	$ (23,854)	$ (93,594)	$ (311,780)
1463	Operations Systems Services	SCC	$ 180,941	$ 12,413	$ 8,731	$ 1,481	$ 17,863	$ 112,467	$ 333,896
1461	Control Systems	DS	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730	$ 2,291,444
1462	Field Data Acquisition System (FDAS)	DS	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378	$ 2,460,663
1467	Settlement Systems Services	DS	$ 339,171	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 609,843	$ 1,123,694
1481	Markets and Scheduling System	DS	$ 868,765	$ 72,048	$ 145,799	$ 23,574	$ 269,653	$ 81,872	$ 1,461,712
1482	Market Systems Support Services	DS	$ 351,980	$ 29,190	$ 59,071	$ 9,551	$ 109,250	$ 33,170	$ 592,213
1422	Corporate & Enterprise Applications	SCC	$ 77,643	$ 21,870	$ 396	$ 63,017	$ 29,297	$ 69,649	$ 261,872
1466	Enterprise Applications	CD	$ 588,103	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 777,940	$ 1,550,354
1468	Corporate Application Support and Administration	FTE	$ 289,447	$ 137,127	$ 2,485	$ 2,039	$ 32,506	$ 120,918	$ 584,523
1469	Analytical and Reporting Applications	DD	$ 124,471	$ -	$ -	$ 809,063	$ 311,178	$ -	$ 1,244,713
1432	Computer Operations and Infrastructure	SCC	$ 414,779	$ 163,713	$ 46,798	$ 8,089	$ 57,664	$ 251,595	$ 942,638
1431	End User Support	FTE	$ 3,287,876	$ 1,557,647	$ 28,233	$ 23,160	$ 369,245	$ 1,373,521	$ 6,639,682
1433	Network Services	DS	$ 720,795	$ 201,616	$ 119,910	$ 10,280	$ 104,307	$ 398,540	$ 1,555,448
1442	Production Support	SD	$ 623,237	$ 4,439	$ 459,518	$ 67,061	$ 192,191	$ 1,191,640	$ 2,538,085
1451	Information Security	SD	$ 816,051	$ 386,608	$ 7,007	$ 5,748	$ 91,647	$ 340,908	$ 1,647,970
1424	Asset Management	DS	$ 7,449,297	$ 1,387,834	$ 2,056,299	$ 831,229	$ 1,933,209	$ 6,756,749	$ 20,414,618
1441	Outsourced Contracts	DS	$ 4,779,807	$ 1,237,260	$ 906,247	$ 85,893	$ 729,396	$ 2,923,497	$ 10,662,100
1471	IT Planning	SD	$ 455,943	$ 216,005	$ 3,915	$ 3,212	$ 51,205	$ 190,472	$ 920,751
	Total (not including Officer)		$ 24,105,562	$ 5,766,443	$ 3,849,534	$ 1,947,601	$ 4,378,347	$ 17,178,888	$ 57,226,376
	Ratio of total (not including Officer)		42.1%	10.1%	6.7%	3.4%	7.7%	30.0%	100.0%
	Total (including Officer)		$ 23,974,230	$ 5,735,027	$ 3,828,561	$ 1,936,991	$ 4,354,493	$ 17,085,294	$ 56,914,596
	Ratio of total (including Officer)		42.1%	10.1%	6.7%	3.4%	7.7%	30.0%	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

California Independent System Operator

Vice President, Grid Operations

Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1511	Vice President, Grid Operations	SCC	$ (91,661)	$ (46,035)	$ -	$ -	$ -	$ -	$ (137,696)
1564	Operations Scheduling	DA	$ 284,207	$ -	$ -	$ -	$ -	$ -	$ 284,207
1542	Outage Coordination	DA	$ 1,741,610	$ 93,500	$ -	$ -	$ -	$ -	$ 1,835,110
1544	Real-Time Scheduling	DA	$ 1,602,802	$ 1,068,534	$ -	$ -	$ -	$ -	$ 2,671,336
1565	Pre-Scheduling and Support	DA	$ 1,350,867	$ 405,260	$ -	$ -	$ -	$ -	$ 1,756,127
1547	Engineering and Maintenance	DA	$ 258,295	$ 304,147	$ -	$ -	$ -	$ -	$ 562,442
1543	Loads and Resources	DA	$ 556,600	$ 587,450	$ -	$ -	$ -	$ -	$ 1,144,050
1558	Transmission Maintenance	DA	$ 910,578	$ 655,289	$ -	$ -	$ -	$ -	$ 1,565,867
1561	Operations Engineering South	DA	$ 779,713	$ 414,857	$ -	$ -	$ -	$ -	$ 1,194,570
1562	Operations Engineering North	DA	$ 716,209	$ 582,967	$ -	$ -	$ -	$ -	$ 1,299,176
1548	OSAT Group - General	DA	$ 263,212	$ 20,000	$ -	$ -	$ -	$ -	$ 283,212
1549	Operations Training	DA	$ 1,399,540	$ 1,392,216	$ -	$ -	$ -	$ -	$ 2,791,756
1555	Operations Support Group	DA	$ 592,119	$ 473,695	$ -	$ -	$ -	$ -	$ 1,065,814
1559	Operations Application Support	DA	$ 335,935	$ 223,957	$ -	$ -	$ -	$ -	$ 559,892
1563	Coordinated Operations	DA	$ 503,708	$ 173,927	$ -	$ -	$ -	$ -	$ 677,635
									$ -
1566	Regional Coordination - General	DA	$ 528,077	$ -	$ -	$ -	$ -	$ -	$ 528,077
1546	Security Coordination	DA	$ 1,312,533	$ -	$ -	$ -	$ -	$ -	$ 1,312,533
1554	Special Projects Engineering	DA	$ 351,721	$ 473,621	$ -	$ -	$ -	$ -	$ 825,342
1545	Grid Operations	DA	$ 4,884,284	$ 2,357,686	$ -	$ -	$ -	$ -	$ 7,241,970
	Total (not including Officer)		$ 18,372,009	$ 9,227,107	$ -	$ -	$ -	$ -	$ 27,599,116
	Ratio of total (not including Officer)		66.6%	33.4%	0.0%	0.0%	0.0%	0.0%	100.0%
	Total (including Officer)		$ 18,280,348	$ 9,181,072	$ -	$ -	$ -	$ -	$ 27,461,420
	Ratio of total (including Officer)		66.6%	33.4%	0.0%	0.0%	0.0%	0.0%	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

California Independent System Operator

General Counsel

Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1611	General Counsel	SCC	$ 98,195	$ 60,249	$ 10,219	$ 19,842	$ 46,740	$ 40,394	$ 275,638
1661	Compliance - General	DA	$ 363,939	$ 338,636	$ 197,223	$ -	$ 477,091	$ 290,274	$ 1,667,162
1662	Compliance - Audits	DA	$ 34,713	$ -	$ -	$ -	$ 208,275	$ 173,563	$ 416,551
1631	Legal and Regulatory	OH	$ 5,269,907	$ 2,606,240	$ 454,255	$ 557,876	$ 1,272,976	$ 1,908,949	$ 12,070,202
1641	Market Analysis	DA	$ 433,763	$ 757,049	$ -	$ 572,848	$ 896,390	$ 200,198	$ 2,860,248
1642	Market Surveillance Committee	DA	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
1651	Board of Governors	OH	$ 101,030	$ 49,965	$ 8,709	$ 10,695	$ 24,404	$ 36,597	$ 231,400
	Total (not including Officer)		$ 6,343,789	$ 3,892,327	$ 660,186	$ 1,281,856	$ 3,019,573	$ 2,609,581	$ 17,807,313
	Ratio of total (not including Officer)		35.6%	21.9%	3.7%	7.2%	17.0%	14.7%	100.0%
	Total (including Officer)		$ 6,441,984	$ 3,952,576	$ 670,405	$ 1,301,698	$ 3,066,313	$ 2,649,975	$ 18,082,951
	Ratio of total (including Officer)		35.6%	21.9%	3.7%	7.2%	17.0%	14.7%	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

California Independent System Operator
2004 GMC Cost Allocation

Vice President, Market Services
Draft and Preliminary, Subject to both review and approval

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	$ (11,019)	$ (1,661)	$ (6,301)	$ (6,255)	$ (13,758)	$ (27,944)	$ (66,938)
1751	Market Operations - General	DA	$ 293,910	$ -	$ 146,955	$ 146,955	$ 338,937	$ 36,739	$ 963,496
1752	Manager of Markets	DA	$ 726,300	$ 145,260	$ 726,300	$ 581,040	$ 495,260	$ -	$ 2,674,160
1753	Market Engineering	DA	$ 399,121	$ -	$ -	$ 532,162	$ 831,937	$ 133,040	$ 1,896,260
1755	Business Solutions	DA	$ 66,517	$ -	$ 532,137	$ 133,034	$ 336,090	$ 66,517	$ 1,134,296
1757	Market Integration	DA	$ 70,546	$ -	$ 282,183	$ 282,183	$ 255,348	$ 70,546	$ 960,805
1721	Billing and Settlements-General	DA	$ -	$ -	$ -	$ -	$ -	$ 432,329	$ 432,329
1722	Business Development Support	DA	$ -	$ -	$ -	$ -	$ -	$ 674,329	$ 674,329
1723	RMR Settlements	DA	$ 763,287	$ 195,428	$ -	$ -	$ -	$ -	$ 958,715
1724	BBS - PSS	DA	$ -	$ -	$ -	$ -	$ -	$ 1,232,710	$ 1,232,710
1725	BBS - FSS	DA	$ -	$ -	$ -	$ -	$ -	$ 1,239,550	$ 1,239,550
1731	Contracts and Special Projects	DA	$ 631,662	$ 104,254	$ -	$ -	$ -	$ 735,916	$ 1,471,832
1741	Client Relations	DA	$ -	$ -	$ -	$ -	$ -	$ 2,276,105	$ 2,276,105
1756	Market Quality	DA	$ -	$ -	$ -	$ -	$ 1,427,303	$ 586,620	$ 2,013,923
	Total (not including Officer)		$ 2,951,343	$ 444,942	$ 1,687,575	$ 1,675,374	$ 3,684,875	$ 7,484,401	$ 17,928,510
	Ratio of total (not including Officer)		16.5%	2.5%	9.4%	9.3%	20.6%	41.7%	100.0%
	Total (including Officer)		$ 2,940,324	$ 443,281	$ 1,681,274	$ 1,669,119	$ 3,671,117	$ 7,456,457	$ 17,861,572
	Ratio of total (including Officer)		16.5%	2.5%	9.4%	9.3%	20.6%	41.7%	100.0%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS
Supervised cost center (directors/off	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

California Independent System Operator
2004 GMC Cost Allocation

Vice President, Corporate and Strategic Development

Draft and Preliminary, Subject to both review and approval

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 - Genera	SCC	$ 214,934	$ 103,516	$ 8,153	$ 9,544	$ 34,642	$ 85,278	$ 456,066
1821	Communications	OH	$ 360,476	$ 178,274	$ 31,072	$ 38,160	$ 87,075	$ 130,577	$ 825,635
1831	Strategic Development	OH	$ 311,433	$ 154,020	$ 26,845	$ 32,968	$ 75,228	$ 112,812	$ 713,306
1841	Human Resources	FTE	$ 2,250,106	$ 1,065,998	$ 19,322	$ 15,850	$ 252,698	$ 939,989	$ 4,543,963
1851	Project Office	OH	$ 292,314	$ 144,564	$ 25,197	$ 30,945	$ 70,610	$ 105,887	$ 669,517
1861	Regulatory Policy	OH	$ 403,703	$ 199,652	$ 34,798	$ 42,736	$ 97,517	$ 146,236	$ 924,641
	Total (not including Officer)		$ 3,618,031	$ 1,742,508	$ 137,234	$ 160,660	$ 583,128	$ 1,435,501	$ 7,677,062
	Ratio of total (not including Officer)		47.1%	22.7%	1.8%	2.1%	7.6%	18.7%	100.0%
	Total (including Officer)		$ 3,832,965	$ 1,846,024	$ 145,386	$ 170,204	$ 617,770	$ 1,520,779	$ 8,133,128
	Ratio of total (including Officer)		47.1%	22.7%	1.8%	2.1%	7.6%	18.7%	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

California Independent System Operator
2004 GMC Cost Allocation

Salary Adjustments

Draft and Preliminary, Subject to both review and approval

CC#	Cost Center	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
2111	Other	PS	$ 1,675,923	$ 681,388	$ 132,462	$ 142,769	$ 245,006	$ 515,864	$ 3,393,412
	Total		$ 1,675,923	$ 681,388	$ 132,462	$ 142,769	$ 245,006	$ 515,864	$ 3,393,412
	Ratio of total		49.4%	20.1%	3.9%	4.2%	7.2%	15.2%	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
expenditures on applications (software) or hardware	CD
Department Direct - proportional to the cost assignments of departments utilizing applications	DD
Proportional to Salaries	PS

California Independent System Operator
2004 GMC Cost Allocation

Totals by Cost Center
Draft and Preliminary, Subject to both review and approval

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	$ 383,137	$ 189,481	$ 33,026	$ 40,559	$ 92,549	$ 138,786	$ 877,537
1241	MD02	1100	DS	$ 85,722	$ -	$ 170,885	$ 134,467	$ 349,753	$ 491,784	$ 1,232,611
1311	CFO - General	1300	SCC	$ 139,595	$ 69,037	$ 12,033	$ 14,778	$ 33,720	$ 50,566	$ 319,728
1321	Accounting	1300	OH	$ 1,262,483	$ 624,363	$ 108,823	$ 133,647	$ 304,960	$ 457,316	$ 2,891,592
1331	Financial Planning and Treasury	1300	OH	$ 1,501,069	$ 742,356	$ 129,389	$ 158,904	$ 362,592	$ 543,741	$ 3,438,051
1351	Facilities	1300	FTE	$ 2,665,883	$ 1,318,416	$ 229,793	$ 282,212	$ 643,959	$ 965,678	$ 6,105,942
1361	Security & Corporate Services	1300	FTE	$ 1,147,741	$ 567,617	$ 98,933	$ 121,501	$ 277,243	$ 415,753	$ 2,628,787
1411	Chief Information Officer	1400	SCC	$ (131,332)	$ (31,417)	$ (20,973)	$ (10,611)	$ (23,854)	$ (93,594)	$ (311,780)
1422	Corporate & Enterprise Applications	1400	SCC	$ 77,643	$ 21,870	$ 396	$ 63,017	$ 29,297	$ 69,649	$ 261,872
1424	Asset Management	1400	DS	$ 7,449,297	$ 1,387,834	$ 2,056,299	$ 831,229	$ 1,933,209	$ 6,756,749	$ 20,414,618
1431	End User Support	1400	FTE	$ 3,287,876	$ 1,557,647	$ 28,233	$ 23,160	$ 369,245	$ 1,373,521	$ 6,639,682
1432	Computer Operations and Infrastructure	1400	SCC	$ 414,779	$ 163,713	$ 46,798	$ 8,089	$ 57,664	$ 251,595	$ 942,638
1433	Network Services	1400	DS	$ 720,795	$ 201,616	$ 119,910	$ 10,280	$ 104,307	$ 398,540	$ 1,555,448
1441	Outsourced Contracts	1400	DS	$ 4,779,807	$ 1,237,260	$ 906,247	$ 85,893	$ 729,396	$ 2,923,497	$ 10,662,100
1442	Production Support	1400	SD	$ 623,237	$ 4,439	$ 459,518	$ 67,061	$ 192,191	$ 1,191,640	$ 2,538,085
1451	Infrastructure Services	1400	SD	$ 816,051	$ 386,608	$ 7,007	$ 5,748	$ 91,647	$ 340,908	$ 1,647,970
1461	Control Systems	1400	DS	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730	$ 2,291,444
1462	Field Data Acquisition System (FDAS)	1400	DS	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378	$ 2,460,663
1463	Operations Systems Services	1400	SCC	$ 180,941	$ 12,413	$ 8,731	$ 1,481	$ 17,863	$ 112,467	$ 333,896
1466	Enterprise Applications	1400	CD	$ 588,103	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 777,940	$ 1,550,354
1467	Settlement Systems Services	1400	DS	$ 339,171	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 609,843	$ 1,123,694
1468	Corporate Application Support and Administration	1400	FTE	$ 289,447	$ 137,127	$ 2,485	$ 2,039	$ 32,506	$ 120,918	$ 584,523
1469	Analytical and Reporting Applications	1400	DD	$ 124,471	$ -	$ -	$ 809,063	$ 311,178	$ -	$ 1,244,713
1471	IT Planning	1400	SD	$ 455,943	$ 216,005	$ 3,915	$ 3,212	$ 51,205	$ 190,472	$ 920,751
1481	Markets and Scheduling System	1400	DS	$ 868,765	$ 72,048	$ 145,799	$ 23,574	$ 269,653	$ 81,872	$ 1,461,712
1482	Market Systems Support Services	1400	DS	$ 351,980	$ 29,190	$ 59,071	$ 9,551	$ 109,250	$ 33,170	$ 592,213
1511	VP Grid Operations	1500	SCC	$ (91,661)	$ (46,035)	$ -	$ -	$ -	$ -	$ (137,696)
1521	Grid Planning	1100	DA	$ 1,496,082	$ 897,649	$ -	$ -	$ -	$ -	$ 2,393,731
1542	Outage Coordination	1500	DA	$ 1,741,610	$ 93,500	$ -	$ -	$ -	$ -	$ 1,835,110
1543	Loads and Resources	1500	DA	$ 556,600	$ 587,450	$ -	$ -	$ -	$ -	$ 1,144,050
1544	Real-Time Scheduling	1500	DA	$ 1,602,802	$ 1,068,534	$ -	$ -	$ -	$ -	$ 2,671,336
1545	Grid Operations	1500	DA	$ 4,884,284	$ 2,357,686	$ -	$ -	$ -	$ -	$ 7,241,970
1546	Security Coordination	1500	DA	$ 1,312,533	$ -	$ -	$ -	$ -	$ -	$ 1,312,533
1547	Engineering and Maintenance	1500	DA	$ 258,295	$ 304,147	$ -	$ -	$ -	$ -	$ 562,442
1548	OSAT Group - General	1500	DA	$ 263,212	$ 20,000	$ -	$ -	$ -	$ -	$ 283,212
1549	Operations Training	1500	DA	$ 1,399,540	$ 1,392,216	$ -	$ -	$ -	$ -	$ 2,791,756
1554	Special Projects Engineering	1500	DA	$ 351,721	$ 473,621	$ -	$ -	$ -	$ -	$ 825,342
1555	Operations Support Group	1500	DA	$ 592,119	$ 473,695	$ -	$ -	$ -	$ -	$ 1,065,814
1558	Transmission Maintenance	1500	DA	$ 910,578	$ 655,289	$ -	$ -	$ -	$ -	$ 1,565,867
1559	Operations Application Support	1500	DA	$ 335,935	$ 223,957	$ -	$ -	$ -	$ -	$ 559,892
1561	Operations Engineering South	1500	DA	$ 779,713	$ 414,857	$ -	$ -	$ -	$ -	$ 1,194,570

California Independent System Operator
2004 GMC Cost Allocation

Totals by Cost Center
Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Sheet	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1562	Operations Engineering North	1500	DA	$ 716,209	$ 582,967	$ -	$ -	$ -	$ -	$ 1,299,176
1563	Operations Coordination	1500	DA	$ 503,708	$ 173,927	$ -	$ -	$ -	$ -	$ 677,635
1564	Operations Scheduling	1500	DA	$ 284,207	$ -	$ -	$ -	$ -	$ -	$ 284,207
1565	Pre-Scheduling and Support	1500	DA	$ 1,350,867	$ 405,260	$ -	$ -	$ -	$ -	$ 1,756,127
1566	Regional Coordination - General	1500	DA	$ 528,077	$ -	$ -	$ -	$ -	$ -	$ 528,077
1611	VP General Counsel - General	1600	SCC	$ 98,195	$ 60,249	$ 10,219	$ 19,842	$ 46,740	$ 40,394	$ 275,638
1631	Legal and Regulatory	1600	OH	$ 5,269,907	$ 2,606,240	$ 454,255	$ 557,876	$ 1,272,976	$ 1,908,949	$ 12,070,202
1641	Market Analysis	1600	DA	$ 433,763	$ 757,049	$ -	$ 572,848	$ 896,390	$ 200,198	$ 2,860,248
1642	Market Surveillance Committee	1600	DA	$ 140,438	$ 140,438	$ -	$ 140,438	$ 140,438	$ -	$ 561,750
1651	Board of Governors	1600	OH	$ 101,030	$ 49,965	$ 8,709	$ 10,695	$ 24,404	$ 36,597	$ 231,400
1661	Compliance - General	1600	DA	$ 363,939	$ 338,636	$ 197,223	$ -	$ 477,091	$ 290,274	$ 1,667,162
1662	Compliance - Audits	1600	DA	$ 34,713	$ -	$ -	$ -	$ 208,275	$ 173,563	$ 416,551
1711	VP Market Services - General	1700	SCC	$ (11,019)	$ (1,661)	$ (6,301)	$ (6,255)	$ (13,758)	$ (27,944)	$ (66,938)
1721	Billing and Settlements-General	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 432,329	$ 432,329
1722	Business Development Support	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 674,329	$ 674,329
1723	RMR Settlements	1700	DA	$ 763,287	$ 195,428	$ -	$ -	$ -	$ -	$ 958,715
1724	BBS - PSS	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 1,232,710	$ 1,232,710
1725	BBS - FSS	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 1,239,550	$ 1,239,550
1731	Contracts and Special Projects	1700	DA	$ 631,662	$ 104,254	$ -	$ -	$ -	$ 735,916	$ 1,471,832
1741	Client Relations	1700	DA	$ -	$ -	$ -	$ -	$ -	$ 2,276,105	$ 2,276,105
1751	Market Operations - General	1700	DA	$ 293,910	$ -	$ 146,955	$ 146,955	$ 338,937	$ 36,739	$ 963,496
1752	Manager of Markets	1700	DA	$ 726,300	$ 145,260	$ 726,300	$ 581,040	$ 495,260	$ -	$ 2,674,160
1753	Market Engineering	1700	DA	$ 399,121	$ -	$ -	$ 532,162	$ 831,937	$ 133,040	$ 1,896,260
1755	Business Solutions	1700	DA	$ 66,517	$ -	$ 532,137	$ 133,034	$ 336,090	$ 66,517	$ 1,134,296
1756	Market Quality - General	1700	DA	$ -	$ -	$ -	$ -	$ 1,427,303	$ 586,620	$ 2,013,923
1757	Market Integration	1700	DA	$ 70,546	$ -	$ 282,183	$ 282,183	$ 255,348	$ 70,546	$ 960,805
1811	VP Corporate and Strategic Development - Genera	1800	SCC	$ 214,934	$ 103,516	$ 8,153	$ 9,544	$ 34,642	$ 85,278	$ 456,066
1821	Communications	1800	OH	$ 360,476	$ 178,274	$ 31,072	$ 38,160	$ 87,075	$ 130,577	$ 825,635
1831	Strategic Development	1800	OH	$ 311,433	$ 154,020	$ 26,845	$ 32,968	$ 75,228	$ 112,812	$ 713,306
1841	Human Resources	1800	FTE	$ 2,250,106	$ 1,065,998	$ 19,322	$ 15,850	$ 252,698	$ 939,989	$ 4,543,963
1851	Project Office	1800	OH	$ 292,314	$ 144,564	$ 25,197	$ 30,945	$ 70,610	$ 105,887	$ 669,517
1861	Regulatory Policy	1800	OH	$ 403,703	$ 199,652	$ 34,798	$ 42,736	$ 97,517	$ 146,236	$ 924,641
2111	Other	2100	PS	$ 1,675,923	$ 681,388	$ 132,462	$ 142,769	$ 245,006	$ 515,864	$ 3,393,412
	Total			$ 65,827,486	$ 26,248,286	$ 7,240,970	$ 6,106,847	$ 14,019,475	$ 32,291,993	$ 151,735,058
	Percent			43%	17%	5%	4%	9%	21%	100%

Key to Method Acronyms	
Direct Assignment	DA
Direct System	DS

California Independent System Operator
2004 GMC Cost Allocation

Totals by Cost Center

Draft and Preliminary, Subject to both review and approval

CC #	Cost Center	Sheet	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
	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								

California Independent System Operator
Method of Assignment/Allocation
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Sheet	Method	
1111	CEO - General	1100	OH	Allocated using overhead ratios
1241	MD02	1100	DS	Direct assignment using capital expenditures for MD02
1311	CFO - General	1300	SCC	Allocated using supervised cost centers in 1300
1321	Accounting	1300	OH	Allocated using overhead ratios
1331	Financial Planning and Treasury	1300	OH	Allocated using overhead ratios
1351	Facilities	1300	FTE	Allocated proportional to FTE
1361	Security & Corporate Services	1300	FTE	Allocated proportional to FTE
1411	Chief Information Officer	1400	SCC	Allocated using supervised cost centers in 1400
1422	Corporate & Enterprise Applications	1400	SCC	Allocated using supervised cost centers under 1422
1424	Asset Management	1400	DS	Direct functionalization of contract expenditures
1431	End User Support	1400	FTE	Allocated proportional to FTE
1432	Computer Operations and Infrastructure	1400	SCC	Allocated using supervised cost centers under 1432
1433	Network Services	1400	DS	Allocated proportional to WAN and LAN (FTE) functionalizations
1441	Outsourced Contracts	1400	DS	
1442	Production Support	1400	SD	Proportional to directly allocated system applications
1451	Infrastructure Services	1400	SD	Proportional to directly allocated system applications
1461	Control Systems	1400	DS	
1462	Field Data Acquisition System (FDAS)	1400	DS	
1463	Operations Systems Services	1400	SCC	Allocated using supervised cost centers under 1463
1466	Enterprise Applications	1400	CD	Weighted average of Chase, online settlements disputes and new resource interconnection functionalizatic
1467	Settlement Systems Services	1400	DS	
1468	Corporate Application Support and Admini	1400	FTE	Allocated proportional to FTE
1469	Analytical and Reporting Applications	1400	DD	Proportional to directly DataWarehouse functionalization
1471	IT Planning	1400	SD	Proportional to directly allocated system applications
1481	Markets and Scheduling System	1400	DS	
1482	Market Systems Support Services	1400	DS	
1511	VP Grid Operations	1500	SCC	Allocated using supervised cost centers in 1500
1521	Grid Planning	1100	DA	Direct assignment
1542	Outage Coordination	1500	DA	Direct assignment
1543	Loads and Resources	1500	DA	Direct assignment
1544	Real-Time Scheduling	1500	DA	Direct assignment
1545	Grid Operations	1500	DA	Direct assignment
1546	Security Coordination	1500	DA	Direct assignment
1547	Engineering and Maintenance	1500	DA	Direct assignment
1548	OSAT Group - General	1500	DA	Direct assignment
1549	Operations Training	1500	DA	Direct assignment
1554	Special Projects Engineering	1500	DA	Direct assignment

California Independent System Operator

Method of Assignment/Allocation
Draft and Preliminary
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CC #	Cost Center	Sheet	Method	
1555	Operations Support Group	1500	DA	Direct assignment
1558	Transmission Maintenance	1500	DA	Direct assignment
1559	Operations Application Support	1500	DA	Direct assignment
1561	Operations Engineering South	1500	DA	Direct assignment
1562	Operations Engineering North	1500	DA	Direct assignment
1563	Operations Coordination	1500	DA	Direct assignment
1564	Operations Scheduling	1500	DA	Direct assignment
1565	Pre-Scheduling and Support	1500	DA	Direct assignment
1566	Regional Coordination - General	1500	DA	Direct assignment
1611	VP General Counsel - General	1600	SCC	Allocated using supervised cost centers in 1600
1631	Legal and Regulatory	1600	OH	Allocated using overhead ratios
1641	Market Analysis	1600	DA	Direct assignment
1642	Market Surveillance Committee	1600	DA	Direct assignment
1651	Board of Governors	1600	OH	Allocated using overhead ratios
1661	Compliance - General	1600	DA	Direct assignment
1662	Compliance - Audits	1600	DA	Direct assignment
1711	VP Market Services - General	1700	SCC	Allocated using supervised cost centers in 1700
1721	Billing and Settlements-General	1700	DA	Direct assignment
1722	Business Development Support	1700	DA	Direct assignment
1723	RMR Settlements	1700	DA	Direct assignment
1724	BBS - PSS	1700	DA	Direct assignment
1725	BBS - FSS	1700	DA	Direct assignment
1731	Contracts and Special Projects	1700	DA	Direct assignment
1741	Client Relations	1700	DA	Direct assignment
1751	Market Operations - General	1700	DA	Direct assignment
1752	Manager of Markets	1700	DA	Direct assignment
1753	Market Engineering	1700	DA	Direct assignment
1755	Business Solutions	1700	DA	Direct assignment
1756	Market Quality - General	1700	DA	Direct assignment
1757	Market Integration	1700	DA	Direct assignment
1811	VP Corporate and Strategic Development	1800	SCC	Allocated using supervised cost centers in 1800
1821	Communications	1800	OH	Allocated using overhead ratios
1831	Strategic Development	1800	OH	Allocated using overhead ratios
1841	Human Resources	1800	FTE	Allocated using FTE ratios
1851	Project Office	1800	OH	Allocated using overhead ratios
1861	Regulatory Policy	1800	OH	Allocated using overhead ratios
2111	Other	2100	PS	Proportional to salaries

California Independent System Operator
Method of Assignment/Allocation
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Sheet	Method	
	Total			
	Percent			

	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

California Independent System Operator
2004 GMC Cost Allocation

Summary of O&M Revenue Requirement
Draft and Preliminary, Subject to both review and approval

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Operations and Maintenance								
1100	CEO	$ 1,964,941	$ 1,087,130	$ 203,910	$ 175,026	$ 442,302	$ 630,570	$ 4,503,879
1300	Finance	$ 6,716,770	$ 3,321,789	$ 578,971	$ 711,041	$ 1,622,474	$ 2,433,055	$ 15,384,100
1400	Information Services	$ 23,974,230	$ 5,735,027	$ 3,828,561	$ 1,936,991	$ 4,354,493	$ 17,085,294	$ 56,914,596
1500	Grid Operations	$ 18,280,348	$ 9,181,072	$ -	$ -	$ -	$ -	$ 27,461,420
1600	Legal and Regulatory	$ 6,441,984	$ 3,952,576	$ 670,405	$ 1,301,698	$ 3,066,313	$ 2,649,975	$ 18,082,951
1700	Market Services	$ 2,940,324	$ 443,281	$ 1,681,274	$ 1,669,119	$ 3,671,117	$ 7,456,457	$ 17,861,572
1800	Corporate and Strategic Development	$ 3,832,965	$ 1,846,024	$ 145,386	$ 170,204	$ 617,770	$ 1,520,779	$ 8,133,128
2100	Other	$ 1,675,923	$ 681,388	$ 132,462	$ 142,769	$ 245,006	$ 515,864	$ 3,393,412
Total Operations and Maintenance		**$ 65,827,486**	**$ 26,248,286**	**$ 7,240,970**	**$ 6,106,847**	**$ 14,019,475**	**$ 32,291,993**	**$ 151,735,058**

California Independent System Operator
2004 GMC Cost Allocation
Allocation of 2003 O&M using 2003 Budget Functionalization
Draft and Preliminary
Subject to both review and approval

This spreadsheet takes the 2003 budget and allocations for directly assigned cost centers and calculates the overall allocation to the three functions for 2003, Control Area Services, Congestion Management and ASREO. The rest is used in the calculation of the reserve applicable to CONG for 2004. This analysis is used to provide support for the allocation of excess Financial and Capital Operating Reserve funds related to Congestion Management. The results are used in the revenue requirements spreadsheet.

Sheet Index:	Description
Budget data	Budget values pulled from 2004 Budget
Labor %	Labor allocators for direct assignments pulled from 2003 Cost Allocation Matrix
Total Directs$	The product of budget dollars and labor allocators providing functionalized costs. Result is carried over to Revenue3.xls spreadsheet to be used in calculating percentage of reserve to be applied to 2004 CONG revenue

2004 Budget Data
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Amount (total)
1111	CEO - General	$877,537
1241	MD02	$1,232,611
1311	CFO - General	$319,728
1321	Accounting	$2,891,592
1331	Financial Planning and Treasury	$3,438,051
1351	Facilities	$6,105,942
1361	Security & Corporate Services	$2,628,787
1411	Chief Information Officer	($311,780)
1422	Corporate & Enterprise Applications	$261,872
1424	Asset Management	$20,414,618
1431	End User Support	$6,639,682
1432	Computer Operations and Infrastructure	$942,638
1433	Network Services	$1,555,448
1441	Outsourced Contracts	$10,662,100
1442	Production Support	$2,538,085
1451	Infrastructure Services	$1,647,970
1461	Control Systems	$2,291,444
1462	Field Data Acquisition System (FDAS)	$2,460,663
1463	Operations Systems Services	$333,896
1466	Enterprise Applications	$1,550,354
1467	Settlement Systems Services	$1,123,694
1468	Corporate Application Support and Administration	$584,523
1469	Analytical and Reporting Applications	$1,244,713
1471	IT Planning	$920,751
1481	Markets and Scheduling System	$1,461,712
1482	Market Systems Support Services	$592,213

2004 Budget Data
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Amount (total)
1511	VP Grid Operations	($137,696)
1521	Grid Planning	$2,393,731
1542	Outage Coordination	$1,835,110
1543	Loads and Resources	$1,144,050
1544	Real-Time Scheduling	$2,671,336
1545	Grid Operations	$7,241,970
1546	Security Coordination	$1,312,533
1547	Engineering and Maintenance	$562,442
1548	OSAT Group - General	$283,212
1549	Operations Training	$2,791,756
1554	Special Projects Engineering	$825,342
1555	Operations Support Group	$1,065,814
1558	Transmission Maintenance	$1,565,867
1559	Operations Application Support	$559,892
1561	Operations Engineering South	$1,194,570
1562	Operations Engineering North	$1,299,176
1563	Operations Coordination	$677,635
1564	Operations Scheduling	$284,207
1565	Pre-Scheduling and Support	$1,756,127
1566	Regional Coordination - General	$528,077
1611	VP General Counsel - General	$275,638
1631	Legal and Regulatory	$12,070,202
1641	Market Analysis	$2,860,248
1642	Market Surveillance Committee	$561,750
1651	Board of Governors	$231,400
1661	Compliance - General	$1,667,162

2004 Budget Data
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Amount (total)
1662	Compliance - Audits	$416,551
1711	VP Market Services - General	($66,938)
1721	Billing and Settlements-General	$432,329
1722	Business Development Support	$674,329
1723	RMR Settlements	$958,715
1724	BBS - PSS	$1,232,710
1725	BBS - FSS	$1,239,550
1731	Contracts and Special Projects	$1,471,832
1741	Client Relations	$2,276,105
1751	Market Operations - General	$963,496
1752	Manager of Markets	$2,674,160
1753	Market Engineering	$1,896,260
1755	Business Solutions	$1,134,296
1756	Market Quality - General	$2,013,923
1757	Market Integration	$960,805
1811	VP Corporate and Strategic Development - General	$456,066
1821	Communications	$825,635
1831	Strategic Development	$713,306
1841	Human Resources	$4,543,963
1851	Project Office	$669,517
1861	Regulatory Policy	$924,641
2111	Other	$3,393,412
		$ 151,735,058

California Independent System Operator
2004 GMC Cost Allocation

Percentage Share of Direct Personnel by Functions

From 2003 Cost Allocation Matrix
Draft and Preliminary
Subject to both review and approval

CC #	Cost Center	Control Area Services	Congestion Management
1111	CEO - General	63%	11%
1241	MD02	32%	33%
1311	CFO - General	61%	11%
1321	Accounting	47%	8%
1331	Financial Planning and Treasury	60%	10%
1351	Facilities	64%	11%
1361	Office Administration	64%	11%
1411	Chief Information Officer- General	62%	9%
1422	Corporate & Enterprise Applications - General	62%	10%
1424	Asset Management	67%	7%
1431	End User Support	63%	10%
1432	Computer Operations - General	61%	10%
1433	Network Operations	63%	10%
1441	Outsourced Contracts	60%	11%
1442	Production Support	56%	9%
1451	Information Security	63%	10%
1461	Control Systems	100%	0%
1462	Field Data Acquisition System (FDAS)	30%	8%
1463	Operations Applications - General	74%	2%
1466	Enterprise Applications	62%	9%
1467	Settlement Systems Services	15%	7%
1468	Corporate Application Support	61%	10%
1469	Analytical and Reporting	63%	10%
1471	IT Planning	63%	10%
1481	Markets and Scheduling	56%	9%
1482	Market Systems Support Services	56%	9%
1511	VP Grid Operations - General	66%	18%
1521	Grid Planning	100%	0%
1542	Outage Coordination	100%	0%
1543	Loads and Resources	100%	0%
1544	Real-Time Scheduling	75%	15%
1545	Grid Operations - General	80%	10%
1546	Security Coordination	100%	0%
1547	Engineering and Maintenance - General	99%	0%

1548	OSAT Group - General	77%	6%
1549	Operations Training	62%	24%
1554	Special Projects Engineering	84%	0%
1555	Operations Support Group	61%	21%
1558	Transmission Maintenance	98%	0%
1559	Operations Application Support	79%	10%
1561	Operations Engineering South	100%	0%
1562	Operations Engineering North	100%	0%
1563	Coordinated Operations	60%	10%
1564	Operations Scheduling - General	82%	11%
1565	Pre-Scheduling and Support	74%	15%
1566	Regional Coordination - General	83%	0%
1611	VP General Counsel - General	57%	11%
1631	Legal and Regulatory	62%	10%
1641	Market Analysis	23%	19%
1642	Market Surveillance Committee	9%	25%
1651	Board of Governors	63%	11%
1661	Compliance - General	82%	5%
1662	Compliance - Audits	84%	5%
1711	VP Market Services - General	37%	18%
1721	Billing and Settlements-General	34%	6%
1722	Application Support	19%	7%
1723	Tariff and Contract Implementation	90%	0%
1724	BBS - PSS	17%	8%
1725	BBS - FSS	16%	7%
1731	Contracts and Special Projects	77%	2%
1741	Client Relations	38%	9%
1751	Market Operations - General	20%	30%
1752	Manager of Markets	29%	30%
1753	Market Engineering	32%	28%
1755	Business Solutions	25%	10%
1756	Market Quality - General	37%	33%
1757	Market Integration	25%	30%
1811	VP Corporate and Strategic Development - Gener	63%	11%
1821	Communications	64%	11%
1831	Strategic Development	64%	11%
1841	Human Resources	63%	11%
1851	Project Office	63%	10%
1861	Regulatory Policy	63%	10%
2111	Salary Adjustments	62%	10%

ASREO

26%
35%
28%
45%
30%
25%
25%
29%
28%
26%
27%
29%
27%
29%
35%
27%
0%
62%
24%
29%
78%
29%
27%
27%
35%
35%
15%
0%
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10%
10%
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1%

17%
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8%
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17%
32%
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58%
66%
26%
13%
12%
45%
60%
74%
10%
75%
77%
21%
53%
50%
41%
40%
64%
30%
45%
26%
25%
25%
26%
27%
27%
27%

California Independent System Operator
2004 GMC Cost Allocation

Dollars of Direct Expenditures by Functions
Draft and Preliminary
Subject to both review and approval

CC#	Cost Center	Budget	Control Area Services
1111	CEO - General	$ 877,537	$ 551,379
1241	MD02	$ 1,232,611	$ 394,436
1311	CFO - General	$ 319,728	$ 194,796
1321	Accounting	$ 2,891,592	$ 1,369,806
1331	Financial Planning and Treasury	$ 3,438,051	$ 2,055,450
1351	Facilities	$ 6,105,942	$ 3,884,987
1361	Office Administration	$ 2,628,787	$ 1,672,601
1411	Chief Information Officer- General	$ (311,780)	$ (194,124)
1422	Corporate & Enterprise Applications - General	$ 261,872	$ 161,593
1424	Asset Management	$ 20,414,618	$ 13,733,908
1431	End User Support	$ 6,639,682	$ 4,187,433
1432	Computer Operations - General	$ 942,638	$ 572,623
1433	Network Operations	$ 1,555,448	$ 980,971
1441	Outsourced Contracts	$ 10,662,100	$ 6,405,086
1442	Production Support	$ 2,538,085	$ 1,426,145
1451	Information Security	$ 1,647,970	$ 1,039,321
1461	Control Systems	$ 2,291,444	$ 2,291,444
1462	Field Data Acquisition System (FDAS)	$ 2,460,663	$ 734,845
1463	Operations Applications - General	$ 333,896	$ 248,194
1466	Enterprise Applications	$ 1,550,354	$ 957,500
1467	Settlement Systems Services	$ 1,123,694	$ 168,554
1468	Corporate Application Support	$ 584,523	$ 354,211
1469	Analytical and Reporting	$ 1,244,713	$ 785,000
1471	IT Planning	$ 920,751	$ 580,688
1481	Markets and Scheduling	$ 1,461,712	$ 820,945
1482	Market Systems Support Services	$ 592,213	$ 332,606
1511	VP Grid Operations - General	$ (137,696)	$ (91,430)
1521	Grid Planning	$ 2,393,731	$ 2,393,731
1542	Outage Coordination	$ 1,835,110	$ 1,835,110
1543	Loads and Resources	$ 1,144,050	$ 1,144,050
1544	Real-Time Scheduling	$ 2,671,336	$ 2,003,502
1545	Grid Operations - General	$ 7,241,970	$ 5,761,432
1546	Security Coordination	$ 1,312,533	$ 1,312,533
1547	Engineering and Maintenance - General	$ 562,442	$ 559,076

1548	OSAT Group - General	$ 283,212	$ 216,741
1549	Operations Training	$ 2,791,756	$ 1,722,348
1554	Special Projects Engineering	$ 825,342	$ 695,137
1555	Operations Support Group	$ 1,065,814	$ 645,500
1558	Transmission Maintenance	$ 1,565,867	$ 1,538,463
1559	Operations Application Support	$ 559,892	$ 441,626
1561	Operations Engineering South	$ 1,194,570	$ 1,194,570
1562	Operations Engineering North	$ 1,299,176	$ 1,299,176
1563	Coordinated Operations	$ 677,635	$ 406,581
1564	Operations Scheduling - General	$ 284,207	$ 232,823
1565	Pre-Scheduling and Support	$ 1,756,127	$ 1,297,435
1566	Regional Coordination - General	$ 528,077	$ 439,248
1611	VP General Counsel - General	$ 275,638	$ 157,872
1631	Legal and Regulatory	$ 12,070,202	$ 7,450,340
1641	Market Analysis	$ 2,860,248	$ 645,149
1642	Market Surveillance Committee	$ 561,750	$ 51,791
1651	Board of Governors	$ 231,400	$ 145,395
1661	Compliance - General	$ 1,667,162	$ 1,363,994
1662	Compliance - Audits	$ 416,551	$ 348,660
1711	VP Market Services - General	$ (66,938)	$ (24,673)
1721	Billing and Settlements-General	$ 432,329	$ 146,232
1722	Application Support	$ 674,329	$ 127,869
1723	Tariff and Contract Implementation	$ 958,715	$ 862,843
1724	BBS - PSS	$ 1,232,710	$ 207,421
1725	BBS - FSS	$ 1,239,550	$ 193,913
1731	Contracts and Special Projects	$ 1,471,832	$ 1,127,015
1741	Client Relations	$ 2,276,105	$ 860,522
1751	Market Operations - General	$ 963,496	$ 192,699
1752	Manager of Markets	$ 2,674,160	$ 769,406
1753	Market Engineering	$ 1,896,260	$ 601,178
1755	Business Solutions	$ 1,134,296	$ 285,876
1756	Market Quality - General	$ 2,013,923	$ 747,249
1757	Market Integration	$ 960,805	$ 241,505
1811	VP Corporate and Strategic Development - Gener	$ 456,066	$ 288,110
1821	Communications	$ 825,635	$ 525,321
1831	Strategic Development	$ 713,306	$ 453,850
1841	Human Resources	$ 4,543,963	$ 2,855,089
1851	Project Office	$ 669,517	$ 420,686
1861	Regulatory Policy	$ 924,641	$ 580,991
	O&M before Salary Adjustments	**$ 148,341,646**	**$ 92,384,353**
			62%
2111	Salary Adjustments	$ 3,393,412	$ 2,113,352

	Total	$ 151,735,058	$ 94,497,706
			62%

Congestion Management	ASREO
$ 97,276	$ 228,882
$ 406,762	$ 431,414
$ 34,092	$ 90,840
$ 225,267	$ 1,296,519
$ 354,352	$ 1,028,249
$ 665,958	$ 1,554,998
$ 286,714	$ 669,472
$ (26,917)	$ (90,739)
$ 26,094	$ 74,185
$ 1,402,716	$ 5,277,994
$ 690,426	$ 1,761,824
$ 94,414	$ 275,601
$ 161,743	$ 412,734
$ 1,140,364	$ 3,116,651
$ 235,143	$ 876,797
$ 171,364	$ 437,285
$ -	$ -
$ 201,501	$ 1,524,317
$ 5,244	$ 80,458
$ 145,092	$ 447,762
$ 78,659	$ 876,481
$ 58,402	$ 171,909
$ 129,431	$ 330,282
$ 95,744	$ 244,319
$ 135,358	$ 505,410
$ 54,840	$ 204,767
$ (25,181)	$ (21,085)
$ -	$ -
$ -	$ -
$ -	$ -
$ 400,700	$ 267,134
$ 741,522	$ 739,017
$ -	$ -
$ -	$ 3,366

$	18,331	$	48,140
$	672,233	$	397,174
$	(1,071)	$	131,277
$	228,809	$	191,505
$	-	$	27,404
$	58,772	$	59,494
$	-	$	-
$	-	$	-
$	67,763	$	203,290
$	30,018	$	21,366
$	257,006	$	201,686
$	-	$	88,829
$	30,693	$	87,073
$	1,214,488	$	3,405,375
$	552,101	$	1,662,998
$	140,438	$	369,521
$	25,651	$	60,355
$	91,681	$	211,487
$	19,933	$	47,958
$	(12,001)	$	(30,264)
$	24,669	$	261,427
$	47,176	$	499,284
$	-	$	95,871
$	95,011	$	930,278
$	91,653	$	953,984
$	35,708	$	309,109
$	215,832	$	1,199,751
$	289,049	$	481,748
$	802,248	$	1,102,506
$	532,226	$	762,857
$	118,724	$	729,697
$	666,549	$	600,125
$	288,242	$	431,059
$	48,224	$	119,732
$	90,050	$	210,264
$	77,798	$	181,657
$	503,703	$	1,185,172
$	69,131	$	179,700
$	95,474	$	248,176
$	**15,473,386**	**$**	**40,483,906**
	10%		27%
$	353,964	$	926,096

$ 15,827,350	**$ 41,410,002**
10%	27%

California Independent System Operator
2004 GMC Cost Allocation

Revenue Requirement and Rate Calculations
Draft and Preliminary
Subject to both review and approval

This spreadsheet takes the O&M requirement requirement and functionalizes the debt service requirement, capital project funding, expense recovery budget and the excess Financial and Capital Operating Reserve. It sums these, applies the "functional association of charge types" to Settlements, Metering and Client Relations costs and calculates rates.

Sheet Index:	Description
Rates	Summarizes revenue requirement calculation, applies functional association of charge types and billing determinants to calculate rates
Revenue Requirement	Shows the 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
O&M	Table showing O&M expenditures by division
Financing Budget	Functionalization of the debt service costs
Capital Project Funding	Functionalization of expenditures on new capital projects
Expense Recovery Budget	Functionalization of miscellaneous credits and interest
F&C Op Reserve	Functionalization of excess Financial and Capital Operating Reserve

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Summary - Rates

	Core Reliability	Energy & Transmission (Load)	Energy & Transmission (Deviations)	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Revenue Requirement	$ 87,942,011	$ 24,864,713	$ 6,216,178	$ 14,875,992	$ 9,788,682	$ 22,460,756	$ 52,014,790	$ 218,163,122
Functional Association of SMCR	$ -	$ 28,385,954	$ 7,096,488	$ -	$ 4,782,552	$ 10,978,797	$ 771,000	$ 52,014,790
Percent of SMCR	0%	55%	14%	0%	9%	21%		
Adjusted Revenue Requirement	$ 87,942,011	$ 53,250,666	$ 13,312,667	$ 14,875,992	$ 14,571,233	$ 33,439,552	$ 771,000	$ 218,163,122
	40%	24%	6%	7%	7%	15%	0%	100%
Billing Determinants	534,678	239,703,024	18,046,625	12,904,622	92,306,042	42,376,439	1,542	
Units	MW-months	MWh	MWh	Schedules	MWh	MWh	customer-months	
Rate	$ 164.48	$ 0.22	$ 0.74	$ 1.15	$ 0.16	$ 0.79	$ 500.00	

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Summary
Revenue Requirement

	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Revenue Requirement							
Operations and Maintenance	$ 65,827,486	$ 26,248,286	$ 7,240,970	$ 6,106,847	$ 14,019,475	$ 32,291,993	$ 151,735,058
Financing Budget	$ 19,646,633	$ 4,673,432	$ 6,262,603	$ 2,151,541	$ 4,655,022	$ 17,225,845	$ 54,615,075
Capital Project Funding	$ 6,127,130	$ 506,176	$ 3,669,281	$ 2,746,477	$ 7,254,212	$ 11,696,724	$ 32,000,000
Revenue Requirement before application of other credits	$ 91,601,249	$ 31,427,894	$ 17,172,854	$ 11,004,864	$ 25,928,709	$ 61,214,563	$ 238,350,133
Percent of Total	38%	13%	7%	5%	11%	26%	100%
Other Credits							
Expense Recovery Budget	$ (1,563,259)	$ (86,023)	$ (47,005)	$ (30,122)	$ (70,971)	$ (287,553)	$ (2,084,933)
Financial and Capital Operating Reserve (Credit)	$ (2,095,978)	$ (260,980)	$ (2,249,857)	$ (1,186,061)	$ (3,396,983)	$ (8,912,219)	$ (18,102,078)
Total Other Credits	$ (3,659,238)	$ (347,003)	$ (2,296,862)	$ (1,216,183)	$ (3,467,953)	$ (9,199,773)	$ (20,187,011)
Total Revenue Requirement	$ 87,942,011	$ 31,080,891	$ 14,875,992	$ 9,788,682	$ 22,460,756	$ 52,014,790	$ 218,163,122
Percent of Total	40%	14%	7%	4%	10%	24%	100%

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Summary
Operations and Maintenance

		Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Operations and Maintenance								
1100	CEO	$ 1,964,941	$ 1,087,130	$ 203,910	$ 175,026	$ 442,302	$ 630,570	$ 4,503,879
1300	Finance	$ 6,716,770	$ 3,321,789	$ 578,971	$ 711,041	$ 1,622,474	$ 2,433,055	$ 15,384,100
1400	Information Services	$ 23,974,230	$ 5,735,027	$ 3,828,561	$ 1,936,991	$ 4,354,493	$ 17,085,294	$ 56,914,596
1500	Grid Operations	$ 18,280,348	$ 9,181,072	$ -	$ -	$ -	$ -	$ 27,461,420
1600	Legal and Regulatory	$ 6,441,984	$ 3,952,576	$ 670,405	$ 1,301,698	$ 3,066,313	$ 2,649,975	$ 18,082,951
1700	Market Services	$ 2,940,324	$ 443,281	$ 1,681,274	$ 1,669,119	$ 3,671,117	$ 7,456,457	$ 17,861,572
1800	Corporate and Strategic Development	$ 3,832,965	$ 1,846,024	$ 145,386	$ 170,204	$ 617,770	$ 1,520,779	$ 8,133,128
2100	Other	$ 1,675,923	$ 681,388	$ 132,462	$ 142,769	$ 245,006	$ 515,864	$ 3,393,412
Total Operations and Maintenance		$ 65,827,486	$ 26,248,286	$ 7,240,970	$ 6,106,847	$ 14,019,475	$ 32,291,993	$ 151,735,058
Percent		43%	17%	5%	4%	9%	21%	100%

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Summary
Financing Budget

	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Financing Budget							
Bond Financed Capital Functionalization	$ 121,408,579	$ 28,879,998	$ 38,700,458	$ 13,295,687	$ 28,766,230	$ 106,449,048	$ 337,500,000
Percent of total	36%	9%	11%	4%	9%	32%	100%
Debt Service Requirements	$ 19,646,633	$ 4,673,432	$ 6,262,603	$ 2,151,541	$ 4,655,022	$ 17,225,845	$ 54,615,075
Total Financing Budget	$ 19,646,633	$ 4,673,432	$ 6,262,603	$ 2,151,541	$ 4,655,022	$ 17,225,845	$ 54,615,075

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Summary
Capital Project Funding

	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Capital Project Funding							
Operating Systems	$ 2,413,770	$ 156,178	$ 269,560	$ 266,595	$ 525,701	$ 1,058,196	$ 4,690,000
Facilities/Furniture/Office Furniture	$ 74,278	$ 35,189	$ 638	$ 523	$ 8,342	$ 31,030	$ 150,000
Corporate Systems	$ 2,109,081	$ 314,808	$ 349,083	$ 79,359	$ 477,670	$ 1,829,998	$ 5,160,000
MD02	$ 1,530,000	$ -	$ 3,050,000	$ 2,400,000	$ 6,242,500	$ 8,777,500	$ 22,000,000
Total Capital Project Funding	$ 6,127,130	$ 506,176	$ 3,669,281	$ 2,746,477	$ 7,254,212	$ 11,696,724	$ 32,000,000

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Summary
Expense Recovery Budget

	Budget	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Expense Recovery Budget								
SC Application and Training Fees	$ (120,000)	$ -	$ -	$ -	$ -	$ -	$ (120,000)	$ (120,000)
WECC Reimbursement/NERC Reimbursement	$ (1,312,533)	$ (1,312,533)	$ -	$ -	$ -	$ -	$ -	$ (1,312,533)
Interest Earnings ($652,400)	$ (652,400)	$ (250,726)	$ (86,023)	$ (47,005)	$ (30,122)	$ (70,971)	$ (167,553)	$ (652,400)
Total Expense Recovery Budget	$ (2,084,933)	$ (1,563,259)	$ (86,023)	$ (47,005)	$ (30,122)	$ (70,971)	$ (287,553)	$ (2,084,933)
Percent		75%	4%	2%	1%	3%	14%	100%

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Summary
Financial and Capital Operating Reserve

	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
Financial and Capital Operating Reserve							
Reallocation factors from old rate structure to new							
Control Area Services	60%	0%	0%	0%	0%	40%	100%
Congestion Management	25%	8%	5%	39%	7%	17%	100%
ASREO	0%	0%	16%	0%	25%	59%	100%
Reallocated Costs to new rate structure							
Control Area Services	$ 1,335,311	$ -	$ -	$ -	$ -	$ 892,351	$ 2,227,663
Congestion Management	$ 760,666	$ 260,980	$ 142,605	$ 1,186,060	$ 215,315	$ 508,332	$ 3,073,958
ASREO	$ -	$ -	$ 2,107,252	$ -	$ 3,181,668	$ 7,511,535	$ 12,800,454
Total Financial and Capital Operating Reserve	$ 2,095,978	$ 260,980	$ 2,249,857	$ 1,186,061	$ 3,396,983	$ 8,912,219	$ 18,102,078
Percent	12%	1%	12%	7%	19%	49%	100%

	Control Area Services	Congestion Management	ASREO	Total
Financial and Capital Operating Reserves	$ 2,227,663	$ 3,073,958	$ 12,800,454	$ 18,102,075
O&M revenue req. allocation using old rate structur	62%	10%	27%	
O&M revenue req. allocation using new rate structu	61%	4%	35%	
		39%		

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2004 GMC Cost Allocation

Information Services Assignment, Allocation, Functionalization
Draft and Preliminary
Subject to both review and approval
This spreadsheet shows how the Information Services cost centers are functionalized.

Sheet Index:	Description
System Direct%	Summary listing each IS cost center and its associated
1424 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1431 System Direct$	Not used, 1431 allocated proportional to FTE
1433 System Direct$	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.
1441 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1442 System Direct$	Not used, 1442 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
1451 System Direct$	Not used, 1451 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
1461 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1462 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1466 System Direct$	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
1467 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1468 System Direct$	Not used, 1467 allocated proportional to FTE
1469 System Direct$	Not used, 1469 allocated as DataWarehouse.
1471 System Direct$	Not used, 1471 allocated proportional to System Direct % calculated in Systems 9-28.xls spreadsheet
1481 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
1482 System Direct$	Detailed listing of dollar allocations to system and to functions for this cost center
System%	System functionalization taken from Systems 9-28.xls spreadsheet
System $	Detailed listing of dollar allocations to systems by cost center
Allocation%	Percentage allocations to system by cost center

Allocations	System allocations by cost center, either direct assignment of staff or by system (e.g., 1466)
1424	Summary of allocation to systems for 1424
1431	Not used
1433	Allocation of WAN to systems (50 percent of total weighting for 1433)
1441	Summary of allocation to systems for 1441
1442	Not used
1451	Not used
1461	Assignment of staff to systems for 1461
1462	Assignment of staff to systems for 1462
1466	Assignment of system costs for 1466 using costs of Chase, online Settlements dispute system and New Resource Interconnection
1467	Assignment of staff to systems for 1467
1468	Not used
1469	Not used
1471	Not used
1481	Assignment of staff to systems for 1481
1482	Assignment of staff to systems for 1482

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Percentage Share of Direct System by Subfunctions
Draft and Preliminary, Subject to both review and approval

CC	Organization	Method	Core Reliability	Energy & Transmission	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering and Client Relations	Total
1424	Asset Management	DS	36%	7%	10%	4%	9%	33%	100.0%
1431	End User Support	FTE	41%	16%	6%	1%	6%	29%	100.0%
1433	Network Services	DS	46%	13%	8%	1%	7%	26%	100.0%
1441	Outsourced Contracts	DS	45%	12%	8%	1%	7%	27%	100.0%
1442	Production Support Services	SD	25%	0%	18%	3%	8%	47%	100.0%
1451	Infrastructure Services	SD	25%	0%	18%	3%	8%	47%	100.0%
1461	Control Systems	DS	96%	2%	0%	0%	1%	1%	100.0%
1462	Field Data Acquisition System (FDAS)	DS	21%	0%	0%	0%	0%	79%	100.0%
1466	Enterprise Applications	CD	38%	9%	0%	0%	2%	50%	100.0%
1467	Settlement Systems Services	DS	30%	12%	0%	0%	3%	54%	100.0%
1468	Corporate Application Support and Administration	FTE	50%	23%	0%	0%	6%	21%	100.0%
1469	Analytical and Reporting Applications	DD	10%	0%	0%	65%	25%	0%	100.0%
1471	IT Planning	SD	25%	0%	18%	3%	8%	47%	100.0%
1481	Markets and Scheduling System	DS	59%	5%	10%	2%	18%	6%	100.0%
1482	Market Systems Support Services	DS	59%	5%	10%	2%	18%	6%	100.0%

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1424 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total	
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ 70,159	$ 500	$ 51,729	$ 7,549	$ 21,635	$ 134,145	$ 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	$ -
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ 137,926	$ 982	$ 101,694	$ 14,841	$ 42,533	$ 263,717	$ 561,693	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 1,885,180	$ 1,885,180	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ 83,191	$ -	$ -	$ -	$ 14,681	$ -	$ 97,872	$ -
CaseWise (process modeling tool)	$ 15,261	$ 7,230	$ 131	$ 108	$ 1,714	$ 6,375	$ 30,818	$ -
CHASE	$ 360,687	$ 170,877	$ 3,097	$ 2,541	$ 40,507	$ 150,678	$ 728,388	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ 12,893	$ 10,952	$ 6,379	$ -	$ 22,166	$ 15,002	$ 67,392	$ -
Congestion Management (CONG) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ 274,473	$ 207,912	$ 72,040	$ 99,292	$ 276,013	$ 203,724	$ 1,133,453	$ -
Dept. of Market Analysis Tools (SAS/MARS)	$ 32,955	$ 57,517	$ -	$ 43,522	$ 68,103	$ 15,210	$ 217,306	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 147,075	$ 69,677	$ 1,263	$ 1,036	$ 16,517	$ 61,441	$ 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	$ -

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1424 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

	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)	$ -	$ -	$ 88,434	$ 353,736	$ 88,434	$ 58,956	$ 589,561	$ -
Global Resource Reliability Management Application (GRRMA)	$ 7,087	$ 1,417	$ -	$ -	$ 945	$ -	$ 9,450	$ -
Grid Operations Training Simulator (GOTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Human Resources	$ 68,267	$ 32,342	$ 586	$ 481	$ 7,667	$ 28,519	$ 137,860	$ -
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)	$ 1,978	$ -	$ 6,925	$ -	$ 10,882	$ -	$ 19,785	$ -
Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ 233,287	$ 233,287	$ -
Miscellaneous	$ 920,278	$ 6,554	$ 678,529	$ 99,023	$ 283,791	$ 1,759,588	$ 3,747,762	$ -
Monitoring (Tivoli)	$ 29,936	$ 213	$ 22,072	$ 3,221	$ 9,231	$ 57,238	$ 121,911	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ 128,191	$ 60,731	$ 1,101	$ 903	$ 14,396	$ 53,552	$ 258,874	$ -
NT-servers	$ 55,403	$ 26,248	$ 476	$ 390	$ 6,222	$ 23,145	$ 111,884	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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1424 System Assignments by Function
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	CRS	ETS	FS	CONG	MU	SMCR	Total	
Office Automation - desktop/laptop (OA)	$ 1,315,645	$ 623,293	$ 11,297	$ 9,268	$ 147,754	$ 549,615	$ 2,656,872	$ -
Office equipment (scanner, printer, copier, fax)	$ 143,441	$ 67,956	$ 1,232	$ 1,010	$ 16,109	$ 59,923	$ 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	$ 19,237	$ 9,114	$ 165	$ 136	$ 2,160	$ 8,036	$ 38,849	$ -
Oracle Licenses	$ 214,280	$ 1,438	$ 121,378	$ 42,089	$ 72,961	$ 322,523	$ 774,669	$ -
Oracle Market Financials BBS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Out of Sequence Market Operation Settlements Information System (OOS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Outage Scheduler (OS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ 1,941	$ 920	$ 17	$ 14	$ 218	$ 811	$ 3,920	$ -
Process Information System (PI)	$ 107,804	$ -	$ -	$ -	$ 13,476	$ 13,476	$ 134,755	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ 79,677	$ -	$ -	$ -	$ -	$ -	$ 79,677	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ 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	$ -
Scheduling Infrastructure (SI)	$ 60,611	$ -	$ 454,582	$ -	$ 60,611	$ 30,305	$ 606,110	$ -
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ 162,773	$ -	$ -	$ -	$ 244,160	$ -	$ 406,933	$ -
Security- External/Physical	$ 15,625	$ 7,403	$ 134	$ 110	$ 1,755	$ 6,528	$ 31,555	$ -

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1424 System Assignments by Function
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	CRS	ETS	FS	CONG	MU	SMCR	Total	
Security-ISS (CUDA)	$ 134,348	$ 957	$ 99,056	$ 14,456	$ 41,430	$ 256,876	$ 547,123	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ 2,292	$ 1,086	$ 20	$ 16	$ 257	$ 957	$ 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	$ 2,606	$ 19	$ 1,921	$ 280	$ 804	$ 4,983	$ 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 ie Print drivers	$ 6,447	$ 46	$ 4,753	$ 694	$ 1,988	$ 12,326	$ 26,254	$ -
Vitria (Middleware)	$ 13,753	$ 98	$ 10,140	$ 1,480	$ 4,241	$ 26,296	$ 56,008	$ -
Wide Area Network (WAN)	$ 75,780	$ 5,462	$ 13,956	$ 2,157	$ 14,830	$ 66,442	$ 178,626	$ -
Total	$ 7,449,297	$ 1,387,834	$ 2,056,299	$ 831,229	$ 1,933,209	$ 6,756,749	$ 20,414,618	$20,414,618
Percent	36%	7%	10%	4%	9%	33%	100%	

California Independent System Operator

1431 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CaseWise (process modeling tool)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Revenue Rights (CRR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1431 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Miscellaneous	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1431 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1431 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Uses ISO wide FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1432 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

WAN portion only	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ 1,860	$ -	$ 930	$ -	$ 744	$ 186	$ 3,719
Automated Load Forecast System (ALFS)	$ 8,678	$ -	$ 1,240	$ -	$ 2,479	$ -	$ 12,397
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 115,290	$ 115,290
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ 5,058	$ -	$ -	$ -	$ 893	$ -	$ 5,950
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ 4,803	$ 3,638	$ 1,261	$ 1,738	$ 4,830	$ 3,565	$ 19,835
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 19,030	$ 9,016	$ 163	$ 134	$ 2,137	$ 7,950	$ 38,430
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ 505,460	$ -	$ -	$ -	$ -	$ -	$ 505,460

California Independent System Operator

1432 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

WAN portion only	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	$ 3,570	$ 2,380	$ -	$ -	$ -	$ -	$ 5,950
Evaluation of Market Separation	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Existing Transmission Contracts Calculator (ETCC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FERC Study Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ -	$ -	$ 930	$ 3,719	$ 930	$ 620	$ 6,198
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ 288,974	$ 288,974
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1432 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

WAN portion only	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 49,110	$ 23,266	$ 422	$ 346	$ 5,515	$ 20,516	$ 99,174
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ 8,306	$ -	$ 20,765	$ 8,306	$ 29,070	$ 16,612	$ 83,058
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ 3,223	$ -	$ 744	$ 248	$ 744	$ -	$ 4,959
Scheduling Architecture (SA)	$ 178	$ -	$ 148	$ 192	$ 226	$ -	$ 744
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1432 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

WAN portion only	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ 27,134	$ -	$ 203,507	$ -	$ 27,134	$ 13,567	$ 271,343
Security Constrained Economic Dispatch (SCED)	$ 30,744	$ -	$ -	$ -	$ 46,116	$ -	$ 76,860
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ 4,201	$ 30	$ 3,097	$ 452	$ 1,295	$ 8,032	$ 17,108
Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 671,354	$ 38,330	$ 233,205	$ 15,135	$ 122,113	$ 475,311	$ 1,555,448
Percent	43%	2%	15%	1%	8%	31%	100%

California Independent System Operator

1441 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App 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
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 366,612	$ 366,612
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ 16,084	$ -	$ -	$ -	$ 2,838	$ -	$ 18,922
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ 15,274	$ 11,570	$ 4,009	$ 5,525	$ 15,359	$ 11,337	$ 63,073
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 60,514	$ 28,669	$ 520	$ 426	$ 6,796	$ 25,280	$ 122,204
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ 1,607,322	$ -	$ -	$ -	$ -	$ -	$ 1,607,322

California Independent System Operator

1441 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	$ 11,353	$ 7,569	$ -	$ -	$ -	$ -	$ 18,922
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)	$ 410,639	$ 194,542	$ 3,526	$ 2,893	$ 46,117	$ 171,546	$ 829,263
Locational Marginal Pricing (LMPM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Market Transaction System (MTS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ 918,914	$ 918,914
Miscellaneous	$ 155,842	$ 1,110	$ 114,904	$ 16,769	$ 48,058	$ 297,973	$ 634,655
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1441 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 156,165	$ 73,984	$ 1,341	$ 1,100	$ 17,538	$ 65,238	$ 315,366
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1441 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ 86,285	$ -	$ 647,136	$ -	$ 86,285	$ 43,142	$ 862,848
Security Constrained Economic Dispatch (SCED)	$ 97,763	$ -	$ -	$ -	$ 146,645	$ -	$ 244,408
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ 1,916,741	$ 908,065	$ 16,459	$ 13,502	$ 215,260	$ 800,725	$ 3,870,751
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ 13,358	$ 95	$ 9,849	$ 1,437	$ 4,119	$ 25,541	$ 54,401
Wide Area Network (WAN)	$ 161,732	$ 11,657	$ 29,785	$ 4,603	$ 31,651	$ 141,802	$ 381,229
Total	$ 4,779,807	$ 1,237,260	$ 906,247	$ 85,893	$ 729,396	$ 2,923,497	$ 10,662,100
Percent	45%	12%	8%	1%	7%	27%	100%

California Independent System Operator
1442 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CaseWise (process modeling tool)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Revenue Rights (CRR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1442 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Miscellaneous	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1442 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1442 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1451 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CaseWise (process modeling tool)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Revenue Rights (CRR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1451 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Miscellaneous	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1451 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1451 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized with direct systems	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1461 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part 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

California Independent System Operator

1461 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
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)	$ 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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1461 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ 101,842	$ -	$ -	$ -	$ 12,730	$ 12,730	$ 127,302
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1461 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,209,970	$ 56,013	$ -	$ -	$ 12,730	$ 12,730	$ 2,291,444
Percent	96%	2%	0%	0%	1%	1%	100%

California Independent System Operator

1462 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part 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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1462 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
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,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ 1,933,378	$ 1,933,378
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1462 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ 527,285	$ -	$ -	$ -	$ -	$ -	$ 527,285
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1462 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 527,285	$ -	$ -	$ -	$ -	$ 1,933,378	$ 2,460,663
Percent	21%	0%	0%	0%	0%	79%	100%

California Independent System Operator

1466 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized as weighted aveage of Chas	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ 306,323	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 127,967	$ 618,601
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ 649,973	$ 649,973
Documentum	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ 281,780	$ -	$ -	$ -	$ -	$ -	$ 281,780

California Independent System Operator
1466 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized as weighted aveage of Chas	CRS	ETS	FS	CONG	MU	SMCR	Total
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,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1466 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized as weighted aveage of Chas	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1466 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized as weighted aveage of Chas	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 588,103	$ 145,122	$ 2,630	$ 2,158	$ 34,402	$ 777,940	$ 1,550,354
Percent	38%	9%	0%	0%	2%	50%	100%

California Independent System Operator

1467 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Load Forecast System (ALFS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Mitigation Procedure (AMP)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ 488,563	$ 488,563
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bill's Interchange Schedule (BITS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DataWarehouse	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dept. of Market Analysis Tools (SAS/MARS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Documentum	$ 290,315	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 121,280	$ 586,275
Electronic Tagging (Etag)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Energy Management System (EMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1467 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
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,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1467 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rational Buyer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ 48,856	$ -	$ -	$ -	$ -	$ -	$ 48,856
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1467 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 339,171	$ 137,538	$ 2,493	$ 2,045	$ 32,604	$ 609,843	$ 1,123,694
Percent	30%	12%	0%	0%	3%	54%	100%

California Independent System Operator

1468 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CaseWise (process modeling tool)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Revenue Rights (CRR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1468 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Miscellaneous	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1468 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized using FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
1468 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

Functionalized using FTE ratio	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1469 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using Data Warehouse	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

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Functionalized using Data Warehouse	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

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NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
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Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator
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Functionalized using Data Warehouse	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1471 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using System Direct	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Ancillary Services Management (ASM) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
App Development Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Dispatch System (ADS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Load Forecast System (ALFS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Automated Mitigation Procedure (AMP)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Backup systems (Legato/Veritas)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balance of Business Systems (BBS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Balancing Energy Ex Post Price (BEEP) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Bill's Interchange Schedule (BITS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CaseWise (process modeling tool)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
CHASE	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Common Information Model Project (CIM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Compliance (Blaze)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Management (CONG) Part of SA	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Reform-DSOW	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Congestion Revenue Rights (CRR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
DataWarehouse	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dept. of Market Analysis Tools (SAS/MARS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Dispute Tracking System (Remedy)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Documentum	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Electronic Tagging (Etag)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Energy Management System (EMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1471 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using System Direct	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Evaluation of Market Separation	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Existing Transmission Contracts Calculator (ETCC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
FERC Study Software	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Global Resource Reliability Management Application (GRRMA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Grid Operations Training Simulator (GOTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Human Resources	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
IBM Contract	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Integrated Forward Market (IFM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Internal Development	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Interzonal Congestion Management reform - Real Time	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Land and Building Costs	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Local Area Network (LAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Locational Marginal Pricing (LMPM)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Market Transaction System (MTS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Masterfile	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Meter Data Acquisition System (MDAS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Miscellaneous	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Monitoring (Tivoli)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
New System Equipment (replacement of owned equipment)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
NT/web servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1471 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using System Direct	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
OEM	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office Automation - desktop/laptop (OA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Office equipment (scanner, printer, copier, fax)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Open Access Same Time Information System (OASIS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Operational Meter Analysis and Reporting (OMAR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Corporate Financials	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Licenses	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Oracle Market Financials BBS	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Out of Sequence Market Operation Settlements Information System (OOS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Outage Scheduler (OS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Physical Facilities Software Application/Furniture/Leasehold	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Process Information System (PI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Rational Buyer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Real Time Nodal Market	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Reliability Management System (RMS)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remedy	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Remote Intelligence Gateway (RIG) & DPG's	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Resource Register (RR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
RMR Application Validation Engine:(RAVE)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling & Logging for ISO California (SLIC)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Architecture (SA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Scheduling Infrastructure (SI)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

California Independent System Operator

1471 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

Functionalized using System Direct	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security Constrained Economic Dispatch (SCED)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security- External/Physical	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Security-ISS (CUDA)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Settlements and Market Clearing	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Sign Board (Symon Board maint.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Startup Costs through 3/31/98, Working Capital-3 months	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Storage (EMC symmetrix)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
System Equipment Buyouts (lease buyouts)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Telephone/PBX	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Training Systems	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Constrained Unit Commitment (TCUC) Must Offer	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Transmission Map Plotting & Display	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Trustee Costs, Interest-Capitalized, User Groups	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Utilities - System ie Print drivers	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Vitria (Middleware)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Wide Area Network (WAN)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

California Independent System Operator

1481 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ 62,750	$ -	$ 31,375	$ -	$ 25,100	$ 6,275	$ 125,501
Automated Load Forecast System (ALFS)	$ 67,180	$ -	$ 9,597	$ -	$ 19,194	$ -	$ 95,971
Automated Mitigation Procedure (AMP)	$ 81,575	$ -	$ -	$ -	$ 14,396	$ -	$ 95,971
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ 62,750	$ -	$ 25,100	$ 12,550	$ 25,100	$ -	$ 125,501
Bill's Interchange Schedule (BITS)	$ 81,575	$ -	$ -	$ -	$ 14,396	$ -	$ 95,971
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part 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)	$ 125,501	$ -	$ -	$ -	$ -	$ -	$ 125,501
Energy Management System (EMS)	$ 33,221	$ -	$ -	$ -	$ -	$ -	$ 33,221

California Independent System Operator

1481 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	$ 37,650	$ 25,100	$ -	$ -	$ -	$ -	$ 62,750
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,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Human Resources	$ -	$ -	$ -	$ -	$ -	$ -	$ -
IBM Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Integrated Forward Market (IFM)	$ 12,919	$ -	$ 45,217	$ -	$ 71,055	$ -	$ 129,192
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ 47,523	$ 22,514	$ 408	$ 335	$ 5,337	$ 19,853	$ 95,971

California Independent System Operator
1481 System Assignments by Function
Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 31,073	$ 14,721	$ 267	$ 219	$ 3,490	$ 12,981	$ 62,750
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ 16,450	$ 7,793	$ 141	$ 116	$ 1,847	$ 6,872	$ 33,221
Process Information System (PI)	$ 100,400	$ -	$ -	$ -	$ 12,550	$ 12,550	$ 125,501
Rational Buyer	$ 47,985	$ -	$ 19,194	$ 9,597	$ 19,194	$ -	$ 95,971
Real Time Nodal Market	$ 33,590	$ -	$ 9,597	$ -	$ 52,784	$ -	$ 95,971
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1481 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ 26,621	$ 1,919	$ 4,903	$ 758	$ 5,210	$ 23,341	$ 62,750
Total	$ 868,765	$ 72,048	$ 145,799	$ 23,574	$ 269,653	$ 81,872	$ 1,461,712
Percent	59%	5%	10%	2%	18%	6%	100%

California Independent System Operator

1482 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
App Development Tools	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Dispatch System (ADS)	$ 25,423	$ -	$ 12,712	$ -	$ 10,169	$ 2,542	$ 50,847
Automated Load Forecast System (ALFS)	$ 27,218	$ -	$ 3,888	$ -	$ 7,777	$ -	$ 38,883
Automated Mitigation Procedure (AMP)	$ 33,050	$ -	$ -	$ -	$ 5,832	$ -	$ 38,883
Backup systems (Legato/Veritas)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balancing Energy Ex Post Price (BEEP) Part of SA	$ 25,423	$ -	$ 10,169	$ 5,085	$ 10,169	$ -	$ 50,847
Bill's Interchange Schedule (BITS)	$ 33,050	$ -	$ -	$ -	$ 5,832	$ -	$ 38,883
CaseWise (process modeling tool)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CHASE	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Common Information Model Project (CIM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Compliance (Blaze)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Management (CONG) Part 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)	$ 50,847	$ -	$ -	$ -	$ -	$ -	$ 50,847
Energy Management System (EMS)	$ 13,459	$ -	$ -	$ -	$ -	$ -	$ 13,459

California Independent System Operator

1482 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Engineering Analysis Tools	$ 15,254	$ 10,169	$ -	$ -	$ -	$ -	$ 25,423
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,	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Human Resources	$ -	$ -	$ -	$ -	$ -	$ -	$ -
IBM Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Integrated Forward Market (IFM)	$ 5,234	$ -	$ 18,320	$ -	$ 28,788	$ -	$ 52,342
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Monitoring (Tivoli)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New System Equipment (replacement of owned equipment)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NT/web servers	$ 19,254	$ 9,122	$ 165	$ 136	$ 2,162	$ 8,043	$ 38,883

California Independent System Operator

1482 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
NT-servers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OEM	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 12,589	$ 5,964	$ 108	$ 89	$ 1,414	$ 5,259	$ 25,423
Office equipment (scanner, printer, copier, fax)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Open Access Same Time Information System (OASIS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ 6,665	$ 3,158	$ 57	$ 47	$ 749	$ 2,784	$ 13,459
Process Information System (PI)	$ 40,677	$ -	$ -	$ -	$ 5,085	$ 5,085	$ 50,847
Rational Buyer	$ 19,441	$ -	$ 7,777	$ 3,888	$ 7,777	$ -	$ 38,883
Real Time Nodal Market	$ 13,609	$ -	$ 3,888	$ -	$ 21,385	$ -	$ 38,883
Reliability Management System (RMS)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Resource Register (RR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling & Logging for ISO California (SLIC)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Architecture (SA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Scheduling Infrastructure (SI)	$ -	$ -	$ -	$ -	$ -	$ -	$ -

California Independent System Operator

1482 System Assignments by Function

Draft and Preliminary, Subject to both review and approval

	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Infrastructure Business Rules (SIBR)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security- External/Physical	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security-ISS (CUDA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Startup Costs through 3/31/98, Working Capital-3 months	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Storage (EMC symmetrix)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
System Equipment Buyouts (lease buyouts)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Telephone/PBX	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Training Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Trustee Costs, Interest-Capitalized, User Groups	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities - System ie Print drivers	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria (Middleware)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wide Area Network (WAN)	$ 10,786	$ 777	$ 1,986	$ 307	$ 2,111	$ 9,456	$ 25,423
Total	$ 351,980	$ 29,190	$ 59,071	$ 9,551	$ 109,250	$ 33,170	$ 592,213
Percent	59%	5%	10%	2%	18%	6%	100%

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Function

Draft and Preliminary
Subject to both review and approval

	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Direct	100%	0%	0%	0%	0%	0%	100%
Ancillary Services Management (ASM) Part of SA	Direct	15%	0%	40%	0%	45%	0%	100%
App Development Tools	System directs	25%	0%	18%	3%	8%	47%	100%
Automated Dispatch System (ADS)	Direct	50%	0%	25%	0%	20%	5%	100%
Automated Load Forecast System (ALFS)	Direct	70%	0%	10%	0%	20%	0%	100%
Automated Mitigation Procedure (AMP)	Direct	85%	0%	0%	0%	15%	0%	100%
Backup systems (Legato/Veritas)	System directs	25%	0%	18%	3%	8%	47%	100%
Balance of Business Systems (BBS)	Direct	0%	0%	0%	0%	0%	100%	100%
Balancing Energy Ex Post Price (BEEP) Part of SA	Direct	50%	0%	20%	10%	20%	0%	100%
Bill's Interchange Schedule (BITS)	Direct	85%	0%	0%	0%	15%	0%	100%
CaseWise (process modeling tool)	FTE	50%	23%	0%	0%	6%	21%	100%
CHASE	FTE	50%	23%	0%	0%	6%	21%	100%
Common Information Model Project (CIM)	Direct	100%	0%	0%	0%	0%	0%	100%
Compliance (Blaze)	Dept direct	19%	16%	9%	0%	33%	22%	100%
Congestion Management (CONG) Part of SA	Direct	10%	0%	0%	65%	25%	0%	100%
Congestion Reform-DSOW	Direct	50%	0%	0%	50%	0%	0%	100%
Congestion Revenue Rights (CRR)	Direct	0%	0%	0%	80%	20%	0%	100%
DataWarehouse	Dept direct	24%	18%	6%	9%	24%	18%	100%
Dept. of Market Analysis Tools (SAS/MARS)	Dept direct	15%	26%	0%	20%	31%	7%	100%
Dispute Tracking System (Remedy)	Direct	0%	0%	0%	0%	0%	100%	100%
Documentum	FTE	50%	23%	0%	0%	6%	21%	100%
Electronic Tagging (Etag)	Direct	100%	0%	0%	0%	0%	0%	100%
Energy Management System (EMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Engineering Analysis Tools	Direct	60%	40%	0%	0%	0%	0%	100%

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Function

Draft and Preliminary
Subject to both review and approval

	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Evaluation of Market Separation	Direct	0%	0%	0%	50%	50%	0%	100%
Existing Transmission Contracts Calculator (ETCC)	Direct	25%	0%	20%	15%	20%	20%	100%
FERC Study Software	Direct	0%	0%	0%	0%	100%	0%	100%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Direct	0%	0%	15%	60%	15%	10%	100%
Global Resource Reliability Management Application (GRRMA)	Direct	75%	15%	0%	0%	10%	0%	100%
Grid Operations Training Simulator (GOTS)	Direct	56%	44%	0%	0%	0%	0%	100%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Direct	0%	0%	100%	0%	0%	0%	100%
Human Resources	FTE	50%	23%	0%	0%	6%	21%	100%
IBM Contract	Dept direct	41%	16%	6%	1%	6%	29%	100%
Integrated Forward Market (IFM)	Direct	10%	0%	35%	0%	55%	0%	100%
Internal Development	System directs	25%	0%	18%	3%	8%	47%	100%
Interzonal Congestion Management reform - Real Time	Direct	50%	0%	0%	50%	0%	0%	100%
Land and Building Costs	FTE	50%	23%	0%	0%	6%	21%	100%
Local Area Network (LAN)	FTE	50%	23%	0%	0%	6%	21%	100%
Locational Marginal Pricing (LMPM)	Direct	10%	0%	35%	0%	55%	0%	100%
Market Transaction System (MTS)	Direct	0%	0%	0%	0%	100%	0%	100%
Masterfile	Direct	20%	0%	20%	0%	55%	5%	100%
Meter Data Acquisition System (MDAS)	Direct	0%	0%	0%	0%	0%	100%	100%
Miscellaneous	System directs	25%	0%	18%	3%	8%	47%	100%
Monitoring (Tivoli)	System directs	25%	0%	18%	3%	8%	47%	100%
New System Equipment (replacement of owned equipment)	System directs	25%	0%	18%	3%	8%	47%	100%
NT/web servers	FTE	50%	23%	0%	0%	6%	21%	100%
NT-servers	FTE	50%	23%	0%	0%	6%	21%	100%
OEM	Dept direct	60%	40%	0%	0%	0%	0%	100%

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Function

Draft and Preliminary
Subject to both review and approval

	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Office Automation - desktop/laptop (OA)	FTE	50%	23%	0%	0%	6%	21%	100%
Office equipment (scanner, printer, copier, fax, Commication Equip.)	FTE	50%	23%	0%	0%	6%	21%	100%
Open Access Same Time Information System (OASIS)	Direct	10%	0%	25%	10%	35%	20%	100%
Operational Meter Analysis and Reporting (OMAR)	Direct	0%	0%	0%	0%	0%	100%	100%
Oracle Corporate Financials	FTE	50%	23%	0%	0%	6%	21%	100%
Oracle Licenses	Direct	28%	0%	16%	5%	9%	42%	100%
Oracle Market Financials BBS	Direct	0%	0%	0%	0%	0%	100%	100%
Out of Sequence Market Operation Settlements Information System (OOS)	Direct	5%	5%	0%	0%	90%	0%	100%
Outage Scheduler (OS)	Direct	50%	0%	10%	20%	20%	0%	100%
Physical Facilities Software Application/Furniture/Leasehold Improvements	FTE	50%	23%	0%	0%	6%	21%	100%
Process Information System (PI)	Direct	80%	0%	0%	0%	10%	10%	100%
Rational Buyer	Direct	50%	0%	20%	10%	20%	0%	100%
Real Time Nodal Market	Direct	35%	0%	10%	0%	55%	0%	100%
Reliability Management System (RMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Remedy	Direct	100%	0%	0%	0%	0%	0%	100%
Remote Intelligence Gateway (RIG) & DPG's	Direct	100%	0%	0%	0%	0%	0%	100%
Resource Register (RR)	Direct	100%	0%	0%	0%	0%	0%	100%
RMR Application Validation Engine:(RAVE)	Direct	100%	0%	0%	0%	0%	0%	100%
Scheduling & Logging for ISO California (SLIC)	Direct	65%	0%	15%	5%	15%	0%	100%
Scheduling Architecture (SA)	Calculated Direct	24%	0%	20%	26%	30%	0%	100%
Scheduling Infrastructure (SI)	Direct	10%	0%	75%	0%	10%	5%	100%
Scheduling Infrastructure Business Rules (SIBR)	Direct	10%	0%	75%	0%	10%	5%	100%
Security Constrained Economic Dispatch (SCED)	Direct	40%	0%	0%	0%	60%	0%	100%
Security- External/Physical	FTE	50%	23%	0%	0%	6%	21%	100%

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Function

Draft and Preliminary
Subject to both review and approval

	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Security-ISS (CUDA)	System directs	25%	0%	18%	3%	8%	47%	100%
Settlements and Market Clearing	Direct	0%	0%	0%	0%	0%	100%	100%
Sign Board (Symon Board maint.)	FTE	50%	23%	0%	0%	6%	21%	100%
Startup Costs through 3/31/98, Working Capital-3 months	FTE	50%	23%	0%	0%	6%	21%	100%
Storage (EMC symmetrix)	Calculated Direct	23%	9%	10%	3%	16%	39%	100%
System Equipment Buyouts (lease buyouts)	Calculated Direct	45%	2%	4%	2%	12%	36%	100%
Telephone/PBX	FTE	50%	23%	0%	0%	6%	21%	100%
Training Systems	System directs	25%	0%	18%	3%	8%	47%	100%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	Direct	49%	0%	19%	0%	6%	26%	100%
Transmission Map Plotting & Display	Direct	50%	50%	0%	0%	0%	0%	100%
Trustee Costs, Interest-Capitalized, User Groups	Calculated Direct	45%	1%	13%	16%	26%	0%	100%
Utilities - System ie Print drivers	System directs	25%	0%	18%	3%	8%	47%	100%
Vitria (Middleware)	System directs	25%	0%	18%	3%	8%	47%	100%
Wide Area Network (WAN)	Calculated Direct	42%	3%	8%	1%	8%	37%	100%

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Cost Center

Draft and Preliminary
Subject to both review and approval

	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482	Total by System
ACC Upgrades (Communication between ISO & IOUs)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Ancillary Services Management (ASM) Part of SA	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
App Development Tools	$ 285,717	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 285,717
Automated Dispatch System (ADS)	$ 299,896	Not Used	$ 3,719	$ 11,826	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 125,501	$ 50,847	$ 491,789
Automated Load Forecast System (ALFS)	$ 67,801	Not Used	$ 12,397	$ 39,421	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 254,472
Automated Mitigation Procedure (AMP)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 134,854
Backup systems (Legato/Veritas)	$ 561,693	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 561,693
Balance of Business Systems (BBS)	$ 1,885,180	Not Used	$ 115,290	$ 366,612	Not Used	Not Used	$ -	$ -	$ -	$ 488,563	Not Used	Not Used	Not Used	$ -	$ -	$ 2,855,645
Balancing Energy Ex Post Price (BEEP) Part of SA	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 125,501	$ 50,847	$ 176,347
Bill's Interchange Schedule (BITS)	$ 97,872	Not Used	$ 5,950	$ 18,922	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 257,598
CaseWise (process modeling tool)	$ 30,818	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 30,818
CHASE	$ 728,388	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ 618,601	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 1,346,989
Common Information Model Project (CIM)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Compliance (Blaze)	$ 67,392	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 67,392
Congestion Management (CONG) Part of SA	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Congestion Reform-DSOW	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Congestion Revenue Rights (CRR)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
DataWarehouse	$ 1,133,453	Not Used	$ 19,835	$ 63,073	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 1,216,361
Dept. of Market Analysis Tools (SAS/MARS)	$ 217,306	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 217,306
Dispute Tracking System (Remedy)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ 649,973	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 649,973
Documentum	$ 297,010	Not Used	$ 38,430	$ 122,204	Not Used	Not Used	$ -	$ -	$ -	$ 586,275	Not Used	Not Used	Not Used	$ -	$ -	$ 1,043,919
Electronic Tagging (Etag)	$ 207,403	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 125,501	$ 50,847	$ 383,750
Energy Management System (EMS)	$ 2,078,817	Not Used	$ 505,460	$ 1,607,322	Not Used	Not Used	$ 2,036,839	$ -	$ 281,780	$ -	Not Used	Not Used	Not Used	$ 33,221	$ 13,459	$ 6,556,899
Engineering Analysis Tools	$ 31,319	Not Used	$ 5,950	$ 18,922	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 62,750	$ 25,423	$ 144,365
Evaluation of Market Separation	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Existing Transmission Contracts Calculator (ETCC)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Ferc Study Software	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ 589,561	Not Used	$ 6,198	$ 19,710	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 615,469
Global Resource Reliability Management Application (GRRMA)	$ 9,450	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 9,450
Grid Operations Training Simulator (GOTS)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ 127,302	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 127,302
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool.	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Human Resources	$ 137,860	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 137,860
IBM Contract	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Integrated Forward Market (IFM)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 129,192	$ 52,342	$ 181,534
Internal Development	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Interzonal Congestion Management reform Real Time	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Land and Building Costs	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Local Area Network (LAN)	$ -	Not Used	$ -	$ 829,263	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 829,263
Locational Marginal Pricing (LMPM)	$ 19,785	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 19,785
Market Transaction System (MTS)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Masterfile	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	$ 233,287	Not Used	$ 288,974	$ 918,914	Not Used	Not Used	$ -	$ 1,933,378	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 3,374,553

California Independent System Operator
2004 GMC Cost Allocation

System Assignments by Cost Center

Draft and Preliminary
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	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482	Total by System
Miscellaneous	$ 3,747,762	Not Used	$ -	$ 634,655	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 4,382,417
Monitoring (Tivoli)	$ 121,911	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 121,911
New System Equipment (replacement of owned equipment)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
NT/web servers	$ 258,874	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 393,728
NT-servers	$ 111,884	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 111,884
OEM	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Office Automation - desktop/laptop (OA)	$ 2,656,872	Not Used	$ 99,174	$ 315,366	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 62,750	$ 25,423	$ 3,159,585
Office equipment (scanner, printer, copier, fax)	$ 289,670	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 289,670
Open Access Same Time Information System (OASIS)	$ 636,459	Not Used	$ 83,058	$ 264,119	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 983,636
Operational Meter Analysis and Reporting (OMAR)	$ 305,608	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 305,608
Oracle Corporate Financials	$ 38,849	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 38,849
Oracle Licenses	$ 774,669	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 774,669
Oracle Market Financials BBS	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Out of Sequence Market Operation Settlements Information System (OOS)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Outage Scheduler (OS)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Physical Facilities Software Application/Furniture/Leasehold	$ 3,920	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 33,221	$ 13,459	$ 50,600
Process Information System (PI)	$ 134,755	Not Used	$ -	$ -	Not Used	Not Used	$ 127,302	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 125,501	$ 50,847	$ 438,405
Rational Buyer	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 134,854
Real Time Nodal Market	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 95,971	$ 38,883	$ 134,854
Reliability Management System (RMS)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Remedy	$ 79,677	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 79,677
Remote Intelligence Gateway (RIG) & DPG's	$ 31,791	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ 527,285	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 559,076
Resource Register (RR)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
RMR Application Validation Engine:(RAVE)	$ 31,101	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ 48,856	Not Used	Not Used	Not Used	$ -	$ -	$ 79,958
Scheduling & Logging for ISO California (SLIC)	$ 82,541	Not Used	$ 4,959	$ 15,768	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 103,268
Scheduling Architecture (SA)	$ 251,684	Not Used	$ 744	$ 2,365	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 254,794
Scheduling Infrastructure (SI)	$ 606,110	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 606,110
Scheduling Infrastructure Business Rules (SIBR)	$ -	Not Used	$ 271,343	$ 862,848	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 1,134,190
Security Constrained Economic Dispatch (SCED)	$ 406,933	Not Used	$ 76,860	$ 244,408	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 728,201
Security- External/Physical	$ 31,555	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 31,555
Security-ISS (CUDA)	$ 547,123	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 547,123
Settlements and Market Clearing	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Sign Board (Symon Board maint.)	$ 4,628	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 4,628
Startup Costs through 3/31/98, Working Capital-3 months	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Storage (EMC symmetrix)	$ 0	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 0
System Equipment Buyouts (lease buyouts)	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Telephone/PBX	$ -	Not Used	$ -	$ 3,870,751	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 3,870,751
Training Systems	$ 10,613	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 10,613
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Transmission Map Plotting & Display	$ 8,730	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 8,730
Trustee Costs, Interest-Capitalized, User Groups	$ -	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ -
Utilities - System le Print drivers	$ 26,254	Not Used	$ -	$ -	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 26,254

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	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482	Total by System
Vitria (Middleware)	$ 56,008	Not Used	$ 17,108	$ 54,401	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ -	$ -	$ 127,516
Wide Area Network (WAN)	$ 178,626	Not Used	$ -	$ 381,229	Not Used	Not Used	$ -	$ -	$ -	$ -	Not Used	Not Used	Not Used	$ 62,750	$ 25,423	$ 648,028
Total	$ 20,414,618	$ -	$ 1,555,448	$ 10,662,100	$ -	$ -	$ 2,291,444	$ 2,460,663	$ 1,550,354	$ 1,123,694	$ -	$ -	$ -	$ 1,461,712	$ 592,213	$ 42,112,246
Check	$ 20,414,618	$ -	$ 1,555,448	$ 10,662,100	$ -	$ -	$ 2,291,444	$ 2,460,663	$ 1,550,354	$ 1,123,694	$ -	$ -	$ -	$ 1,461,712	$ 592,213	$ 42,112,246

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Percentage

	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
ACC Upgrades (Communication between ISO & IOUs)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Ancillary Services Management (ASM) Part of SA	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
App Development Tools	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Automated Dispatch System (ADS)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	9%	9%
Automated Load Forecast System (ALFS)	0%	Not Used	1%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
Automated Mitigation Procedure (AMP)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
Backup systems (Legato/Veritas)	3%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Balance of Business Systems (BBS)	9%	Not Used	7%	3%	Not Used	Not Used	0%	0%	0%	43%	Not Used	Not Used	Not Used	0%	0%
Balancing Energy Ex Post Price (BEEP) Part of SA	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	9%	9%
Bill's Interchange Schedule (BITS)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
CaseWise (process modeling tool)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
CHASE	4%	Not Used	0%	0%	Not Used	Not Used	0%	0%	40%	0%	Not Used	Not Used	Not Used	0%	0%
Common Information Model Project (CIM)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Compliance (Blaze)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Congestion Management (CONG) Part of SA	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Congestion Reform-DSOW	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Congestion Revenue Rights (CRR)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
DataWarehouse	6%	Not Used	1%	1%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Dept. of Market Analysis Tools (SAS/MARS)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Dispute Tracking System (Remedy)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	42%	0%	Not Used	Not Used	Not Used	0%	0%
Documentum	1%	Not Used	2%	1%	Not Used	Not Used	0%	0%	0%	52%	Not Used	Not Used	Not Used	0%	0%
Electronic Tagging (Etag)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	9%	9%
Energy Management System (EMS)	10%	Not Used	32%	15%	Not Used	Not Used	89%	0%	18%	0%	Not Used	Not Used	Not Used	2%	2%
Engineering Analysis Tools	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	4%	4%
Evaluation of Market Separation	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%

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Percentage

	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Existing Transmission Contracts Calculator (ETCC)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Ferc Study Software	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	3%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Global Resource Reliability Management Application (GRRMA)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Grid Operations Training Simulator (GOTS)	0%	Not Used	0%	0%	Not Used	Not Used	6%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Human Resources	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
IBM Contract	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Integrated Forward Market (IFM)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	9%	9%
Internal Development	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Interzonal Congestion Management reform - Real Time	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Land and Building Costs	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Local Area Network (LAN)	0%	Not Used	0%	8%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Locational Marginal Pricing (LMPM)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Market Transaction System (MTS)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Masterfile	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Meter Data Acquisition System (MDAS)	1%	Not Used	19%	9%	Not Used	Not Used	0%	79%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Miscellaneous	18%	Not Used	0%	6%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Monitoring (Tivoli)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
New System Equipment (replacement of owned equipment)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
NT/web servers	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
NT-servers	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
OEM	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Office Automation - desktop/laptop (OA)	13%	Not Used	6%	3%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	4%	4%
Office equipment (scanner, printer, copier, fax)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%

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Percentage

	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Open Access Same Time Information System (OASIS)	3%	Not Used	5%	2%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Operational Meter Analysis and Reporting (OMAR)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Oracle Corporate Financials	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Oracle Licenses	4%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Oracle Market Financials BBS	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Out of Sequence Market Operation Settlements Information System (OOS)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Outage Scheduler (OS)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Physical Facilities Software Application/Furniture/Leasehold	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	2%	2%
Process Information System (PI)	1%	Not Used	0%	0%	Not Used	Not Used	6%	0%	0%	0%	Not Used	Not Used	Not Used	9%	9%
Rational Buyer	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
Real Time Nodal Market	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	7%	7%
Reliability Management System (RMS)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Remedy	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Remote Intelligence Gateway (RIG) & DPG's	0%	Not Used	0%	0%	Not Used	Not Used	0%	21%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Resource Register (RR)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
RMR Application Validation Engine:(RAVE)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	4%	Not Used	Not Used	Not Used	0%	0%
Scheduling & Logging for ISO California (SLIC)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Scheduling Architecture (SA)	1%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Scheduling Infrastructure (SI)	3%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Scheduling Infrastructure Business Rules (SIBR)	0%	Not Used	17%	8%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Security Constrained Economic Dispatch (SCED)	2%	Not Used	5%	2%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Security- External/Physical	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Security-ISS (CUDA)	3%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Settlements and Market Clearing	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Sign Board (Symon Board maint.)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%

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	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Startup Costs through 3/31/98, Working Capital-3 months	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Storage (EMC symmetrix)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
System Equipment Buyouts (lease buyouts)	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Telephone/PBX	0%	Not Used	0%	36%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Training Systems	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Transmission Constrained Unit Commitment (TCUC) Must Offer	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Transmission Map Plotting & Display	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Trustee Costs, Interest-Capitalized, User Groups	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Utilities - System ie Print drivers	0%	Not Used	0%	0%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Vitria (Middleware)	0%	Not Used	1%	1%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	0%	0%
Wide Area Network (WAN)	1%	Not Used	0%	4%	Not Used	Not Used	0%	0%	0%	0%	Not Used	Not Used	Not Used	4%	4%
Totals	100%	0%	100%	100%	0%	0%	100%	100%	100%	100%	0%	0%	0%	100%	100%

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Personnel	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
ACC Upgrades (Communication between ISO & IOUs)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Ancillary Services Management (ASM) Part of SA	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
App Development Tools	1.4%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Automated Dispatch System (ADS)	1.5%	Not Used	0.2%	0.1%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	34.0%	34.0%
Automated Load Forecast System (ALFS)	0.3%	Not Used	0.8%	0.4%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
Automated Mitigation Procedure (AMP)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
Backup systems (Legato/Veritas)	2.8%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Balance of Business Systems (BBS)	9.2%	Not Used	7.4%	3.4%	Not Used	Not Used	0	0	0	10	Not Used	Not Used	Not Used	0.0%	0.0%
Balancing Energy Ex Post Price (BEEP) Part of SA	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	34.0%	34.0%
Bill's Interchange Schedule (BITS)	0.5%	Not Used	0.4%	0.2%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
CaseWise (process modeling tool)	0.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
CHASE	3.6%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	658600	0	Not Used	Not Used	Not Used	0.0%	0.0%
Common Information Model Project (CIM)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Compliance (Blaze)	0.3%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Congestion Management (CONG) Part of SA	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Congestion Reform-DSOW	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Congestion Revenue Rights (CRR)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
DataWarehouse	5.6%	Not Used	1.3%	0.6%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Dept. of Market Analysis Tools (SAS/MARS)	1.1%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Dispute Tracking System (Remedy)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	692000	0	Not Used	Not Used	Not Used	0.0%	0.0%
Documentum	1.5%	Not Used	2.5%	1.1%	Not Used	Not Used	0	0	0	12	Not Used	Not Used	Not Used	0.0%	0.0%
Electronic Tagging (Etag)	1.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	34.0%	34.0%
Energy Management System (EMS)	10.2%	Not Used	32.5%	15.1%	Not Used	Not Used	16	0	300000	0	Not Used	Not Used	Not Used	9.0%	9.0%
Engineering Analysis Tools	0.2%	Not Used	0.4%	0.2%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	17.0%	17.0%
Evaluation of Market Separation	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Existing Transmission Contracts Calculator (ETCC)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%

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Personnel	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Ferc Study Software	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	2.9%	Not Used	0.4%	0.2%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Global Resource Reliability Management Application (GRRMA)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Grid Operations Training Simulator (GOTS)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	1	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Human Resources	0.7%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
IBM Contract	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Integrated Forward Market (IFM)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	35.0%	35.0%
Internal Development	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Interzonal Congestion Management reform - Real Time	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Land and Building Costs	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Local Area Network (LAN)	0.0%	Not Used	0.0%	7.8%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Locational Marginal Pricing (LMPM)	0.1%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Market Transaction System (MTS)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Masterfile	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Meter Data Acquisition System (MDAS)	1.1%	Not Used	18.6%	8.6%	Not Used	Not Used	0	11	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Miscellaneous	18.4%	Not Used	0.0%	6.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Monitoring (Tivoli)	0.6%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
New System Equipment (replacement of owned equipment)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
NT/web servers	1.3%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
NT-servers	0.5%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
OEM	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Office Automation - desktop/laptop (OA)	13.0%	Not Used	6.4%	3.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	17.0%	17.0%
Office equipment (scanner, printer, copier, fax)	1.4%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Open Access Same Time Information System (OASIS)	3.1%	Not Used	5.3%	2.5%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Operational Meter Analysis and Reporting (OMAR)	1.5%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%

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Personnel	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Oracle Corporate Financials	0.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Oracle Licenses	3.8%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Oracle Market Financials BBS	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Out of Sequence Market Operation Settlements Information System (OOS)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Outage Scheduler (OS)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Physical Facilities Software Application/Furniture/Leasehold	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	9.0%	9.0%
Process Information System (PI)	0.7%	Not Used	0.0%	0.0%	Not Used	Not Used	1	0	0	0	Not Used	Not Used	Not Used	34.0%	34.0%
Rational Buyer	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
Real Time Nodal Market	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	26.0%	26.0%
Reliability Management System (RMS)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Remedy	0.4%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Remote Intelligence Gateway (RIG) & DPG's	0.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	3	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Resource Register (RR)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
RMR Application Validation Engine:(RAVE)	0.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	1	Not Used	Not Used	Not Used	0.0%	0.0%
Scheduling & Logging for ISO California (SLIC)	0.4%	Not Used	0.3%	0.1%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Scheduling Architecture (SA)	1.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Scheduling Infrastructure (SI)	3.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Scheduling Infrastructure Business Rules (SIBR)	0.0%	Not Used	17.4%	8.1%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Security Constrained Economic Dispatch (SCED)	2.0%	Not Used	4.9%	2.3%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Security- External/Physical	0.2%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Security-ISS (CUDA)	2.7%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Settlements and Market Clearing	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Sign Board (Symon Board maint.)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Startup Costs through 3/31/98, Working Capital-3 months	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Storage (EMC symmetrix)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
System Equipment Buyouts (lease buyouts)	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%

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Personnel	1424	1431	1433	1441	1442	1451	1461	1462	1466	1467	1468	1469	1471	1481	1482
Telephone/PBX	0.0%	Not Used	0.0%	36.3%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Training Systems	0.1%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Transmission Constrained Unit Commitment (TCUC) Must Offer	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Transmission Map Plotting & Display	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Trustee Costs, Interest-Capitalized, User Groups	0.0%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Utilities - System ie Print drivers	0.1%	Not Used	0.0%	0.0%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Vitria (Middleware)	0.3%	Not Used	1.1%	0.5%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	0.0%	0.0%
Wide Area Network (WAN)	0.9%	Not Used	0.0%	3.6%	Not Used	Not Used	0	0	0	0	Not Used	Not Used	Not Used	17.0%	17.0%
Totals	100%	0	100.00%	100.00%	0	0	18	14	1650600	23	0	0	0	3.96	3.96

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Cost Center Name: Asset Management
Cost Center Number: 1424

	Description of Activities	Percent	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)		0.00%	
Ancillary Services Management (ASM) Part of SA		0.00%	
App Development Tools		1.40%	
Automated Dispatch System (ADS)		1.47%	
Automated Load Forecast System (ALFS)		0.33%	
Automated Mitigation Procedure (AMP)		0.00%	
Backup systems (Legato/Veritas)		2.75%	
Balance of Business Systems (BBS)		9.23%	
Balancing Energy Ex Post Price (BEEP) Part of SA		0.00%	
Bill's Interchange Schedule (BITS)		0.48%	
CaseWise (process modeling tool)		0.15%	
CHASE		3.57%	
Common Information Model Project (CIM)		0.00%	
Compliance (Blaze)		0.33%	
Congestion Management (CONG) Part of SA		0.00%	
Congestion Reform-DSOW		0.00%	
Congestion Revenue Rights (CRR)		0.00%	
DataWarehouse		5.55%	
Dept. of Market Analysis Tools (SAS/MARS)		1.06%	
Dispute Tracking System (Remedy)		0.00%	
Documentum		1.45%	
Electronic Tagging (Etag)		1.02%	
Energy Management System (EMS)		10.18%	
Engineering Analysis Tools		0.15%	
Evaluation of Market Separation		0.00%	
Existing Transmission Contracts Calculator (ETCC)		0.00%	
Ferc Study Software		0.00%	
Firm Transmission Right (FTR) and Secondary Registration System (SRS)		2.89%	
Global Resource Reliability Management Application (GRRMA)		0.05%	
Grid Operations Training Simulator (GOTS)		0.00%	
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%	
Human Resources		0.68%	
IBM Contract		0.00%	
Integrated Forward Market (IFM)		0.00%	
Internal Development		0.00%	
Interzonal Congestion Management reform - Real Time		0.00%	
Land and Building Costs		0.00%	
Local Area Network (LAN)		0.00%	
Locational Marginal Pricing (LMPM)		0.10%	
Market Transaction System (MTS)		0.00%	
Masterfile		0.00%	
Meter Data Acquisition System (MDAS)		1.14%	
Miscellaneous		18.36%	

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Cost Center Name: Asset Management
Cost Center Number: 1424

Monitoring (Tivoli)		0.60%	
New System Equipment (replacement of owned equipment)		0.00%	
NT/web servers		1.27%	
NT-servers		0.55%	
OEM		0.00%	
Office Automation - desktop/laptop (OA)		13.01%	
Office equipment (scanner, printer, copier, fax)		1.42%	
Open Access Same Time Information System (OASIS)		3.12%	
Operational Meter Analysis and Reporting (OMAR)		1.50%	
Oracle Corporate Financials		0.19%	
Oracle Licenses		3.79%	
Oracle Market Financials BBS		0.00%	
Out of Sequence Market Operation Settlements Information System (OOS)		0.00%	
Outage Scheduler (OS)		0.00%	
Physical Facilities Software Application/Furniture/Leasehold		0.02%	
Process Information System (PI)		0.66%	
Rational Buyer		0.00%	
Real Time Nodal Market		0.00%	
Reliability Management System (RMS)		0.00%	
Remedy		0.39%	
Remote Intelligence Gateway (RIG) & DPG's		0.16%	
Resource Register (RR)		0.00%	
RMR Application Validation Engine:(RAVE)		0.15%	
Scheduling & Logging for ISO California (SLIC)		0.40%	
Scheduling Architecture (SA)		1.23%	
Scheduling Infrastructure (SI)		2.97%	
Scheduling Infrastructure Business Rules (SIBR)		0.00%	
Security Constrained Economic Dispatch (SCED)		1.99%	
Security- External/Physical		0.15%	
Security-ISS (CUDA)		2.68%	
Settlements and Market Clearing		0.00%	
Sign Board (Symon Board maint.)		0.02%	
Startup Costs through 3/31/98, Working Capital-3 months		0.00%	
Storage (EMC symmetrix)		0.00%	
System Equipment Buyouts (lease buyouts)		0.00%	
Telephone/PBX		0.00%	
Training Systems		0.05%	
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation		0.00%	
Transmission Map Plotting & Display		0.04%	
Trustee Costs, Interest-Capitalized, User Groups		0.00%	
Utilities - System le Print drivers		0.13%	
Vitria (Middleware)		0.27%	
Wide Area Network (WAN)		0.87%	
		100.00%	

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Cost Center Name	Asset Management
Cost Center Number	1424
completed by:	
Date:	

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Cost Center Name: End User Support
Cost Center Number: 1431
Uses ISO wide FTE ratio

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part of SA			
Congestion Reform-DSOW			
Congestion Revenue Rights (CRR)			
DataWarehouse			
Dept. of Market Analysis Tools (SAS/MARS)			
Dispute Tracking System (Remedy)			
Documentum		12	
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,			
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			
Meter Data Acquisition System (MDAS)			

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Cost Center Name	End User Support
Cost Center Number	1431
Uses ISO wide FTE ratio	

	Description of Activities	Number of people	Position Descriptions
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			

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Cost Center Name	End User Support
Cost Center Number	1431
Uses ISO wide FTE ratio	

	Description of Activities	Number of people	Position Descriptions
Vitria (Middleware)			
Wide Area Network (WAN)			
		12	

completed by:	
Date:	

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Cost Center Name	Network Services
Cost Center Number	1433
Weighted 50 % LAN (FTE), 50% WAN	

	Description of Activities	Percent (WAN only)	Position Descriptions
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%	
Automated 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%	
DataWarehouse		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 AnalysisTool, Day-Ahead Data AnalysisTool,		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%	
Meter Data Acquisition System (MDAS)		19%	
Miscellaneous		0%	

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name	Network Services
Cost Center Number	1433
Weighted 50 % LAN (FTE), 50% WAN	

	Description of Activities	Percent (WAN only)	Position Descriptions
Monitoring (Tivoli)		0%	
New System Equipment (replacement of owned equipment)		0%	
NT/web servers		0%	
NT-servers		0%	
OEM		0%	
Office Automation - desktop/laptop (OA)		6%	
Office equipment (scanner, printer, copier, fax)		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%	
Physical Facilities Software Application/Furniture/Leasehold		0%	
Process Information System (PI)		0%	
Rational Buyer		0%	
Real Time Nodal Market		0%	
Reliability Management System (RMS)		0%	
Remedy		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 Obligation		0%	
Transmission Map Plotting & Display		0%	
Trustee Costs, Interest-Capitalized, User Groups		0%	
Utilities - System le Print drivers		0%	
Vitria (Middleware)		1%	
Wide Area Network (WAN)		0%	

California Independent System Operator
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Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name	Network Services		
Cost Center Number	1433		
Weighted 50 % LAN (FTE), 50% WAN			
	Description of Activities	**Percent (WAN only)**	**Position Descriptions**
		100%	
completed by:			
Date:			

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
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Cost Center Name	Outsourced contracts
Cost Center Number	1441

	Description of Activities	Percent of effort	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA		0.00%	
App Development Tools		0.00%	
Automated Dispatch System (ADS)		0.11%	
Automated Load Forecast System (ALFS)		0.37%	
Automated Mitigation Procedure (AMP)		0.00%	
Backup systems (Legato/Veritas)		0.00%	
Balance of Business Systems (BBS)		3.44%	
Balancing Energy Ex Post Price (BEEP) Part of SA		0.00%	
Bill's Interchange Schedule (BITS)		0.18%	
CaseWise (process modeling tool)		0.00%	
CHASE		0.00%	
Common Information Model Project (CIM)			
Compliance (Blaze)		0.00%	
Congestion Management (CONG) Part of SA		0.00%	
Congestion Reform-DSOW			
Congestion Revenue Rights (CRR)		0.00%	
DataWarehouse		0.59%	
Dept. of Market Analysis Tools (SAS/MARS)		0.00%	
Dispute Tracking System (Remedy)		0.00%	
Documentum		1.15%	
Electronic Tagging (Etag)		0.00%	
Energy Management System (EMS)		15.08%	
Engineering Analysis Tools		0.18%	
Evaluation of Market Separation			
Existing Transmission Contracts Calculator (ETCC)		0.00%	
Ferc Study Software			
Firm Transmission Right (FTR) and Secondary Registration System (SRS)		0.18%	
Global Resource Reliability Management Application (GRRMA)		0.00%	
Grid Operations Training Simulator (GOTS)		0.00%	
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		0.00%	
Human Resources		0.00%	
IBM Contract			
Integrated Forward Market (IFM)		0.00%	
Internal Development			
Interzonal Congestion Management reform - Real Time			
Land and Building Costs			
Local Area Network (LAN)		7.78%	
Locational Marginal Pricing (LMPM)		0.00%	
Market Transaction System (MTS)		0.00%	
Masterfile		0.00%	
Meter Data Acquisition System (MDAS)		8.62%	
Miscellaneous		5.95%	

Monitoring (Tivoli)		0.00%	
New System Equipment (replacement of owned equipment)			
NT/web servers		0.00%	
NT-servers		0.00%	
OEM		0.00%	
Office Automation - desktop/laptop (OA)		2.96%	
Office equipment (scanner, printer, copier, fax)		0.00%	
Open Access Same Time Information System (OASIS)		2.48%	
Operational Meter Analysis and Reporting (OMAR)		0.00%	
Oracle Corporate Financials		0.00%	
Oracle Licenses		0.00%	
Oracle Market Financials BBS		0.00%	
Out of Sequence Market Operation Settlements Information System (OOS)		0.00%	
Outage Scheduler (OS)		0.00%	
Physical Facilities Software Application/Furniture/Leasehold		0.00%	
Process Information System (PI)		0.00%	
Rational Buyer		0.00%	
Real Time Nodal Market		0.00%	
Reliability Management System (RMS)		0.00%	
Remedy		0.00%	
Remote Intelligence Gateway (RIG) & DPG's		0.00%	
Resource Register (RR)			
RMR Application Validation Engine:(RAVE)		0.00%	
Scheduling & Logging for ISO California (SLIC)		0.15%	
Scheduling Architecture (SA)		0.02%	
Scheduling Infrastructure (SI)		0.00%	
Scheduling Infrastructure Business Rules (SIBR)		8.09%	
Security Constrained Economic Dispatch (SCED)		2.29%	
Security- External/Physical		0.00%	
Security-ISS (CUDA)		0.00%	
Settlements and Market Clearing		0.00%	
Sign Board (Symon Board maint.)		0.00%	
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)		0.00%	
System Equipment Buyouts (lease buyouts)			
Telephone/PBX		36.30%	
Training Systems		0.00%	
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation		0.00%	
Transmission Map Plotting & Display		0.00%	
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers		0.00%	
Vitria (Middleware)		0.51%	
Wide Area Network (WAN)		3.58%	
		100%	

completed by: [redacted]
Date: [redacted]

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name Production Support Services
Cost Center Number 1442
Will use System Direct allocation

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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			
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name	Production Support Services
Cost Center Number	1442
Will use System Direct allocation	

	Description of Activities	Number of people	Position Descriptions
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name	Production Support Services
Cost Center Number	1442
Will use System Direct allocation	

Description of Activities	Number of people	Position Descriptions
	0	

completed by:	
Date:	

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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Cost Center Name: Infrastructure Services
Cost Center Number: 1451
Will use 33% Tivoli and 67% FTE as allocator

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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			
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,			
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			
Meter Data Acquisition System (MDAS)			

California Independent System Operator
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Subject to both review and approval

Cost Center Name: Infrastructure Services
Cost Center Number: 1451
Will use 33% Tivoli and 67% FTE as allocator

	Description of Activities	Number of people	Position Descriptions
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System le Print drivers			

California Independent System Operator
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Subject to both review and approval

Cost Center Name Infrastructure Services
Cost Center Number 1451
Will use 33% Tivoli and 67% FTE as allocator

	Description of Activities	Number of people	Position Descriptions
Vitria (Middleware)			
Wide Area Network (WAN)			
		0	

completed by: Eric Whitley
Date: 13-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
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Cost Center Name	Control Systems Services
Cost Center Number	1461

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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)	Applications support and development, Data admin, configuration, integration, Display administration, SCADA, Data quality, advanced	16	Wide range of support and administration duties. Functions include all SCADA, ICCP, Database, Network Applications, Policies,
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)	Data admin, tuning, support, advanced applications, vendor coordination	1	Sr. Engineer, duties include high end grid network modeling and GOTS software design and functions.
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			

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Cost Center Name Control Systems Services
Cost Center Number 1461

	Description of Activities	Number of people	Position Descriptions
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
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.
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			

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Cost Center Name	Control Systems Services
Cost Center Number	1461

	Description of Activities	Number of people	Position Descriptions
		18	
completed by:	Eric Whitley		
Date:	13-Sep-03		

California Independent System Operator
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Labor Assignments by Cost Center
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Subject to both review and approval

Cost Center Name	Field Data Acquisition Services
Cost Center Number	1462

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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			
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,			
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			
Meter Data Acquisition System (MDAS)	Collection, verification and processing of raw meter data into Settlement Quality Meter Data (SQMD), which the ISO uses for	11	(1) Manager of Field Data Acquisition : (4) Metering Engineering; Maintaining the metering standards and specifications for approved

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name: Field Data Acquisition Services
Cost Center Number: 1462

	Description of Activities	Number of people	Position Descriptions
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's	Supporting the Remote Intelligent Gateway ("RIG") interface system in the daily operation of power generation, scheduling, and control	3	(3) :RIG Engineering Rep. Supporting the Remote Intelligent Gateway ("RIG") interface system in the daily operation.
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System le Print drivers			

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Subject to both review and approval

Cost Center Name	Field Data Acquisition Services
Cost Center Number	1462

	Description of Activities	Number of people	Position Descriptions
Vitria (Middleware)			
Wide Area Network (WAN)			
		14	

completed by:	Allen Jaschke
Date:	17-Sep-03

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
Draft and Preliminary
Subject to both review and approval

Cost Center Name Enterprise Applications
Cost Center Number 1466
Not used, functionalized using weighted average of Chase, NRI and Settlements dispute resolution system

	Description of Activities	Dollars in Capital	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE		$ 658,600	
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part of SA			
Congestion Reform-DSOW			
Congestion Revenue Rights (CRR)			
DataWarehouse			
Dept. of Market Analysis Tools (SAS/MARS)			
Dispute Tracking System (Remedy)		$ 692,000	
Documentum			
Electronic Tagging (Etag)			
Energy Management System (EMS)		$ 300,000	
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			

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Cost Center Name Enterprise Applications
Cost Center Number 1466
Not used, functionalized using weighted average of Chase, NRI and Settlements dispute resolution system

	Description of Activities	Dollars in Capital	Position Descriptions
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			
		$ 1,650,600	

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Cost Center Name: Settlement Systems Services
Cost Center Number: 1467

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
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
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part of SA			
Congestion Reform-DSOW			
Congestion Revenue Rights (CRR)			
DataWarehouse			
Dept. of Market Analysis Tools (SAS/MARS)			
Dispute Tracking System (Remedy)			
Documentum		12	
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			

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Cost Center Name Settlement Systems Services
Cost Center Number 1467

	Description of Activities	Number of people	Position Descriptions
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
Resource Register (RR)			
RMR Application Validation Engine:(RAVE)	Settlement Systems Services supports RAVE and associated RMR applications.	1	
Scheduling & Logging for ISO California (SLIC)			
Scheduling Architecture (SA)			
Scheduling Infrastructure (SI)			
Scheduling Infrastructure Business Rules (SIBR)			
Security Constrained Economic Dispatch (SCED)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			
		23	

completed by: Ben Mugar
Date:

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Cost Center Name	Corporate Application Support and Administration
Cost Center Number	1468

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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			
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			

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Cost Center Name	Corporate Application Support and Administration
Cost Center Number	1468

	Description of Activities	Number of people	Position Descriptions
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System le Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			
		0	

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Date:

California Independent System Operator
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Labor Assignments by Cost Center
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Cost Center Name: Analytical and Reporting Applications
Cost Center Number: 1469

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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			
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			

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Cost Center Name Analytical and Reporting Applications
Cost Center Number 1469

	Description of Activities	Number of people	Position Descriptions
Office Automation - desktop/laptop (OA)			
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System le Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			
		0	

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California Independent System Operator
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Labor Assignments by Cost Center
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Cost Center Name	IT Planning
Cost Center Number	1471
Functionalized using FTE-IS	

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)			
Automated Load Forecast System (ALFS)			
Automated Mitigation Procedure (AMP)			
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA			
Bill's Interchange Schedule (BITS)			
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part of SA			
Congestion Reform-DSOW			
Congestion Revenue Rights (CRR)		0	
DataWarehouse			
Dept. of Market Analysis Tools (SAS/MARS)			
Dispute Tracking System (Remedy)			
Documentum			
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,			
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers			
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)			

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Cost Center Name	IT Planning
Cost Center Number	1471
Functionalized using FTE-IS	

	Description of Activities	Number of people	Position Descriptions
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold			
Process Information System (PI)			
Rational Buyer			
Real Time Nodal Market			
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System le Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)			
		0	

completed by:
Date:

California Independent System Operator
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Cost Center Name Market & Scheduling System Services
Cost Center Number 1461

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)		0.34	
Automated Load Forecast System (ALFS)		0.26	
Automated Mitigation Procedure (AMP)		0.26	
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA		0.34	
Bill's Interchange Schedule (BITS)		0.26	
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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)		0.34	
Energy Management System (EMS)		0.09	
Engineering Analysis Tools		0.17	
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,			
Human Resources			
IBM Contract			
Integrated Forward Market (IFM)		0.35	
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers		0.26	
NT-servers			
OEM			
Office Automation - desktop/laptop (OA)		0.17	

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Cost Center Name	Market & Scheduling System Services
Cost Center Number	1481

	Description of Activities	Number of people	Position Descriptions
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold		0.09	
Process Information System (PI)		0.34	
Rational Buyer		0.26	
Real Time Nodal Market		0.26	
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)		0.17	
		3.96	

completed by:
Date:

California Independent System Operator
2004 GMC Cost Allocation
Labor Assignments by Cost Center
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Cost Center Name	Market Systems Support Services
Cost Center Number	1482

	Description of Activities	Number of people	Position Descriptions
ACC Upgrades (Communication between ISO & IOUs)			
Ancillary Services Management (ASM) Part of SA			
App Development Tools			
Automated Dispatch System (ADS)		0.34	
Automated Load Forecast System (ALFS)		0.26	
Automated Mitigation Procedure (AMP)		0.26	
Backup systems (Legato/Veritas)			
Balance of Business Systems (BBS)			
Balancing Energy Ex Post Price (BEEP) Part of SA		0.34	
Bill's Interchange Schedule (BITS)		0.26	
CaseWise (process modeling tool)			
CHASE			
Common Information Model Project (CIM)			
Compliance (Blaze)			
Congestion Management (CONG) Part 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)		0.34	
Energy Management System (EMS)		0.09	
Engineering Analysis Tools		0.17	
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,			
Human Resources			
IBM Contract			
Integrated Forward Market (IFM)		0.35	
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			
Meter Data Acquisition System (MDAS)			
Miscellaneous			
Monitoring (Tivoli)			
New System Equipment (replacement of owned equipment)			
NT/web servers		0.26	
NT-servers			
OEM			

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Cost Center Name	Market Systems Support Services
Cost Center Number	1482

	Description of Activities	Number of people	Position Descriptions
Office Automation - desktop/laptop (OA)		0.17	
Office equipment (scanner, printer, copier, fax)			
Open Access Same Time Information System (OASIS)			
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)			
Physical Facilities Software Application/Furniture/Leasehold		0.09	
Process Information System (PI)		0.34	
Rational Buyer		0.26	
Real Time Nodal Market		0.26	
Reliability Management System (RMS)			
Remedy			
Remote Intelligence Gateway (RIG) & DPG's			
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)			
Security- External/Physical			
Security-ISS (CUDA)			
Settlements and Market Clearing			
Sign Board (Symon Board maint.)			
Startup Costs through 3/31/98, Working Capital-3 months			
Storage (EMC symmetrix)			
System Equipment Buyouts (lease buyouts)			
Telephone/PBX			
Training Systems			
Transmission Constrained Unit Commitment (TCUC) Must Offer			
Transmission Map Plotting & Display			
Trustee Costs, Interest-Capitalized, User Groups			
Utilities - System ie Print drivers			
Vitria (Middleware)			
Wide Area Network (WAN)		0.17	
		3.96	

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2004 GMC Cost Allocation

Functionalization of ISO System Applications
Draft and Preliminary
Subject to both review and approval

This spreadsheet shows the functionalization of ISO system applications in detail. There are five

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
Oracle License Worksheet	Worksheet showing functionalization of Oracle licensing costs
Infra Storage Worksheet	Worksheet showing functionalization of Infrastructure 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

Listing of Systems
Draft and Preliminary
Subject to both review and approval

System	Description
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
Ancillary Services Management (ASM) Part 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.
App Development Tools	Various third party software applications used for internal application development and maintenance of ISO systems.
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
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.
Automated Mitigation Procedure (AMP)	FERC required enhancement to SA/ SI systems
Backup systems (Legato/Veritas)	Back up of Core systems. Impacts on all operating systems, allocate based on total costs of operational systems
Balance of Business Systems (BBS)	Original name for the Settlements and interfaces to the Market Financial system. 100% SMCR
Balancing Energy Ex Post Price (BEEP) Part 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
SI's Interchange Schedule (SITS)	SI'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. However 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).
CaseWise (process modeling tool)	Enterprise application for modeling ISO business processes.
CHASE	CHASE - Change management, Help desk, Asset management, Service Level Agreements, Employee Life Cycle - Enterprise system to manage listed items. All employees have access.
Common Information Model Project (CIM)	Developed for use with the current EMS system.
Compliance (Blaze)	Business Rules application developed for the Compliance department for monitoring and maintaining compliance with the ISO Tariff requirements.
Congestion Management (CONG) Part 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.
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.
Congestion Revenue Rights (CRR)	MD02 application that will replace the existing Firm Transmission Rights (FTR) process.
Data Warehouse	Data Storage of Market Information, to be used by various applications. Not a real time system. Not current a complete data store for all systems. Used mainly by Compliance and DMA applications.
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.
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.
Documentum	Enterprise document management system. All employees and Consultants have access to this system.
Electronic Tagging (Etag)	Electronic Tagging to conform to NERC requirements
Energy Management System (EMS)	Energy Management System
Engineering Analysis Tools	
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
Existing Transmission Contracts Calculator (ETCC)	Existing Transmission Contracts Calculator, which are not subject to congestion management and can be scheduled later than other transmission. It has a major affect 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.
FERC Study Software	FERC request Study on ISO Markets
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Firm Transmission Right and Secondary Registration System 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.
Global Resource Reliability Management Application (GRRMA)	Global Reliability Resource Management Application is 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 EATS (because of the scalability of the data file to the number of RMR units, 10% to MU because it affects the market, and 0% there are regular interactions with SCs and generators on RMR activity but no direct interface to Settlements.
Grid Operations Training Simulator (GOTS)	Grid Operations Training Simulator is used for training RT operators. Its costs are assigned to CRS and EATS on a 56/44 basis, the current allocation of the Operations Training group.
Hour-Ahead Data Analysis Tool, Day-Ahead Data Analysis Tools,	Developed Tool for Day/Hour-ahead desk to make informed decision on A/S purchases in a timely manner. To eliminate manual work around. --
Human Resources	Human Resources Software applications

Listing of Systems
Draft and Preliminary
Subject to both review and approval

System	Description
IBM Contract	Service Contract to supply people for desk side and set-up support for all ISO PC's, Telephone Help desk support, Operational system monitoring.
Integrated Forward Market (IFM)	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%
Internal Development	Cost for ISO employees that work on Capital Projects during the year. GAAP required reclassification.
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
Land and Building Costs	Is the cost of the land and preliminary design cost for the property located on Iron Point Road.
Local Area Network (LAN)	Local Area Network is the ISO internal communication system.
Locational Marginal Pricing (LMPM)	
Market Transaction System (MTS)	New MD02 system, that will be like a Data warehouse for all applications system holding market information after completion of market
Masterfile	MD02 system replacement to support additional functionality for new MD02 applications. Some of the information will be Constraints, validation, SC info, settlement information for billing.
Meter Data Acquisition System (MDAS)	Meter Data Acquisition System - 100% SMCR
Miscellaneous	
Monitoring (Tivoli)	Monitoring software system, that is used to monitor and report the health of all applications at the ISO. Use system direct allocation.
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.
NT/web servers	
NT-servers	
OEM	
Office Automation - desktop/laptop (OA)	Non operational applications, Email, Microsoft Office, of desktop systems.
Office equipment (scanner, printer, copier, fax, Communication Equip.)	Capital costs for the purchase of non computer hardware.
Open Access Same Time Information System (OASIS)	Open Access Same-Time Information System is primarily to provide information to market participants (MPs) on the state of the grid, congestion, transmission information, etc. 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.
Operational Meter Analysis and Reporting (OMAR)	This Oracle-based database serves as the SCMD 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 SCMD are performed for Settlements, Compliance, Market Analysis, and the Data Warehouse. Master File data is also extracted nightly and Schedule data from SI. The system uses this data to flag data anomalies, identify occurrences of missing meter data, graph and view system data, and do a preliminary calculation of potential UFE. OMAR is a web-based method of viewing SCMD over the Internet that uses software digital certificate security and encryption. The SCs, generator owners, and ISO internal users have view-only access to their meter data. System users may download their meter data into a CSV file format.
Oracle Corporate Financials	ISO Corporate Accounting System
Oracle Licenses	Oracle Licenses that are needed for most of our applications/ database infrastructure.
Oracle Market Financials BBS	Billing and payment system for the Settlements process.
Out of Sequence Market Operation Settlements Information System (OOS)	Out of Sequence Market Operation Settlements Information System is the system for logging out-of-market (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 E&TS, reflecting the variability of the use of OOM resources. It does affect scheduling, which is assigned 90% of its costs.
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 ensure appropriate congestion management. MU uses it to reject bids for A/S and Energy that cannot be delivered. Its costs are assigned 30% to CRS, 10% to scheduling, and 20% each to congestion and MU.
Physical Facilities Software Application/Furniture/Leasehold Improvements	All locations, leasehold improvement, furniture and software to manage physical facilities.
Process Information System (PI)	Process Information System is an historical part of EMS that records what generation units actually provide. Information is used by Compliance to determine penalties that information is passed to Settlements for billing. CRS 80%, 10% MU, 10% CS
Rational Buyer	Part of SA system.
Real Time Model Market (RTMM)	Real Time Energy Market, Reliability, Schedules. No Congestion is resolved in IFM.
Reliability Management System (RMS)	Reliability Management System WECC mandated performance criteria reporting system.
Remedy Licenses	Third party software that is basically a logging system. This has been customized for various uses at the ISO. Allocation done based on Licenses and what systems they are being used in.
Remote Intelligence Gateway (RIG) & DPG's	All costs associated Remote Intelligence Gateway (RIG), with Generator Communication Project (GCP) and related matters are assigned 100% to CRS because they involve interaction by RT personnel and AGC of generators

Listing of Systems
Draft and Preliminary
Subject to both review and approval

System	Description
Resource Register (RR)	Information that contains rating of transmission lines. Data comes from the TO's
RMR Application Validation Engine(RAVE)	RMR Application Validation Engine
Scheduling & Logging for ISO California (SLIC)	While SLIC (Scheduling & Logging for ISO California) was traditionally used for logging, it is being upgraded to allow generation SCs to enter outage information, including derates, which are used by the RT desk for operations. 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.
Scheduling Architecture (SA)	Scheduling Application is composed of BEEP, CDNO, ASM, and miscellaneous small systems. Allocation is weighted average, based on traffic for the 3 modules listed
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.
Scheduling Infrastructure Business Rules (SIBR)	MD02 system for the validation and processing of SC schedules. Allocation like current SI as this will have similar functions by using new ISO application structure of Business Rules.
Security Constrained Economic Dispatch (SCED)	New MD02 system.
Security- External/Physical	ISO Corporate security equipment, for all Folsom and Alhambra locations. Includes camera's card readers, hand readers, and monitoring equipment.
Security-[illegible] (CUOA)	Enterprise systems that provide system security for ISO application, including but not limited to providing digital certificates.
Settlements and Market Clearing	Replacement for current Settlement and Market Financial systems, part of MD02. Current system is unable to handle the new requirement of MD02
Sign Board (Sysco Board maint.)	Provides OASIS information and activity to ISO personnel, via a reader board displayed in various locations in ISO buildings
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.
Storage (EMC symmetrix)	Main database/application storage system. Allocation based on size of storage by application.
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.
Telephone/PBX	Third party costs for regular telephone, cell phone, pager costs.
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.
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	
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%
Trustee Costs, Interest-Capitalized, User Groups	Start up costs for non-ISO employees from Dec. 1996 - July, 1998
Utilities - System i.e. Print drivers	Part of EMC storage usage for various system utilities.
Vitria (Middleware)	Third party software applications that allows different system to pass data between them without having to do application specific customization (also referred to as EAI bus)
Wide Area Network (WAN)	The ISO Communication secure network. Previously supplied by MCI, being replaced by an AT&T network. Includes connections to external entities for data transfer, and internal traffic between Folsom & Alhambra.

Listing of Systems and Method of assignment/allocation

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Direct	100%	0%	0%	0%	0%	0%	100%
Ancillary Services Management (ASM) Part of SA	Direct	15%	0%	40%	0%	45%	0%	100%
App Development Tools	System directs	25%	0%	18%	3%	8%	47%	100%
Automated Dispatch System (ADS)	Direct	50%	0%	25%	0%	20%	5%	100%
Automated Load Forecast System (ALFS)	Direct	70%	0%	10%	0%	20%	0%	100%
Automated Mitigation Procedure (AMP)	Direct	85%	0%	0%	0%	15%	0%	100%
Backup systems (Legato/Veritas)	System directs	25%	0%	18%	3%	8%	47%	100%
Balance of Business Systems (BBS)	Direct	0%	0%	0%	0%	0%	100%	100%
Balancing Energy Ex Post Price (BEEP) Part of SA	Direct	50%	0%	20%	10%	20%	0%	100%
Bill's Interchange Schedule (BITS)	Direct	85%	0%	0%	0%	15%	0%	100%
CaseWise (process modeling tool)	FTE	50%	23%	0%	0%	6%	21%	100%
CHASE	FTE	50%	23%	0%	0%	6%	21%	100%
Common Information Model Project (CIM)	Direct	100%	0%	0%	0%	0%	0%	100%
Compliance (Blaze)	Dept direct	19%	16%	9%	0%	33%	22%	100%
Congestion Management (CONG) Part of SA	Direct	10%	0%	0%	65%	25%	0%	100%
Congestion Reform-DSOW	Direct	50%	0%	0%	50%	0%	0%	100%
Congestion Revenue Rights (CRR)	Direct	0%	0%	0%	80%	20%	0%	100%
DataWarehouse	Dept direct	24%	18%	6%	9%	24%	18%	100%
Dept. of Market Analysis Tools (SAS/MARS)	Dept direct	15%	26%	0%	20%	31%	7%	100%
Dispute Tracking System (Remedy)	Direct	0%	0%	0%	0%	0%	100%	100%
Documentum	FTE	50%	23%	0%	0%	6%	21%	100%
Electronic Tagging (Etag)	Direct	100%	0%	0%	0%	0%	0%	100%
Energy Management System (EMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Engineering Analysis Tools	Direct	60%	40%	0%	0%	0%	0%	100%
Evaluation of Market Separation	Direct	0%	0%	0%	50%	50%	0%	100%
Existing Transmission Contracts Calculator (ETCC)	Direct	25%	0%	20%	15%	20%	20%	100%
FERC Study Software	Direct	0%	0%	0%	0%	100%	0%	100%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Direct	0%	0%	15%	60%	15%	10%	100%
Global Resource Reliability Management Application (GRRMA)	Direct	75%	15%	0%	0%	10%	0%	100%
Grid Operations Training Simulator (GOTS)	Direct	56%	44%	0%	0%	0%	0%	100%

Listing of Systems and Method of assignment/allocation

Draft and Preliminary Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool.	Direct	0%	0%	100%	0%	0%	0%	100%
Human Resources	FTE	50%	23%	0%	0%	6%	21%	100%
IBM Contract	Dept direct	41%	16%	6%	1%	6%	29%	100%
Integrated Forward Market (IFM)	Direct	10%	0%	35%	0%	55%	0%	100%
Internal Development	System directs	25%	0%	18%	3%	8%	47%	100%
Interzonal Congestion Management reform - Real Time	Direct	50%	0%	0%	50%	0%	0%	100%
Land and Building Costs	FTE	50%	23%	0%	0%	6%	21%	100%
Local Area Network (LAN)	FTE	50%	23%	0%	0%	6%	21%	100%
Locational Marginal Pricing (LMPM)	Direct	10%	0%	35%	0%	55%	0%	100%
Market Transaction System (MTS)	Direct	0%	0%	0%	0%	100%	0%	100%
Masterfile	Direct	20%	0%	20%	0%	55%	5%	100%
Meter Data Acquisition System (MDAS)	Direct	0%	0%	0%	0%	0%	100%	100%
Miscellaneous	System directs	25%	0%	18%	3%	8%	47%	100%
Monitoring (Tivoli)	System directs	25%	0%	18%	3%	8%	47%	100%
New System Equipment (replacement of owned equipment)	System directs	25%	0%	18%	3%	8%	47%	100%
NT/web servers	FTE	50%	23%	0%	0%	6%	21%	100%
NT-servers	FTE	50%	23%	0%	0%	6%	21%	100%
OEM	Dept direct	60%	40%	0%	0%	0%	0%	100%
Office Automation - desktop/laptop (OA)	FTE	50%	23%	0%	0%	6%	21%	100%
Office equipment (scanner, printer, copier, fax, Commication Equip.)	FTE	50%	23%	0%	0%	6%	21%	100%
Open Access Same Time Information System (OASIS)	Direct	10%	0%	25%	10%	35%	20%	100%
Operational Meter Analysis and Reporting (OMAR)	Direct	0%	0%	0%	0%	0%	100%	100%
Oracle Corporate Financials	FTE	50%	23%	0%	0%	6%	21%	100%
Oracle Licenses	Direct	28%	0%	16%	5%	9%	42%	100%
Oracle Market Financials BBS	Direct	0%	0%	0%	0%	0%	100%	100%
Out of Sequence Market Operation Settlements Information System (OOS)	Direct	5%	5%	0%	0%	90%	0%	100%
Outage Scheduler (OS)	Direct	50%	0%	10%	20%	20%	0%	100%
Physical Facilities Software Application/Furniture/Leasehold Improvements	FTE	50%	23%	0%	0%	6%	21%	100%
Process Information System (PI)	Direct	80%	0%	0%	0%	10%	10%	100%
Rational Buyer	Direct	50%	0%	20%	10%	20%	0%	100%

Listing of Systems and Method of assignment/allocation

Draft and Preliminary Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Real Time Nodal Market	Direct	35%	0%	10%	0%	55%	0%	100%
Reliability Management System (RMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Remedy	Direct	100%	0%	0%	0%	0%	0%	100%
Remote Intelligence Gateway (RIG) & DPG's	Direct	100%	0%	0%	0%	0%	0%	100%
Resource Register (RR)	Direct	100%	0%	0%	0%	0%	0%	100%
RMR Application Validation Engine:(RAVE)	Direct	100%	0%	0%	0%	0%	0%	100%
Scheduling & Logging for ISO California (SLIC)	Direct	65%	0%	15%	5%	15%	0%	100%
Scheduling Architecture (SA)	Calculated Direct	24%	0%	20%	26%	30%	0%	100%
Scheduling Infrastructure (SI)	Direct	10%	0%	75%	0%	10%	5%	100%
Scheduling Infrastructure Business Rules (SIBR)	Direct	10%	0%	75%	0%	10%	5%	100%
Security Constrained Economic Dispatch (SCED)	Direct	40%	0%	0%	0%	60%	0%	100%
Security- External/Physical	FTE	50%	23%	0%	0%	6%	21%	100%
Security-ISS (CUDA)	System directs	25%	0%	18%	3%	8%	47%	100%
Settlements and Market Clearing	Direct	0%	0%	0%	0%	0%	100%	100%
Sign Board (Symon Board maint.)	FTE	50%	23%	0%	0%	6%	21%	100%
Startup Costs through 3/31/98, Working Capital-3 months	FTE	50%	23%	0%	0%	6%	21%	100%
Storage (EMC symmetrix)	Calculated Direct	23%	9%	10%	3%	16%	39%	100%
System Equipment Buyouts (lease buyouts)	Calculated Direct	45%	2%	4%	2%	12%	36%	100%
Telephone/PBX	FTE	50%	23%	0%	0%	6%	21%	100%
Training Systems	System directs	25%	0%	18%	3%	8%	47%	100%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	Direct	49%	0%	19%	0%	6%	26%	100%
Transmission Map Plotting & Display	Direct	50%	50%	0%	0%	0%	0%	100%
Trustee Costs, Interest-Capitalized, User Groups	Calculated Direct	45%	1%	13%	16%	26%	0%	100%
Utilities - System ie Print drivers	System directs	25%	0%	18%	3%	8%	47%	100%
Vitria (Middleware)	System directs	25%	0%	18%	3%	8%	47%	100%
Wide Area Network (WAN)	Calculated Direct	42%	3%	8%	1%	8%	37%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems
FTE Allocation

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
CaseWise (process modeling tool)	FTE	50%	23%	0%	0%	6%	21%	100%
CHASE	FTE	50%	23%	0%	0%	6%	21%	100%
Documentum	FTE	50%	23%	0%	0%	6%	21%	100%
Human Resources	FTE	50%	23%	0%	0%	6%	21%	100%
Land and Building Costs	FTE	50%	23%	0%	0%	6%	21%	100%
Local Area Network (LAN)	FTE	50%	23%	0%	0%	6%	21%	100%
NT/web servers	FTE	50%	23%	0%	0%	6%	21%	100%
NT-servers	FTE	50%	23%	0%	0%	6%	21%	100%
Office Automation - desktop/laptop (OA)	FTE	50%	23%	0%	0%	6%	21%	100%

Office equipment (scanner, printer, copier, fax, Commication Equip.)	FTE	50%	23%	0%	0%	6%	21%	100%
Oracle Corporate Financials	FTE	50%	23%	0%	0%	6%	21%	100%
Physical Facilities Software Application/Furniture/Leasehold Improvements	FTE	50%	23%	0%	0%	6%	21%	100%
Security- External/Physical	FTE	50%	23%	0%	0%	6%	21%	100%
Sign Board (Symon Board maint.)	FTE	50%	23%	0%	0%	6%	21%	100%
Startup Costs through 3/31/98, Working Capital-3 months	FTE	50%	23%	0%	0%	6%	21%	100%
Telephone/PBX	FTE	50%	23%	0%	0%	6%	21%	100%
FTE factors from new CAM		50%	23%	0%	0%	6%	21%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems
System Direct Allocations

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
App Development Tools	System directs	25%	0%	18%	3%	8%	47%	100%
Backup systems (Legato/Veritas)	System directs	25%	0%	18%	3%	8%	47%	100%
Internal Development	System directs	25%	0%	18%	3%	8%	47%	100%
Miscellaneous	System directs	25%	0%	18%	3%	8%	47%	100%
Monitoring (Tivoli)	System directs	25%	0%	18%	3%	8%	47%	100%
New System Equipment (replacement of owned equipment)	System directs	25%	0%	18%	3%	8%	47%	100%
Security-ISS (CUDA)	System directs	25%	0%	18%	3%	8%	47%	100%
Training Systems	System directs	25%	0%	18%	3%	8%	47%	100%
Utilities - System ie Print drivers	System directs	25%	0%	18%	3%	8%	47%	100%
Vitria (Middleware)	System directs	25%	0%	18%	3%	8%	47%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems
Dept Direct Allocations

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Compliance (Blaze)	Dept direct	19%	16%	9%	0%	33%	22%	100%
DataWarehouse	Dept direct	24%	18%	6%	9%	24%	18%	100%
Dept. of Market Analysis Tools (SAS/MARS)	Dept direct	15%	26%	0%	20%	31%	7%	100%
IBM Contract	Dept direct	41%	16%	6%	1%	6%	29%	100%
OEM	Dept direct	60%	40%	0%	0%	0%	0%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems
Direct Functionalization

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
ACC Upgrades (Communication between ISO & IOUs)	Direct	100%	0%	0%	0%	0%	0%	100%
Ancillary Services Management (ASM) Part of SA	Direct	15%	0%	40%	0%	45%	0%	100%
Automated Dispatch System (ADS)	Direct	50%	0%	25%	0%	20%	5%	100%
Automated Load Forecast System (ALFS)	Direct	70%	0%	10%	0%	20%	0%	100%
Automated Mitigation Procedure (AMP)	Direct	85%	0%	0%	0%	15%	0%	100%
Balance of Business Systems (BBS)	Direct	0%	0%	0%	0%	0%	100%	100%
Balancing Energy Ex Post Price (BEEP) Part of SA	Direct	50%	0%	20%	10%	20%	0%	100%
Bill's Interchange Schedule (BITS)	Direct	85%	0%	0%	0%	15%	0%	100%
Common Information Model Project (CIM)	Direct	100%	0%	0%	0%	0%	0%	100%
Congestion Management (CONG) Part of SA	Direct	10%	0%	0%	65%	25%	0%	100%
Congestion Reform-DSOW	Direct	50%	0%	0%	50%	0%	0%	100%
Congestion Revenue Rights (CRR)	Direct	0%	0%	0%	80%	20%	0%	100%
Dispute Tracking System (Remedy)	Direct	0%	0%	0%	0%	0%	100%	100%
Electronic Tagging (Etag)	Direct	100%	0%	0%	0%	0%	0%	100%

Energy Management System (EMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Engineering Analysis Tools	Direct	60%	40%	0%	0%	0%	0%	100%
Evaluation of Market Separation	Direct	0%	0%	0%	50%	50%	0%	100%
Existing Transmission Contracts Calculator (ETCC)	Direct	25%	0%	20%	15%	20%	20%	100%
FERC Study Software	Direct	0%	0%	0%	0%	100%	0%	100%
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	Direct	0%	0%	15%	60%	15%	10%	100%
Global Resource Reliability Management Application (GRRMA)	Direct	75%	15%	0%	0%	10%	0%	100%
Grid Operations Training Simulator (GOTS)	Direct	56%	44%	0%	0%	0%	0%	100%
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,	Direct	0%	0%	100%	0%	0%	0%	100%
Integrated Forward Market (IFM)	Direct	10%	0%	35%	0%	55%	0%	100%
Interzonal Congestion Management reform - Real Time	Direct	50%	0%	0%	50%	0%	0%	100%
Locational Marginal Pricing (LMPM)	Direct	10%	0%	35%	0%	55%	0%	100%
Market Transaction System (MTS)	Direct	0%	0%	0%	0%	100%	0%	100%
Masterfile	Direct	20%	0%	20%	0%	55%	5%	100%
Meter Data Acquisition System (MDAS)	Direct	0%	0%	0%	0%	0%	100%	100%
Open Access Same Time Information System (OASIS)	Direct	10%	0%	25%	10%	35%	20%	100%
Operational Meter Analysis and Reporting (OMAR)	Direct	0%	0%	0%	0%	0%	100%	100%
Oracle Licenses	Direct	28%	0%	16%	5%	9%	42%	100%
Oracle Market Financials BBS	Direct	0%	0%	0%	0%	0%	100%	100%

Out of Sequence Market Operation Settlements Information System (OOS)	Direct	5%	5%	0%	0%	90%	0%	100%
Outage Scheduler (OS)	Direct	50%	0%	10%	20%	20%	0%	100%
Process Information System (PI)	Direct	80%	0%	0%	0%	10%	10%	100%
Rational Buyer	Direct	50%	0%	20%	10%	20%	0%	100%
Real Time Nodal Market	Direct	35%	0%	10%	0%	55%	0%	100%
Reliability Management System (RMS)	Direct	100%	0%	0%	0%	0%	0%	100%
Remedy	Direct	100%	0%	0%	0%	0%	0%	100%
Remote Intelligence Gateway (RIG) & DPG's	Direct	100%	0%	0%	0%	0%	0%	100%
Resource Register (RR)	Direct	100%	0%	0%	0%	0%	0%	100%
RMR Application Validation Engine:(RAVE)	Direct	100%	0%	0%	0%	0%	0%	100%
Scheduling & Logging for ISO California (SLIC)	Direct	65%	0%	15%	5%	15%	0%	100%
Scheduling Infrastructure (SI)	Direct	10%	0%	75%	0%	10%	5%	100%
Scheduling Infrastructure Business Rules (SIBR)	Direct	10%	0%	75%	0%	10%	5%	100%
Security Constrained Economic Dispatch (SCED)	Direct	40%	0%	0%	0%	60%	0%	100%
Settlements and Market Clearing	Direct	0%	0%	0%	0%	0%	100%	100%
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	Direct	49%	0%	19%	0%	6%	26%	100%
Transmission Map Plotting & Display	Direct	50%	50%	0%	0%	0%	0%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems
Direct Functionalization

Draft and Preliminary
Subject to both review and approval

System	Acronym	Method	CRS	ETS	FS	CONG	MU	SMCR	Total Dollars
ACC Upgrades (Communication between ISO & IOUs)		Direct	$ 1,162,000	$ -	$ -	$ -	$ -	$ -	$ 1,162,000
Ancillary Services Management (ASM) Part of SA	ASM	Direct	$ 87,013	$ -	$ 232,034	$ -	$ 261,039	$ -	$ 580,086
Automated Dispatch System (ADS)	ADS	Direct	$ 1,220,479	$ -	$ 610,240	$ -	$ 488,192	$ 122,048	$ 2,440,958
Automated Load Forecast System (ALFS)	ALFS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Automated Mitigation Procedure (AMP)	AMP	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance of Business Systems (BBS)	BBS	Direct	$ -	$ -	$ -	$ -	$ -	$ 51,910,435	$ 51,910,435
Balancing Energy Ex Post Price (BEEP) Part of SA	BEEP	Direct	$ 1,620,258	$ -	$ 648,103	$ 324,052	$ 648,103	$ -	$ 3,240,516
Bill's Interchange Schedule (BITS)	BITS	Direct	$ 532,104	$ -	$ -	$ -	$ 93,901	$ -	$ 626,004
Common Information Model Project (CIM)	CIM	Direct	$ 983,313	$ -	$ -	$ -	$ -	$ -	$ 983,313
Congestion Management (CONG) Part of SA	CONG	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Congestion Reform-DSOW		Direct	$ 169,748	$ -	$ -	$ 169,748	$ -	$ -	$ 339,496
Congestion Revenue Rights (CRR)	CRR	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dispute Tracking System (Remedy)	Remedy	Direct	$ -	$ -	$ -	$ -	$ -	$ 692,000	$ 692,000
Electronic Tagging (Etag)	E-TAG	Direct	$ 1,326,259	$ -	$ -	$ -	$ -	$ -	$ 1,326,259
Energy Management System (EMS)	EMS	Direct	$ 23,082,201	$ -	$ -	$ -	$ -	$ -	$ 23,082,201
Engineering Analysis Tools		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Evaluation of Market Separation		Direct	$ -	$ -	$ -	$ 79,152	$ 79,152	$ -	$ 158,303
Existing Transmission Contracts Calculator (ETCC)	ETCC	Direct	$ 294,816	$ -	$ 235,853	$ 176,890	$ 235,853	$ 235,853	$ 1,179,265
FERC Study Software		Direct	$ -	$ -	$ -	$ -	$ 11,000	$ -	$ 11,000
Firm Transmission Right (FTR) and Secondary Registration System (SRS)	FTR	Direct	$ -	$ -	$ 185,508	$ 742,032	$ 185,508	$ 123,672	$ 1,236,721
Global Resource Reliability Management Application (GRRMA)	GRRMA	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grid Operations Training Simulator (GOTS)	GOTS	Direct	$ 199,842	$ 157,018	$ -	$ -	$ -	$ -	$ 356,860
Hour-Ahead Data AnalysisTool, Day-Ahead Data AnalysisTool,		Direct	$ -	$ -	$ 350,813	$ -	$ -	$ -	$ 350,813
Integrated Forward Market (IFM)	IFM	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interzonal Congestion Management reform - Real Time		Direct	$ 128,719	$ -	$ -	$ 128,719	$ -	$ -	$ 257,439

Locational Marginal Pricing (LMPM)	LMPM	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Market Transaction System (MTS)	MTS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Masterfile		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Meter Data Acquisition System (MDAS)	MDAS	Direct	$ -	$ -	$ -	$ -	$ -	$ 8,512,935	$ 8,512,935
Open Access Same Time Information System (OASIS)	OASIS	Direct	$ 197,518	$ -	$ 493,795	$ 197,518	$ 691,313	$ 395,036	$ 1,975,179
Operational Meter Analysis and Reporting (OMAR)	OMAR	Direct	$ -	$ -	$ -	$ -	$ -	$ 662,698	$ 662,698
Oracle Licenses		Direct	$ 318,686	$ 2,139	$ 180,517	$ 62,597	$ 108,510	$ 479,669	$ 1,152,118
Oracle Market Financials BBS		Direct	$ -	$ -	$ -	$ -	$ -	$ 1,706,010	$ 1,706,010
Out of Sequence Market Operation Settlements Information System (OOS)	OSMOSIS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Outage Scheduler (OS)	OS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Process Information System (PI)	PI	Direct	$ 796,830	$ -	$ -	$ -	$ 99,604	$ 99,604	$ 996,037
Rational Buyer		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Real Time Nodal Market		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reliability Management System (RMS)	RMS	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedy		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remote Intelligence Gateway (RIG) & DPG's		Direct	$ 1,687,689	$ -	$ -	$ -	$ -	$ -	$ 1,687,689
Resource Register (RR)		Direct	$ 66,462	$ -	$ -	$ -	$ -	$ -	$ 66,462
RMR Application Validation Engine:(RAVE)	RAVE	Direct	$ 335,452	$ -	$ -	$ -	$ -	$ -	$ 335,452
Scheduling & Logging for ISO California (SLIC)	SLIC	Direct	$ 64,999	$ -	$ 15,000	$ 5,000	$ 15,000	$ -	$ 99,999
Scheduling Infrastructure (SI)	SI	Direct	$ 3,115,325	$ -	$ 23,364,940	$ -	$ 3,115,325	$ 1,557,663	$ 31,153,253
Scheduling Infrastructure Business Rules (SIBR)	SIBR	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Constrained Economic Dispatch (SCED)	SCED	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Settlements and Market Clearing		Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Constrained Unit Commitment (TCUC) Must Offer Obligation	TCUC	Direct	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Map Plotting & Display		Direct	$ 69,500	$ 69,500	$ -	$ -	$ -	$ -	$ 139,000
Total			$ 39,829,713	$ 283,657	$ 29,366,804	$ 4,285,707	$ 12,282,498	$ 76,155,122	$162,203,501
Percent of Total			25%	0%	18%	3%	8%	47%	100%

California Independent System Operator
2004 GMC Cost Allocation

Listing of Systems and Method of assignment/allocation

Draft and Preliminary
Subject to both review and approval

System	Method	CRS	ETS	FS	CONG	MU	SMCR	Total
Scheduling Architecture (SA)	Calculated Direct	24%	0%	20%	26%	30%	0%	100%
Storage (EMC symmetrix)	Calculated Direct	23%	9%	10%	3%	16%	39%	100%
System Equipment Buyouts (lease buyouts)	Calculated Direct	45%	2%	4%	2%	12%	36%	100%
Trustee Costs, Interest-Capitalized, User Groups	Calculated Direct	45%	1%	13%	16%	26%	0%	100%
Wide Area Network (WAN)	Calculated Direct	42%	3%	8%	1%	8%	37%	100%

California Independent System Operator
2004 GMC Cost Allocation

SA Functional Groups
Draft and Preliminary
Subject both to review and approval

Input Tables	# of records/month	ASM	CONG	BEEP
I_SUP_ENERGY_BID	21,743	21,743	21,743	21,743
LOAD_SCH	149,883	149,883	149,883	149,883
NON_SPIN_RESERVE_GEN	111,902	111,902		111,902
NON_SPIN_RESERVE_LOAD	2,976	2,976		2,976
OVER_GEN_MITIGATION	2,976	2,976		
REGULATION	56,884	56,884	56,884	56,884
RELIABILITY_T	148,996	148,996	148,996	148,996
RELIABILITY_MUST_RUN_T	24,785	24,785	24,785	24,785
REPLACEMENT_RES_GEN	45,088	45,088	45,088	45,088
RT_AMP_EXP_MKT_INFO_T	26,112			26,112
RT_BEEP_OOSTACKENGY	87,871			87,871
RT_BEEP_OUTPUT	750,183			750,183
RT_BEEP_RESD_IMBL	52,317			52,317
SPIN_RESERVE_SCH	96,067	96,067	96,067	96,067
TIE_LOSS_FACTOR	55,056	55,056	55,056	
UNIT_SPECFIC_DATA	493,812	493,812	493,812	
USAGES	174,003		174,003	174,003
I_INTERCHANGE_SCH	445,674	445,674	445,674	445,674
GENERATION_SCH	803,748	803,748	803,748	
Totals	3,550,076	2,459,590	2,515,739	2,194,484
Percentage of Total		34%	35%	31%
Functionalization	**Percent of Total**	**CRS**	**ETS**	**FS**
ASM	34.3%	5.1%	0.0%	13.7%
CONG	35.1%	3.5%	0.0%	0.0%
BEEP	30.6%	15.3%	0.0%	6.1%
		24.0%	0.0%	19.8%

65,229			
449,649			
223,804			
5,952			
2,976			
170,652			
446,988			
74,355			
135,264			
26,112			
87,871			
750,183			
52,317			
288,201			
110,112			
987,624			
348,006			
1,337,022			
1,607,496			
7,169,813			
100%			
CONG	**MU**	**SMCR**	**Total**
0.0%	15.4%	0.0%	34.3%
22.8%	8.8%	0.0%	35.1%
3.1%	6.1%	0.0%	30.6%
25.9%	30.3%	0.0%	100.0%

California Independent System Operator
2004 GMC Cost Allocation

Draft and Preliminary
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Calculation of EMC functionalization

$	System		CRS	ETS	FS	CONG	MU	SMCR	Total
$ 63,441	Automated Dispatch System (ADS)	$ 63,441	$ 31,721	$ -	$ 15,860	$ -	$ 12,688	$ 3,172	$ 63,441
$ 23,790	Bill's Interchange Schedule (BITS)	$ 23,790	$ 20,222	$ -	$ -	$ -	$ 3,569	$ -	$ 23,790
$ 39,651	Existing Transmission Contracts Calculator (ETCC)	$ 39,651	$ 9,913	$ -	$ 7,930	$ 5,948	$ 7,930	$ 7,930	$ 39,651
$ 34,893	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ 34,893	$ -	$ -	$ 5,234	$ 20,936	$ 5,234	$ 3,489	$ 34,893
$ 7,930	Global Resource Reliability Management Application (GRRMA)	$ 7,930	$ 5,948	$ 1,190	$ -	$ -	$ 793	$ -	$ 7,930
$ 38,065	Meter Data Acquisition System (MDAS)	$ 38,065	$ -	$ -	$ -	$ -	$ -	$ 38,065	$ 38,065
$ 171,291	Operational Meter Analysis and Reporting (OMAR)	$ 171,291	$ -	$ -	$ -	$ -	$ -	$ 171,291	$ 171,291
$ 39,651	Dispute Tracking System (Remedy)	$ 39,651	$ -	$ -	$ -	$ -	$ -	$ 39,651	$ 39,651
$ 158,603	Scheduling & Logging for ISO California (SLIC)	$ 158,603	$ 103,092	$ -	$ 23,790	$ 7,930	$ 23,790	$ -	$ 158,603
$ 63,441	Scheduling Infrastructure (SI)	$ 63,441	$ 6,344	$ -	$ 47,581	$ -	$ 6,344	$ 3,172	$ 63,441
$ 640,755		$ 640,755	$ 177,239	$ 1,190	$ 100,396	$ 34,813	$ 60,348	$ 266,770	$ 640,755
			27.7%	0.2%	15.7%	5.4%	9.4%	41.6%	100.0%

Calculation of Infrastructure Storage functionalization

California Independent System Operator
2004 GMC Cost Allocation

Draft and Preliminary
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Subsystem	$	System		CRS	ETS	FS	CONG	MU	SMCR	Total
ADS	$ 12,480	**Automated Dispatch System (ADS)**	$ 12,480	$ 6,240	$ -	$ 3,120	$ -	$ 2,496	$ 624	$ 12,480
ALFS	$ 31,200	**Automated Load Forecast System (ALFS)**	$ 31,200	$ 21,840	$ -	$ 3,120	$ -	$ 6,240	$ -	$ 31,200
BBS	$ 332,803	**Balance of Business Systems (BBS)**	$ 998,408	$ -	$ -	$ -	$ -	$ -	$ 998,408	$ 998,408
MHAP (settlements)	$ 158,081									
MHAP (SRDF)	$ 29,120									
Settlements	$ 12,480									
Settlements - Folierun1	$ 187,201									
Settlements - Folierun2	$ 187,201									
Development - Foliapp82	$ 49,920									
Development - Foliapp83	$ 41,600									
BITS	$ 19,968	**Bill's Interchange Schedule (BITS)**	$ 19,968	$ 16,973	$ -	$ -	$ -	$ 2,995	$ -	$ 19,968
DW	$ 832,006	**DataWarehouse**	$ 898,567	$ 217,594	$ 164,826	$ 57,111	$ 78,715	$ 218,815	$ 161,506	$ 898,567
DW (SRDF)	$ 66,561									
Documentum	$ 128,961	**Documentum**	$ 128,961	$ 63,860	$ 30,254	$ 548	$ 450	$ 7,172	$ 26,678	$ 128,961
MOOSE-SA	$ 16,640	**Scheduling Architecture (SA)**	$ 16,640	$ 3,987	$ -	$ 3,302	$ 4,304	$ 5,047	$ -	$ 16,640
MOOSE-SI	$ 70,721	**Scheduling Infrastructure (SI)**	$ 353,603	$ 35,360	$ -	$ 265,202	$ -	$ 35,360	$ 17,680	$ 353,603
SI Workspace (MD02)	$ 282,882									
OA	$ 686,405	**Office Automation - desktop/laptop (OA)**	$ 686,405	$ 339,898	$ 161,028	$ 2,919	$ 2,394	$ 38,172	$ 141,994	$ 686,405
OASIS	$ 203,842	**Open Access Same Time Information System (OASIS)**	$ 203,842	$ 20,384	$ -	$ 50,960	$ 20,384	$ 71,345	$ 40,768	$ 203,842
OEM	$ 14,976	**OEM**	$ 14,976	$ 8,984	$ 5,992	$ -	$ -	$ -	$ -	$ 14,976
OMAR	$ 149,761	**Operational Meter Analysis and Reporting (OMAR)**	$ 149,761	$ -	$ -	$ -	$ -	$ -	$ 149,761	$ 149,761
SCED(MD02) production	$ 257,922	**Security Constrained Economic Dispatch (SCED)**	$ 386,883	$ 154,753	$ -	$ -	$ -	$ 232,130	$ -	$ 386,883
SCED(MD02) stagging	$ 128,961									

SLIC	$ 16,640	Scheduling & Logging for ISO California (SLIC)	$ 16,640	$ 10,816	$ -	$ 2,496	$ 832	$ 2,496	$ -	$ 16,640
SRS	$ 20,800	Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ 20,800	$ -	$ -	$ 3,120	$ 12,480	$ 3,120	$ 2,080	$ 20,800
Utilities	$ 24,960	Utilities - System ie Print drivers	$ 24,960	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria App	$ 19,968	Vitria (Middleware)	$ 53,248	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vitria DB	$ 22,880									
Vitria Test	$ 10,400			$ 900,689	$ 362,100	$ 391,899	$ 119,560	$ 625,388	$ 1,539,499	$ 3,939,135
				22.9%	9.2%	9.9%	3.0%	15.9%	39.1%	100.0%

Calculation of WAN functionalization

California Independent System Operator
2004 GMC Cost Allocation

Draft and Preliminary
Subject to both review and approval

Subsystem	Internal WAN	External WAN	System	WAN Total	CRS	ETS	FS	CONG	MU	SMCR	Total
ADS	$ 8,143		Automated Dispatch System (ADS)	$ 8,143	$ 4,072	$ -	$ 2,036	$ -	$ 1,629	$ 407	$ 8,143
ALFS	$ 27,144		Automated Load Forecast System (ALFS)	$ 27,144	$ 19,001	$ -	$ 2,714	$ -	$ 5,429	$ -	$ 27,144
BBS	$ 217,149		Balance of Business Systems (BBS)	$ 252,436	$ -	$ -	$ -	$ -	$ -	$ 252,436	$ 252,436
MHAP (SRDF)	$ 19,001										
Settlements	$ 16,286										
BITS	$ 13,029		Bill's Interchange Schedule (BITS)	$ 13,029	$ 11,075	$ -	$ -	$ -	$ 1,954	$ -	$ 13,029
DW (SRDF)	$ 43,430		DataWarehouse	$ 43,430	$ 10,517	$ 7,966	$ 2,760	$ 3,804	$ 10,576	$ 7,806	$ 43,430
Documentum	$ 84,145		Documentum	$ 84,145	$ 41,668	$ 19,740	$ 358	$ 294	$ 4,679	$ 17,407	$ 84,145
EMS		$ 840,735	Energy Management System (EMS)	$ 840,735	$ 840,735	$ -	$ -	$ -	$ -	$ -	$ 840,735
MDAS		$ 535,013	Meter Data Acquisition System (MDAS)	$ 535,013	$ -	$ -	$ -	$ -	$ -	$ 535,013	$ 535,013
OA	$ 217,149		Office Automation - desktop/laptop (OA)	$ 217,149	$ 107,529	$ 50,942	$ 923	$ 757	$ 12,076	$ 44,921	$ 217,149
OASIS	$ 181,862		Open Access Same Time Information System (OASIS)	$ 181,862	$ 18,186	$ -	$ 45,466	$ 18,186	$ 63,652	$ 36,372	$ 181,862
OEM	$ 13,029		OEM	$ 13,029	$ 7,816	$ 5,213	$ -	$ -	$ -	$ -	$ 13,029
OMAR	$ 97,717		Operational Meter Analysis and Reporting (OMAR)	$ 97,717	$ -	$ -	$ -	$ -	$ -	$ 97,717	$ 97,717
SCED(MD02) production	$ 168,290		Security Constrained Economic Dispatch (SCED)	$ 168,290	$ 67,316	$ -	$ -	$ -	$ 100,974	$ -	$ 168,290
SLIC	$ 10,857		Scheduling & Logging for ISO California (SLIC)	$ 10,857	$ 7,057	$ -	$ 1,629	$ 543	$ 1,629	$ -	$ 10,857
SRS	$ 13,572		Firm Transmission Right (FTR) and Secondary Registration System (SRS)	$ 13,572	$ -	$ -	$ 2,036	$ 8,143	$ 2,036	$ 1,357	$ 13,572
Vitria App	$ 13,029		Vitria (Middleware)	$ 37,458	$ 9,198	$ 66	$ 6,782	$ 990	$ 2,836	$ 17,587	$ 37,458
Vitria DB	$ 24,429										
SI Workspace (MD02)	$ 184,577	$ -	Scheduling Infrastructure (SI)	$ 199,234	$ 19,923	$ -	$ 149,426	$ -	$ 19,923	$ 9,962	$ 199,234
SI Storage Amount	$ 14,658										
SA Storage	$ 1,629		Scheduling Architecture (SA)	$ 1,629	$ 390	$ -	$ 323	$ 421	$ 494	$ -	$ 1,629
			Total	$ 2,744,873	$ 1,164,482	$ 83,928	$ 214,452	$ 33,139	$ 227,887	$ 1,020,985	$ 2,744,873
			Percent of Total		42%	3%	8%	1%	8%	37%	100%

California Independent System Operator
2004 GMC Cost Allocation

Draft and Preliminary
Subject to both review and approval

Infrastructure - Direct Assigned Items
Used to allocate Trustee Expenses from Startup

		Amount	CRS	ETS	FS	CONG	MU	SMCR	Total
EMS	Direct	$ 16,470,000	0%	0%	0%	80%	20%	0%	100%
SI	Direct	$ 27,102,000	35%	0%	10%	0%	55%	0%	100%
SA	Direct	$ 31,681,000	24%	0%	20%	26%	30%	0%	100%
BBS (Billing & Settlement)	Direct	$ 48,173,000	85%	0%	0%	0%	15%	0%	100%
MDAS	Direct	$ 8,166,000	0%	0%	100%	0%	0%	0%	100%
GRRMA-Software	Direct	$ 56,000	60%	40%	0%	0%	0%	0%	100%
Market Analysis Software	Direct	$ 238,000	15%	26%	0%	20%	31%	7%	100%
Vehicles MDAS/Metering	Direct	$ 96,000	60%	40%	0%	0%	0%	0%	100%
FERC Study Software	Direct	$ 11,000	40%	0%	0%	0%	60%	0%	100%
GCP/RIG	Direct	$ 975,000	50%	0%	10%	20%	20%	0%	100%
SRS Software (FTR related)	Direct	$ 1,049,000	100%	0%	0%	0%	0%	0%	100%
ETCC Software	Direct	$ 891,000	100%	0%	0%	0%	0%	0%	100%
FTR Auction Software	Direct	$ 17,000	100%	0%	0%	0%	0%	0%	100%
ACC Upgrades (Communication between ISO & IOUs)	Direct	$ 1,162,000	50%	50%	0%	0%	0%	0%	100%
		$ 136,087,000							

		Amount	Amount	Amount	Amount	Amount	Amount	
EMS	Direct	$ -	$ -	$ -	$ 13,176,000	$ 3,294,000	$ -	$ 16,470,000
SI	Direct	$ 9,485,700	$ -	$ 2,710,200	$ -	$ 14,906,100	$ -	$ 27,102,000
SA	Direct	$ 7,590,181	$ -	$ 6,286,579	$ 8,195,204	$ 9,609,036	$ -	$ 31,681,000
BBS (Billing & Settlement)	Direct	$ 40,947,050	$ -	$ -	$ -	$ 7,225,950	$ -	$ 48,173,000
MDAS	Direct	$ -	$ -	$ 8,166,000	$ -	$ -	$ -	$ 8,166,000
GRRMA-Software	Direct	$ 33,600	$ 22,400	$ -	$ -	$ -	$ -	$ 56,000
Market Analysis Software	Direct	$ 36,093	$ 62,994	$ -	$ 47,666	$ 74,588	$ 16,658	$ 238,000
Vehicles MDAS/Metering	Direct	$ 57,600	$ 38,400	$ -	$ -	$ -	$ -	$ 96,000
FERC Study Software	Direct	$ 4,400	$ -	$ -	$ -	$ 6,600	$ -	$ 11,000
GCP/RIG	Direct	$ 487,500	$ -	$ 97,500	$ 195,000	$ 195,000	$ -	$ 975,000
SRS Software (FTR related)	Direct	$ 1,049,000	$ -	$ -	$ -	$ -	$ -	$ 1,049,000
ETCC Software	Direct	$ 891,000	$ -	$ -	$ -	$ -	$ -	$ 891,000
FTR Auction Software	Direct	$ 17,000	$ -	$ -	$ -	$ -	$ -	$ 17,000
ACC Upgrades (Communication between ISO & IOUs)	Direct	$ 581,000	$ 581,000	$ -	$ -	$ -	$ -	$ 1,162,000
		$ 61,180,124	**$ 704,794**	**$ 17,260,279**	**$ 21,613,870**	**$ 35,311,274**	**$ 16,658**	**$ 136,087,000**
		45%	1%	13%	16%	26%	0%	100%

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	Description
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS	
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS	
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS	
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS	
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP	
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP	
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP	
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP	
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP	
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS	
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS	
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS	
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS	
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS	
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS	
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS	
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS	
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS	
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS	
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS	
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DATA	
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA	
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA	
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS	
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS	
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG	
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG	
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS	
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMAR	
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMAR	
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMAR	
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR	
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT	
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT	
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT	
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT	

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	Description
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT	
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT	
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT	
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT	
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT	
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB	
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB	
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA	
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA	
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA	
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA	
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA	
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA	
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA	
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA	
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA	
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA	
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS	
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE	
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE	
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE	
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE	
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE	
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE	
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE	
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE	
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE	
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE	
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE	
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE	
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE	
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE	
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE	
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE	
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE	
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE	
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE	
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI	
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI	
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI	
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI	
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE	
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY	

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514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY	
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security	
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security	
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC	
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC	
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE	
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE	
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE	
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE	
12033-	015	215912		$ 1,213,589.00	2.8950%	STORAGE	
12033-	016	215911		$ 1,352,060.00	2.8950%	STORAGE	
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE	
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE	
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE	
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE	
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE	
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE	
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE	
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE	
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN	
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN	

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	End Date	Approx. CAP buyout (20% of orig value for buyout)	
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS	2/28/2004	$ 8,574	$ 8,574
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS	5/31/2004	$ 1,795	
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS	5/31/2004	$ 1,795	
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS	3/31/2005	$ 2,605	$ 6,196
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP	5/31/2004	$ 5,030	
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP	5/31/2004	$ 9,133	
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP	5/31/2004	$ 9,957	
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP	5/31/2004	$ 7,525	
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP	5/31/2004	$ 42,266	$ 73,912
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS	5/31/2004	$ 17,119	
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS	5/31/2004	$ 21,317	
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS	5/31/2004	$ 21,317	
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS	5/31/2004	$ 18,594	
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS	5/31/2004	$ 8,119	
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS	5/31/2004	$ 38,261	
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS	6/30/2004	$ 7,194	
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS	6/30/2004	$ 19,216	
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS	1/31/2005	$ 6,482	
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS	1/31/2005	$ 6,480	
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS	6/30/2005	$ 4,238	$ 168,335
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DATA	6/30/2005	$ 615	$ 615
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA	5/31/2004	$ 24,650	
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA	5/31/2004	$ 31,387	$ 56,037
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS	3/31/2004	$ 789,579	
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS	3/31/2004	$ 5,220	$ 794,799
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG	2/28/2004	$ 18,342	
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG	5/31/2004	$ 4,204	$ 22,546
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS	8/31/2004	$ 1,008	
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMA	8/31/2005	$ 16,758	
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMA	8/31/2005	$ 1,179	
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMA	10/31/2005	$ 34,247	$ 53,191
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR	2/28/2004	$ 12,320	$ 12,320
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT	2/28/2004	$ 1,936	
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT	2/28/2004	$ 2,264	
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT	3/31/2004	$ 844	
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT	5/31/2004	$ 2,534	

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	End Date	Approx. CAP buyout (20% of orig value for buyout)	
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT	5/31/2004	$ 1,267	
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT	5/31/2004	$ 3,825	
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT	7/31/2004	$ 5,795	
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT	1/31/2005	$ 678	
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT	2/28/2005	$ 946	$ 20,088
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB	5/31/2005	$ 422	
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB	6/30/2005	$ 3,390	$ 3,812
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA	5/31/2004	$ 19,298	
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA	8/31/2004	$ 36,519	
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA	9/30/2004	$ 12,830	
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA	10/31/2004	$ 16,428	
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA	11/30/2004	$ 39,330	
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA	12/31/2004	$ 16,050	
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA	2/28/2004	$ 11,235	
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA	2/28/2004	$ 15,310	
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA	2/28/2004	$ 8,739	
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA	2/28/2004	$ 14,860	$ 190,600
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS	3/31/2004	$ 9,605	$ 9,605
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE	2/28/2004	$ 4,868	
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE	2/28/2004	$ 1,153	
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE	2/28/2004	$ 4,245	
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE	2/28/2004	$ 12,792	
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE	3/31/2004	$ 459	
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE	4/30/2004	$ 21,788	
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE	5/31/2004	$ 3,950	
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE	5/31/2004	$ 3,950	
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE	7/31/2004	$ 931	
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE	2/28/2005	$ 4,349	
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE	3/31/2005	$ 2,547	
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE	3/31/2005	$ 15,290	
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE	4/30/2005	$ 3,950	
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE	5/31/2005	$ 1,399	
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE	5/31/2005	$ 3,100	
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE	5/31/2005	$ 964	
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE	6/30/2005	$ 4,748	
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE	7/31/2005	$ 10,588	
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE	7/31/2005	$ 8,271	$ 109,341
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI	2/28/2004	$ 9,429	
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI	2/28/2004	$ 2,440	
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI	2/28/2004	$ 2,798	
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI	5/31/2004	$ 10,701	$ 25,369
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE	2/28/2004	$ 11,858	$ 11,858
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY	5/31/2004	$ 4,568	

System Equipment Lease Buyout for 2004

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	End Date	Approx. CAP buyout (20% of orig value for buyout)		
514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY	2/28/2005	$ 1,912		$ 6,481
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security	3/31/2004	$ 2,405		
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security	1/31/2004	$ 3,852		$ 6,257
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC	6/30/2004	$ 12,302		
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC	6/30/2004	$ 17,394		$ 29,696
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE	10/31/2004	$ 94,780		
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE	10/31/2004	$ 70,128		
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE	10/31/2004	$ 33,440		
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE	10/31/2004	$ 14,000		
12033-	015	215912		$1,213,589.00	2.8950%	STORAGE	10/31/2004	$ 242,718		
12033-	016	215911		$1,352,060.00	2.8950%	STORAGE	10/31/2004	$ 270,412		
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE	10/31/2004	$ 2,752		
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE	10/31/2004	$ 11,680		
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE	10/31/2004	$ 23,846		
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE	10/31/2004	$ 38,800		
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE	10/31/2004	$ 45,000		
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE	10/31/2004	$ 3,620		
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE	10/31/2004	$ 3,620		
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE	11/30/2004	$ 35,446		$ 890,242
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN	5/31/2004	$ 4,934		
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN	9/30/2004	$ 65,239		$ 70,173
								$ 2,570,047	Dir	$ 2,570,047
									SY	$ 1,186,953
								$ 700,000		
								$ 260,000	FT	$ 960,000
										$ 4,717,000
										$ -

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	CRS	ETS	FS	Cong	Mkt
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS	25%	0%	18%	3%	8%
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS					
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS					
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS	50%	0%	25%	0%	20%
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP					
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP					
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP					
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP					
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP	85%	0%	0%	0%	15%
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS					
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS					
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS					
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS					
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS					
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS					
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS					
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS					
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS					
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS					
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS	25%	0%	18%	3%	8%
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DATA	10%	0%	0%	65%	25%
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA					
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA	50%	0%	0%	50%	0%
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS					
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS	0%	0%	0%	0%	0%
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG					
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG	15%	26%	0%	20%	31%
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS					
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMA					
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMA					
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMA	41%	16%	6%	1%	6%
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR	0%	0%	0%	0%	100%
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT					
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT					
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT					
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT					

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	CRS	ETS	FS	Cong	Mkt
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT					
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT					
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT					
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT					
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT	50%	23%	0%	0%	6%
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB					
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB	50%	0%	0%	50%	0%
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA					
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA					
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA					
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA					
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA					
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA					
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA					
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA					
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA					
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA	10%	0%	35%	0%	55%
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS	20%	0%	20%	0%	55%
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE					
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE					
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE					
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE					
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE					
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE					
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE					
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE					
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE					
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE					
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE					
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE					
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE					
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE					
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE					
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE					
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE					
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE					
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE	0%	0%	0%	0%	100%
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI					
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI					
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI					
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI	50%	23%	0%	0%	6%
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE	0%	0%	0%	0%	0%
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY					

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	CRS	ETS	FS	Cong	Mkt
514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY	50%	23%	0%	0%	6%
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security					
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security	100%	0%	0%	0%	0%
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC					
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC	5%	5%	0%	0%	90%
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE					
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE					
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE					
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE					
12033-	015	215912		$ 1,213,589.00	2.8950%	STORAGE					
12033-	016	215911		$ 1,352,060.00	2.8950%	STORAGE					
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE					
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE					
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE					
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE					
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE					
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE					
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE					
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE	100%	0%	0%	0%	0%
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN					
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN	50%	23%	0%	0%	6%

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	SMCR	CRS	ETS	FS
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS	47%	$ 2,105	$ 15	$ 1,552
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS				
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS				
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS	5%	$ 3,098	$ -	$ 1,549
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP				
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP				
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP				
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP				
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP	0%	$ 62,825	$ -	$ -
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS				
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS				
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS				
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS				
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS				
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS				
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS				
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS				
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS				
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS				
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS	47%	$ 41,335	$ 294	$ 30,477
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DATA	0%	$ 62	$ -	$ -
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA				
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA	0%	$ 28,019	$ -	$ -
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS				
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS	100%	$ -	$ -	$ -
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG				
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG	7%	$ 3,419	$ 5,967	$ -
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS				
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMA				
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMA				
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMA	29%	$ 21,958	$ 8,391	$ 3,330
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR	0%	$ -	$ -	$ -
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT				
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT				
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT				
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT				

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Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	SMCR	CRS	ETS	FS
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT				
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT				
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT				
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT				
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT	21%	$ 9,947	$ 4,712	$ 85
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB				
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB	0%	$ 1,906	$ -	$ -
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA				
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA				
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA				
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA				
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA				
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA				
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA				
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA				
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA				
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA	0%	$ 19,060	$ -	$ 66,710
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS	5%	$ 1,921	$ -	$ 1,921
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE				
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE				
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE				
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE				
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE				
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE				
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE				
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE				
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE				
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE				
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE				
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE				
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE				
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE				
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE				
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE				
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE				
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE				
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE	0%	$ -	$ -	$ -
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI				
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI				
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI				
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI	21%	$ 12,562	$ 5,951	$ 108
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE	100%	$ -	$ -	$ -
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY				

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Draft and Preliminary
Subject to both review and approval

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	SMCR	CRS	ETS	FS
514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY	21%	$ 3,209	$ 1,520	$ 28
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security				
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security	0%	$ 6,257	$ -	$ -
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC				
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC	0%	$ 1,485	$ 1,485	$ -
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE				
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE				
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE				
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE				
12033-	015	215912		$ 1,213,589.00	2.8950%	STORAGE				
12033-	016	215911		$ 1,352,060.00	2.8950%	STORAGE				
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE				
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE				
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE				
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE				
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE				
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE				
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE				
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE	0%	$ 890,242	$ -	$ -
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN				
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN	21%	$ 34,749	$ 16,462	$ 298
								#########	$ 44,799	$ 106,058
								45%	2%	4%

California Independent System Operator
2004 GMC Cost Allocation
System Equipment Lease Buyout for 2004

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	Cong	Mkt	SMCR
6741800-	155	214930	2/14/01	$ 42,870.00	2.9600%	ADS	$ 227	$ 649	$ 4,026
6741800-	191	215836	10/05/01	$ 8,976.73	3.9287%	ALFS			
6741800-	198	215844	10/05/01	$ 8,976.73	3.9287%	ALFS			
514	008	226574	3/28/02	$ 13,026.00	3.0554%	ALFS	$ -	$ 1,239	$ 310
6741800-	193	215838	10/05/01	$ 25,148.00	3.9286%	BACKUP			
6741800-	194	215840	10/05/01	$ 45,666.40	3.9287%	BACKUP			
6741800-	195	215841	10/05/01	$ 49,786.55	3.9287%	BACKUP			
6741800-	199	215845	10/05/01	$ 37,624.61	3.9287%	BACKUP			
6741800-	200	215839	10/08/01	$ 211,332.40	3.9287%	BACKUP	$ -	$ 11,087	$ -
6741800-	167	215225	4/19/01	$ 85,596.58	3.0392%	BBS			
6741800-	168	215226	4/19/01	$ 106,585.00	3.0905%	BBS			
6741800-	172	215230	4/19/01	$ 106,585.00	3.0905%	BBS			
6741800-	173	215231	4/19/01	$ 92,967.58	3.0392%	BBS			
6741800-	171	215229	4/19/01	$ 40,593.11	3.0915%	BBS			
6741800-	202	215850	10/08/01	$ 191,305.10	3.8919%	BBS			
6741800-	176	215362	5/16/01	$ 35,968.00	3.0915%	BBS			
6741800-	177	215374	Total	$ 96,079.42	3.0392%	BBS			
6741800-	211	216088	12/20/01	$ 32,408.00	3.0961%	BBS			
6741800-	212	216089	12/20/01	$ 32,400.50	3.0961%	BBS			
6741800-	222	226760	5/14/02	$ 21,188.10	3.3138%	BBS	$ 4,448	$ 12,747	$ 79,034
6741800-	223	226764	5/17/02	$ 3,076.00	3.0696%	DATA	$ 400	$ 154	$ -
6741800-	169	215227	4/19/01	$ 123,248.06	3.0393%	DMA			
6741800-	170	215228	4/19/01	$ 156,937.00	3.0829%	DMA	$ 28,019	$ -	$ -
6741800-	159	1800-159	3/29/01	$ 3,947,895.90	3.0312%	EMS			
6741800-	207	215909	10/24/01	$ 26,100.00	3.8390%	EMS	$ -	$ -	$ 794,799
6741800-	142	204418	11/21/00	$ 91,707.79	2.9310%	ETAG			
6741800-	205	215868	10/15/01	$ 21,022.00	3.4093%	ETAG	$ 4,515	$ 7,066	$ 1,578
6741800-	182	215535	7/05/01	$ 5,038.00	2.9981%	MDAS			
6741800-	226	226854	7/24/02	$ 83,790.75	2.9630%	MDAS/OMA			
6741800-	227	226854	9/28/02	$ 5,896.00	3.1260%	MDAS/OMA			
6741800-	225	226853	7/24/02	$ 171,232.50	2.9630%	MDAS/OMA	$ 588	$ 3,311	$ 15,614
6741800-	150	214752	1/24/01	$ 61,601.00	2.9309%	HR	$ -	$ 12,320	$ -
6741800-	189	215761	9/20/01	$ 9,678.00	3.8390%	NT			
6741800-	184	215587	7/16/01	$ 11,319.00	2.9984%	NT			
6741800-	163	215097	3/21/01	$ 4,220.00	2.9620%	NT			
6741800-	208	215984	11/14/01	$ 12,668.40	3.9287%	NT			

System Equipment Lease Buyout for 2004

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	Cong	Mkt	SMCR
6741800-	209	215987	11/14/01	$ 6,334.20	3.9287%	NT			
6741800-	210	216006	11/21/01	$ 19,124.96	3.9287%	NT			
6741800-	181	215533	7/05/01	$ 28,977.00	2.9981%	NT			
6741800-	213	216295	1/09/02	$ 3,388.00	3.0700%	NT			
514	005	226469	2/14/02	$ 4,728.00	2.9822%	NT	$ 70	$ 1,117	$ 4,155
6741800-	215	226682	5/14/02	$ 2,111.40	3.3139%	NT/WEB			
6741800-	217	226695	5/16/02	$ 16,950.00	3.1730%	NT/WEB	$ 1,906	$ -	$ -
1350450-	001	215995	11/15/01	$ 96,492.00	3.1920%	OA			
514	002	6408/9/10	2/01/02	$ 182,595.00	3.4590%	OA			
514	007	226512	3/04/02	$ 64,150.00	3.5682%	OA			
1350450-	002	226537	3/11/02	$ 82,140.00	3.3236%	OA			
6741800-	219	226697	5/20/02	$ 196,650.00	3.5156%	OA			
1350450-	003	226688	5/16/02	$ 80,250.00	3.3271%	OA			
6741800-	178	215509	6/26/01	$ 56,176.55	3.3371%	OA			
6741800-	179	215510	6/26/01	$ 76,550.00	3.4206%	OA			
6741800-	183	215608	7/20/01	$ 43,695.35	3.4494%	OA			
6741800-	185	215590	7/17/01	$ 74,300.00	3.4208%	OA	$ -	$ 104,830	$ -
6741800-	187	215711	8/30/01	$ 48,025.21	3.4718%	OASIS	$ -	$ 5,283	$ 480
6741800-	151	214775	1/26/01	$ 24,339.00	2.9600%	OFFICE			
6741800-	152	214852	2/05/01	$ 5,763.00	2.9603%	OFFICE			
6741800-	153	214853	2/05/01	$ 21,225.60	2.9599%	OFFICE			
6741800-	156	214931	2/14/01	$ 63,960.00	2.9601%	OFFICE			
6741800-	188	215707	8/30/01	$ 2,295.00	3.4678%	OFFICE			
6741800-	166	215165	4/05/01	$ 108,940.00	3.0737%	OFFICE			
6741800-	201	215820	10/05/01	$ 19,749.00	3.4678%	OFFICE			
6741800-	206	215870	10/05/01	$ 19,749.00	3.4678%	OFFICE			
6741800-	180	215529	7/03/01	$ 4,656.00	2.9981%	OFFICE			
514	004	226438	2/05/02	$ 21,744.00	3.2745%	OFFICE			
6741800-	214	226332	1/15/02	$ 12,735.00	3.1590%	OFFICE			
514	006	226486	2/28/02	$ 76,450.00	2.9680%	OFFICE			
514	009	226438-1	2/28/02	$ 19,749.00	3.3014%	OFFICE			
6741800-	216	226693	5/17/02	$ 6,995.00	3.1360%	OFFICE			
6741800-	218	226701	5/17/02	$ 15,500.00	3.1360%	OFFICE			
514	010	226659	5/02/02	$ 4,822.20	3.2973%	OFFICE			
6741800-	220	226710	5/23/02	$ 23,739.00	3.1610%	OFFICE			
6741800-	221	226711	5/17/02	$ 52,939.00	3.1504%	OFFICE			
6741800-	224	226782	6/21/02	$ 41,355.00	3.1610%	OFFICE	$ -	$ 109,341	$ -
6741800-	157	214979	2/24/01	$ 47,146.00	2.9310%	PI			
6741800-	204	215866	10/15/01	$ 12,200.00	3.9707%	PI			
6741800-	158	214980	2/24/01	$ 13,992.00	2.9452%	PI			
6741800-	190	215762	9/20/01	$ 53,506.00	3.4093%	PI	$ 88	$ 1,411	$ 5,248
6741800-	154	214929	2/14/01	$ 59,292.00	2.9600%	RAVE	$ -	$ -	$ 11,858
6741800-	197	215843	10/05/01	$ 22,841.35	3.9287%	REMEDY			

System Equipment Lease Buyout for 2004

Schedule		P.O. No.	Sch. Date	Total Sch. Amt.	Sch. Rate	System	Cong	Mkt	SMCR
514	003	226447	2/06/02	$ 9,562.48	2.9595%	REMEDY	$ 23	$ 360	$ 1,341
6741800-	162	214984	?	$ 12,024.00	3.0667%	Security			
6741800-	145	204612	12/26/00	$ 19,261.39	2.7201%	Security	$ -	$ -	$ -
6741800-	174	215248	Total	$ 61,512.00	3.0737%	SLIC			
6741800-	175	215247	Total	$ 86,967.75	3.0737%	SLIC	$ -	$ 26,726	$ -
12033-	011	214962	2/21/01	$ 473,899.00	2.6647%	STORAGE			
12033-	012	214962	2/21/01	$ 350,641.00	2.6648%	STORAGE			
12033-	013	215257	4/25/01	$ 167,200.00	2.8212%	STORAGE			
12033-	014	215795	9/28/01	$ 70,000.00	3.0914%	STORAGE			
12033-	015	215912		$ 1,213,589.00	2.8950%	STORAGE			
12033-	016	215911		$ 1,352,060.00	2.8950%	STORAGE			
12033-	017	216032		$ 13,760.00	3.0814%	STORAGE			
12033-	018	226493	2/26/02	$ 58,400.00	3.5582%	STORAGE			
12033-	019	226492	2/26/02	$ 119,231.00	3.5452%	STORAGE			
12033-	020	226644	4/25/02	$ 194,000.00	3.3680%	STORAGE			
12033-	021	226643	4/25/02	$ 225,000.00	3.3400%	STORAGE			
12033-	023	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE			
12033-	024	226790	6/27/02	$ 18,100.00	3.7569%	STORAGE			
514	001	215976/7	11/13/01	$ 177,232.00	2.9989%	STORAGE	$ -	$ -	$ -
6741800-	203	215823	10/09/01	$ 24,667.50	4.0593%	WAN			
6741800-	186	215680	8/07/01	$ 326,196.00	3.3043%	WAN	$ 245	$ 3,902	$ 14,516
							$ 40,528	$ 301,544	$ 932,959
							2%	12%	36%

Draft Questions Regarding CAISO's Proposed FY 2004 0&M and Capital Budgets

(Based on September 18, 2003 document Posted on Web)

I. Cohen Requests

David Cohen signed the NDA as part of the 2004 GMC Rate Design Process. He is requesting to examine the documents that support the "significant detail" of the 2004 Budget.

Response:

As in past years, we will make available additional detail beyond what has been posted to the ISO's website. This information will be consistent with the level provided in past years, and the same budget detail as provided to the ISO's Governing Board.

Please make available on CD Rom or on diskette the 2004 Cost Allocation Matrix that Ben A is working on.

Response:

The ISO will release the 2004 Cost Allocation Matrix documents in electronic form, at the following place on the ISO's website:

http://www.caiso.com/docs/2003/02/07/2003020716485815445.html

Given the allotted 3 hours for the workshop, we request CAISO leave sufficient time to answer questions about the budget items and impact on the Cost Allocation Matrix.

Response:

We will endeavor to do so, but if we aren't able to finish in three hours, will spend additional time with interested parties on October 3rd or thereafter.

At the October 3, Budget Workshop please have CAISO knowledgeable staff available to discuss the Capital Budget specific Projects.
Interested in understanding the cost/benefits analysis that support each proposed capital project.

Response:

Responses are compiled based on available time and information during week of September 29, 2003, and are not warranted to be free of potential errors.

As the projects are put forward from representatives throughout the ISO, it will not be possible to have all such staff available at the meeting, but we will try to respond to questions about specific projects to the extent feasible.

II. General Questions

1) Refer to Section V Overview of Budgeting Process and Results, at page 11. Please identify the "new challenges" not covered in the 2003 budget.

Response:

While somewhat fewer than in previous years, the 2004 budget does have new spending requirements. A summary of these programs is listed on pages 26-32.

Further, the budget write-ups for each ISO department discuss additional challenges foreseen for 2004, and their effects on the proposed budget. These additional write-ups will be made available to signatories to the NDA.

2) What does the CAISO estimate it will cost to perform the "reruns" for the FERC Refund?

Contractor cost?
Internal CAISO Staff?
New Hardware or Software?
70 Statements per day for 510 days?

Response:

The ISO has not developed a comprehensive estimate of the total cost for processing the FERC reruns. As outlined in the March 2003 filing on the refund case, we estimated 9 months to conduct the entire process of preparatory rerun, refund rerun, and market clearing. Staffing requirements during this timeframe vary during each phase, i.e. publishing statements vs. dispute periods vs. interest calculations, etc. Because of the nature of the rerun work, senior analysts are needed to perform the work, so we are supplementing existing staff with contractors to pick up daily work that frees senior analysts to concentrate more on MD02 and the rerun work when it occurs. The incremental programs highlight specific additions that will be needed when the reruns start, but they don't represent the total cost of contractors on site that are being trained to help pick up the critical rerun work when we are publishing the rerun statements and settlement detail files and responding to SC questions. Further we have made the assumption that senior analysts will be required to work longer hours during the actual rerun activity. The reference to 70 statements each day for 510 days refers to approximately 70 entities that receive statements during the 2000/2001 timeframe, and each will receive refund rerun statements for the refund period and also for the same number of days in the preparatory rerun.

The specific 2004 incremental programs related to the FERC reruns that were separately identified are shown below, but as noted above, they do not represent the total cost of the rerun work.

Cost Center	***Program***	***Desc.***
1321	***INC-1***	***Market Participant Assurance of ISO controls over FERC preparatory and refund reruns (Audit fees)***
1725	***INC-1***	***FERC mandated refund compliance (Contractor funds)***
1756	***INC-1***	***Contractor for daily support and FERC re-run***

The total cost of these three programs is $360,000.

3) Did the CAISO Finance Department do any Benchmarking to other ISOs or RTO? If yes, what did you find out and are those studies available? If the answer is no, why not? Did the CAISO IT department do any Benchmarking to other ISOs or RTO? If yes, what did you find out and are those studies available? If answer is no, why not?

Response:

The ISO has participated in a study conducted by RJ Rudden & Associates that is being jointly sponsored by several ISOs. This study is underway, and a draft report was recently distributed for review by participants. The terms of the study prohibit release of the report while it is still in draft form. The goal of study participants is to finalize the report prior to the beginning of 2004, and to make it available for release at that time. The study reviews 2003 budgeted spending.

4) Has the CAISO compared its proposed 2004 Budget to other ISOs budgets for 2004? If, yes, is there a comparative matrix available to stakeholders?

Response:

A 2004 comparative matrix is not available as of September 29, 2003, but we will endeavor to compile such a matrix in the near term. The ISO Treasurer does maintain a correspondence with other ISOs, and has received information on the proposed budgets of PJM and NY.

5) What are the CAISO's specific 2004 performance goals? Please identify and list in order of priority.

Response:

> ***Draft goals for 2004 were shared with the ISO Governing Board at the September meeting in executive session. The goals will be released and approved at the October meeting. The 2004 goals are likely to be similar, in large part, to the 2003 goals, which are summarized on the ISO's website, here:***
>
> ***http://www.caiso.com/aboutus/mission.html***
>
> ***The list of goals is not prioritized as such, but each goal is assigned a certain number of points from a total of 100. Some goals are therefore more heavily weighted than others.***

6) Please describe what efforts the CFO is making in convincing the other Rating Agencies to restore the CAISO to investment grade.

Response:

> ***After numerous conversations spanning nearly 1.5 years, significant progress has been made in late September on this issue. The ISO, during the week of September 22, 2003, provided information to S&P that we are told will lead to a split rating for the ISO: a "counterparty" rating, reflecting the ISO's role as market clearing agent, and an "issuer" rating, reflecting the ISO's corporate obligations.***

7) Please identify the amount of capital expenditures that the CAISO has "spent" or forecasts as it relates to MD02:

Year	**MD02 Capital Expenditures**
2002 Recorded	
2003 Recorded	
2004 Forecasted	$17 M to $25 M
2005 Forecasted	
2006 Forecasted	

Response:

Year	**MD02 Capital Expenditures**
2002 Budgeted	$10,440,000
2002 Spent as 12/31/ 2002	$5,989,797

2002 paid 2003	$ 2,573,683
2003 Budgeted	$15,000,000
2003 8/31 spent	$6,414,780
2003 Est Add. Spending	4,500,000 – 8,500,000
2004 Forecasted	$17 M to $25 M
2005 Forecasted	
2006 Forecasted	

8) What are the specific "drivers" causing the CAISO to spend money on MD02? Has the CAISO asked FERC for a delay in implementing Phase II and III of MD02 until FERC finalizes its SMD Rule? If not, why not.

Response:

MD02 focuses on many items that need to be remedied due to structural flaws in California electricity market design that were not adequately addressed with electricity restructuring. Plugging the "holes" that fall within the purview of the CAISO functionality compel us to spend money to develop needed remedies. It does not make sense for the CAISO to ask FERC to delay implementing features of MD02 until SMD rules are finalized, because the ultimate SMD rules may not address the specific needs of the ratepayers of California that are included in the MD02 design.

While the ISO may allocate staff resources to MD02, we will not commit funds to new systems and software without FERC approval. Thus the immediate drivers of ISO spending on MD02 are FERC orders. Spending for systems for integrated forward markets (IFM) and locational marginal pricing (LMP) cannot commence until FERC responds to the ISO's July 22, 2003 filing.

Much of the urgency to implement MD02 derives from the flaws of the zonal congestion management system. Problems with this system have been evident for years and get worse each year as new generation comes on-line to serve California consumers. Given the divergence of views nationwide regarding SMD and FERC's retreat from the NOPR in its April 2003 "White Paper" a FERC ruling on SMD may not be issued any time soon. Meanwhile, the delay in SMD is no reason to delay MD02, since MD02 is fully consistent and compatible with both the SMD NOPR and the White Paper. In light of the urgency to fix congestion management, MD02 must proceed as soon as possible following a FERC ruling on the ISO's July 2003 filing.

9) Refer to Section IV Budget Structure and Preparation, at page 10 (Exhibit: Budget Preparation Illustration), how was the 5% Inflation factor developed? Stated in the

Contract or based on negotiations during 2003? Did the CAISO try and get a reduction in the inflation factor from its Contractors? What is the total amount of Contractor Costs in the 2003 Budget? How many dollars for those same Contractors are included in the 2004 Budget?

Response:

> ***The 5% referred to on page 10 is purely for the purpose of explaining the concept of an INCREMENTAL program. It is not used in the proposed 2004 budget.***
>
> ***See pages 22 and 23 for total contractor and consultant costs in 2003 and 2004.***

10) Refer to Section VI Budget Overview, at page 16 (Exhibit: Summary Table of the Proposed FY2004 Revenue Requirement). Please fill in the range of dollars for Capital Project Funding (direct from rates) as identified in the table below.

FY 2004 CAISO Capital Project Funding			
Category of Capital Projects	**Low**	**Mid Point**	**High**
Corp Applications and Hardware Support		$5,160,000	
Facilities Building Security		$150,000	
Main Operations Systems – Non MD02		$3,990,000	
Operating Support Systems		$700,000	
MD02 Implementation Consolidated Projects	$17,000,000	$22,000,000	$25,000,000
Grand Total Proposed 2004 Capital Projects		$32,000,000	

Response:

> ***The ISO has provided as much information as will be released on the proposed capital budget. The only item that has not been released is the estimated cost of individual projects, which are, at this point, only estimates, and are held confidential to avoid releasing sensitive data to potential vendors.***
>
> ***As in previous years, the proposed project listing is an indicative list. Not all of the projects on the list will be completed, and other projects not on the list may be.***

11) What are the reasons that Operating Reserves expected range is $15 to $28 million for 2004? Why did the CAISO select only $19.4 million to use as a Revenue Credit from Operating Reserves?

Response:

The Operating Reserve calculation is to be released prior to the budget workshop, showing the elements that comprise the reserve credit.

At the time of preparation of the preliminary proposed 2004 budget, uncertainty with respect to several elements of the Operating Reserve calculation existed, and rather than indicate a single point estimate, a range of potential values was viewed as providing greater disclosure of what the ultimate reserve credit to be provided in the FERC filing will be. This uncertainty exists with respect to both 2003 revenues, and 2003 and earlier expenses.

12) Please explain why the CAISO has assumed a "Relocation Cost for 2004" of $450,000 (shown on Page Section VI, page 20), when the FTE count is proposed to increase by only four (4) FTE?

Response:

While staffing increases only minimally in 2004, normal employee turnover will continue. In past years, turnover has been on the order of 10-12%. Currently, in 2003, turnover is lower at about 3-4%, but is anticipated to increase to levels closer to the 10-12% range seen in past years during 2004, due to a variety of factors including the reaching of retirement age by many ISO employees, particularly in Operations. The $450,000 is related to relocation costs for such normal turnover.

13) Refer to Section VI Budget Overview, at page 22, CAISO FY 2004 Insurance Expenditures. What types of Insurance are we referring to: (i.e. Life, Medical, Dental, Vision, E&O, D&O)?

a) Provide a break down of the $800,000 increase in Insurance costs.
b) Do CAISO employees contribute any dollars to the insurance coverage? If yes, pleas explain how much they contribute. Provide an example assuming an employee is paid $120,000 as Salary and Benefits.
c) Do CAISO employees pay for Spouses and Dependent Insurance?
d) Did the CAISO examine how much employees at California Utilities pay towards their insurance coverage?
e) Did the CAISO investigate or ask what other ISO require as employee contributions to insurance coverage?

Response:

The chart referred to on page 22 is for ISO insurance is not related to employee benefits, but rather other insurance including:

- ***Errors & Omissions/Professional Liability/Excess Liability***

- *Directors & Officers Liability*
- *Property*
- *Commercial General Liability*
- *Auto*
- *Difference in Condition (Alhambra- earthquake, etc.)*
- *Storage Tank*
- *Crime Insurance (paid for in 3 year program)*
- *K&R Coverage*
- *Fiduciary Coverage*

The $800K increase reflects:

- ***an adjustment of insurance costs to what was actually paid in 2003 ($460K over budget), and;***
- ***provides for an additional increase in 2004 of $292K, or 15% of 2003 actual premiums. The remainder is for other misc. insurance related items including non-insured losses and claims below the policy deductibles.***

14) Refer to Section VIII CAISO Staffing Overview, at page 34. How do CAISO employee benefits of 33% of base salary costs compare to other electric utilities in California or other ISOs?

Response:

The ISO's HR department has indicated that the benefit rate for electric utilities in California is a difficult number to acquire. However, SMUD as a public entity was willing to share the information. In the first quarter of 2003 SMUD was paying 35% of base salary for employee health and welfare benefits exclusive of retirement contributions. They are in a situation where their retirement contributions to PERS are currently at zero because they are in a "super-funded" status and have been for several years. The last time they made a contribution it was at 9% of base salary.

The July 2003 Hay Group ISO Sector Benefits & Total Remuneration Study noted that the CAISO total benefits rate was approximately 1% above the median for the six US ISO's. In addition, CAISO total benefits was approximately .5% below the utility median.

15) In which line item, of the FY2004 Budget, is the incentive compensation dollar amount located. Provide example for each category described on page 34:

a) Up to 12% of base pay for most employees,

b) Up to 20% of base pay for managers / directors,
c) Up to 60% for Officers.

Response:

As shown on page 20, these costs are an element of "Salaries and Benefits" See also response to Question 19.

16) How did the CAISO arrive at 73 % payout ratio? Please explain the quantitative basis for determining which employees get incentive compensation.

Response:

The 73% payout ratio is an estimate of a probable payout percentage for 2004, based on the payout in past years.

See also response to question 17.

17) Please provide details as to the metrics for incentive compensation.

Response:

Each year, the ISO Governing Board reviews and approves annual performance goals for ISO management & staff. These goals contain numerous subparts, which may have both quantitative and qualitative measures of success. A total of 100 points is divided among the various goals/subgoals, and performance on each is monitored and throughout the year. After the completion of the year, a report on performance is prepared and reviewed by the Governing Board. The Governing Board would then approve the total points to be awarded.

Typically, each goal has a target /threshold, or minimum level of performance before incentive compensation is possible, and a stretch goal at which the maximum number of applicable points for the goal is awarded.

The points awarded on the annual performance goals are applicable to all staff, and all staff are eligible for payment of incentive compensation based on the formula described in the response to Question 19.

18) How is the "Overall Corporate Performance" measured (p. 34)?

Response:

That term is used to refer to the overall score on the annual performance goals. See response to question 17.

19) On page 64 are the Salary & Benefits Related costs comparing 2003 and 2004. Where can we find the line item under each Cost Center for Incentive and Spot Bonuses $5,985,000?

Response:

This is a component of "Salaries and Benefits" for each Cost Center. Such costs are budgeted in expense code 115, "Incentive Compensation". The details of individual expense codes are not received as part of the budget distribution for public review. Rather, these amounts are aggregated in various ways (total costs for each department, expenses by Division by expense type, and expense type for the ISO as a whole.)

Incentive compensation is budgeted in the same manner for all ISO departments: For each position, incentive compensation is budgeted as:

(Base Pay) * (Eligibility Percentage) * (Budgeted Payout %)

Eligibility Percentage depends on position. For employees below the manager & director level this is 12%, for managers & directors: 20%, for Officers except the CEO up to 60%, and for the CEO: 100%.

The Budgeted Payout % is the 73% referred to in your question 16.

20) Does the "2002 ISO FERC Form 1" reflect total compensation for Officers or Base compensation?

Response:

FERC Form 1 page 104 reflects base and incentive compensation for Officers. This is also noted in the footnote at the bottom of the page.

21) We have noticed that the costs for Alhambra are bundled. Does the accounting system of the ISO differentiate between Alhambra and Folsom? Can the ISO provide specific budget information for Alhambra? If not, why?

Response:

The primary Oracle Accounting system is not generally set up to separately identify Alhambra vs. Folsom costs, but the information is available in other ways.

The primary accounting structure used in the ISO's general ledger consists of the following segments:

- ***Company***
- ***FERC Account***
- ***Cost Center***
- ***Expense Type***

Certain costs can readily be separately identified as being related to the Alhambra facility.

- ***The Oracle Accounting system, through one of its modules ("Oracle Projects"), allows the use of additional identifying codes for certain expenses, including facility operating expenses and lease costs, that distinguish between Folsom and Alhambra.***
- ***All employees are assigned an (F) or (A) code.***
- ***There is one specific cost center, 1561, Operations Engineering South, that operates out of Alhambra. While all the costs in this cost center are related to Alhambra, not all Alhambra staff (or costs) are in this cost center.***

From: Leiber, Phil
Sent: Tuesday, September 30, 2003 11:48 AM
To: Yakin, Dale
Cc: Arikawa, Ben
Subject: FW: Proposed 2004 ISO Budget

Dale, Please see responses to your questions below.

Philip Leiber
Treasurer & Director of Financial Planning
California ISO
916-351-2168
916-351-2259 (fax)

-----Original Message-----
From: Yakin, Dale
Sent: Monday, September 29, 2003 3:39 PM
To: Arikawa, Ben
Subject: Proposed 2004 ISO Budget

Ben, I have a few questions about the budget proposal:

1) What is the "Revenue Credit from Operating Reserve"? Is this an amount collected for contingency which was not utilized?

Response: We'll be providing the details of this calculation this week. Please see page 12 of the following presentation (see page numbers of slide) for a description of the Operating Reserve. http://www.caiso.com/docs/2003/09/24/200309241425573593.pdf

2) What is the "Vacancy Factor" and how does it effect salary and benefit expense? Is this a budgeted amount that was not utilized because budgeted new hires did not occur?

Response: We recognize that not all positions will be occupied next year. To recognize the savings that may result from this, we reduce salaries & benefits by a total of $2 million. These savings are reflected in the "Salary & Benefits" costs reflected in the budget.

3) There is an explanation that lease expense is reduced because the leased items were purchased. Lease expenses reduced by ~$8 Million, but capex aside from MD02 only increased by ~$8 Million. Does this imply that the leased equipment had depreciated to the point that this year's lease payment = buyout price ?

Response: The $8M decrease in lease expenses is a result of: 1) The purchase of leased equipment at the end of the lease term, which ends the monthly lease expense over the course of the year (approx $5M). 2) Lease dollars were budgeted for 2003 projects and new equipment, prior to a change in Financing practice/philosophy, moving from leasing equipment to buying equipment, resulting in unused budget dollars (approx $3M). The philosophy of purchasing leased equipment, as opposed to refreshing equipment and continuing on a lease schedule, allows the assets (IT hardware) to be managed according to the useful life, which may be 5 or more years, versus managing the hardware based on a contract life, which in the case of leasing, is typically three years. Buying out the lease schedules utilizes the full life of the equipment and reduces the ongoing O&M expense. The capital cost of a lease buyout is fair market value, which is significantly less than the original purchase price, typically the equivalent of 3-5 months of lease payments. The CapEx budget increases from $22 million in 2003 to $32 million in 2004, or $10 million in total. Of the $10 million increase, MD02 increases from $15 million to $22 million, or $7 million. Non MD02 expenditures increase from $7 million to $10 million. So, the increase in "capex", entails other projects not related to leased equipment or centralized IT equipment expenditures. The $10 million for all non-MD02 capital acquisitions includes equipment and other programs. While the equipment acquisition could readily consume $6-8 million of that remaining $10 million, we will attempt to defer, and economize as much as possible, to keep the equipment procurement costs from consuming the major of those funds and permit other important capital projects to be undertaken also within that $10 million. The capital budget for leased equipment buyout is $2.5M, and the capital budget to refresh end of life equipment (equipment at the end of its useable/supportable life of 5 years) is $2M, approximately 15% of all owned equipment. These are estimated costs based on a continuation of service at the level currently provided. There is an effort to consolidate servers, now possible with the availability and deployment of monitoring software that facilitates the placement of more than one application on a server. So, there is an effort to reduce the level of equipment--i.e. some won't be replaced.

CALIFORNIA ISO

California Independent
System Operator

Memorandum

To: ISO Board of Governors

From: William J. Regan, Jr., Chief Financial Officer

Philip Leiber, Director of Financial Planning and Treasurer

CC: ISO Board Assistants, ISO Officers

Date: October 14, 2003

Re: Report on Stakeholder Comments on FY2004 Budget

This memorandum is for information only.

The primary objective of the October 15th Finance Committee meeting is to receive questions and comments from stakeholders on the ISO's proposed 2004 budget. This memorandum serves as a record of feedback received from stakeholders on the proposed budget prior to October 15th.

Prior to the October 3rd budget workshop meeting, the ISO received written questions from CMUA and PG&E. These questions, and the ISO's responses were posted to the ISO website[1]. At the October 3rd budget workshop, the attendance list recorded by the ISO included representatives from the following entities (in addition to ISO staff and rate design consultants):

- Braun & Associates (representing California Municipal Utilities Association, "CMUA")
- California Department of Water Resources ("CDWR")
- California Public Utilities Commission
- Christensen & Associations (representing Modesto Irrigation District)
- Electricity Oversight Board
- Navigant Consulting (on behalf of certain municipal utilities)
- Phoenix Consulting
- Pacific Gas & Electric
- Western Area Power Administration

At the workshop, ISO representatives provided an overview of the budget proposal for 2004, the O&M budget proposals by ISO Division, and an overview of the 2004 GMC rate calculation with a specific focus on the cost allocation process and billing determinant. Numerous questions were raised and responded to during these presentations. Notable areas of inquiry logged for further follow-up or consideration by the ISO included:

	Inquiry	Response
1.	Consideration of a user fee for FERC mandated settlement re-runs.	Not viewed as viable at this time, but may be considered further.
2.	Benchmarking of Information Services Division	A review of studies previously performed is underway, with active consideration for the possibility of releasing summaries or extracts

[1] 2004 Budget documents are posted here: http://www.caiso.com/docs/2003/02/07/2003020716485815445.html

		that would not violate the study terms.
3.	Possibilities for deferring a rate filing beyond October 31, 2003 to provide additional time for stakeholder comments.	Consideration of this issue by ISO staff and outside counsel has found this to be impractical, and we will continue to aim for a filing date of October 31, 2003.
4.	The status of the ISO's credit rating, and the ability of the ISO to issue bonds to fund the 2004 capital expenditure budget.	While efforts are underway to have the ISO's credit rating restored to investment grade, the outcome of such discussions is uncertain and the ISO at this time intends to proceed with funding for the 2004 capital budget through rates.
5.	Presenting the 2004 revenue requirement using the 2003 GMC service categories.	This will be prepared and presented prior to, or in the rate filing.
6.	Support for the headcount vacancy factors used to reduce gross salary & benefit costs in the 2004 revenue requirement.	This will be addressed in the rate filing.
7.	Savings related to operating at less than full staffing.	These figures are available in the ISO's monthly financial reports, posted to the ISO's website. Through August 2003, the savings were $2.66 million.
8.	Questions on budgeted and actual spending on MD02 to date, and planned future spending on MD02.	Reference is made to the CMUA inquiries and ISO responses, available at the website reference listed in footnote 1.

Stakeholders were encouraged to submit any residual questions in writing to ISO staff prior to October 13, to permit a record of such questions to be compiled and presented to the Finance Committee for review on October 15. CMUA submitted a letter on October 13 summarizing their concerns about the ISO's 2004 budget proposal. CDWR submitted a list of questions on October 14 that the ISO will respond to during the October 15th meeting or thereafter.

ISO Management anticipates and looks forward to responding to additional inquires at the Finance Committee meeting on October 15.

Braun & Blaising

A Professional Corporation

October 13, 2003

Mr. William J. Regan, Jr.
Chief Financial Officer and Treasurer
California Independent System Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630

RE: CAISO 2004 Budget Proposal

Dear Bill:

The California Municipal Utilities Association ("CMUA") respectfully submits these Comments on the California Independent System Operator Corporation's ("CAISO") proposed 2004 Budget. These comments are not intended to be a comprehensive listing of CMUA's concerns. They are primarily intended to address overarching policy issues, although we do make some specific recommendations at the conclusion of this document.

INITIAL OBSERVATIONS ON PROCESS

CMUA has participated extensively in the 2004 GMC Stakeholder Process, as well as participated in the CAISO's October 3 Budget Workshop, before which it forwarded several written questions to CAISO staff (Attachment A). We certainly appreciate the hard work CAISO staff put into making a timely response to our questions. Unfortunately, many of the questions were not answered in the detail requested. Moreover, we found that the three hours allotted to discuss the intricacies of a $200 million plus budget with workshop participants was far too short. We do understand, however, that in years prior, few Stakeholders showed up to this event. This was not the case this year. In any event, the CAISO might consider expanding the time allotted to its Budget Workshop in the future. Future workshops can always be shortened if interests wane.

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Telephone: (916) 326-5812 ◆ Facsimile: (916) 326-5813

MARKET PARTICIPANTS NEED MORE TOOLS TO ASSESS THE CAISO BUDGET.

It is no mystery that the CAISO Budget has been a source of consternation and concern to market participants, including CMUA, since CAISO start-up. This is due to the fact that the CAISO revenue requirement is staggering, particularly relative to other ISO's.

Moreover, the details of the CAISO Budget are, in large part, incomprehensible to most lay people. What makes this task even less productive is that market participants lack a set of "tools" or "metrics" whereby we can effectively benchmark major CAISO costs. Metrics would serve two purposes: (1) allow comparison of CAISO costs with those of similar entities; and (2) provide measures of overall CAISO performance, including its performance as viewed by its clients. CMUA has specific suggestions on this latter point below.

CMUA believes it is essential that an unbiased benchmarking study be conducted and made available to market participants, comparing the CAISO with other ISOs, or similar operations. Until such comparisons are made available to market participants, however, we are left with the more general comparisons, which on the surface make the CAISO operating expenses appear to be far higher that its eastern counterparts.[1]

This issue of "lack of metrics" is clearly illustrated when attempting to assess compensation levels of the CAISO, which comprises over fifty percent of the CAISO's annual O&M Budget (over \$80 million, or 53%).[2] For example, FERC Form 1 filings of most of the eastern ISOs reveal an enormous gap in the Officer compensation between the CAISO and its eastern counterparts. These show that the CAISO's executive compensation, which includes incentive (bonus) compensation, is over two times higher than most other ISOs.[3] What we do not know, nor does CAISO staff (at least as of the October 3rd Budget Workshop), is whether these costs were simply reported differently (on their FERC Form 1s) by other ISOs,[4] or if they accurately reflect the extreme differences in compensation levels between the CAISO and most of its eastern counterparts, at least at the Officer level.[5] Nor do we understand the criterion for

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[1] For example, comparing the CAISO to the New York ISO ("NYISO") budgets for 2004 shows that the NYISO Operating Expenses are projected to be \$112.7 million compared to the CAISO's number of \$151.7 million. Operating expenses do not reflect Debt Service payments. 2003 PJM operating expenses were projected to be \$110.8 million.

[2] If you add in consulting costs budgeted for 2004 of \$7.7 million, total compensation to employees and consultants if actually 58% of the O&M Budget.

[3] Midwest System Operator or "MISO" has reported Officers' compensation at levels similar to CAISO.

[4] CAISO reported total Officer Compensation in its 2002 FERC Form 1, which includes base salary plus incentive-based compensation.

[5] We observe, however, that the average pay, per Full Time Equivalent ("FTE") at the CAISO is approximately 20% higher (salaries and benefits) than that of the NYISO, based on the NYISO's 2004 Budget Overview, September 26, 2003.

receiving such incentive-based compensation—a question we asked in our Budget Workshop questions—which, based on an earlier CAISO 2002 Client Satisfaction Survey,[6] does not appear to take into account the CAISO's performance towards its customers as a prominent metric. In any event, CMUA would appreciate clarification on this point.

CMUA also asked whether an inter-ISO benchmarking study has been done and if such a study is available. In response, CAISO informed us that there is an ISO benchmarking study out in draft, by RJ Rudden & Associates, that is being jointly sponsored by several ISOs, including CAISO.[7] The results, however, are to remain confidential while in draft form. We look forward to reviewing the study once it is available, although it is unfortunate it will not be accessible in a timeframe useful for the 2004 Budget process. The bottom line is that a meaningful budget process requires that market participants have access to comparative data.[8]

NO CONSTRAINTS ON SPENDING RESULT FROM NO ENFORCED CORPORATE MISSION

The other broad Budget concern is the fact that the CAISO Budget essentially has no upper boundaries. Because it is a revenue neutral entity, any surplus costs must be recovered from market participants. For example, if MD02 implementation actually costs $50 million, as opposed to $22 million (as provided in the 2004 Budget), market participants are potentially on the hook. Thus, the real overarching concern regarding the CAISO is that there are never any true limitations on costs. Assurances aside, the CAISO is endeavoring on a broad market redesign that may not proceed as anticipated. If it does not, we may once again find ourselves operating in crisis mode and seeing patch-work design changes, all of which cost enormous sums of money. In a worst case scenario, therefore, what safeguards do market participants have that place an ultimate check on CAISO spending for MD02, or other capital projects? If the answer is that the Federal Energy Regulatory Commission ("FERC") might deny these cost increases, this is insufficient due to the fact that CAISO is revenue neutral. Moreover, examining the vast expansion of CAISO core functions, illustrated in Attachment C to this document,[9] reinforces the

[6] The results of the 2002 Client Satisfaction Survey were presented to the CAISO Board of Governors on April 24, 2003 and the summary is attached hereto as Attachment B.

[7] We still do not understand why CAISO cannot perform its own internal review using some known budget-item counterparts in other ISOs. If, however, the CAISO is so different that such comparisons cannot be readily made, it begs the question of whether we are often reinventing the wheel rather than economizing through the sharing of common platforms or using our similarities to lower overall vendor costs. We understand that there has been a recent effort by the CAISO to find these similarities with other ISOs and reduce costs, however, there are no specifics as to what degree this is being done or what savings are being realized.

[8] CMUA is not convinced that the RJ Rudden & Associates study will present market participants with an unbiased picture of comparative data, since the study is being commissioned by the ISOs themselves.

[9] Attachment C was excerpted from the CAISO's September 16, 2002 Draft Budget. "Tasks and Accomplishments vs. Revenue Requirement," at 9.

opinion that it lacks corporate constraint and focus, thus cannot be relied upon to hold its costs in check. Combined, these concerns foster the view that there are long-term risks of participating in CAISO markets.

Indeed, it is this fear of budget accountability and uncertainty, among other things, which have forced various parties to seek alternatives to the CAISO. The CAISO Board and Management need to acknowledge this and demonstrate a stronger resolve to control its costs and to provide effective safeguards against runaway spending.

ACTION & REACTION COSTS

What the CAISO Budget does not reveal are the substantial additional costs imposed on market participants due to the CAISO's countless regulatory filings. Since inception, the CAISO has spawned over 57 Tariff Amendment filings, some reasonable and some not so reasonable. The reality is, for every CAISO "action" there is often a required market participant "reaction." Every market participant reaction—and, indeed, every CAISO action—results in significant cost to that entity. For load serving entities, these costs translate directly into higher rates. These costs, although significant, are not captured in the CAISO Budget. Some of these costs, however, can be reduced by the CAISO through various means, including a meaningful stakeholder process and the CAISO more carefully considering its options before rushing ahead into various regulatory filings and interventions. One clear example is the several iterations of proposals related to congestion management, from the CAISO's long-term planning filing that was rejected by FERC, to its several proposals to address intra-zonal congestion. Instead of an approach that results in a one-time, consensus proposal, the CAISO had proceeded by trial and error. This has greatly increased litigation and transaction costs for both the CAISO and market participants.

OTHER CONSIDERATIONS

CMUA has the following specific proposals that would contribute to lower CAISO costs, enhanced credibility among market participants, and lower costs to consumers as a result:

- CAISO should resist further expansions of it functions or staff by reducing its functions to "core reliability" functions that it has already identified;

- CAISO should inform the FERC that it needs to get its fiscal house in order before implementing costly and uncertain market design changes.

- CAISO should focus on infrastructural challenges before markets. Most of its MD02 proposal is no more than complex methods for mitigating market deficiencies, which will be costly for the CAISO to administer.

- The performance metrics used to determine CAISO employee incentive compensation must include significant (or more) weight to overall client satisfaction with CAISO performance.

CMUA respectfully submits these Comments pursuant to the directives of the ISO.

Sincerely,

C. Anthony Braun
Kevin Smith
Braun & Blaising, P.C.

Counsel to CMUA

ATTACHMENT

A

Draft Questions Regarding CAISO's Proposed FY 2004 0&M and Capital Budgets

(Based on September 18, 2003 document Posted on Web)

I. Cohen Requests

David Cohen signed the NDA as part of the 2004 GMC Rate Design Process. He is requesting to examine the documents that support the "significant detail" of the 2004 Budget.

Response:

As in past years, we will make available additional detail beyond what has been posted to the ISO's website. This information will be consistent with the level provided in past years, and the same budget detail as provided to the ISO's Governing Board.

Please make available on CD Rom or on diskette the 2004 Cost Allocation Matrix that Ben A is working on.

Response:

> ***The ISO will release the 2004 Cost Allocation Matrix documents in electronic form, at the following place on the ISO's website:***
>
> ***http://www.caiso.com/docs/2003/02/07/2003020716485815445.html***

Given the allotted 3 hours for the workshop, we request CAISO leave sufficient time to answer questions about the budget items and impact on the Cost Allocation Matrix.

Response:

> ***We will endeavor to do so, but if we aren't able to finish in three hours, will spend additional time with interested parties on October 3rd or thereafter.***

At the October 3, Budget Workshop please have CAISO knowledgeable staff available to discuss the Capital Budget specific Projects.
Interested in understanding the cost/benefits analysis that support each proposed capital project.

Response:

> ***As the projects are put forward from representatives throughout the ISO, it will not be possible to have all such staff available at the meeting, but we will try to respond to questions about specific projects to the extent feasible.***

II. General Questions

1) Refer to Section V Overview of Budgeting Process and Results, at page 11. Please identify the "new challenges" not covered in the 2003 budget.

Response:

> ***While somewhat fewer than in previous years, the 2004 budget does have new spending requirements. A summary of these programs is listed on pages 26-32.***
>
> ***Further, the budget write-ups for each ISO department discuss additional challenges foreseen for 2004, and their effects on the proposed budget. These additional write-ups will be made available to signatories to the NDA.***

2) What does the CAISO estimate it will cost to perform the "reruns" for the FERC Refund?

Contractor cost?
Internal CAISO Staff?
New Hardware or Software?
70 Statements per day for 510 days?

Response:

> ***The ISO has not developed a comprehensive estimate of the total cost for processing the FERC reruns. As outlined in the March 2003 filing on the refund case, we estimated 9 months to conduct the entire process of preparatory rerun, refund rerun, and market clearing. Staffing requirements during this timeframe vary during each phase, i.e. publishing statements vs. dispute periods vs. interest calculations, etc. Because of the nature of the rerun work, senior analysts are needed to perform the work, so we are supplementing existing staff with contractors to pick up daily work that frees senior analysts to concentrate more on MD02 and the rerun work when it occurs. The incremental programs highlight specific additions that will be needed when the reruns start, but they don't represent the total cost of contractors on site that are being trained to help pick up the critical rerun work when we are publishing the rerun statements and settlement detail files and responding to SC questions. Further we have made the assumption that senior analysts will be required to work longer hours during the actual rerun activity. The reference to 70 statements each day for 510 days refers to approximately 70 entities that receive statements during the 2000/2001 timeframe, and each will receive refund rerun statements for the refund period and also for the same number of days in the preparatory rerun.***

The specific 2004 incremental programs related to the FERC reruns that were separately identified are shown below, but as noted above, they do not represent the total cost of the rerun work.

Cost Center	***Program***	***Desc.***
1321	***INC-1***	***Market Participant Assurance of ISO controls over FERC preparatory and refund reruns (Audit fees)***
1725	***INC-1***	***FERC mandated refund compliance (Contractor funds)***
1756	***INC-1***	***Contractor for daily support and FERC re-run***

The total cost of these three programs is $360,000.

3) Did the CAISO Finance Department do any Benchmarking to other ISOs or RTO? If yes, what did you find out and are those studies available? If the answer is no, why not? Did the CAISO IT department do any Benchmarking to other ISOs or RTO? If yes, what did you find out and are those studies available? If answer is no, why not?

Response:

The ISO has participated in a study conducted by RJ Rudden & Associates that is being jointly sponsored by several ISOs. This study is underway, and a draft report was recently distributed for review by participants. The terms of the study prohibit release of the report while it is still in draft form. The goal of study participants is to finalize the report prior to the beginning of 2004, and to make it available for release at that time. The study reviews 2003 budgeted spending.

4) Has the CAISO compared its proposed 2004 Budget to other ISOs budgets for 2004? If, yes, is there a comparative matrix available to stakeholders?

Response:

A 2004 comparative matrix is not available as of September 29, 2003, but we will endeavor to compile such a matrix in the near term. The ISO Treasurer does maintain a correspondence with other ISOs, and has received information on the proposed budgets of PJM and NY.

5) What are the CAISO's specific 2004 performance goals? Please identify and list in order of priority.

Response:

Draft goals for 2004 were shared with the ISO Governing Board at the September meeting in executive session. The goals will be released and approved at the October meeting. The 2004 goals are likely to be similar, in large part, to the 2003 goals, which are summarized on the ISO's website, here:

http://www.caiso.com/aboutus/mission.html

The list of goals is not prioritized as such, but each goal is assigned a certain number of points from a total of 100. Some goals are therefore more heavily weighted than others.

6) Please describe what efforts the CFO is making in convincing the other Rating Agencies to restore the CAISO to investment grade.

Response:

After numerous conversations spanning nearly 1.5 years, significant progress has been made in late September on this issue. The ISO, during the week of September 22, 2003, provided information to S&P that we are told will lead to a split rating for the ISO: a "counterparty" rating, reflecting the ISO's role as market clearing agent, and an "issuer" rating, reflecting the ISO's corporate obligations.

7) Please identify the amount of capital expenditures that the CAISO has "spent" or forecasts as it relates to MD02:

Year	MD02 Capital Expenditures
2002 Recorded	
2003 Recorded	
2004 Forecasted	$17 M to $25 M
2005 Forecasted	
2006 Forecasted	

Response:

Year	MD02 Capital Expenditures
2002 Budgeted	$10,440,000
2002 Spent as 12/31/ 2002	$5,989,797

2002 paid 2003	$ 2,573,683
2003 Budgeted	$15,000,000
2003 8/31 spent	$6,414,780
2003 Est Add. Spending	4,500,000 – 8,500,000
2004 Forecasted	$17 M to $25 M
2005 Forecasted	
2006 Forecasted	

8) What are the specific "drivers" causing the CAISO to spend money on MD02? Has the CAISO asked FERC for a delay in implementing Phase II and III of MD02 until FERC finalizes its SMD Rule? If not, why not.

Response:

MD02 focuses on many items that need to be remedied due to structural flaws in California electricity market design that were not adequately addressed with electricity restructuring. Plugging the "holes" that fall within the purview of the CAISO functionality compel us to spend money to develop needed remedies. It does not make sense for the CAISO to ask FERC to delay implementing features of MD02 until SMD rules are finalized, because the ultimate SMD rules may not address the specific needs of the ratepayers of California that are included in the MD02 design.

While the ISO may allocate staff resources to MD02, we will not commit funds to new systems and software without FERC approval. Thus the immediate drivers of ISO spending on MD02 are FERC orders. Spending for systems for integrated forward markets (IFM) and locational marginal pricing (LMP) cannot commence until FERC responds to the ISO's July 22, 2003 filing.

Much of the urgency to implement MD02 derives from the flaws of the zonal congestion management system. Problems with this system have been evident for years and get worse each year as new generation comes on-line to serve California consumers. Given the divergence of views nationwide regarding SMD and FERC's retreat from the NOPR in its April 2003 "White Paper" a FERC ruling on SMD may not be issued any time soon. Meanwhile, the delay in SMD is no reason to delay MD02, since MD02 is fully consistent and compatible with both the SMD NOPR and the White Paper. In light of the urgency to fix congestion management, MD02 must proceed as soon as possible following a FERC ruling on the ISO's July 2003 filing.

9) Refer to Section IV Budget Structure and Preparation, at page 10 (Exhibit: Budget Preparation Illustration), how was the 5% Inflation factor developed? Stated in the

Contract or based on negotiations during 2003? Did the CAISO try and get a reduction in the inflation factor from its Contractors? What is the total amount of Contractor Costs in the 2003 Budget? How many dollars for those same Contractors are included in the 2004 Budget?

Response:

The 5% referred to on page 10 is purely for the purpose of explaining the concept of an INCREMENTAL program. It is not used in the proposed 2004 budget.

See pages 22 and 23 for total contractor and consultant costs in 2003 and 2004.

10) Refer to Section VI Budget Overview, at page 16 (Exhibit: Summary Table of the Proposed FY2004 Revenue Requirement). Please fill in the range of dollars for Capital Project Funding (direct from rates) as identified in the table below.

FY 2004 CAISO Capital Project Funding			
Category of Capital Projects	**Low**	**Mid Point**	**High**
Corp Applications and Hardware Support		$5,160,000	
Facilities Building Security		$150,000	
Main Operations Systems – Non MD02		$3,990,000	
Operating Support Systems		$700,000	
MD02 Implementation Consolidated Projects	$17,000,000	$22,000,000	$25,000,000
Grand Total Proposed 2004 Capital Projects		$32,000,000	

Response:

The ISO has provided as much information as will be released on the proposed capital budget. The only item that has not been released is the estimated cost of individual projects, which are, at this point, only estimates, and are held confidential to avoid releasing sensitive data to potential vendors.

As in previous years, the proposed project listing is an indicative list. Not all of the projects on the list will be completed, and other projects not on the list may be.

11) What are the reasons that Operating Reserves expected range is $15 to $28 million for 2004? Why did the CAISO select only $19.4 million to use as a Revenue Credit from Operating Reserves?

Response:

The Operating Reserve calculation is to be released prior to the budget workshop, showing the elements that comprise the reserve credit.

At the time of preparation of the preliminary proposed 2004 budget, uncertainty with respect to several elements of the Operating Reserve calculation existed, and rather than indicate a single point estimate, a range of potential values was viewed as providing greater disclosure of what the ultimate reserve credit to be provided in the FERC filing will be. This uncertainty exists with respect to both 2003 revenues, and 2003 and earlier expenses.

12) Please explain why the CAISO has assumed a "Relocation Cost for 2004" of $450,000 (shown on Page Section VI, page 20), when the FTE count is proposed to increase by only four (4) FTE?

Response:

While staffing increases only minimally in 2004, normal employee turnover will continue. In past years, turnover has been on the order of 10-12%. Currently, in 2003, turnover is lower at about 3-4%, but is anticipated to increase to levels closer to the 10-12% range seen in past years during 2004, due to a variety of factors including the reaching of retirement age by many ISO employees, particularly in Operations. The $450,000 is related to relocation costs for such normal turnover.

13) Refer to Section VI Budget Overview, at page 22, CAISO FY 2004 Insurance Expenditures. What types of Insurance are we referring to: (i.e. Life, Medical, Dental, Vision, E&O, D&O)?

a) Provide a break down of the $800,000 increase in Insurance costs.
b) Do CAISO employees contribute any dollars to the insurance coverage? If yes, pleas explain how much they contribute. Provide an example assuming an employee is paid $120,000 as Salary and Benefits.
c) Do CAISO employees pay for Spouses and Dependent Insurance?
d) Did the CAISO examine how much employees at California Utilities pay towards their insurance coverage?
e) Did the CAISO investigate or ask what other ISO require as employee contributions to insurance coverage?

Response:

The chart referred to on page 22 is for ISO insurance is not related to employee benefits, but rather other insurance including:

- *Errors & Omissions/Professional Liability/Excess Liability*

- *Directors & Officers Liability*
- *Property*
- *Commercial General Liability*
- *Auto*
- *Difference in Condition (Alhambra- earthquake, etc.)*
- *Storage Tank*
- *Crime Insurance (paid for in 3 year program)*
- *K&R Coverage*
- *Fiduciary Coverage*

The $800K increase reflects:

- *an adjustment of insurance costs to what was actually paid in 2003 ($460K over budget), and;*
- *provides for an additional increase in 2004 of $292K, or 15% of 2003 actual premiums. The remainder is for other misc. insurance related items including non-insured losses and claims below the policy deductibles.*

14) Refer to Section VIII CAISO Staffing Overview, at page 34. How do CAISO employee benefits of 33% of base salary costs compare to other electric utilities in California or other ISOs?

Response:

The ISO's HR department has indicated that the benefit rate for electric utilities in California is a difficult number to acquire. However, SMUD as a public entity was willing to share the information. In the first quarter of 2003 SMUD was paying 35% of base salary for employee health and welfare benefits exclusive of retirement contributions. They are in a situation where their retirement contributions to PERS are currently at zero because they are in a "super-funded" status and have been for several years. The last time they made a contribution it was at 9% of base salary.

The July 2003 Hay Group ISO Sector Benefits & Total Remuneration Study noted that the CAISO total benefits rate was approximately 1% above the median for the six US ISO's. In addition, CAISO total benefits was approximately .5% below the utility median.

15) In which line item, of the FY2004 Budget, is the incentive compensation dollar amount located. Provide example for each category described on page 34:

a) Up to 12% of base pay for most employees,

Responses are compiled based on available time and information during week of September 29, 2003, and are not warranted to be free of potential errors.

b) Up to 20% of base pay for managers / directors,
c) Up to 60% for Officers.

Response:

As shown on page 20, these costs are an element of "Salaries and Benefits" See also response to Question 19.

16) How did the CAISO arrive at 73 % payout ratio? Please explain the quantitative basis for determining which employees get incentive compensation.

Response:

The 73% payout ratio is an estimate of a probable payout percentage for 2004, based on the payout in past years.

See also response to question 17.

17) Please provide details as to the metrics for incentive compensation.

Response:

Each year, the ISO Governing Board reviews and approves annual performance goals for ISO management & staff. These goals contain numerous subparts, which may have both quantitative and qualitative measures of success. A total of 100 points is divided among the various goals/subgoals, and performance on each is monitored and throughout the year. After the completion of the year, a report on performance is prepared and reviewed by the Governing Board. The Governing Board would then approve the total points to be awarded.

Typically, each goal has a target /threshold, or minimum level of performance before incentive compensation is possible, and a stretch goal at which the maximum number of applicable points for the goal is awarded.

The points awarded on the annual performance goals are applicable to all staff, and all staff are eligible for payment of incentive compensation based on the formula described in the response to Question 19.

18) How is the "Overall Corporate Performance" measured (p. 34)?

Response:

That term is used to refer to the overall score on the annual performance goals. See response to question 17.

19) On page 64 are the Salary & Benefits Related costs comparing 2003 and 2004. Where can we find the line item under each Cost Center for Incentive and Spot Bonuses $5,985,000?

Response:

This is a component of "Salaries and Benefits" for each Cost Center. Such costs are budgeted in expense code 115, "Incentive Compensation". The details of individual expense codes are not received as part of the budget distribution for public review. Rather, these amounts are aggregated in various ways (total costs for each department, expenses by Division by expense type, and expense type for the ISO as a whole.)

Incentive compensation is budgeted in the same manner for all ISO departments: For each position, incentive compensation is budgeted as:

(Base Pay) * (Eligibility Percentage) * (Budgeted Payout %)

Eligibility Percentage depends on position. For employees below the manager & director level this is 12%, for managers & directors: 20%, for Officers except the CEO up to 60%, and for the CEO: 100%.

The Budgeted Payout % is the 73% referred to in your question 16.

20) Does the "2002 ISO FERC Form 1" reflect total compensation for Officers or Base compensation?

Response:

FERC Form 1 page 104 reflects base and incentive compensation for Officers. This is also noted in the footnote at the bottom of the page.

21) We have noticed that the costs for Alhambra are bundled. Does the accounting system of the ISO differentiate between Alhambra and Folsom? Can the ISO provide specific budget information for Alhambra? If not, why?

Response:

The primary Oracle Accounting system is not generally set up to separately identify Alhambra vs. Folsom costs, but the information is available in other ways.

The primary accounting structure used in the ISO's general ledger consists of the following segments:

- *Company*
- *FERC Account*
- *Cost Center*
- *Expense Type*

Certain costs can readily be separately identified as being related to the Alhambra facility.

- *The Oracle Accounting system, through one of its modules ("Oracle Projects"), allows the use of additional identifying codes for certain expenses, including facility operating expenses and lease costs, that distinguish between Folsom and Alhambra.*
- *All employees are assigned an (F) or (A) code.*
- *There is one specific cost center, 1561, Operations Engineering South, that operates out of Alhambra. While all the costs in this cost center are related to Alhambra, not all Alhambra staff (or costs) are in this cost center.*

ATTACHMENT

B

CALIFORNIA ISO

California Independent
System Operator

Memorandum

To: ISO Board of Governors

From: Randy Abernathy, Vice President, Market Services

Byron Woertz, Director, Client Relations

cc: ISO Officers

Date: April 18, 2003

Re: ***2002 Client Satisfaction Survey***

This item is informational only – no Board action is required.

At the March 21, 2003 Board teleconference, Management briefed you on the 2002 Client Satisfaction survey. This memo will provide greater detail on the results of the survey and give you an overview of the action plans Management has developed to respond to the primary issues identified in the survey.

Many constituencies have an interest in the operations and direction of the ISO including grid users, electricity consumers, State and federal governmental agencies and others. The ISO's Client Satisfaction Survey measures satisfaction only among the grid users with which the ISO has ongoing daily business interactions. The survey measures Clients' satisfaction within five broad categories of the ISO's business services: Relationship with Clients, Market Feedback, Flow of Information, Electronic Systems, and Operational Support. Although Management recognizes that it cannot address all Client concerns, and that some identified concerns involve issues that are beyond Management's ability to exert influence, we have developed action plans to address the Client concerns identified in the Survey as the highest priorities.

Relationship with Clients

This area requested feedback on the ISO's success in responding to Clients' questions and requests, understanding Clients' business needs, applying policies fairly and consistently, and resolving disputes effectively and efficiently. Priority issues identified in the survey were that:

- The ISO is perceived to provide inconsistent direct services, based on its representatives' knowledge levels, accessibility, follow up and proactive communication with Clients;
- Some Clients believe that the ISO does not apply its policies fairly and consistently; and
- Many Clients believe the dispute resolution process to be inefficient, untimely and/or not including sufficient supporting information.

April 18, 2003

Action Plan – Relationship with Clients

To improve direct service levels to Clients and to ensure fair and consistent applications of policies, Management will implement enhanced training activities and expanded inter-departmental communications on critical Policy, Tariff Amendment and Market issues. In addition, we will explore options for shortening the dispute resolution process and seek ways to standardize the information included in responses. These activities will increase the expertise and efficiency that the ISO can offer to its Clients and may enable the ISO to resolve disputes more efficiently.

Market Feedback

This area of the survey focused on the stakeholder process and, in this year's survey, added new questions to survey Clients' views on compliance and the ISO's reports on market performance. Clients' detailed comments on the stakeholder process were the most extensive of any in the survey. Priority issues identified in the survey were:

- Many Clients do not feel that the ISO listens to them or incorporates their feedback into the decision-making process; and
- Some Clients believe the current stakeholder review process is inefficient.

Clients did not comment extensively on the Compliance process or the ISO's reports on market performance.

Action Plan – Market Feedback

Although this year's survey identified some improvement in the stakeholder process, it is clear that many concerns remain. To further improve the stakeholder review process, Management plans to provide greater transparency in the stakeholder process by stating objectives clearly at the beginning of each process, sharing publicly all of the feedback received and, to the extent possible, identifying where the ISO has and has not adopted policy changes recommended by stakeholders. In addition, Management will continue to expand the use of web conferencing, based on positive feedback received in previous uses for training and other communications. In 2001, the ISO considered the concept of a stakeholder review committee. Although stakeholders did not favor the concept at that time, some stakeholders have stated support for revisiting the concept. Management believes it would be valuable to reconsider a stakeholder review committee as offering potential efficiencies in considering policy options and their impacts on various constituencies and plans to revisit this concept in 2003.

Flow of Information

In this area, the Survey requested feedback on the ISO's efforts to communicate with Clients on Tariff and procedural changes and market conditions as well as the settlement process. Priority issues identified in this year's survey include:

- Many Clients continue to believe that the settlement process is overly complex and overwhelming; and
- Some Clients do not feel adequately informed of policy, Tariff and procedural changes.

Action Plan – Flow of Information

Management recognizes that the settlement process remains complex, due largely to the many types of market activities for which settlement statements must be generated and the level of detail that Clients require in order to validate charges. Clients that have new staff members in their settlements departments have a particularly daunting challenge. To address these concerns, Management plans to continue its quarterly training in settlements process and statement verification. In addition, we will use stakeholder comments regarding the settlement process already received in recent reviews and assemble a group of stakeholders to advise us on the new settlement system, planned for implementation in 2004. In addition, Management continues to consider a payment acceleration plan. Finally, we will continue to distribute Market Notices to announce any new Tariff amendments, MD02 activities (such as the "Watt's New with MD02" newsletter) and other significant regulatory activities.

Electronic Systems

This area, which explored Clients' views on electronic system availability, scheduling process ease of use, OASIS and corporate web site and the results of market systems, showed the highest overall performance in the survey. As a technology company, Clients expect the ISO's electronic systems to perform extremely well and reliably. Concerns in this area included:

- Despite relatively high performance compared to other areas in the survey, many Clients believe that the ISO's electronic systems' (*i.e.*, Scheduling Infrastructure) availability, performance and structure still are not at the levels they expect; and
- Some Clients believe that the ISO web site contains outdated materials and is not easy to navigate.

Action Plan – Electronic Systems

To address these concerns and to continue to improve electronic systems' performance, Management plans to explore the use of additional communications (Market Status messages, notices through Clients' scheduling systems) to explain Scheduling Infrastructure (SI) outages, offer training in the use of Open Access Same-Time Information System (OASIS), provide at least six weeks for testing market changes before implementation and review the corporate web site information regularly to ensure that posted information is timely.

Operational Support

In this area, the survey explored Clients' views on the ISO's success in providing clear, concise and timely information about operating conditions and its success in considering Clients' business and operational needs when making operating decisions. Priority issues identified in this area were:

- Many Clients still do not feel believe that the ISO listens to them when making operating decisions and explaining system constraints;
- Some Clients do not believe they receive timely, comprehensive and consistent responses to operational questions; and
- Internal communications between ISO Operations and other Departments do not appear to be as effective as they could be.

Action Plan – Operational Support

To address these concerns, ISO Operations has scheduled a series of training sessions that will, among other things, develop operating staff members' abilities to communicate effectively real time operating needs with a view to Clients' perspectives. In addition, the ISO has begun implementing enhancements to the Scheduling and Logging for ISO California (SLIC) operational logging system that will allow Clients to directly communicate operating constraints affecting their facilities so that the ISO's operating staffs will understand the most current constraints in making their operating decisions.

April 18, 2003

Next Steps

Management has scheduled a web conference with survey participants on Tuesday, April 22nd to discuss in detail the results of the survey and Management's current action plan. The goals of the conference are to ensure that those who responded to the survey fully understand the survey results and to ensure that Management is focusing on the highest priority issues for improved Client satisfaction. We will update you at the April 24th Board meeting regarding the results of the web conference.

ATTACHMENT

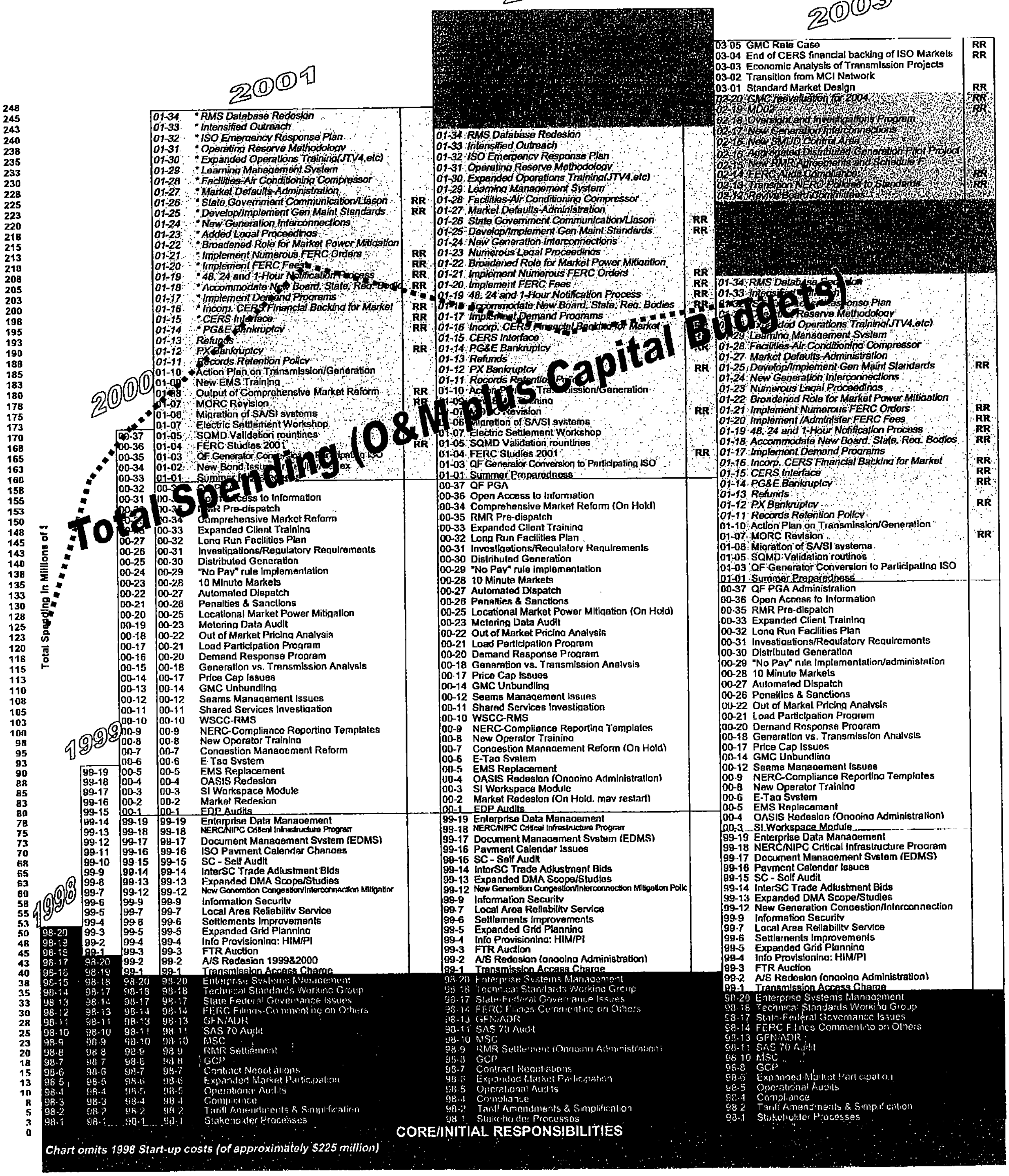
C

CALIFORNIA ISO

Tasks and Accomplishments vs. Revenue Requirement

*01-X Unanticipated Activities in italics, **

RR= Regulatory Requirement of FERC, CPUC, State, or Reliability Body



-----Original Message-----
From: Leiber, Phil
Sent: Wednesday, October 15, 2003 5:04 PM
To: Terry, Lee
Subject: RE: Comments/questions for ISO Budget

Here are my responses:

-----Original Message-----
From: Terry, Lee
Sent: Tuesday, October 14, 2003 11:04 AM
To: Leiber, Phil
Cc: Bonaly, David
Subject: Comments/questions for ISO Budget

Phil:

Sorry I was not able to get these questions to you before today but here are a few questions I have:

1) Was there a cost analysis done to assess the different between buying and leasing your computer equipment? If a cost analysis was done what are the assumptions used?

Response:

We analyze each asset acquisition decision to determine whether a purchase or lease is preferrable. Until 2002, most assets were leased. Beginning in 2002, we have been purchasing most equipment. We've found that most equipment is usable for longer than the typical three year lease terms. Accordingly, we can purchase the equipment, and have a lower annual cost of ownership than under a lease arrangement (which would force us to either return equipment that is still usable, or pay a fair market value buyout price to retain the equipment.)

Additionally, we have a lease analysis tool (spreadsheet) that considers the lease rate (monthly payment), lease term, CAISO cost of capital, and outputs the implied residual value of the equipment. If we believe the equipment will be worth more than the implied residual value under a lease, purchasing would be a preferable alternative (which indicates the lessor is trying to get more value from the lease payments during the lease term than we would believe would be warranted.) If the opposite, then leasing would be preferrable.

Again, we're finding that in most instances, buying equipment is preferrable.

2) By switching to from the MCI to the AT&T contract you have stated the savings is about $20 million. Is this correct? 2a) Are there any expenses like ISO staff increases or purchasing of additional equipment that is needed for the AT&T contract? In short, I am wondering about hidden costs.

Response:

The savings are about $15 million, not $20 million. The total O&M budget reduction is $20 million, which includes the $15 million MCI savings and other cost changes. The $15 million annual savings for 2004 are the net savings, with consideration of the other costs under the new arrangement. These include the new AT&T contract costs (which was for WAN services), and the other costs for performing the other functions previously provided by MCI, including LAN and equipment costs. Support of the LAN was insourced, as a result of consideration of various alternatives for obtaining this necessary service.

3) What do you use as a standard or measuring tape for 1) employees, 2) managers/directors, and 3) officers salaries and benefits? Is it other ISO's, or public government entities like SMUD or LADWP? If it is a mixture of multiple groups what are these groups and what is the ratio to the three ISO employee groups (staff, management, & board member's)? I am trying to obtain information to understand and assess how the reasonable the wages and benefits are for ISO employees. (Question as revised 10/16/2003)

Response:

The CAISO uses multiple blind Salary surveys as resources in determining appropriate pay levels for our employees. We participate in and use blind surveys because of the extreme competition for talent currently being experienced among electric utilities nationwide. The competition seems to be driven by the demographic reality of the rapidly upcoming retirement of a significant portion of the industry's experienced employees.

Various comparables are used, depending on the recruitment population we draw upon to fill vacant position. These comparables include; national utilities and industries, California utilities, local market measures, and other ISOs.

For certain industry specific classifications such as grid dispatcher, the market reference used would be California grid dispatchers, including such staff at the IOUs and municipal utilities (SMUD, LADWP, etc.). Due to the above mentioned competition issues such data is usually available only through blind salary surveys, in which only aggregate numbers are quoted. As a result we do not know how much a specific IOU or Municipal Utility is paying a given class.

For some professional classifications, national or northern California data is used, but modified as appropriate to reflect the cost of living in the Sacramento Metro area.

For non-industry specific classifications, such as administrative assistants, a local Sacramento area measure is the primary comparable used.

Finance Committee
Board of Governors

10/15/03

2004 Proposed Budget

MOVED, that the Finance Committee recommends for approval by the full Board of Governors the proposed 2004 budget presented by Management during the September 25, 2003 Board meeting.

Moved: Florio **Second: Gage**

Finance Committee Action: **Passed** Vote Count: **2-0-0**	
Florio	Y
Gage	Y

Moved: **Second:**

Board Action: Vote Count:
Florio
Gage
Guardino
Kahn
Miramontes

Category	Core Reliability Services	Energy & Transmission Services: Energy	Energy & Transmission Services: Deviations	Forward Scheduling	Congestion Management	Market Usage	Settlements, Metering & Client Relations
Date	**NCP by Mo**	**Net Energy**	**Monthly UE**	**Total Sch Count**	**CONG**	**Mkt Usage**	**Cust Mo**
Jan-04	40,084	19,774,981	1,394,233	997,193	7,283,735	3,722,936	86
Feb-04	38,667	17,503,991	999,377	958,235	6,508,342	3,129,057	90
Mar-04	37,283	19,157,776	1,060,660	1,064,372	6,840,736	3,453,272	91
Apr-04	38,187	18,577,016	1,260,659	1,039,915	7,700,138	3,408,874	89
May-04	44,181	19,906,921	1,429,763	1,111,833	7,208,767	3,670,237	90
Jun-04	51,296	21,423,384	1,676,296	1,102,877	8,463,639	3,960,411	93
Jul-04	55,063	23,942,778	1,859,255	1,177,553	9,550,844	4,056,288	96
Aug-04	50,593	23,103,872	1,792,778	1,169,631	8,732,302	3,711,484	94
Sep-04	51,028	21,624,459	1,844,998	1,171,821	8,085,423	3,770,703	93
Oct-04	42,431	19,697,142	1,434,983	1,195,054	7,460,465	2,985,170	89
Nov-04	41,552	19,000,561	1,824,792	1,132,108	7,334,411	3,357,911	101
Dec-04	40,306	20,038,351	1,762,124	1,141,100	7,156,023	3,436,327	111
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

Notes

1 Same total estimates for 2004 as on subsequent tab. Monthly amounts calculated based on a same trend as in 2002.
2 Customer months is allocated evenly by month.

California Independent System Operator
2004 GMC Cost Allocation
Billing Determinant Forecast
Draft and Preliminary
Subject to both review and approval

Date	NCP by Mo	Net Energy	Monthly UE	Total Sch Count	CONG	Mkt Usage	Cust Mo
Jan-01	62,988	21,020,259	2,911,491		6,506,580	10,894,763	70
Feb-01	52,117	19,183,430	3,024,146		5,319,097	9,978,095	74
Mar-01	38,655	21,038,733	2,483,998		5,844,512	9,344,004	63
Apr-01	55,293	19,760,795	2,114,664		5,780,140	8,161,451	72
May-01	46,786	21,378,549	2,278,700		5,794,088	8,400,994	66
Jun-01	50,572	21,453,157	2,133,676		6,361,512	7,100,606	79
Jul-01	54,428	23,041,969	1,925,623		6,985,699	5,746,227	85
Aug-01	53,831	23,648,669	1,837,372		7,284,895	5,561,496	80
Sep-01	47,128	20,830,881	1,680,360	939,898	6,376,523	4,787,223	82
Oct-01	46,544	19,999,759	1,605,215	1,000,028	6,408,260	4,303,568	69
Nov-01	41,383	18,742,663	1,344,346	994,180	6,684,232	3,600,328	82
Dec-01	40,347	19,594,018	1,371,277	1,017,915	6,703,725	3,720,998	87
Jan-02	39,650	19,762,706	1,271,309	966,442	7,221,308	3,756,413	70
Feb-02	38,248	17,493,126	911,266	928,685	6,452,561	3,157,194	73
Mar-02	36,879	19,145,884	967,145	1,031,549	6,782,106	3,484,324	74
Apr-02	37,773	18,565,485	1,149,512	1,007,846	7,634,142	3,439,526	72
May-02	43,702	19,894,564	1,303,706	1,077,546	7,146,983	3,703,240	73
Jun-02	50,740	21,410,086	1,528,504	1,068,867	8,391,100	3,996,023	75
Jul-02	54,466	23,927,916	1,695,332	1,141,240	9,468,986	4,092,762	78
Aug-02	50,045	23,089,531	1,634,715	1,133,562	8,657,460	3,744,858	76
Sep-02	50,475	21,611,036	1,682,331	1,135,685	8,016,125	3,804,609	75
Oct-02	41,971	19,684,915	1,308,466	1,158,201	7,396,523	3,012,013	72
Nov-02	41,102	18,988,767	1,663,907	1,097,196	7,271,549	3,388,105	82
Dec-02	39,870	20,025,912	1,606,764	1,105,911	7,094,691	3,467,227	90
Jan-03	36,850	19,254,725	1,233,250	1,095,854	7,922,043	3,106,399	84
Feb-03	35,120	16,942,271	1,349,006	1,011,712	6,136,275	3,004,778	83
Mar-03	37,734	19,349,409	1,723,985	1,137,646	6,922,043	3,658,018	84
Apr-03	32,772	18,122,112	1,348,446	1,081,013	7,027,777	3,430,525	95

May-03	47,648	19,824,838	1,641,420	1,086,239	7,849,194	3,970,160	95
Jun-03	50,389	20,901,763	1,452,295	1,077,433	7,794,004	3,983,216	85
Jul-03				1,120,865			
Aug-03				1,102,845			
Totals 7-02 to 6-03	518,443	241,723,194	18,339,917	13,261,692	91,556,671	42,662,669	999
Totals 5-02 to 4-03	514,847	242,301,243	18,078,413	13,244,433	91,451,555	42,408,557	967
Totals 9-01 to 8-02	526,904	242,456,619	16,462,686	12,307,758	87,927,387	45,786,457	911
Est Escl Factor	1.57%	0.56%	0.00%	0.00%	0.56%	0.00%	8%
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
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
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

Notes

1 Net energy is escalated using the CEC staff baseline escalation factor for CAISO sales with 1-in-2 weather assumptions

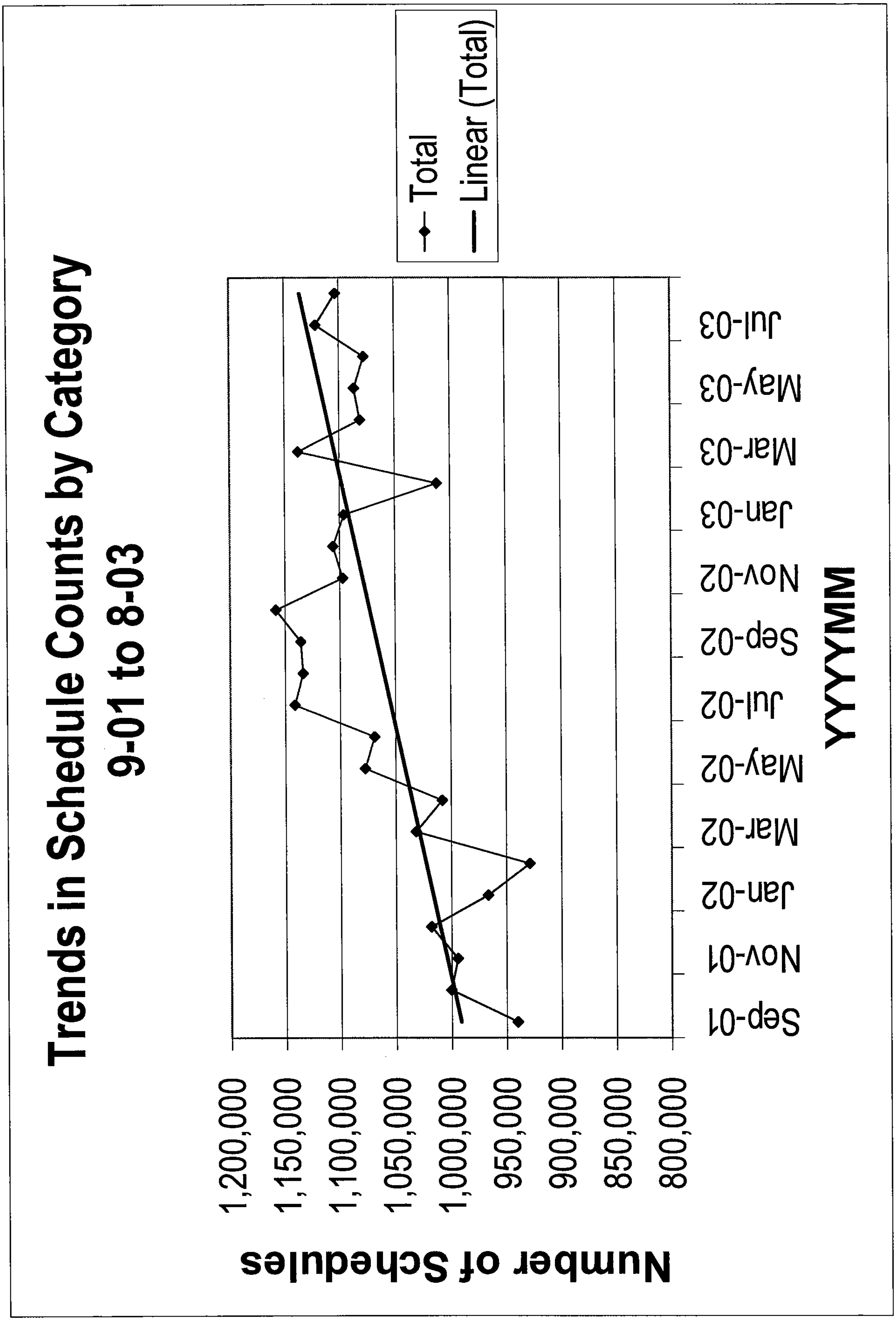
2 NCP is escalated using the CEC staff baseline escalation factor for CAISO peak load with 1-in-2 weather assumptions --strong correlation between NCP and ISO monthly CP.

3 Cong shows no signficant correlation with net energy during the last several years, but a very strong correlation with net energy over the last 18 months. This variation is probably due to the effects of conservation & the recession on the level of net energy. Therefore, the same escalation factor used for Net energy will be used for CONG.

4 Mkt Usage, UE, & Sched Count have no measurable correlation with net energy. MU & UE show no trend. Sch count some correlation with customer months, which seem to be trending upward, but it is also unknown how much price elasticity will be involved with the scheduling charge particularly for trading. Until there is some experience with the scheduling charge, no escalation will be assumed for the number of schedules.

5 Mkt Usage is clearly falling over the last 30 months, but when the last 18 months are considered, the change in usage is very small. Therefore, the proposed escalation factor is 0.

6 Customer months appear to be growing; the long term average rate is used.


Trends in Schedule Counts by Category
9-01 to 8-03
Total
Linear (Total)
Number of Schedules
1,200,000
1,150,000
1,100,000
1,050,000
1,000,000
950,000
900,000
850,000
800,000
Sep-01
Nov-01
Jan-02
Mar-02
May-02
Jul-02
Sep-02
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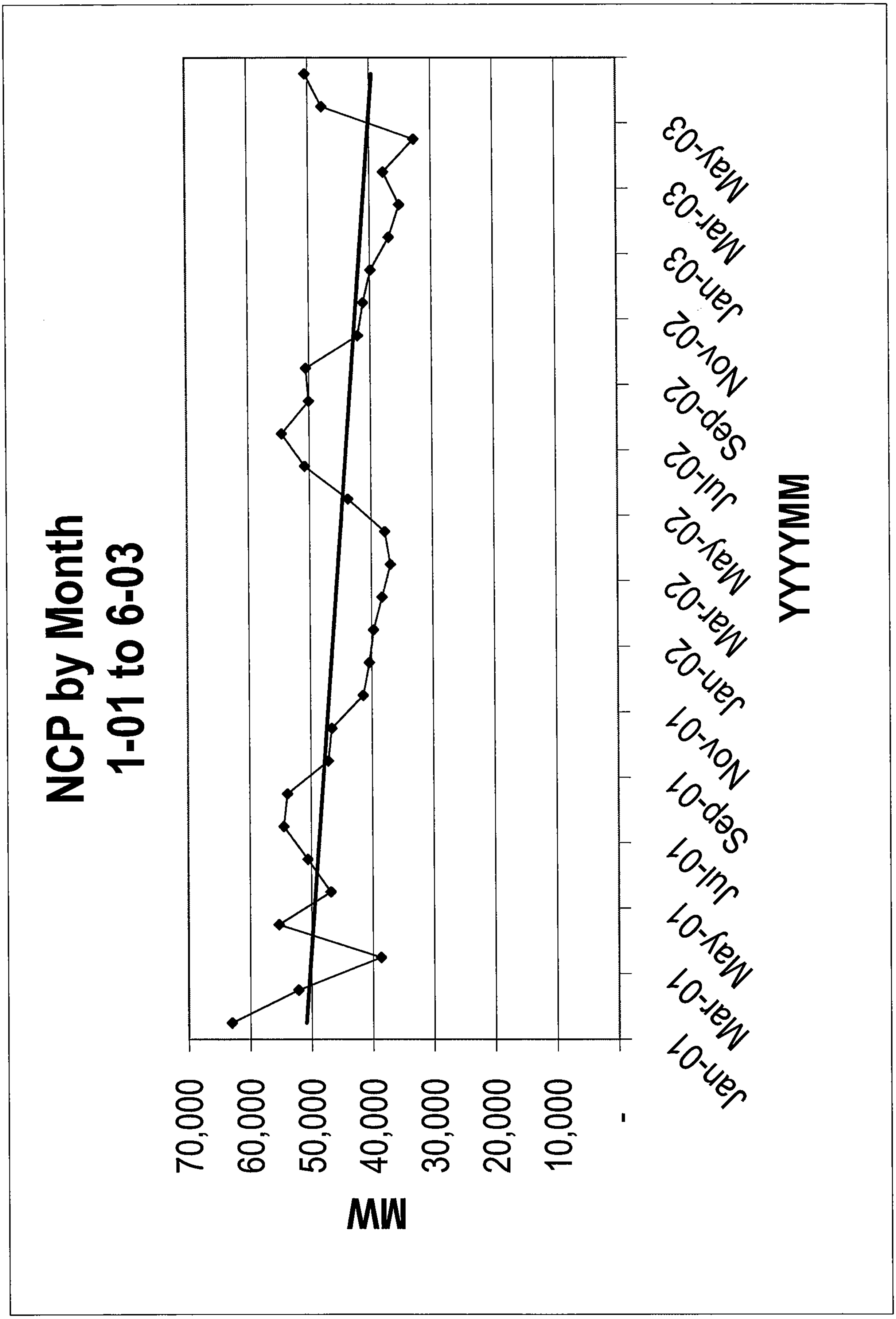
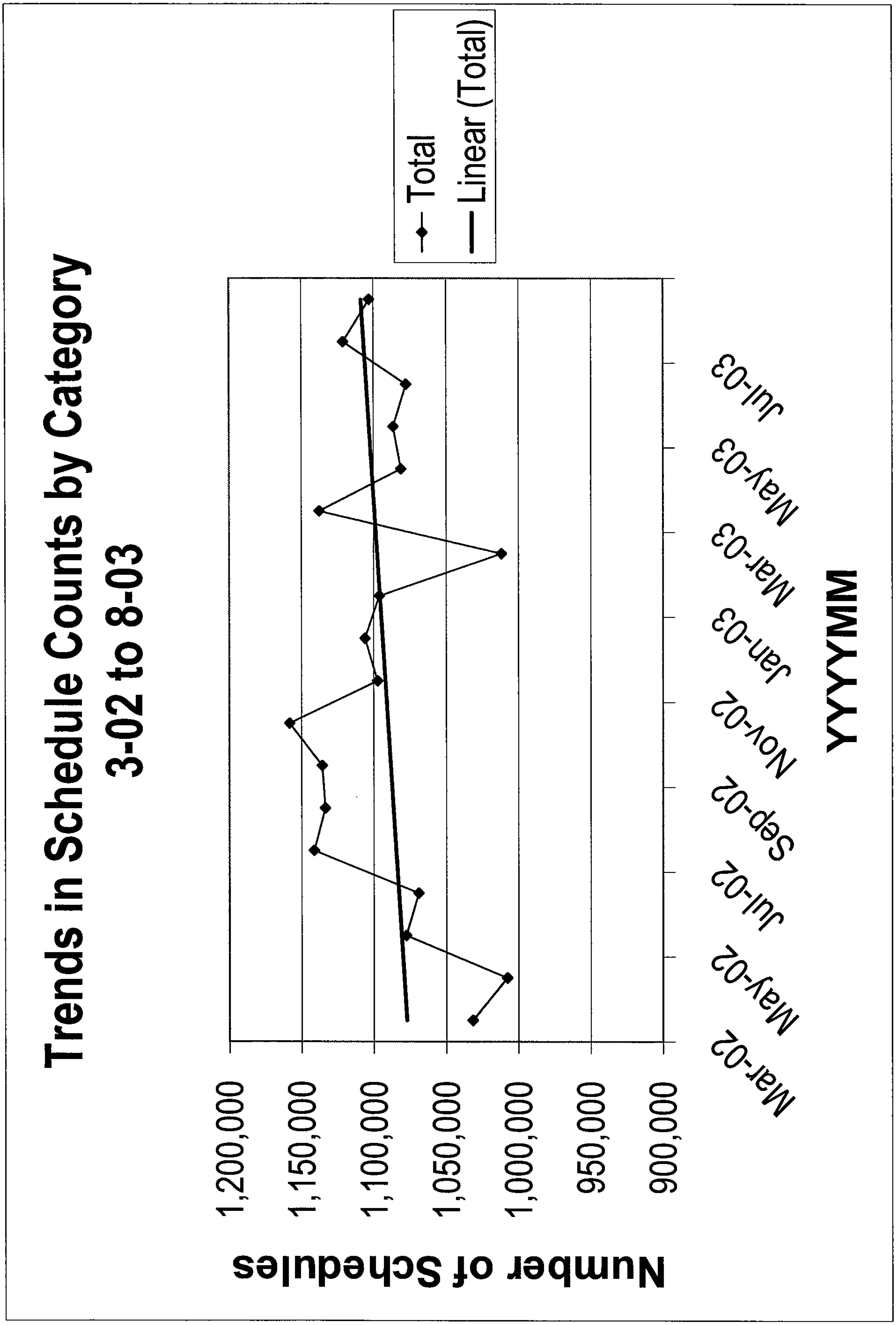
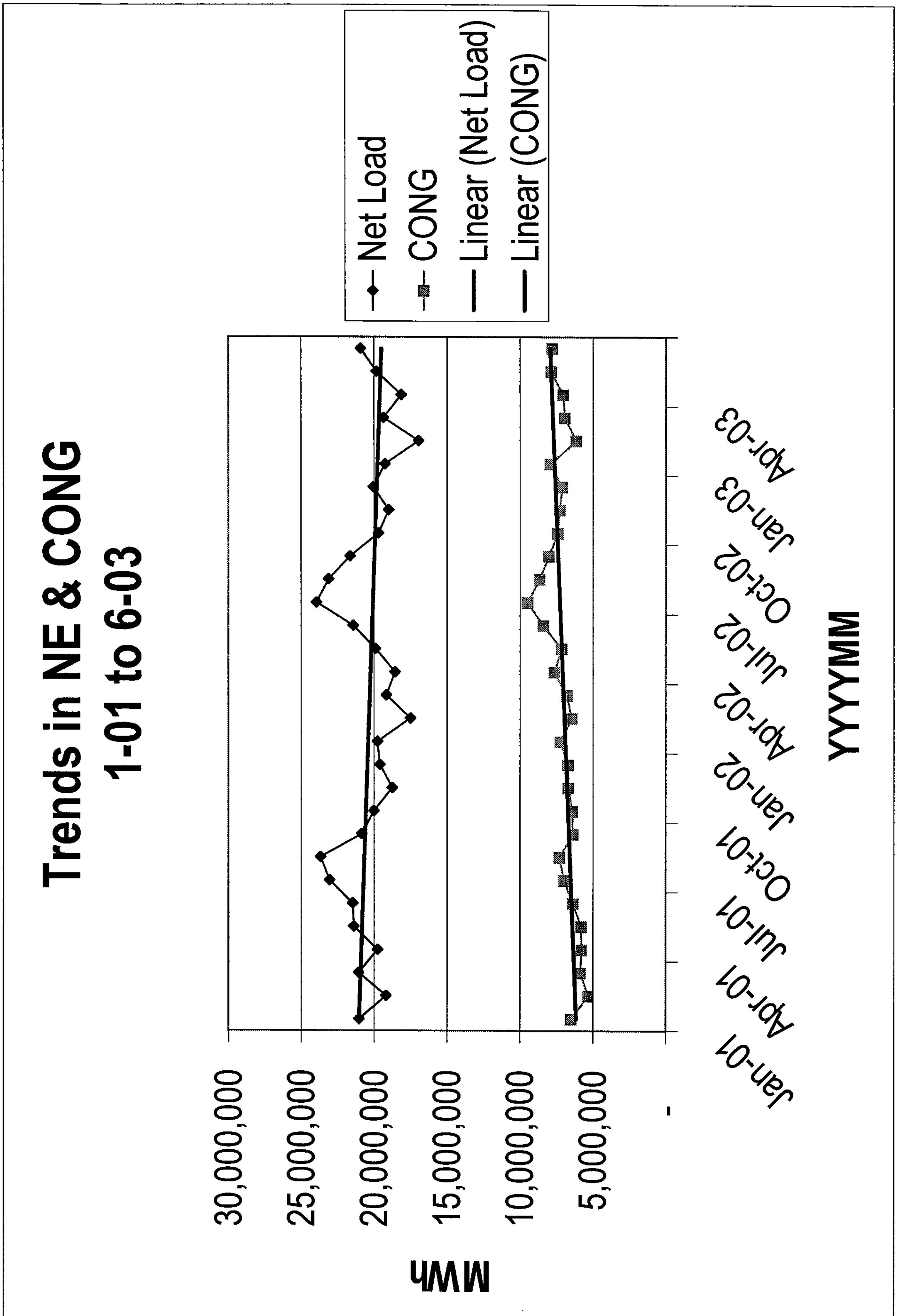
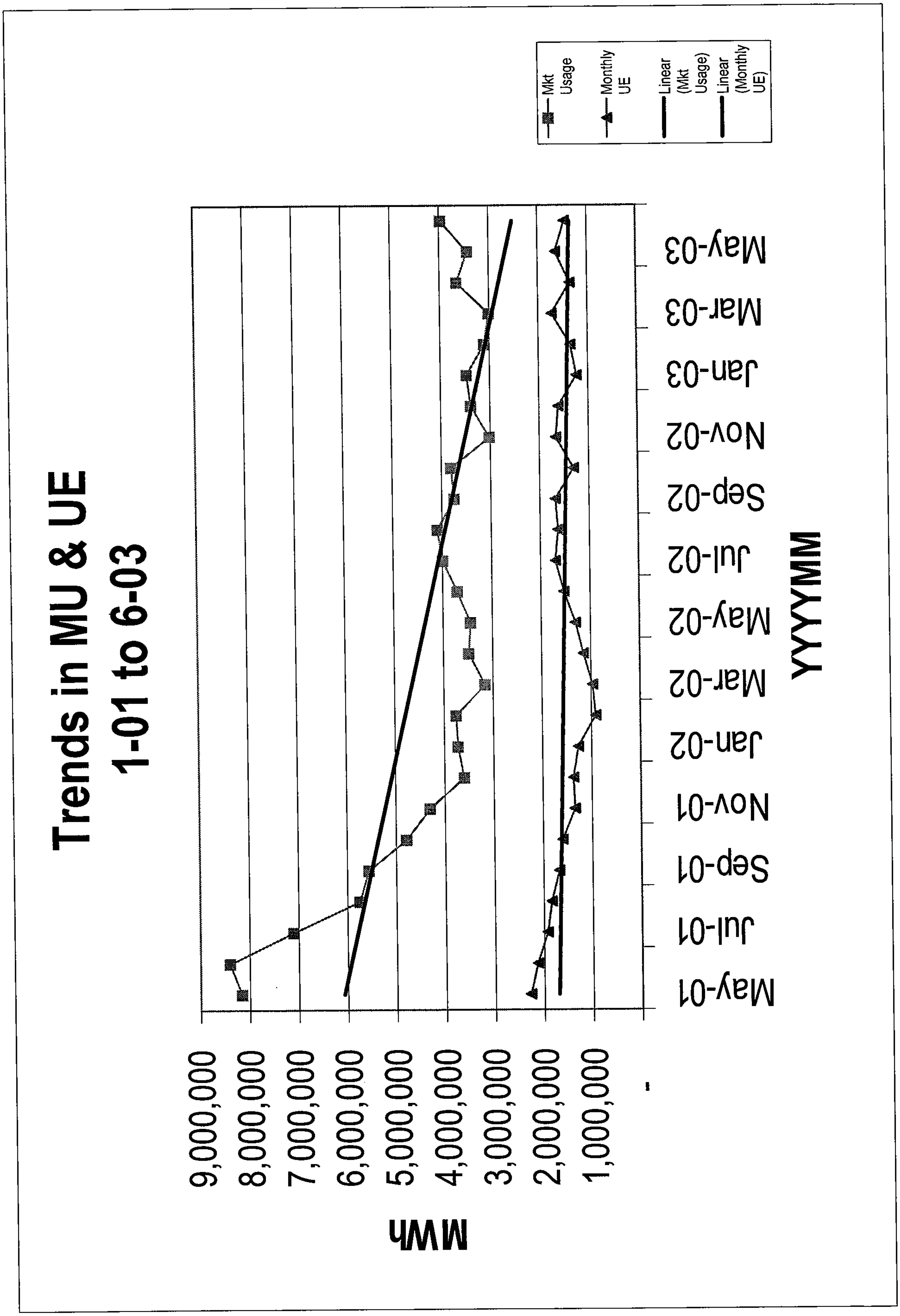
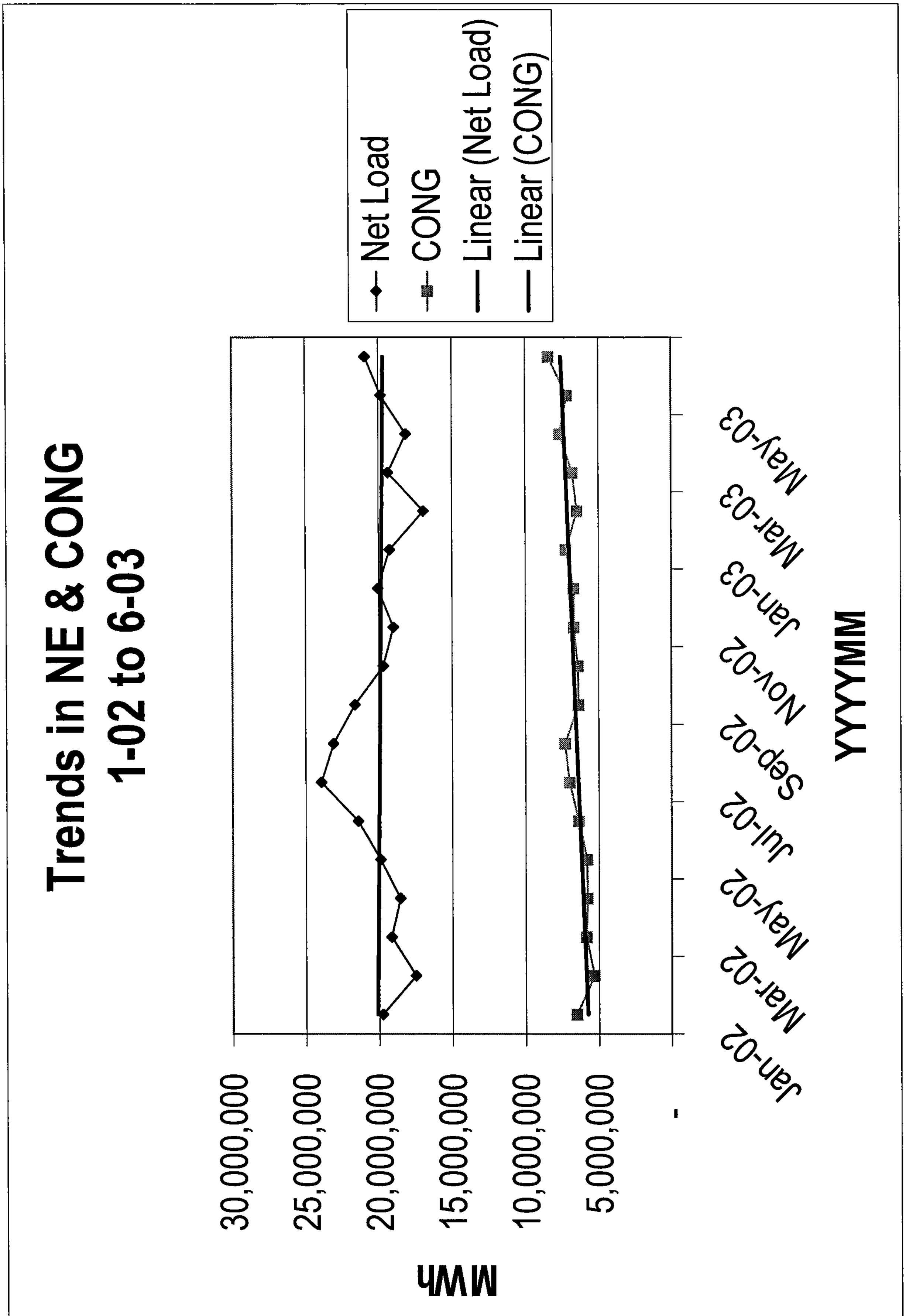
May-03
Jul-03
YYYYMM

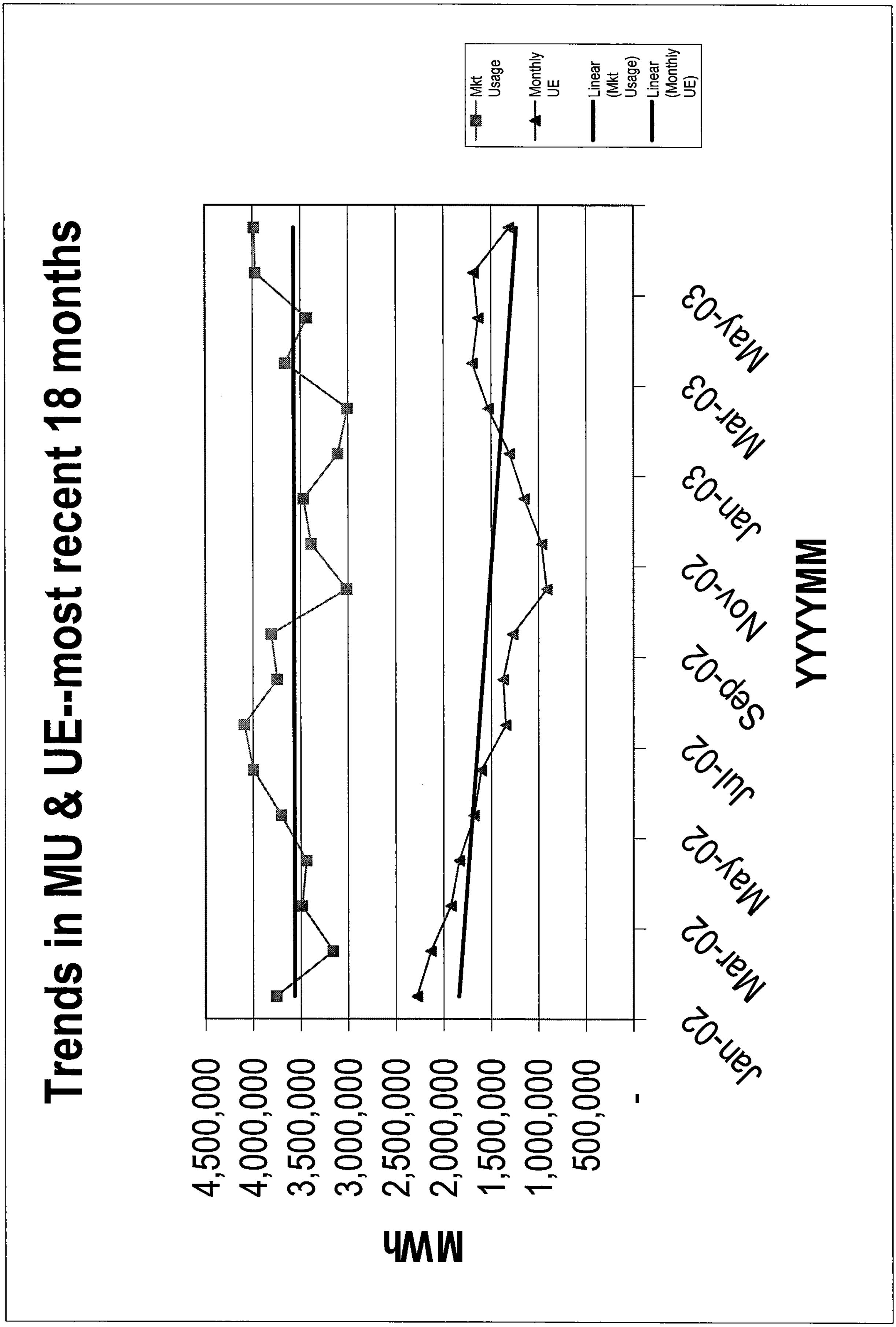

NCP by Month
1-01 to 6-03
MW
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
Jan-01
Mar-01
May-01
Jul-01
Sep-01
Nov-01
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
YYYYMM

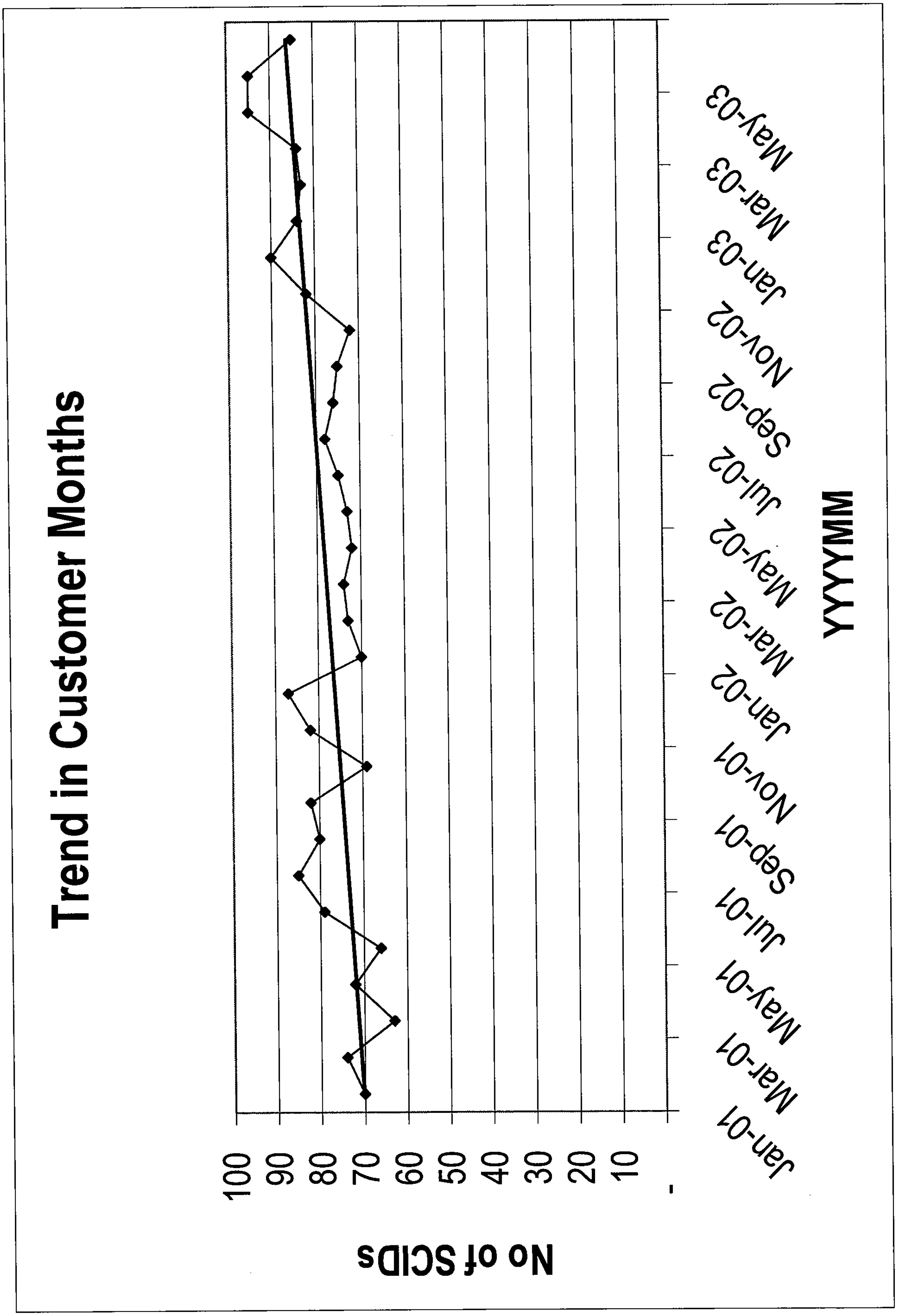

Trends in Schedule Counts by Category
3-02 to 8-03
Total
Linear (Total)
1,200,000
1,150,000
1,100,000
1,050,000
1,000,000
950,000
900,000
Number of Schedules
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
Jul-03
YYYYMM


Trends in NE & CONG
1-01 to 6-03
MWh
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
-
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
YYYYMM
Net Load
CONG
Linear (Net Load)
Linear (CONG)


Trends in MU & UE
1-01 to 6-03
MWh
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
May-01
Jul-01
Sep-01
Nov-01
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
YYYYMM
Mkt Usage
Monthly UE
Linear (Mkt Usage)
Linear (Monthly UE)


Trends in NE & CONG
1-02 to 6-03
MWh
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
-
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
YYYYMM
Net Load
CONG
Linear (Net Load)
Linear (CONG)


Trends in MU & UE--most recent 18 months
MWh
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
YYYYMM
Mkt Usage
Monthly UE
Linear (Mkt Usage)
Linear (Monthly UE)


Trend in Customer Months
No of SCIDs
100
90
80
70
60
50
40
30
20
10
-
Jan-01
Mar-01
May-01
Jul-01
Sep-01
Nov-01
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
YYYYMM

The following sheets are the results of various regression analyses run to see if there is any signficant correlation between factors that we have forecasts for or have clear trends in (like number of SCIDs).

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.900454011
R Square	0.810817426
Adjusted R Square	0.798993515
Standard Error	362904.0512
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	9.0312E+12	9.0312E+12	68.5743856	3.53354E-07
Residual	16	2.10719E+12	1.31699E+11		
Total	17	1.11384E+13			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-601184.7568	983257.8501	-0.611421263	0.549510092	-2685597.813	1483228.3	-2685597.813	1483228.3
X Variable 1	0.407844183	0.049250802	8.280965258	3.53354E-07	0.303437169	0.512251196	0.303437169	0.512251196

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.378730415
R Square	0.143436727
Adjusted R Square	0.107722442
Standard Error	861135.9628
Observations	29

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3.47698E+12	3.47698E+12	4.688770223	0.039362648
Residual	28	2.07635E+13	7.41555E+11		
Total	29	2.42405E+13			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21020259.48	0.34815931	0.007876815	44.20051656	1.90148E-27	0.332024367	0.364294253	0.332024367	0.364294253

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.372412962
R Square	0.138691414
Adjusted R Square	0.102977128
Standard Error	421113.5189
Observations	29

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	7.99553E+11	7.99553E+11	4.508673956	0.043035438
Residual	28	4.96542E+12	1.77337E+11		
Total	29	5.76498E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21020259.48	0.080707516	0.003851928	20.95250028	1.19309E-18	0.072817191	0.088597841	0.072817191	0.088597841

SUMMARY OUTPUT

Regression Statistics	
Multiple R	65535
R Square	-0.356337425
Adjusted R Square	-0.406337425
Standard Error	74179.77492
Observations	21

ANOVA

	df	SS	MS	F	Significance F
Regression	1	-28913103440	-28913103440	-5.254406731	#NUM!
Residual	20	1.10053E+11	5502639007		
Total	21	81139676706			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
20830881.25	0.05348206	0.000813762	65.72198404	7.6372E-25	0.051784583	0.055179537	0.051784583	0.055179537

SUMMARY OUTPUT

Regression Statistics	
Multiple R	65535
R Square	-0.915459252
Adjusted R Square	-0.951173538
Standard Error	11.00747893
Observations	29

ANOVA

	df	SS	MS	F	Significance F
Regression	1	-1621.436173	-1621.436173	-13.38209572	#NUM!
Residual	28	3392.608587	121.1645924		
Total	29	1771.172414			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
21020259.48	3.84662E-06	1.00685E-07	38.20433936	1.05647E-25	3.64038E-06	4.05287E-06	3.64038E-06	4.05287E-06

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.25624102
R Square	0.06565946
Adjusted R Square	0.016483642
Standard Error	63167.31722
Observations	21

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5327587383	5327587383	1.335198135	0.262207447
Residual	19	75812089323	3990109964		
Total	20	81139676706			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	898224.2306	144567.4013	6.213186533	5.72735E-06	595641.0883	1200807.373	595641.0883	1200807.373
82	2086.046091	1805.306897	1.155507739	0.262207447	-1692.505844	5864.598026	-1692.505844	5864.598026

Date	NCP by Mo	Net Energy	Monthly UE	Interzonal flows	Sch Exp Count	Sch Imp Count	Sch Load Count
2001.01	62987.52	21020259.48	2911491.272	6506580.49			
2001.02	52116.93	19183429.57	3024145.841	5319096.69			
2001.03	38654.71	21038733.01	2483998.429	5844511.7			
2001.04	55292.72	19760795.25	2114664.256	5780139.51			
2001.05	46785.53	21378548.84	2278700.468	5794088.03			
2001.06	50571.87	21453156.8	2133676.01	6361512.45			
2001.07	54427.76	23041969.35	1925622.576	6985699.32			
2001.08	53831.31	23648668.67	1837372.378	7284895.31			
2001.09	47127.73	20830881.25	1680360.061	6376523.43	17822	58938	66361
2001.10	46543.91	19999758.87	1605214.537	6408259.73	12560	61962	72300
2001.11	41383.15	18742663.06	1344346.041	6684232.27	11037	64626	71028
2001.12	40346.78	19594018.02	1371276.701	6703725.18	13682	68824	73896
2002.01	39650.1	19762706.35	1271308.731	7221308.09	13703	72555	74758
2002.02	38247.54	17493125.69	911266.294	6452561.32	15023	75984	68964
2002.03	36878.66	19145884.44	967145.4112	6782106.18	13200	63231	75282
2002.04	37773.22	18565484.67	1149511.833	7634141.92	15305	81158	73059
2002.05	43701.82	19894564.48	1303706.252	7146983.22	11685	84994	77406
2002.06	50739.83	21410086.05	1528503.623	8391099.52	21823	86676	73008
2002.07	54466.35	23927915.77	1695331.521	9468986.35	29679	81567	74413
2002.08	50044.71	23089530.8	1634715.477	8657459.65	24250	79532	72332
2002.09	50475.43	21611036.05	1682331.412	8016125.43	18249	80518	67225
2002.10	41970.96	19684914.92	1308466.455	7396523.48	13137	85571	68783
2002.11	41101.85	18988767	1663907.483	7271549.48	14450	83849	68949
2002.12	39869.68	20025912.26	1606764.215	7094690.61	13920	83006	70535
2003.01	36849.8	19254724.82	1233249.583	7922043.03	15276	86262	67237
2003.02	35119.97	16942270.52	1349005.847	6136274.91	13314	84530	60273
2003.03	37734.48	19349408.72	1723984.603	6922043.16	15848	97276	71418
2003.04	32771.91	18122111.83	1348446.346	7027776.61	15517	97395	67987
2003.05	47648.34	19824838.37	1641419.585	7849194.02	16435	88812	67975
2003.06	50389.32	20901762.77	1452294.688	7794004.08	21982	86490	63447
2003.07					23712	83563	62478
2003.08					22427	83786	60596

Sch Gen Count	InterSC Count	A/S Mkt Count	A/S SP Count	Instr Energy	AS Volumes	Cust Mo
				2573577.28	5409694.08	70
				2819383.66	4134565.68	74
				2812479.68	4047525.61	63
				2274403.8	3772382.64	72
				2256639.92	3865653.75	66
				1277673.35	3689256.36	79
				1263720.09	2556884.02	85
				1130545.14	2593578.28	80
372295	374375	33491	16616	897687.12	2209175.59	82
374869	425340	35290	17707	616670.7	2081682.66	69
345216	452495	34167	15611	517889.24	1738092.9	82
371808	435197	40049	14459	445677.66	1904043.73	87
365761	389709	36417	13539	377446.12	2107657.88	70
328809	393903	34088	11914	324286.24	1921641.5	73
368927	456654	39424	14831	305980.15	2211198.14	74
351770	436762	37118	12674	316694.69	1973319.96	72
370355	477465	42080	13561	371112.14	2028422.01	73
371605	461328	39488	14939	446297.85	2021221.52	75
396010	499087	40920	19564	425516.88	1971913.41	78
387247	512288	41714	16199	360838.1	1749304.09	76
385129	484696	48618	51250	573396.19	1548881.27	75
392324	500993	47837	49556	360037.42	1343509.09	72
374360	462542	45375	47671	384189.91	1340007.67	82
383740	457977	47309	49424	356689.03	1503773.42	90
387287	450930	40356	48506	377904.08	1495245.58	84
354751	416540	39424	42880	359464.28	1296307.48	83
393027	475571	40521	43985	384100.8	1549933.04	84
370677	451519	36920	40998	470175.57	1611903.24	95
385982	483950	32698	10387	588650.2	1740089.96	95
382220	478167	32716	12411	524279	2006641.99	85
402628	495499	37538	15447			
398979	484047	39656	13354			

Date	umOfReG Down Cou	SumOfReg Up Coun	SumOfSPIN Count	umOfNon-Spin Cou	mOfReplacement Co	AS SP Count
2001.09	5218	6307	1283	2186	1622	16616
2001.10	6032	5222	1934	2205	2314	17707
2001.11	4937	4496	2141	1512	2525	15611
2001.12	4046	4637	1427	2321	2028	14459
2002.01	3288	4369	1927	1878	2077	13539
2002.02	3137	3396	2020	1112	2249	11914
2002.03	3088	4023	2942	1432	3346	14831
2002.04	2890	3418	2055	1753	2558	12674
2002.05	3385	3446	2072	2241	2417	13561
2002.06	3328	3748	2082	3369	2412	14939
2002.07	3810	4508	3605	3365	4276	19564
2002.08	3582	4339	2859	2113	3306	16199
2002.09	10495	10368	15720	12391	2276	51250
2002.10	9100	9132	16434	12630	2260	49556
2002.11	8834	8786	16150	11783	2118	47671
2002.12	8956	8678	16595	12963	2232	49424
2003.01	9223	8821	15310	12992	2160	48506
2003.02	8345	8115	12869	11535	2016	42880
2003.03	8293	8743	13331	11386	2232	43985
2003.04	7842	8480	12451	10068	2157	40998
2003.05	2804	2814	2956	1813	0	10387
2003.06	3288	3196	2727	3200	0	12411
2003.07	3657	3380	3634	4776	0	15447
2003.08	3584	3041	2903	3826	0	13354
2003.09	3145	2593	2835	2797	0	11370

CALIFORNIA ISO

California Independent
System Operator

Memorandum

To: ISO Board of Governors

From: William J. Regan, Jr., Chief Financial Officer

Philip Leiber, Director of Financial Planning and Treasurer

CC: ISO Board Assistants; ISO Officers

Date: September 19, 2003

Re: Discussion of Proposed FY2004 Budget

This memorandum is for information only.

At its October meeting, the Board will be asked to approve the ISO's 2004 Operating & Maintenance and Capital Budgets, and the resulting Grid Management Charges[1] that will be effective in January 2004. This preliminary proposed budget package provides management's current view as to the level and composition of the budgets that will be submitted for approval next month.

We are projecting a recommended O&M budget of $151.7 million, $20 million below the 2003 budget of $171.7 million. The reduction reflects savings from the change to a new communications system and other cost reductions, including reduced travel and training expenditures. The proposed budget also provides for 2004 capital expenditures of $32 million. However, this estimate may be further revised pending availability of an updated MD02 schedule and analysis of certain other needs. In terms of the overall revenue requirement, we anticipate a reduction of approximately $20 million from the $237.6 million level in 2003. The ultimate reduction is dependent on the finalization of the capital budget, and the amount of the operating reserve credit available for 2004.

Between now and late October when the budget will be submitted for approval, the ISO will provide for public input on the proposed budget consistent with the budget process calendar approved by the Board in June (and consistent with last year). In addition to the attached summary of the budget proposal, additional departmental budget details will be made available to stakeholders who sign a confidentiality agreement[2]. Additionally, prior to the October 3 budget workshop, we expect to finalize the proposed capital budget, complete the forecast of the ISO's financial & capital operating reserve and complete the work necessary to develop proposed GMC rates for 2004. We anticipate releasing information on these matters during the week of September 29.

The ISO does not anticipate the need for substantive changes to the level of the O&M budget between now and the October Board meeting, but changes related to the above noted items will affect the proposed GMC rates that have been shown as placeholders in the attached report. Should the Board direct changes to the budget proposal, there will be adequate time to incorporate revisions prior to the final approval in October. This schedule will enable us to submit a FERC filing on October 31 for rates to be effective January 1, 2004.

We look forward to your questions and guidance on this important matter.

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[1] GMC charges will be consistent with the GMC rate structure approved by the Board on June 26, with a change to the billing determinant for one category as recommended by the Finance Committee on September 5.

[2] Certain budget detail is held confidential and summarized in the attached report to avoid release to potential vendors.

CALIFORNIA ISO

PROPOSED
FY2004 BUDGET AND GMC RATES

Presentation to Governing Board

October 23, 2003

(Note: Pages 12-14 were updated 10/23/2003)

OUTLINE

- **GMC Rates Determination Process**
- **Components of ISO Revenue Requirement**

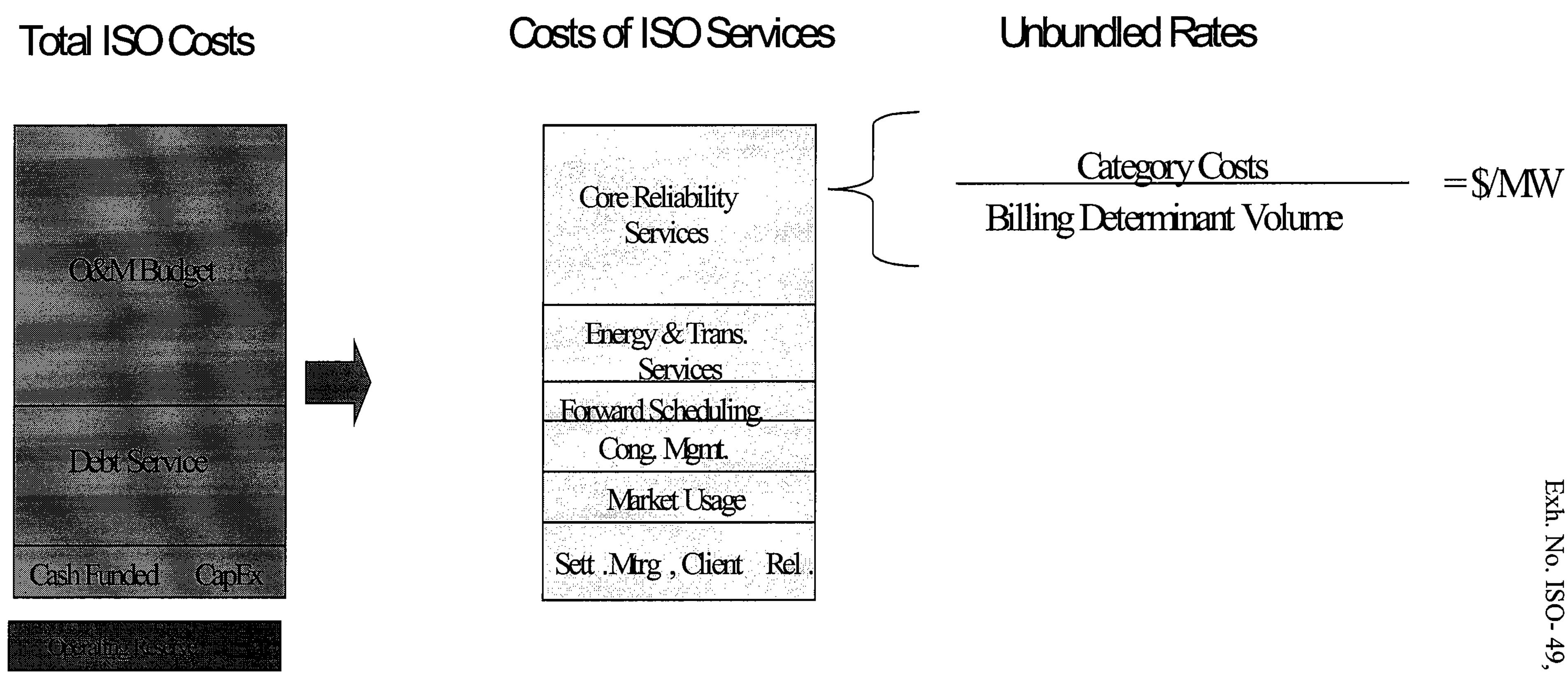
	2003	2004
O&M Budget	$171,739	$151,735
Capital Budget	$22,000	$32,000
Subtotal	$193,739	$183,735
Debt Service	$54,746	$54,615
Expense Recovery	($2,628)	($2,273)
Operating Reserve	($8,257)	($17,835)
Total Revenue Requirement	$237,600	$218,243

- **Cost Allocation & GMC Rates**

Notes:

- '000 Omitted. Amounts may not total due to rounding.
- Rates, cost allocations, billing determinants, and operating reserve calculation are undergoing a detailed review in preparation for the October 31, 2003 filing, and may be revised slightly prior to that filing in the event that corrections are warranted.
- Other documentation of the ISO's budget proposal is posted on the website: http://www.caiso.com/docs/2003/02/07/2003020716485815445.html

ISO REVENUE REQUIREMENT
(as it affects the GMC rate determination)



FY2003/ FY2004 OPERATING & MAINTENANCE BUDGET COMPARISONS

	FY2003 Operating Budget	FY2004 Proposed Budget	Amount Change	% Change
Salaries and Benefits	$ 77,922	$ 80,317	$ 2,395	3%
Bldg, Lease & Facility Costs	18,097	9,737	(8,360)	-46%
Insurance	1,445	2,250	805	56%
Third Party Vendor Contracts	45,239	34,105	(11,134)	-25%
Professional & Consulting Services	9,918	7,695	(2,223)	-22%
Audit, Legal & Regulatory	10,589	10,338	(252)	-2%
Training and Travel	5,695	3,950	(1,744)	-31%
Miscellaneous	2,834	3,343	509	18%
Total O&M Budget	**$ 171,739**	**$ 151,735**	**-$20,004**	**-12%**

Exh. No. ISO- 49, Page 4 of 14

- **Goal**: Reduced budget from 2003 of at least $15 M
- **Results:** Reduction of $20 million

CALIFORNIA ISO

FY2003/ FY2004 STAFFING LEVELS

CAISO Division	FY2003 Budgeted Staffing	Changes	FY2004 Proposed
CEO/MD02/Grid Plng.	23.0	2.0	25.0
CFO	34.5	-	34.5
CIO	144.0	4.0	148.0
VP Grid Ops	187.0	-	187.0
General Counsel	54.0	(1.0)	53.0
Market Services	123.0	(1.0)	122.0
VP Corp & Strat Dev	30.0	-	30.0
Total FTE	**595.5**	**4.0**	**599.5**

- **Changes reflect transfers between divisions, positions added subsequent to approval of 2003 budget.**

FY2003/ FY2004 DEBT SERVICE AND CASH FUNDED CAPITAL EXPENDITURES

	FY2003 Budget	FY2004 Proposed Budget	Amount Change	% Change
Principal Reserve Funding	$ 35,300	$ 36,167	$ 867	2%
Interest Reserve Funding	8,497	7,525	(972)	-11%
Operating Reserve Funding	10,949	10,923	(26)	0%
Cash Funded Capital Expenditures	22,000	32,000	10,000	45%
Total Financing & Cash Funded CapEx Budget	**$76,746**	**$86,615**	**$9,869**	**13%**

- Size of capital budget is developed based on indicative project list, but actual projects completed in 2004 may differ. All projects to be funded in 2004 will undergo internal (and if > $1 million, Board) approval process.

CALIFORNIA ISO

ISO EXPENSE RECOVERY BUDGET

	FY2003 Budget	FY2004 Proposed Budget	Amount Change	% Change
Interest Earned on Operating Funds	$ 1,252	$ 840	$ (412)	-33%
SC Application & Training Fees	120	120	-	0%
WSCC Security Coordinator Fees	1,256	1,313	57	5%
Total O&M Expense Recovery Budget	**$2,628**	**$2,273**	**-$356**	**-14%**

CALIFORNIA ISO

CALCULATION OF FINANCIAL & CAPITAL OPERATING RESERVE BALANCES AND CREDIT FOR 2004

Factors affecting the reserve credit for 2004 are calculated in two parts:

1. Items affecting the reserve balance as of 12/31/2002. Page 9
   The analysis shows the reserve balance at 12/31/2002 based on the assumptions used in our last GMC filing (for 2003), updates to those assumptions based on actual experience, and also incorporates new items affecting the reserve as of that date.

2. 2003 events affecting the reserve, including 2003 revenues, expenses and other reserve uses and credits. Page 10

SUMMARY OF RESERVE			(Left most columns on Pages 9 & 10) **Plan**		(Middle columns on Pages 9 & 10) **Revised**
1	Available as credit for 2003		8,257		(2,502)
2	2003 Events				
	Reserve Balance at 1/2003		34,018		23,259
	Increases in 2003		2,693		17,336
	Ending Reserve Balance		36,711		40,595
	Calculation of Available 2004 Credit:				
	2004 O&M Budget	*171,739*		*151,735*	
	Less: Reserve Requirement= 15% of 2004 O&M Budget		(25,761)		(22,760)
	2004 Credit		10,950		17,835

Notes:
"Plan" assumes 2003 expenses and revenues were equal to budgeted amounts, and that no other factors affected the reserve balance.
"Plan" also assumes that the 2004 budget would have remained unchanged from 2003.

"Revised" reflects the reconciled reserve balance as of 12/31/2002, and the items that affected the reserve in 2003.

CALIFORNIA ISO

RECONCILE RESERVE BALANCE AS OF 12/31/2002

		Per 11/2/2002 Filing				Actual							Allocation Percentages			
		CAS	CONG	Market Ops/ ASREQ	Total	CAS	CONG	Market Ops/ ASREQ	Total	Difference	General Notes	Allocation Notes	CAS	CONG	Market Ops/ ASREQ	Total
1	BEGINNING RESERVE BALANCE, 1/1/2002	22,953	4,850	34,907	62,710	22,953	4,850	34,907	62,710		Per 2001 Section 35 Filing		36.6%	7.7%	55.7%	100.0%
2	CALCULATION OF CONTRIBUTION TO RESERVE FROM OPERATIONS															
3	Revenue:															
4	GMC Rates: 2002 Revenue	132,866	29,105	62,364	224,334	133,297	28,438	62,735	224,470	136	2002 Collections, updated figures replacing those from 11/2/2002 filing. Includes post audited adjustments (differs from Form 1 amount of $219,014)	Collections for each category divided by total.	59.4%	12.7%	27.9%	100.0%
5	Other (Interest Income, WECC reimbursement)	2,473	311	1,024	3,808	2,523	335	1,061	3,920	112	Updated figures replacing those from 11/2/2002 filing. SC Application fees: $11.5, WECC reimbursement: $1,127, interest and other: $2,781	Security coordinator fees assigned to CAS, remainder (mainly interest) spread proportionately.	64.4%	8.5%	27.1%	100.0%
6	Expenses:															
7	O&M	(95,742)	(18,014)	(53,209)	(166,965)	(89,706)	(16,878)	(49,854)	(156,438)	10,527	Updated based on actual 2002 results. (Per supporting schedules for audited F/S) less, depreciation/amortization= $152,328 and excluding $4,110 of capitalized internal labor costs. Net is: $156,438	Per 2002 cost allocation matrix, O&M costs.	57.3%	10.8%	31.9%	100.0%
8	Debt Service	(20,092)	(4,481)	(19,938)	(44,510)	(19,782)	(4,412)	(19,631)	(43,825)	685	Updated based on actual 2002 results. (Per supporting schedules for audited F/S). Interest is $10,458. Principal amount is $33,367 (payments to Trustee in 2002). Interest is at higher rate from 2000 swap, offset by interest income from GIC, included in other income above.	Variance spread proportionately. Allocation based on filed 2001 debt service allocation factors.	45.1%	10.1%	44.8%	100.0%
8a	Cash Funded CapEx	(5,559)	(645)	(2,096)	(8,301)	(5,559)	(645)	(2,096)	(8,301)	-	As planned, any variance would be below in Line 11.		67.0%	7.8%	25.3%	100.0%
9	Contribution to Operating Reserve	13,946	6,275	(11,855)	8,367	20,773	6,837	(7,785)	19,826	11,459						
10	OTHER RESERVE USES															
11	Use of Reserve for CapEx	(3,589)	(2,617)	(7,494)	(13,699)	(3,698)	(2,696)	(7,721)	(14,116)	(417)	Actual of $22,417 (located on this line and line 8a)	Per 2002 cost allocation matrix.	26.2%	19.1%	54.7%	100.0%
12	Amendment 33 Fines	(11,136)	(2,088)	(9,976)	(23,200)	(11,136)	(2,088)	(9,976)	(23,200)	-	Actual fines provided toward 2002 rates per 11/2/2001 filing. As of 10/2003, total fines collections are $60.7 million, $19.96 million is likely to be retained by ISO (toward GMC rates), while remainder is to be reduced/returned to parties assessed. $43.161 was recognized in the Operating Reserve in the previous year, and reduced by $23,200 to a total of $19.96.	Allocated based on proportion of forecasted GMC collections in 2001.	48.0%	9.0%	43.0%	100.0%
12a	Reallocation of Fines per 2002 GMC Settlement	(4,065)	(1,151)	5,216	(0)	(4,065)	(1,151)	5,216	(0)	-	Reallocation per terms of 2002 GMC Settlement	Up to $9 million reallocated per 2002 GMC settlement.				
13	Interest on Refunds from 2002 GMC Settlement	*(46)*	*(29)*	*(85)*	*(160)*	*(142)*	*(27)*	*(127)*	*(295)*	(135)	Refund on excess 2002 GMC collections per Settlement Agmt paid in February 2003, later than anticipated.	Same as above.	48.0%	9.0%	43.0%	100.0%
14	*2001 GMC Case Refunds per 5/2/2003 FERC Order (related to 2001 incentive compensation)*					*(923)*	*(133)*	*(743)*	*(1,800)*	(1,800)	*Order 463 indicated $1.8 million in "overbudgeted" incentive compensation should be returned as a refund to 2001 ratepayers. ISO has filed a request for rehearing on this.*	*Allocated with 2001 GMC O&M budget factors.*	51.3%	7.4%	41.3%	100.0%
15	*Matters Pending Dispute Resolution, Litigation or Appeal including interest on potential awards or judgment.*					*(13,567)*	*(1,335)*	*(2,724)*	*(17,626)*	(17,626)	*The outcome of several matters is pending, and until such time as a final determination is made, amounts potentially payable are set aside in this reserve calculation.*	*Allocation is detailed for each item.*	77.0%	7.6%	15.5%	100.0%
16	*Interest on Excess collection of Amendment 33 fines.*					*(585)*	*(69)*	*(1,465)*	*(2,118)*		*Interest through 12/31/2002 on Amend 33 fines likely to be returned. $60.7 million collections less $19.9 million to keep, difference of $40.8 million. Interest calculated at FERC interest rate.*	*Allocated in same proportion as total Amend 33 Fines collected*	27.6%	3.2%	69.1%	100.0%
17	*Interest on 2001 GMC Case Refunds per 5/2/2003 FERC Order (related to incentive compensation)*					*(63)*	*(9)*	*(51)*	*(122)*	(122)	*Estimate of interest related to the $1.8 million refund from 2001 to end of year 2002.*	*Allocated with 2001 GMC O&M budget factors.*	51.3%	7.4%	41.3%	100.0%
18	Net Increase in Operating Reserve (Sum Lines 9-17)	(4,891)	391	(24,193)	(28,693)	(13,406)	(670)	(25,375)	(39,452)	(10,759)						
19	Ending Reserve Balance	18,062	5,241	10,714	34,018	9,547	4,180	9,532	23,259	(10,759)						
20	Less: Reserve Requirement (15% of 2003 Budget, Line 21)	16,066	2,694	7,001	25,761	16,066	2,694	7,001	25,761							
21	*FY2003 Operating Budget*	*107,105*	*17,958*	*46,675*	*171,739*	*107,105*	*17,958*	*46,675*	*171,739*							
22	Equals: Revenue Credit Available	1,996	2,547	3,713	8,257	(6,519)	1,487	2,530	(2,502)	(10,759)						

CALIFORNIA ISO

CALCULATION OF FINANCIAL & CAPITAL OPERATING RESERVE BALANCES AND CREDIT FOR 2004

		Budget				Actual/Forecast							Allocation Percentages			
		CAS	CONG	Market Ops/ ASREO	Total	CAS	CONG	Market Ops/ ASREO	Total	Difference	General Notes	Allocation Notes	CAS	CONG	Market Ops/ ASREO	Total
1	BEGINNING RESERVE BALANCE, 1/1/2003	$ 18,062	$ 5,241	$ 10,714	$ 34,018	$ 9,547	$ 4,180	$ 9,532	$ 23,259							
2	CALCULATION OF CONTRIBUTION TO RESERVE FROM OPERATIONS															
3	Revenue:															
4	GMC Rates: 2003 Calendar Year Revenue	137,857	27,401	72,343	237,601	136,604	29,263	84,437	250,304	12,703	Actuals/estimated through September, forecast amounts for October - December (based on trend during first 9 months of 2003)		54.6%	11.7%	33.7%	100.0%
5	Other (Interest Income, WECC reimbursement)	1,993	148	487	2,628	2,269	207	658	3,134	506	2003 through September amounts exceed budget by $506K. Forecast is for budget plus $506K.	Security coordinator fees assigned to CAS. Remainder (mainly interest) spread proportionately. Allocation is per 11/8/2002 CAM: page 14, Line 249.	80.3%	5.5%	14.2%	100.0%
6	Expenses:															
7	O&M	(107,047)	(18,001)	(46,691)	(171,739)	(104,664)	(17,640)	(45,696)	(168,000)	3,739	Per accounting forecast at 8/28/2003, of $164 million, increased to $168 million for additions affecting 2003	Allocation: Per 11/8/2002 filing (CAM: page 14 Line 243)	62.3%	10.5%	27.2%	100.0%
8	Debt Service	(22,392)	(5,067)	(16,338)	(43,797)	(22,449)	(5,096)	(16,387)	(43,932)	(135)	Principal: payments to trustee in 2003: $34,800. Interest: $9,132 budgeted.	Allocation: Actual 2003: budget as allocated in CAM.	51.1%	11.6%	37.3%	100.0%
9	Cash Funded CapEx	(9,081)	(5,617)	(7,302)	(22,000)	(9,081)	(5,617)	(7,302)	(22,000)	-	Additional use of reserve for CapEx is shown below.	Allocation per 11/8/2002 filing, cash funded CapEx. CAM: page 16, Line 332.	41.3%	25.5%	33.2%	100.0%
10	Contribution to Operating Reserve (Sum lines 2 through	1,330	(1,136)	2,499	2,693	2,679	1,117	15,710	19,506	16,813						
11	OTHER RESERVE USES															
12	Interest on Excess Collections of Amendment 33 Fines					(531)	(62)	(1,328)	(1,921)	(1,921)	*Interest for year 2003 on Amend 33 fines likely to be returned. $60.7 million collections less $19.9 million to keep, difference of $34.8 million. Interest at 4.125% (average FERC interest rate in 2003).*	*Allocated in same proportion as total Amend 33 Fines collected*	27.6%	3.2%	69.1%	100.0%
14	Interest on 2001 GMC Case: Incentive Comp.					(41)	(6)	(33)	(79)	(79)	*Calculated using FERC interest rates on 2001 GMC overassessment of $1.8 million. Interest is for year 2003.*	*Allocated with 2001 GMC O&M budget factors.*	51.3%	7.4%	41.3%	100.0%
15	*Matters Pending Dispute Resolution, Litigation or Appeal including interest on potential awards or judgment.*					(119)	-	(50)	(169)	(169)	*The outcome of several matters is pending, and until such time as a final determination is made, amounts potentially payable are to be recorded as a liability, and excluded from the reserve calculation.*	*Allocation is detailed for each item.*	70.4%	0.0%	29.6%	100.0%
	Net Increase in Operating Reserve	1,330	(1,136)	2,499	2,693	1,988	1,049	14,299	17,336	14,643						
	Ending Reserve Balance	19,392	4,105	13,214	36,711	11,535	5,229	23,831	40,595	3,884						
	Less: Reserve Requirement (15% of 2003 Budget)					14,180	2,390	6,191	22,760							
	FY2004 Operating Budget					*94,531*	*15,932*	*41,272*	*151,735*			Allocated based on 2003 O&M budget cost allocation results	62.3%	10.5%	27.2%	100.0%
	Equals: Revenue Credit Available					$ (2,645)	$ 2,839	$ 17,640	$ 17,835							

- Operating Reserve forecast has been updated from previous posting of 10/1/2003.

CALIFORNIA ISO

REVENUE REQUIREMENT

	FY2003	FY2004 Proposed Budget	Amount Change	% Change
Total O&M Budget	$ 171,739	$ 151,735	(20,004)	-12%
Total Finance and Cash Funded CapEx Budget	$ 76,746	$ 86,615	9,869	13%
Total Expense Recovery Budget	$ (2,628)	$ (2,273)	356	-14%
Available Revenue (Credit) or Deficiency	$ (8,257)	$ (17,835)	(9,578)	116%
Revenue Requirement	**$ 237,600**	**$ 218,243**	**$ (19,357)**	**-8%**

CALIFORNIA ISO

RATE COMPARISON
USING EXISTING GMC RATE STRUCTURE (UPDATED 10/23/2003)

Comparison of Rates Using Existing Rate Structure	2003 Filed Rates	2004 Pro Forma Rates	Difference
Revenue Requirement in '000	**$ 237,601**	**$ 218,243**	**$ (19,358)**
Control Area Services			
Revenue Requirement (net of reserve credit/debit) in '000	137,857	136,444	(1,413)
Divided by Volume	242,386	249,115	6,729
Equals: Rate per MWh	$ 0.57	$ 0.55	$ (0.02)
Congestion Management			
Revenue Requirement (net of reserve credit/debit) in '000	27,401	27,453	52
Divided by Volume	85,562	92,325	6,763
Equals: Rate per MWh	$ 0.32	$ 0.30	$ (0.02)
Ancillary Services and Real Time Energy Operations			
Revenue Requirement (net of reserve credit/debit) in '000	72,343	54,346	(17,997)
Divided by Volume	55,809	54,985	(824)
Equals: Rate per MWh	$ 1.30	$ 0.99	$ (0.31)

- The above table displays pro-forma 2004 rates if the existing GMC structure were to remain in effect for 2004. (Cost allocation uses 2003 factors.)

NEW GMC STRUCTURE FOR 2004:
SERVICE CATEGORIES AND COST ALLOCATION (UPDATED 10/23/2003)

Service Category	Revenue Requirement	% of total
Core Reliability Services	~~$86.2~~ $85.1 million	39%
Energy Transmission Services– Net Energy	~~$50.6~~ $51.1 million	23%
Energy Transmission Services– Uninstructed Deviations	~~$12.6~~ $12.8 million	6%
Forward Scheduling	~~$17.6~~ $19.7 million	~~8~~ 9%
Congestion Management	~~$16.3~~ $14.9 million	7%
Market Usage	~~$34.5~~ $34.0 million	16%
Settlements, Metering, Client Relations	$0.6 million (after cost reallocation to other categories)	<1%

CALIFORNIA ISO

NEW GMC STRUCTURE FOR 2004: PROPOSED RATES (UPDATED 10/23/2003)

Service Category	Rate
Core Reliability Services	~~$162.34~~ $160.45 per MW-month NCP
Energy Transmission Services– Net Energy	~~$0.21~~ $0.210 per MWh of Controlled Grid load and exports
Energy Transmission Services– Uninstructed Deviations	~~$0.69~~ $0.696 per MWh (net uninstructed deviations)
Forward Scheduling	~~$1.32~~ $1.489 per final hour ahead schedule (including awarded A/S bids)
Congestion Management	~~$0.18~~ $0.161 per MWh of net final HA scheduled interzonal flows (excluding flows pursuant to ETCs)
Market Usage	~~$0.81~~ $0.798 per MWh of AS, Energy or net uninstructed deviation
Settlements, Metering, Client Relations	$500 per month per active SC ID

Finance Committee
Board of Governors

10/23/2003

2004 Proposed Budget

MOVED, that the Board of Governors approve the proposed 2004 budget presented by Management during the September 25, 2003 Board meeting.

Moved: Florio **Second: Gage**

Finance Committee Action: **Passed** Vote Count: **2-0-0**	
Florio	Y
Gage	Y

MOVED, that the Board approve the FY2004 Budget as set forth in the attached report, and authorizes Management to make such filings as may be necessary with FERC to establish rates consistent with the FY2004 Budget and the GMC rate structure set forth therein.

Moved: Gage Second: Florio

Board Action: **Passed** Vote Count: **5-0-0**	
Florio	Y
Gage	Y
Guardino	Y
Kahn	Y
Miramontes	Y