

1 A. I received my Bachelor of Arts in Economics from the State University of
2 New York at Buffalo in May 1985. In May of 1997, I received a Master of
3 Science in Environmental Sciences from the John Hopkins University in
4 Baltimore, Maryland.

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6 Between January, 1989 and February, 1990, I worked in the Division of
7 Applications in the Office of Electric Power Regulation at the Federal
8 Energy Regulatory Commission (FERC). From 1990 to 1996, I was
9 employed in the Division of Litigation in the Office of Electric Power
10 Regulation at FERC. Between April 1996 and February 1998, I was
11 employed in the Division of Opinions and Systems Analysis at FERC. In
12 February 1998, I accepted my current position at the ISO.

13
14 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY**
15 **PROCEEDINGS?**

16 A. I filed testimony in the following FERC proceedings:
17 Appalachian Power Company, Docket No. EL89-53-000 et al.;
18 Canal Electric Company, Docket No. ER90-245-000;
19 Jersey Central Power & Light Company, Docket No. ER91-480-000;
20 Florida Power & Light Company, Docket No. ER93-465 et al.;
21 Northeast Utilities Service Company, Docket Nos. ER95-1686-000 &
22 ER96-496-000;
23 San Diego Gas & Electric Company, Docket No. ER98-496-000 and
24 ER98-2160-000; and
25 Southern California Edison Company, Dockets No. ER97-2355-000, et al.

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I have also previously filed testimony in this docket in support of PG&E's inclusion in its Transmission Revenue Balancing Account Adjustment of \$2 million for costs associated with the ISO's use of certain PG&E facilities, which are part of PG&E's Energy Management System.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is threefold. First, I will describe the relevant Commission precedent regarding credits for customer-owned transmission facilities. Specifically, I will describe the test that must be satisfied in order for a transmission customer to receive a credit for its investment in transmission facilities. ISO witness Jeffery Miller will then apply that test to determine whether certain transmission facilities of the Modesto Irrigation District, the Sacramento Municipal Utility District, the Turlock Irrigation District, the Western Area Power Administration ("Western"), and certain members of the Northern California Power Agency (together the "Public Entities") warrant a credit under Pacific Gas & Electric Company's Transmission Owner ("TO") Tariff.

Second, I will comment on the proposal of the Public Entities' that PG&E's TO Tariff rate be based on a PG&E's traditional subfunctional methodology. Under this methodology, as I understand it, PG&E's transmission rates were based on the particular category of transmission facilities that were used in the transaction.

1 **Q. PLEASE DESCRIBE BRIEFLY THE ORIGIN, FORMATION AND**
2 **FUNCTION OF THE ISO.**

3 A. During 1994, the California Public Utilities Commission (CPUC) initiated a
4 rulemaking and investigation regarding the restructuring of California's
5 electric power industry. The CPUC ultimately determined that the
6 interests of California ratepayers would be best served by moving from a
7 structure that features vertically integrated utilities serving customers in
8 defined service territories to a framework that would provide competition in
9 the supply of electric power and where customers would have the ability to
10 choose their electric power supplier. The CPUC determined that
11 competition in electric generation would encourage efficiency and
12 innovation in the market. As part of this restructuring effort, the CPUC, as
13 ultimately approved by the California Legislature in Assembly Bill 1890
14 (AB 1890), directed the creation of two state chartered, non-profit market
15 institutions, the California Power Exchange and the ISO. The ISO was
16 charged with centralized control of the statewide transmission system and
17 ensuring the efficient use and reliable operation of the transmission
18 system. The ISO would ensure non-discriminatory, open-access to the
19 statewide transmission system under tariffs of general applicability.

20
21 **Q. PLEASE CONTINUE.**

22 A. As part of this restructuring effort, the three investor-owned public utilities
23 in California (Southern California Edison Company (Edison), Pacific Gas &
24 Electric Company, and San Diego Gas & Electric Company, collectively,
25 Companies) filed at the Commission to transfer operational control of their

1 transmission facilities to the ISO (See, Docket No. EC96-19-000). The
2 ISO currently operates and controls the combined transmission systems of
3 the Companies as an integrated statewide transmission system.

4
5 **Q. YOU STATED THAT THE COMPANIES TRANSFERRED**
6 **OPERATIONAL CONTROL OF THEIR TRANSMISSION FACILITIES TO**
7 **THE ISO. HOW WAS THAT TRANSFER EFFECTUATED?**

8 A. The transfer was effectuated by the Companies becoming signatories,
9 along with the ISO, to the Transmission Control Agreement (TCA), and the
10 Commission's authorization of the transfer of control. A copy of the TCA
11 is provided as Exhibit No. ____ (ISO-4).

12
13 **Q. PLEASE DESCRIBE THE TCA?**

14 A. As described in the Commission's October 30, 1997, order in Docket Nos.
15 EC96-19-001, et al., (81 FERC ¶ 61,122 at 61,558) the TCA establishes
16 the terms and conditions under which transmission owners will become
17 Participating Transmission Owners (Participating TOs), and the respective
18 duties and responsibilities of each Participating TO and the ISO.
19 Specifically, the TCA provides that, upon becoming a Participating TO, as
20 described in Section 2.2 of the TCA, each Participating TO will:
21 Transfer to the ISO Operational Control of certain
22 transmission lines and associated facilities which are
23 to be incorporated by the ISO into the ISO Controlled
24 Grid for the purpose of allowing them to be controlled
25 as part of an integrated Control Area.

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27 See Exhibit No.____(ISO-4) at page 2.

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Q. WHAT ARE THE ELIGIBILITY CRITERIA FOR BECOMING A PARTICIPATING TO?

A. As described in Section 2.2.3 of the TCA (See Exhibit No.____(ISO-4)), the ISO will permit a party to become a Participating TO if the ISO determines, among other things, that the applicant's transmission lines and associated facilities can be incorporated into the ISO Controlled Grid without any material adverse impact on reliability, will not put the ISO in breach of Applicable Reliability Criteria, and the applicant has received all regulatory approvals of its TO Tariff.

Q. IS PARTICIPATING TO STATUS LIMITED TO INVESTOR-OWNED UTILITIES?

A. No, any transmission-owning entity may become a Participating TO.

Q. HAVE ANY OF THE PUBLIC ENTITIES EXECUTED THE TCA?

A. No. At this time, none of the Public Entities have decided to join the ISO and therefore have not executed the TCA.

Q. WHAT ARE THE BENEFITS OF BECOMING A PARTICIPATING TO AND JOINING THE ISO?

A. Simply stated, any entity that joins the ISO would have access to the entire ISO Controlled Grid and the ability to integrate its resources and loads on a region-wide basis. Essentially, by virtue of its membership, an

1 entity would have access to a diverse, presumably expanded, and
2 hopefully less expensive set of resources from which to serve its load.

3
4 **Q. HOW DOES A PARTICIPATING TO RECOVER ITS TRANSMISSION**
5 **FACILITY INVESTMENTS UNDER THE ISO TARIFF?**

6 A. As described in Section 7 of the ISO Tariff, all Market Participants
7 withdrawing Energy from the ISO Controlled Grid pay an Access Charge.
8 The Access Charge is designed to recover each Participating TO's
9 investment in its transmission facilities. The ISO's Access Charge is a
10 load-based access charge whereby all end-use customers located within
11 the ISO Controlled Grid pay the Access Charge of the entity in whose
12 service territory they reside. To the extent an entity qualifies as a Self-
13 Sufficient Participating TO, as defined in Section 7.1.2 of the ISO Tariff,
14 that entity would bear no responsibility for the Access Charge of any other
15 Participating TO. If a Participating TO was determined to be a Dependent
16 Participating TO pursuant to Section 7.1.3 of the ISO Tariff, that entity
17 would pay to the Participating TO to which it is physically interconnected
18 an Access Charge which includes a share of the costs associated with
19 that Participating TO's transmission system. A separate Access Charge is
20 assessed for Market Participants that wheel through or out of the ISO
21 Controlled Grid, pursuant to Section 7.1.4.

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23 **Q. HAVE YOU CALCULATED THE ACCESS CHARGE THAT WOULD BE**
24 **APPLICABLE TO LOAD SERVED BY THE PUBLIC ENTITIES?**

25 A. No, I have not.

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Q. IN THE EVENT THAT THE PUBLIC ENTITY WERE TO JOIN THE ISO, WOULD THE ACCESS CHARGE PROVIDE COMPENSATION FOR THE USE OF ITS TRANSMISSION FACILITIES?

A. To the extent that Dependent Participating TOs schedule transactions across the Public Entities' transmission facilities, or entitlements, those Dependent Participating TOs would pay the appropriate Access Charge and thereby help defray some of the costs associated with those facilities that would otherwise be born by the native load customers of the Public Entity. In addition, the Public Entity would be entitled to a share of the Wheeling Access Charges associated with wheeling through or out of the ISO in the same proportion as its transmission investment bears to the total transmission investment turned over to the ISO.

Q. SOME WITNESSES FOR THE PUBLIC ENTITIES HAVE ASSERTED THAT MANY OF THE PUBLIC ENTITIES WOULD NOT BE COMPENSATED THROUGH THE CURRENT ACCESS CHARGE STRUCTURE BECAUSE ENERGY WOULD NOT BE WITHDRAWN FROM THE GRID AT POINTS ON THEIR FACILITIES. IS THIS CORRECT?

A. The Access Charges paid by Dependant Participating TOs for transmission within the ISO Controlled Grid are paid only to the Participating TO with whom the customer is physically interconnected. As I described above, however, all Participating TOs share in revenues from Wheeling Access Charges.

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**Q. DOES THE ISO TARIFF PROVIDE FOR ANY CHANGES TO THIS
ACCESS CHARGE METHODOLOGY?**

A. Yes. A.B. 1890, the California law that established the ISO, provides that no later than two years after the ISO Operations Date, the ISO Governing Board shall recommend to the Commission a rate methodology for Access Charges. This requirement is reiterated in Section 7.1.6 of the ISO Tariff. The ISO began operations on March 31, 1998. It is my understanding that the Public Entities currently obtain transmission through Existing Contracts with PG&E that extend beyond the year 2000. The ISO is required to honor those existing contracts pursuant to Section 2.4.4 of the ISO Tariff. In addition, Section 7.1.3 provides that, if a new Participating TO has an existing transmission contract with the Participating TO to which it is directly interconnected that provides for the delivery of its Energy requirements, it will be deemed to be Self-Sufficient through those contract rights. Therefore, consistent with the Commission's October 30, 1997, order, to the extent that the Public Entities maintain their Existing Contracts, they will be deemed Self-Sufficient. Unless the contracts are terminated, the Public Entities will therefore not be subject to Access Charges until after the year 2000, at which time the ISO will have implemented the new Access Charge.

**Q. HAS THE ISO INITIATED ANY STAKEHOLDER DISCUSSIONS
REGARDING THE REVISED ACCESS CHARGE?**

1 A. Yes. On December 5, 1998, the ISO issued a statement to Market
2 Participants announcing the beginning of a stakeholder process to
3 address the development of a new Access Charge. The ISO stated that it
4 is in the process of starting a Transmission Access Charge Project Team
5 and that the team would like to receive proposals from Market Participants
6 who have transmission Access Charge methodology proposals to offer.
7

8 **Q. WHAT TIMETABLE HAS THE ISO PROPOSED TO ADDRESS THIS**
9 **ISSUE?**

10 A. The ISO requests that all entities that have Access Charge proposals
11 submit their proposals by February 26, 1999. After reviewing the
12 proposals, the ISO intends to interview all Market Participants that have
13 submitted proposals during March 1, 1999. The proposals submitted will
14 establish the starting point for discussions aimed at determining the
15 transmission Access Charge for the ISO.
16

17 **Q. WOULD THE ISO BENEFIT FROM THE PUBLIC ENTITIES JOINING**
18 **THE ISO?**

19 A. Very much so. All Market Participants could potentially benefit from
20 having greater access through the Public Entities' facilities to resources
21 located outside the state. The ISO itself would also benefit from the
22 reduced administrative burden by not having to administer contracts and
23 entitlements with scheduling provisions different than those provided for
24 under the ISO Tariff. Absent Public Entities membership in the ISO, the
25 ISO would not be able to schedule transactions over their facilities and

1 would have to continue to administer contracts with terms and conditions
2 different than those under the ISO Tariff. Mr. Perez also discusses certain
3 benefits.

4 **Customer Credits**

5
6 **Q. PLEASE DESCRIBE THE STANDARD THE COMMISSION USES TO**
7 **DETERMINE WHETHER A CREDIT FOR CUSTOMER-OWNED**
8 **TRANSMISSION FACILITIES IS WARRANTED.**

9 A. In Order No. 888, the Commission stated that:

10 We stress that while certain facilities may warrant
11 some form of cost credit, the mere fact that
12 transmission customers may own transmission
13 facilities is not a guaranteed entitlement to such
14 credit. The presumption of many comments that a
15 customer's subscription to transmission service
16 somehow transforms the provider's and customer's
17 system into an expanded integrated whole to the
18 mutual benefit of both is not a valid one. As we ruled
19 in Florida Municipal Power Agency v. Florida Power &
20 Light Company, (FMPPA), it must be demonstrated that
21 a transmission customer's transmission facilities are
22 integrated with the transmission system of the
23 transmission provider. Specifically, we stated that:

24
25 The integration of facilities into the plans
26 or operations of a transmitting utility is
27 the proper test for cost recognition in
28 such cases. The mere fact that a
29 section 211 requestor has previously
30 constructed facilities is not sufficient to
31 establish a right to credit.

32
33 The mere fact that a transmission customer's facilities
34 may be interconnected with a transmission provider's
35 system does not prove that the two system(s)
36 comprise an integrated whole such that the
37 transmission provider is able to provide transmission

1 service to itself or other transmission customers over
2 those facilities – a key requirement of integration.

3
4 Order No. 888 at 31,741-743 (emphasis added). The Commission
5 recently reiterated its adherence to the Order No. 888 test in Entergy
6 Services, 85 FERC ¶ 61,163 at 61,469 (1998).

7
8 **Q. WHAT OTHER STATEMENTS HAS THE COMMISSION MADE ON THIS**
9 **MATTER?**

10 A. In FMPA, the Commission explained that the fact that a transmission
11 facility constitutes a parallel path and is subject to loop flow does not
12 dictate a conclusion that the line operates as part of the integrated
13 network.

14
15 **Q. THE PUBLIC ENTITIES' WITNESS REISING STATES THAT THE TEST**
16 **FOR CONSUMER CREDITS IS THE SAME AS THE TEST FOR**
17 **INCLUSION OF FACILITIES IN RATE BASE. DO YOU AGREE?**

18
19 A. No. The Commission explicitly rejected the rate base test in FMPA. It
20 repeated that rejection in Entergy.

21
22 **Q. PLEASE DESCRIBE YOUR INTERPRETATION OF HOW THE**
23 **COMMISSION'S REQUIREMENT OF "INTEGRATION" RELATES TO**
24 **THE ISO'S OPERATIONS.**

25 A. The Commission's has indicated that a key requirement of "integration" is
26 the ability of the transmission provider to provide transmission service to

1 itself or other transmission customers over the facilities in question. In my
2 opinion, in the context of the ISO's operation, this means that the ISO
3 must be able to control the facilities and to schedule transmission over
4 them.

5
6 **Q. WHAT IS THE ISO'S POSITION WITH REGARD TO**
7 **APPROPRIATENESS OF PROVIDING A CREDIT TO THE PUBLIC**
8 **ENTITIES?**

9 A. As described in greater detail in the testimony of ISO witness Mr. Jeffrey
10 Miller, it is the position of the ISO that Public Entities have failed to
11 demonstrate the necessary factual basis for establishing their right to a
12 transmission credit. As described by Mr. Miller, while their facilities are
13 "interconnected" to the ISO Controlled Grid, that is true of most utility
14 systems in California, if not in the entire country. As clearly stated by the
15 Commission, it is whether a facility is "integrated", not interconnected, with
16 the system of a transmission provider that is relevant to the determination
17 of whether that transmission facility warrants a credit against the service
18 provided by the transmission provider.

19
20 **Q. ON PAGE 7 OF HER DIRECT TESTIMONY, WESTERN'S WITNESS**
21 **STATES THAT THE ISO MAY SCHEDULE OVER WESTERN'S**
22 **TRANSMISSION SYSTEM, IS THIS TRUE?**

23 A. No. As with any other Existing Contract, the ISO implements the
24 operating instructions provided to it by the Responsible Participating TO
25 (RPTO). In this instance, PG&E is Western's RPTO. It is my

1 understanding that under the PG&E-Western Integration Agreement (IA),
2 PG&E, using both Western's and its own resources, schedules power to
3 satisfy all of Western's demand. Therefore, in order to honor the IA,
4 PG&E, as the RPTO, submits schedules with the ISO to deliver power to
5 Western's loads. However, the ISO, consistent with its treatment of all
6 Existing Contracts, may not schedule power on Western's facilities for
7 other ISO customers, known as New Firm Uses.

8
9 **Subfunctional Rates**

10
11 **Q. WHAT IS THE ISSUE PERTAINING TO SUBFUNCTIONAL RATES?**

12 A. Public Entities are recommending that PG&E's TO Tariff rate be based on
13 the traditional subfunctional methodology employed by PG&E as opposed
14 to the rolled-in methodology proposed by PG&E.

15
16 **Q. WHAT IS THE ISO'S POSITION ON THIS ISSUE?**

17 A. The ISO does not have a position on the merits of the use of either a
18 rolled-in or subfunctional methodology.

19
20 **Q. DOES THE ISO HAVE ANY COMMENTS ON THIS ISSUE?**

21 a. Yes. The primary concern of the ISO regarding this issue, however, is
22 the ISO's ability to implement an alternative access charge methodology
23 based on PG&E's traditional subfunctional rates.

24
25 **Q. PLEASE EXPLAIN.**

1 A. Currently, under the ISO Tariff, the Access Charge for any Participating
2 TO is collected by that PTO for load served within that PTO's service
3 territory. As I explained earlier in my testimony, the ISO collects Wheeling
4 Access Charges for Wheeling Through and Wheeling Out transactions.
5 The ISO determines the applicable Wheeling Access Charge for each
6 Wheeling Through and Wheeling Out transaction based on the point at
7 which the power exits the ISO Controlled Grid.

8
9 As I understand PG&E's subfunctional methodology, the ISO would be
10 required to know the contract path of a transaction in order to properly bill
11 for each transaction. That is, the ISO would be required to know both the
12 point of receipt and the point of delivery for each schedule. For example,
13 under the ISO's current Tariff structure, if an entity scheduled a
14 transaction from the Pacific Northwest to a point of delivery on PG&E's
15 distribution system, that entity would pay a Wheeling Access Charge
16 based on the costs of PG&E's entire transmission system. As I
17 understand the Public Entities' proposal, the ISO would have to assess a
18 charge for such a transaction that reflects the use of PG&E's System
19 Interconnection, Backbone Transmission and Area Transmission facilities.
20 In contrast, if the transaction originated from an independent generator
21 connected to one of PG&E's Backbone Transmission facilities, the charge
22 would include only PG&E's Backbone Transmission and Area
23 Transmission facilities. The ISO cannot accommodate charges that are
24 differentiated in this manner.

25
26 **Q. WHY IS THE ISO UNABLE TO ACCOMMODATE THE**
27 **SUBFUNCTIONAL RATE DESIGN?**

1 A. The ISO's Scheduling Infrastructure (SI) systems cannot currently
2 accommodate or provide for Scheduling Coordinators to input point of
3 receipt information. For this reason, the ISO's Balance of Business
4 Systems (BBS), which contains the ISO's settlements software and which
5 receives scheduling information from SI, is not capable of calculating the
6 correct charges under the traditional subfunctional methodology.
7

8 **Q. DOES THAT MEAN THAT THE ISO COULD NOT ACCOMMODATE**
9 **ANY ALTERNATIVE ACCESS CHARGE METHODOLOGY?**

10 A. No. There may be variants of the subfunctional methodology that could
11 be implemented with the ISO's current software. The ISO would need to
12 know the specific parameters of other methodologies in order to determine
13 whether they could be implemented.
14

15 In addition, as I explained above, the ISO has initiated a stakeholder
16 process to examine possible alternative rate methodologies for the Access
17 Charge. One possible outcome of that process will be the implementation
18 of a new Access Charge methodology that will require changes to the ISO
19 Tariff and changes to the ISO's software systems.
20

21 **Q. WITH THAT EXPLANATION, WHY ARE YOU OPPOSED TO MAKING**
22 **CHANGES TO THE ISO'S SOFTWARE SYSTEMS NOW?**
23

24 A. As explained earlier in my testimony, the ISO has initiated a process to
25 reexamine the Access Charge. As part of that effort, the ISO must
26 develop an Access Charge that is applicable to all Participating TOs.
27 While the ISO will consider all Access Charge proposals submitted by

1 Market Participants, the ISO does not have the resources to develop
2 Access Charges on a case-by-case basis. It is impractical and would be
3 prohibitively costly for the ISO to implement software changes to
4 accommodate a specific Access Charge for PG&E and then decide in one
5 year that another Access Charge, based on a methodology agreed to by
6 all stakeholders in California, should be implemented in its place.

7
8 **Ancillary Service Rebilling**

9
10 **Q. PLEASE EXPLAIN FERC STAFF'S PROPOSAL WITH REGARD TO**
11 **REBILLING OF PG&E'S ANCILLARY SERVICE RATES.**

12 A. As stated by FERC staff witness Atkinson at pages 6 and 7 of his direct
13 testimony (Exhibit No.____(S-7)), PG&E developed its Ancillary Service
14 cost-based bid caps on the costs of those units most likely to provide the
15 service. Mr. Atkinson recommends that PG&E be directed to develop unit-
16 specific cost-based bid caps, since PG&E must specify which generating
17 units are to provide the Ancillary Service when it bids into the ISO's
18 Ancillary Service auctions.

19
20 **Q. PLEASE CONTINUE.**

21 A. Mr. Atkinson also states that since PG&E no longer owns certain of the
22 generating stations used to develop its bid caps, the unit-by-unit bid caps
23 for these units should not apply after the date of the sale of the units, June
24 23, 1998. Mr. Atkinson states that for the period after June 23, 1998, an
25 average rate should be applied that excludes the costs of the sold units.

26
27 **Q. DO YOU AGREE WITH FERC STAFF'S RECOMMENDATION?**

1 A. While the ISO does not have an opinion on the proper rate development of
2 PG&E's cost-based bid caps, the ISO is concerned that the FERC staff's
3 proposal would require the ISO to rerun its Ancillary Service markets for
4 the time period in question and rebill these services. Such an effort will
5 require an enormous dedication of the ISO's resources.

6
7 **Q. FOR WHAT PERIOD OF TIME WOULD THE ISO HAVE TO RERUN ITS**
8 **ANCILLARY SERVICE MARKETS?**

9 A. The Commission approved PG&E's request for market-based rates for
10 sales of Ancillary Services effective November 2, 1998. Therefore, the
11 period in question is from June 23, 1998, through November 2, 1998.

12
13 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY RERUNNING THE MARKET.**

14 A. Rerunning the market entails, for every hour that PG&E submitted an
15 Ancillary Services bid and was selected, substituting PG&E's originally
16 filed cost-based bid caps with the revised bid caps and, if applicable,
17 determining the new Market Clearing Price ("MCP"). For hours in which
18 PG&E's bid sets the MCP, all entities permitted to collect market-based
19 rates would receive the MCP. Bear in mind that the ISO conducts 48
20 auctions (24 Day-Ahead Markets and 24 Hour-Ahead Markets) for each
21 Ancillary Service type. There are four types of Ancillary Services (Spin,
22 Non-Spin, Regulation and Replacement) for a grand total of 192 daily
23 auctions in which PG&E heavily participates. For hours in which PG&E
24 sets the MCP, all entities permitted to collect market-based rates would
25 receive the MCP. The ISO's computing infrastructure was designed for
26 the Market bidding process and settlements to be fully computerized, and
27 it does not provide for automated re-runs of the auctions. All of the market

1 calculations would therefore have to be done by hand or through
2 modification of the systems, which is the preferred approach.
3

4 **Q. PLEASE CONTINUE.**

5 A. Based on the ISO's experience, there are five steps that the ISO must
6 take in order to rerun the ISO Ancillary Service markets. First, the ISO
7 would have to buy or lease new computers to perform the calculations.
8 The ISO's current business machines cannot be taken off-line to perform
9 the necessary calculations. Second, software for the new machines would
10 have to developed and tested. Third, the new software would have to
11 uploaded to the new machines. Fourth, it would take four people about
12 three weeks to setup the machines. Finally, the machines and software
13 would have to be tested and the necessary calculations performed. The
14 ISO has determined that for the four month period in question, rerunning
15 the market would require at least four person-months (day per day going
16 through the market). This assumes PG&E would prepare the bid data
17 (unit-by-unit, hour-by-hour) in the format specified by the ISO.
18

19 **Q. WHAT WOULD IT REQUIRE FOR THE ISO TO REBILL FOR THESE
20 SERVICES?**

21 A. Billing would also require additional time and effort. The process is similar
22 to the re-run of the auction process described above. Additional time and
23 resources would be required to complete the billing and settling with all
24 Market Participants. Most, if not all, SCs would be affected. The bills for
25 the entire retroactive period for all SCs would be re-done. It would require
26 approximately four person-months for the ISO to re-run the settlements
27 process.

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Q, HAS THE ISO PERFORMED SUCH RECALCULATIONS IN THE PAST?

A. Yes. On June 30 and July 10, 1998, the Commission approved market-based rates for certain Market Participants, representing over twenty generating units, applicable to sales of Ancillary Services into the ISO's Ancillary Service markets. The Commission's order approved those rates retroactively back to dates in May, 1998. As a result of this order, the ISO was required to resettle the markets. The ISO has determined that it can recalculate the market one month at a time. In order to rebill one month, the ISO requires two people approximately one-month to prepare the data. The preparation of the data involves the manual entry of multiple line items. The preparation of retroactive settlements will involve an average of twenty thousand line item entries.

Q. THANK YOU. THERE ARE NO FURTHER QUESTIONS.