

Decision 97-12-090 December 16, 1997

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Proposed Policies Governing Restructuring California's Electric Services Industry and Reforming Regulation.

Rulemaking 94-04-031
(Filed April 20, 1994)

Order Instituting Investigation on the Commission's Proposed Policies Governing Restructuring California's Electric Services Industry and Reforming Regulation.

Investigation 94-04-032
(Filed April 20, 1994)

**OPINION REGARDING THE RETAIL SETTLEMENTS
AND INFORMATION FLOW WORKSHOP AND RELATED FILINGS**

I. Summary

Today's decision addresses the "Report On The July 7, 1997 Direct Access Workshop On Retail Settlements and Information Flow" (RSIF Workshop Report) and the related supplements and filings that were filed in connection with this report.

The focus of the workshop was on retail data quality and integrity (RDQI). RDQI refers to the concept that meter usage data for billing and settlement of electricity transactions be accurate and trustworthy. The meter usage data is integral to determining how much electricity is being used by the end-use customers and the resulting financial obligations of the various parties. If the data is inaccurate or information is not transferred, the cost of doing business is likely to increase and confidence in the restructured electricity market will suffer.

Many of the issues raised in the RSIF workshop and in the related filings were also raised in the meter and data communications workshop and in the direct access implementation plans. Those issues led to the creation of certain controls regarding meter data collection, processing of the data, and the exchanging of information, which are reflected in Decision (D.) 97-10-087 and D.97-12-048.

Today's decision addresses the additional controls that are needed to ensure the quality and integrity of the meter usage data. We adopt the distribution loss factor (DLF) methodologies proposed by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (Edison) for use in 1998 in their respective service territories. A working group will be formed to examine whether changes to the DLF methodologies are needed in 1999.

A number of other suggestions have been made to improve the quality and integrity of the meter data and the exchange of information. Suggestions have been made to design and implement universal identifying systems, to create a central repository for meter-related data, and provide for an ongoing review of the rules and

procedures concerning the exchange of data information. We have authorized the establishment of working groups to look into these kinds of issues.

We have also made some minor changes to Appendix A of D.97-10-087 regarding some customer status issues. In addition, today's decision clarifies some of the bill format issues that parties have raised.

II. Retail Settlements And Information Flow

A. Background

In D.97-05-040, the Commission directed the UDCs to meet with interested parties concerning RSIF issues. These kinds of issues address how the settlement process will operate, and the development of any necessary rules and procedures. A pre-workshop meeting was held on May 28, 1997. The RSIF workshop was held on July 7, 1997, and the workshop report was filed on July 25, 1997. Comments to the RSIF workshop report were filed by the interested parties.

The RSIF Workshop Report presents an overview of the information flows that will be required for the new electric market structure to function beginning January 1, 1998. Instead of highlighting the differences between the parties, the workshop report strives to educate participants and readers of the report about the complexities of the information flows that are needed for a restructured electric marketplace to function. The RSIF Workshop Report identified several high, medium, and low priority issues which the report said would be addressed in supplemental filings.

The RSIF Workshop Report states that the parties recognize the tremendous amount of work that remains to be done for the new market structure to be fully functional on January 1, 1998. In recognition of that, the workshop participants proposed an ongoing stakeholder process to develop consensus solutions and to work toward common goals and objectives.

Three high priority supplemental proposals were filed with the Commission. They are: the "Retail Data Quality And Integrity: Supplement To The July 25, 1997 Workshop Report On RSIF" (RDQI Supplement) filed on August 18, 1997;

the UDC-ESP Communications Supplement filed on August 18, 1997; and the “Distribution Loss Factors [DLFs]: Supplement To The July 25, 1997 Workshop Report On RSIF” (DLFs Supplement) filed on August 20, 1997.

The RDQI Supplement focused on the establishment of standards and procedures to ensure the quality and integrity of the meter and settlement data, and the entities who should be responsible for auditing and monitoring these multi-party transactions. The RDQI Supplement identified potential threats to data quality and integrity and possible solutions to the problem. An analysis of these potential threats subsequently resulted in the RDQI: Second Report, which was filed on October 15, 1997.

The focus of the UDC-ESP Communications Supplement was to provide a detailed description of each category of transactions needed for direct access and the proposed rules which should govern the use of such data. The transactions discussed in the report include:

- Direct access service request (DASR)
- Service termination
- Meter configuration information
- Billing
- Settlement and remittance
- Account maintenance
- Communications protocol

The DLFs Supplement identified potential processes for estimating and accounting for DLFs in the restructured electricity market. The DLFs Supplement describes: how DLFs are used for scheduling and settlement purposes; the proposed UDC methodologies for estimating hourly DLFs; the significance of the DLFs and unaccounted for energy (UFE) in the independent system operator’s (ISO) imbalance energy calculation; and provides the technical specifications for DLF information flows. The DLFs Supplement resulted in two additional filings by PG&E and SDG&E. These

two utilities separately filed their DLF methodology with the Commission on October 15, 1997 and October 31, 1997, respectively.¹

One of the medium priority issues identified in the RSIF Workshop Report was meter information flows. The “Meter-Specific Information Flows Workshop Report” (Meter Information Flows Report) was filed on October 15, 1997. That report describes the minimum protocols and procedures needed for meter-related data. Among the items discussed are the following: access to certain kinds of information about each meter; who maintains the meter information; what information is required when there is a meter change out; the types of transactions to include in the DASR; when the meter information should be transmitted; the method of communication; joint meetings; the procedures for access, securing and sealing of metering equipment; and when other events such as evidence of tampering, non-complying site conditions, power disconnect, and failed meter accuracy, require immediate notification by the ESP to the UDC or by the UDC to the ESP.

The RDQI Second Report was filed on October 15, 1997. This report provides an analysis of the threats to data quality and integrity, and discusses ways in which these threats can be minimized or resolved. In addition, the RDQI: Second Report addressed several medium priority concerns. These concerns include the absence of dispute resolution mechanisms, the apparent lack of clear jurisdiction over disputes between commercial entities, and the retention period for data records and auditing of energy transactions.

On October 15, 1997, the “Universal Identifiers: A Supplement To The Retail Settlement and Information Flows Workshop Report” (Universal Identifiers Supplement) was filed. This supplement addresses one of the other medium priority concerns. The RSIF Workshop Report identified the need for a universal identifying

¹ Edison’s proposed DLF methodology was described in the DLFs Supplement at pages 8 and 9, and was included as part of its August 15, 1997 advice letter filing.

system that can be assigned to all the various service delivery points (SDPs) and to all the entities involved in the flow of electricity.

B. *Issues To Be Resolved*

Many of the issues raised in the RSIF Workshop Report and in the other supplements have already been addressed in the decision regarding the direct access implementation plans (D.97-10-087) and in the decision regarding the metering workshop (D.97-12-048). We do not plan to revisit those issues in this decision.

The remaining issues addressed in this decision fall into the following general categories:

- universal identifiers
- centralized meter registry
- customer status information
- information flow between the scheduling coordinators (SCs), the power exchange (PX), and the ISO
- distribution loss factors
- billing format

C. *Universal Identifiers*

1. *Background*

In the restructured electricity environment, all of the different market participants will need access to customer information. The RSIF Workshop Report states that this information exchange can be facilitated by the adoption of common data identifiers. The data identifiers would be used to track and correlate direct access customers, meter instruments, and SDPs. This issue was recognized in the RSIF Workshop Report as a medium priority concern. Two types of universal identifiers have been suggested.

The first type of universal identifiers is referred to as the universal node identifier (UNI) system. It is proposed that UNIs be assigned to every node or SDP on the distribution wires systems of the UDCs. The proposal calls for UNIs to cover the entire ISO-controlled grid. The proposal envisions that the UNI number will be in a record field that is attached to all information exchanges related to electric service transactions. Thus, every information exchange would be uniquely tagged to

the precise point on the UDC's system to which electricity flows. The UNIs could also be implemented on a nationwide basis. It is further proposed that the UNIs be maintained by a responsible entity, and that the UNIs be made publicly available to certified business entities such as metering agents, ESPs, UDCs, SC, and the ISO.

The second system would involve the creation of a meter identifier system so that there is a standard way of identifying each meter instrument and a record of all installation, maintenance, and testing operations performed on it. Having a standardized meter identifier system should support system transactions between market participants because there will be a common way of identifying the meter. The creation of a meter identifier system should also result in standardized record keeping instead of having to keep track of the variations in the different manufacturers' meter serial numbers.

The Universal Identifiers Supplement states that the parties addressing the universal identifiers issue concluded that there was inadequate time remaining in 1997 to develop the details of such systems and to gain the support of the market participants. Thus, the Universal Identifiers Supplement is intended to serve as a starting place for a stakeholder group to investigate this issue closer and to take steps toward implementing such a proposal.

The universal identifier concept has merit. Both the UNI and the meter identifier systems can enhance the ability to track all of the various electricity transactions. Having such systems in place will help to minimize confusion and ambiguities in communication. Such systems should also lead to an increase in accountability for the electricity that is consumed. Due to the differences in who will need to be involved in the development of these systems, the UNI system is likely to be implemented before a meter identifier system.

2. Universal Node Identifier System

The proposed UNI system would have each UDC that is connected to the ISO grid assign a unique number to each billable energy path or node on the UDC's system. The supplement estimates that approximately 15 million UNI numbers

will be needed in California. Each UNI number would have critical data associated with it. This could include such things as:

1. UDC premise address description.
2. UDC or ISO tariff applicable to the UNI.
3. Grid-takeout point identification number.
4. Load profile assignment, if any, for this UNI.
5. Meter, if any, class and form factor at this UNI.
6. The meter data types and the frequency at which the data is collected.
7. Billing cycle assignment used by the UDC.
8. Multiplier constants and other parameters of customer premise transformers, if any, required for the metering data calculation.

In order to develop the UNI system, the various SDPs need to be identified. A UNI numbering scheme then needs to be developed, and a UNI number assigned to each SDP throughout the state.² The UNI numbers only need to exist in a database which is associated with each SDP. Since the UDCs are the ones who are familiar with all of the SDPs, the supplement states that the UDCs are the logical parties to own and maintain this database. The supplement recognizes, however, that the market might be better served if other firms provide this service on a out-source basis to the market. In order to implement the UNI numbering system, coordination with other market participants is needed so that the UNI system can be used for all of the transactions that occur between the market participants.

No cost estimates for designing and implementing a UNI system have been done. The supplement notes that some of the parties believe that a UNI system, with some limitations, may be implemented for under \$1 million. With a UNI system in place, possible savings may result from a reduced amount of UFE losses, and a reduction in telephone contacts to resolve transaction location issues.

² In designing such a system, the UNI numbers should not contain any information that would force data changes by other business entities in response to a business requirement of one entity.

The UNI system can be used to ensure that all SDPs receiving electricity are attributed to the correct SC, ESP and UDC. If the UNI numbering system is used by the ESP, the meter data management agent, the UDC, the SC, and the ISO, the ISO or a third party could compare all the scheduled transactions at each SDP, and determine which SDPs have not been claimed by any ESP or UDC. Appropriate notification and enforcement action could then take place for those SDPs where no one has claimed service. This will help address the problem of an ESP failing to ensure that supply has been purchased to cover all of the loads of its end-use customers. Such a system, however, requires the cooperation of the various market participants, including the SC and the ISO.

We agree with the comments of the California Energy Commission (CEC) and Enron that 1998 provides a window of opportunity to adopt and implement a UNI numbering system. Since direct access is only in its infancy, it makes sense to develop a UNI numbering system at the beginning to serve as a control over distribution losses. Although many of the direct access implementation details have already been adopted, the addition of a UNI numbering system at this juncture would not cause a major system design problem since some of the implementation details will need to be refined and adjusted in the coming months.

We approve the UNI system in concept. In order to design and implement such a system, the cooperation of all the various market participants and government agencies will be needed. We authorize the formation of the UNI System Working Group (UNISWG) to address these design and implementation issues using the guidelines set forth in this decision, and the ideas expressed in the Universal Identifiers Supplement. The UNISWG will need to work closely with the ISO, and if necessary, the Federal Energy Regulatory Commission (FERC). Their input and cooperation is needed because the ISO and the FERC are in a position to use the UNI numbering system to track all of the scheduled transactions, and to use such a system to account for distribution losses.

The Energy Division shall convene a workshop within 45 days to solicit interest from those who are interested in participating on the UNISWG. Among the preliminary issues that the UNISWG should focus on are:

1. What needs to be done in order to secure the cooperation of the UDCs, the ESPs, other entities providing metering services, the SCs, and the ISO, in designing and implementing a UNI numbering system.
2. Should the UDCs, in cooperation with the ISO and with the input of other market participants, develop the database of all SDPs?
3. Should a single entity be responsible for maintaining and updating the UNI numbering system, or should each UDC maintain and update a UNI subsystem within its own service territory?
4. What type of control systems need to be instituted, and by whom, in order to use the UNI system for informational purposes and to detect distribution losses?
5. How should the expenses associated with the design, maintenance and upkeep of the UNI system be treated?

Once these preliminary issues have been addressed by the UNISWG, the outcome of such a discussion should be reported in a workshop report and filed with the Commission within 30 days after the close of the workshop discussions. This workshop report should be served on the persons attending the workshop, and a notice of availability should be served on the rest of the electric restructuring service list. Any persons wishing to file comments to the workshop report may do so within 20 days of the date of service. The Commission will then issue a decision addressing the resolution of these preliminary issues, and determine whether the UNISWG or a sub-group should be authorized to design the UNI numbering system and the necessary procedures and controls for implementing the system.

3. Meter Identifier System

The idea of developing a statewide standard for the numbering of meters was first brought to our attention in the Meter and Data Communications Standards Workshop Report (MDCS Report). In D.97-12-048 at page 48, we left it up to the Permanent Standards Working Group (PSWG) to recommend what should be done

about developing a statewide standard. The decision recognized that any adoption of a statewide meter identification system would have to be coordinated with the meter manufacturers.

The Universal Identifiers Supplement provides several reasons why such standards are needed. Such a system will support system transactions because there will be a standardized system of identifying the meters, which will allow market participants to store standardized meter identification numbers in their systems. A standardized meter identification number will also allow for easier tracking of the meter, and prevent confusion over meter numbers.

At pages 17 to 20 of the Universal Identifiers Supplement, there is a discussion about what existing standards are in place, and what standards should be adopted. Since the meter identifier section was intended to be used as the starting point for further discussion, no consensus was reached as to what should constitute the meter identifier system.

There are at least two different methods for designing a meter identifier system. The first is to design and implement a statewide numbering system that the meter manufacturers could incorporate and assign to all new meters and meter devices on a going forward basis. Such a system would require the cooperation of all the manufacturers of metering devices. In addition, such a system would require that all existing meters and meter devices be assigned a meter identification number from this system. A second method is to use all of the existing meter serial numbers as the standard, after screening the existing serial numbers to avoid duplicate or similar identifying numbers as necessary, and arrange with all meter manufacturers to prevent the serial numbers from being duplicated in the future.

We will leave it up to the PSWG to decide what should be done about developing a meter identifier system. Persons interested in this issue should participate in the PSWG.

D. Centralized Repository For Meter Data And Information

With the unbundling of metering services, more entities will become involved in the management of information pertaining to meter identification, accuracy

testing, maintenance, and meter usage data. Although we adopted tariff provisions in D.97-10-087 which require the various entities involved in the metering process to retain this information, and for these entities to report some of this information to the UDCs, suggestions have been made to have a central repository retain this information.

The idea for a central repository is to take care of the problem that may arise if the entities providing metering services go out of business. If the entity goes out of business, the metering information that the entity was supposed to retain may be lost because the electric utilities will no longer be the entity responsible for retaining this information. For example, meter maintenance records and testing records are to be kept by the meter service provider or its subcontractors. If this information is not retained by the ESP or a UDC, this information may be lost if the subcontractor providing the metering service goes out of business. Requiring all entities retaining metering data and information to transmit such information to a central repository will help to ensure that the metering data and information will be available.

The central repository concept has merit in the restructured electricity environment. The electric utility will no longer be the one responsible for retaining all of this metering information. With many different metering entities, it makes sense to have one place where all of these entities can send their data and meter information to without having to worry that this information may be disclosed to unauthorized persons. Although the Commission or the UDCs could take on this role, no funding and no procedures are in place for the Commission to assume such a role. If the UDCs were to assume this role, too much competitive metering information might be retained by the UDCs.

Some of the comments suggest that this central repository should be an independent third party. An independent clearinghouse of metering data and information would help ensure that this information will be available when it is needed. The practical problem with such a suggestion is determining how the repository should be funded and who should fund it, and who should operate the repository. We believe that some of the answers to these questions should be left up to the marketplace and its participants to decide.

We will solicit additional comment from interested parties about the central repository idea. We are interested in receiving comments on the following issues:

1. Should a central repository for meter information and meter data be created?
2. Should the Commission or the UDCs function as the central repository for meter information and meter data?
3. If the Commission or the UDCs should not be the central repository, what type of entity should take on this role?
4. How should the central repository be funded, and by whom? Is legislation needed to provide a source of funding for the repository?
5. What should be the role of the central repository, and how should it interact with the Commission, the UDCs, the ESPs, and other entities providing metering services?
6. When should the central repository be created?

Persons who are interested in addressing the above issues shall file their written comments with the Docket Office within 60 days from today, and shall serve a notice of availability of their comments on the service list for this proceeding.

Responses to the comments may be filed with the Docket Office within 30 days from the date of service of the notice of availability. Responses to the comments shall be required to be served only on those who filed the initial comments. The Commission will address the central repository idea in a future decision.

E. Customer Status Information

Several issues were raised in the RSIF Workshop Report and in the supplements regarding a customer's status, and who should be notified about the customer's status.

1. Life Support Equipment

The first issue has to do with electric customers who have life support equipment. At the present time, the electric utilities keep track of these customers in their customer meter database. In the Meter Information Flows Report, the report recommends that when the UDC acknowledges receipt of a meter change, the

UDC should notify the ESP that the end-use customer has life support equipment. The report also states that this information should be included as part of the DASR form.

We believe that it should be incumbent on both the UDC and the ESP to keep track of those end-use customers who have life support equipment. As recommended in the Meter Information Flows Report, when the UDC is notified of an upcoming meter change, the UDC shall review its records to determine whether the end-use customer has life support equipment. If so, the UDC shall notify the ESP of this fact.

Since the ESPs will be the point of likely contact for customers electing direct access, the ESPs should be responsible for determining whether an end-use customer has any life support equipment. We will require the UDCs to modify and incorporate into the DASR form no later than February 20, 1998, a notation which is similar to the following: "Does the customer have any life support equipment requiring electricity? ____ (Yes) ____ (No)." If the answer is in the affirmative, the UDCs shall flag this in its system and incorporate it into its meter change procedures and any other existing procedures related to life support equipment. If the answer on the DASR form is in the negative, but such information conflicts with the UDC's existing information, the UDC shall notify the ESP of the conflict, and work with the ESP and the end-use customer to resolve the discrepancy.

2. Sharing Of Customer Payment Information

In the RSIF Workshop Report a suggestion was made that customer payment information be shared between the ESP and the UDC. The information to be shared could include such things as notifying each other of delinquent accounts or of any billing disputes. The report notes that the UDCs are concerned about customer confidentiality, and do not support the sharing of credit information.

We indirectly addressed this issue in D.97-10-087 at page 53. In deciding whether priority in the DASR processing should be given to a DASR requesting a transfer of an account back to bundled UDC service, we stated that such a priority should not be given because "the ESPs should screen their customers to ensure that they will pay their bills on time." In a competitive market, the ESPs and the UDCs

should be responsible for determining the creditworthiness of their own customers. No sharing of credit-related information should occur.

With regard to the sharing of information about billing disputes, tariff provisions have been adopted in Section O of Appendix A of D.97-10-087 which provide for how the UDCs and ESPs will be made aware of any billing disputes. We do not believe that additional provisions are needed.

3. Notification To The Meter Data Management Agent

The RSIF Workshop Report states that when a direct access customer has been disconnected, the meter data management agent (MDMA) should be notified directly by the party performing the meter disconnection.

Such a recommendation makes sense. This will help ensure that the MDMA has an opportunity to perform a closing meter reading. In addition, the MDMA will then be made aware that it no longer has to read the meter for the ESP who was serving the disconnected customer.

Section Q.(1)(g) of Appendix A of D.97-10-087 should be revised by advice letter within 30 days to reflect this change. That tariff provision should be revised to read:

“Notices of involuntary service changes or termination in Direct Access will be sent to the ESP, the MDMA if different from the ESP, and to each customer under contract as described in this section Q, and to the CPUC.”

4. Notification By The Schedule Coordinator

The RSIF Workshop Report notes that circumstances may arise where the SC must become involved in the retail information flow. One example of this is when the UDC is performing all of the metering services and billing the direct access customer under the separate billing option for UDC charges only. If the ESP fails to meet its obligations to the SC, the UDC may not know of this unless the SC and the UDC communicate with each other. If no communication occurs, PX energy may still flow to the end-use customer without scheduling by the SC or the UDC, and without payment for the energy received.

This may not be a problem at all if the ESPs recognize at the outset that a potential consequence of failing to schedule electricity through a SC may amount to the theft of utility services. If the value of the services obtained exceeds \$400, the offending party could be charged with a felony. (Penal Code Section 498.) Pertinent criminal statutes should act as a sufficient deterrent for any ESP contemplating such action.

One of the ways in which this problem can be solved is if the Commission adopts the UNI system, and safeguards and controls are put into place by the ISO to detect unserved SDPs. If an ESP no longer schedules electricity for an end-use customer, the end-use customer's SDP will show up as being unserved. Corrective action can then be taken. However, since we are still exploring the feasibility of implementing such an approach, this potential problem should be left in the interim to the UDCs to solve. Since the Commission's jurisdiction over SCs is limited,³ the UDCs should establish internal systems to detect when an ESP is no longer scheduling the delivery of electricity to an end-use customer. The UDC will have the name of the ESP's SCs, the load data provided to the SCs by the ESP,⁴ and historical records of past usage. If there is a wide variation between past usage and the load data provided to the SC, the UDC could investigate this discrepancy.

Another solution to this potential problem is to encourage the FERC and the ISO to require safeguards or a notification process as part of the ISO and SC agreement. The SC could be required to inform the UDC when an ESP ceases to schedule load through a SC. Since the ISO was created as a result of the electricity restructuring legislation, the Legislature might want to consider legislation which would require the ISO to impose safeguards and controls to detect these problems.

³ See D.97-05-040, footnote 5, p. 17.

⁴ See D.97-10-087, App. A, Section B.(3)(c), App. B, Section 18.1.

F. Information Flow

The process of recording customer usage information, translating that information into a final bill, and arranging for the delivery of electricity will change in this restructured electricity environment. Instead of a single, integrated utility handling all of these activities, the new industry structure will involve many different market participants. Under this new market environment, there is a need to ensure that the data flow is accurate, timely and trustworthy. Each market participant will require the sharing of customer information to perform its responsibilities. Many of the information flows that will take place involve settlement interactions between SCs, the PX and the ISO. Although these entities were created by state legislation, regulatory jurisdiction over these entities resides with the FERC.

End-use customer data will be used by the SCs, PX and the ISO for at least the following applications: load forecasting; energy imbalance settlements; and billing for services received. Load forecasting will require the ESP or the UDC to take a frequent sampling of customer usage data to ensure that its load bids to the PX properly reflect anticipated load patterns. The SC will also need to do frequent sampling to ensure that its load schedules to the ISO are properly reflected. With respect to energy imbalance settlement purposes, customer usage data will be used to compute the differences between the forecasted and actual loads and generation. For billing purposes, customers will have their bills prepared and issued to them on the basis of their own energy consumption data. Some customers will have their bills based on authorized estimation techniques such as load profiles.

For all of these information flows to take place, various requirements need to be imposed to ensure the quality and integrity of the data. The collection of end-use customer data and the information flow to the UDCs and the ESPs, and the availability of such data to the SCs have already been addressed in D.97-12-048 and in D.97-10-087. To ensure the data quality and integrity of the information that the SCs communicate to the ISO, the parties will have to rely on the provisions contained in the ISO and SC agreement .

The RDQI: Second Report identified several potential oversight gaps with the information flows. The Second Report perceives the following gaps: (1) ensuring accurate energy settlements; (2) processing of raw data to settlement-ready data; (3) record keeping to support audits and dispute resolution; and (4) meter installation and maintenance, meter data communication, and meter ownership.

The first perceived oversight is that there are no mechanisms in place to ensure that all energy consumed by end-users is accounted for in settlements at the ISO. The report attributes this to two reasons. The first reason is that the active SDPs are not represented in the usage data submitted by the SCs to the ISO. This raises the UNI system issue that was discussed earlier. The second reason is that there is no assurance that the aggregate usage data submitted by the SC reflects the actual usage of all customers assigned to the SC. That is, there may be an underreporting of load. This issue is addressed in the section on DLFs. The Second Report states that if either of these two conditions are not met, data quality and integrity are compromised. The result of such a situation is that the energy consumed by an ESP's retail customers will not be allocated to that ESP's SC, but instead will appear as UFE that must be paid for by all market participants.

The Second Report points out that ensuring accurate energy accounting at the ISO and SC levels is complicated by the fact that these entities will not handle individual customer usage data for most customers. The ISO will have individual metered usage data for ISO-metered entities only. All other usage data handled by the ISO will be aggregated by its SCs. SCs will have individual metered usage data for SC-metered entities only. All other usage data handled by the SCs will be aggregated by their ESPs. Thus, for most customers, the ESPs and the UDCs will be responsible for handling individual metered usage data, aggregating it and delivering it to their SCs. The ISO and the SCs will not have the data to verify whether reported usage equals actual usage.

The Second Report states that the solution to this problem will require consensus and coordination among the diverse market participants and regulatory bodies. Market participants should recognize that this problem represents an enormous

risk to the new market, and no short-term or long-term solution is being considered or implemented. The Second Report recommends that the Commission and the FERC act immediately to clarify and coordinate their respective oversight responsibilities, and engage market participants in developing mechanisms to ensure data quality and integrity. Solutions must integrate regulatory oversight as well as contractual agreements such as the ISO and SC agreement. As we discussed earlier, the UNI system is one possible solution to this problem.

The second gap that the report addresses is the processing of raw data to settlement-ready data. The report points out that various types of error or intentional abuse are possible whenever raw data is obtained from the meter, processed and transmitted in a settlement ready form to the ISO. This can come about through the uploading of raw data from the meter; validating, editing and estimating the raw data; applying load profiles; aggregating the data; and applying distribution loss factors. The Second Report notes that if the potential errors and abuses are particular to an individual customer's data or to a particular transaction, that may not create a significant marketwide risk. However, systematic or repeated errors or abuse will cause significant dollars to be placed in jeopardy.

For example, if an ESP, UDC or SC either intentionally or unintentionally understates its load profile loads in high-cost hours (and overstates its loads in low-cost hours), it can systematically shift energy costs onto others in the market. Or, if there is any systematic misrepresentation of an ESP's contribution to transmission and distribution line losses, or a misrepresentation of the aggregate sum of loads belonging to a given SC, large misallocations of generation costs and UFE could result.

We have already adopted tariff provisions in D.97-10-087 and D.97-12-048 which relate to the quality and integrity of the metering data. The other problems noted in the Second Report are likely to occur at the SC and ISO level. If these problems occur, other ESPs and the UDCs, and ultimately the end-use customers, will have to pay for these problems. The ESPs and UDCs will have no choice but to develop solutions to these problems so that their service offerings can remain competitive. It is this kind of

market pressure that will compel the ISO to develop solutions. The Commission stands ready to work with the ISO and the FERC to resolve these problems.

The third gap noted in the Second Report concerns the record keeping that is needed to support audits and dispute resolution. The Second Report states that in order to ensure that the data meets an adequate level of quality and integrity, comprehensive data records must be maintained for a reasonable period of time and that those records must be made available to authorized third parties to audit them for accuracy and compliance with established data protocols.

Shortly after the Second Report was filed, we adopted a series of data retention criteria in Appendix A and B of D.97-10-087. In addition, we adopted dispute resolution procedures, as well as auditing procedures for the ESPs and UDCs. We believe that the criteria and procedures adopted by this Commission sufficiently address the concerns noted in the Second Report. As for the data retention periods and audit procedures that exist between the ISO and the SCs, those concerns are more properly addressed by the ISO and FERC. As discussed in the working group section below, should market participants detect problems in this area, they should bring such problems to the attention of the ISO and the FERC.

The fourth perceived gap deals with meter installation and maintenance, meter data communication, and meter ownership. These metering issues have already been addressed in D.97-10-087 and in D.97-12-048 and will not be revisited in this decision.

G. *Distribution Loss Factors*

This section addresses the methodologies that the UDCs will use for DLFs. The ISO tariff requires all SCs to adjust their end-use customer meter data by the DLFs prior to submission to the ISO. The DLFs are used to adjust end-use meter data to derive an estimate of the load at the ISO-controlled interface with the UDC. The PX also requires that its participants make the DLFs adjustment before end-use meter data is submitted to the PX.

DLFs are important to the scheduling and settlements process because the DLFs represent lost energy due to distribution system line losses and other distribution

system losses. Distribution system line losses are attributable to resistance in the distribution lines and transformer core losses. The other distribution system losses are composed of metering error and energy theft. UFE can be a combination of distribution system line losses, meter errors, energy theft, and load profile errors. Without a correct calculation of the DLFs, an imbalance of energy may result. If an imbalance occurs, the ISO must either schedule more generation or shed load to meet generation and demand imbalances.

The RSIF Workshop Report states that in order to provide Commission-approved DLFs in time to use on January 1, 1998, the UDCs and the CEC recommend using methodologies that are based on the previously-approved distribution loss calculation methodologies used by the UDCs. PG&E, SDG&E and Edison propose their own DLF methodology for use in their respective service territories. Another distribution loss calculation, which appears in Appendix VII.D of the RSIF Workshop Report, was originally proposed in the rate unbundling proceedings (Application (A.) 96-12-009, A.96-12-011, and A.96-12-019.). Others believe that a single uniform DLF methodology should be adopted in the future.

The proposed methodologies that PG&E, SDG&E, and Edison plan to use for DLFs are generally described in the DLFs Supplement. More extensive detail of the DLFs methodologies of PG&E, SDG&E and Edison are found in PG&E's filing of October 15, 1997, SDG&E's filing of October 31, 1997, and in Edison's Advice Letter filing of August 18, 1997. Some of the common traits found in all three methodologies are that the DLFs are to be provided on an hourly basis, by service voltage level, and are based on day-ahead UDC system load forecasts.

With the exception of the Distribution Loss Calculation shown in Appendix VII.D. of the RSIF Workshop Report, PG&E, SDG&E and Edison were the only parties who have provided any record regarding the DLFs methodologies. A comparison between the Distribution Loss Calculation and the loss factors of the three methodologies before us reveals similar results. Since the methodologies of PG&E, SDG&E, and Edison are based in part on studies and methodologies that were previously used to design current rates, we will adopt the DLF methodologies

proposed by PG&E, SDG&E, and Edison for use in 1998 in their respective service territories.

The RSIF Workshop Report and the DLFs Supplement indicate that the parties would like the opportunity to review the DLF methodologies in 1998 in an effort to determine whether more refined methodologies should be adopted, or if a single uniform methodology should be adopted for use throughout the state. We favor the adoption of a uniform DLF methodology. However, before such a methodology can be adopted, some agreement as to methodology is needed, and testing of the methodology will be needed as well.

We will form the DLF Working Group (DLFWG) to look into how the DLF methodologies can be improved. The Energy Division shall convene a workshop within 90 days to determine who is interested in the DLFWG. The DLWFG should examine the adopted methodologies and how well the methodologies operate in this new environment. By the time this examination takes place, there will be some operating experience that may shed light on the kinds of improvements or refinements that are needed for DLFs. The DLFWG should develop a report with its recommendations regarding what DLF methodologies should be used beginning January 1, 1999. The report shall be filed within 240 days from today's date. The report need only be served on the Commissioners, Commission staff, and persons attending the meetings of the DLFWG. A notice of the report's availability shall be mailed to the others on the electric restructuring service list. Interested persons may file comments to this report within 30 days from the date of service of the notice of availability. It is the intention of this Commission that a decision issue before the end of 1998 addressing the issue of whether a revised DLF methodology should be adopted for use in 1999.

No objection has been raised with respect to the DLF communication protocols set forth in Sections 5.3 to 5.7 of the DLFs Supplement. The communication protocols are similar to what we adopted for meter data communications in D.97-10-087. We adopt the communication protocols set forth in the DLFs Supplement.

The restructuring of the electricity market into separate entities creates opportunities and incentives for parties to under report energy usage. The under

reporting of energy usage will reduce energy costs for the offending party while increasing the cost of UFE that is paid for by all consumers. The Commission is concerned about this issue because under reporting can lead to a shift in costs, which in turn will reduce the market participants' confidence in the market. One solution to this problem is being looked at by the ISO. We understand that the ISO is considering requiring more meters at strategic points in the transmission and distribution system so as to detect losses attributable to UFE. This is an issue that the UDCs have been required to monitor for us. (See D.97-10-086, Ordering Par. 9, p. 57.) If such requirements are put in place, this will help to minimize distribution losses due to metering errors and theft.

H. Billing Format

Although we plan to adopt more complete bill format rules in our upcoming decision on consumer protection, we believe that some guidance should be provided today regarding two bill formatting issues that have been raised.

In the UDC-ESP Communications Supplement, the issue was raised whether the customer rights language on the back of the UDC's monthly bill is required in the event there is ESP consolidated billing. We believe that such language should be incorporated on the back of the bill of either a UDC or an ESP. Regardless of who is providing direct access to the end-use customer, the entity billing the end-use customer should be responsible for including the customer rights language on the back of the electricity bill. The reason for including such language is to ensure that all end-use customers are made aware of their rights in the event there is a dispute about the bill. The UDCs shall be required to include such a provision in their direct access implementation tariffs. The likely place for such a provision is in Section N.(5) of Appendix A of D.97-10-087.

The second bill format issue concerns the various line items that should appear on a customer's bill. The CEC recommends that the provisions of Senate Bill 477 (Stats. 1997, ch. 275.) be examined to determine whether ESPs are subject to Public Utilities (PU) Code Section 394.4(e) and 394.5.

PU Code Section 394.4(e) states:

“Billing: All bills shall have a standard bill format, as determined by the commission or the governing body, and shall contain sufficient detail for the customer to recalculate the bill for accuracy. Any late fees shall be separately stated. Each registered entity shall provide on all customer bills a phone number by which customers may contact the entity to report and resolve billing inquiries and complaints. A registered entity contacted by a customer regarding a billing dispute shall advise the customer at the time of the initial contact that the customer may file a complaint with the commission if its dispute is not satisfactorily resolved by the registered entity.”

PU Code Section 394.5 sets forth a series of items that an ESP must provide to all of its potential customers before service may commence. These items are to be included in a written notice which describes the price, terms, and conditions of service.

It is clear from the language contained in both PU Code Sections 394.4 and 394.5 that those provisions apply to all ESPs offering electrical services to residential and small commercial customers. All ESPs who are registered with the Commission must abide by these statutory provisions. We previously provided notice to the ESPs that they would have to provide potential customers with a written notice of the price, terms, and conditions of service. In D.97-05-040 at pages 60 to 63, the Commission explained the applicability of former PU Code Section 394, which has now been amended and renumbered as PU Code Section 394.5. Although the Commission has not yet determined the details of a standardized bill format, as suggested by PU Code Section 394.4(e), we expect all registered ESPs to follow the statutory provisions of both PU Code Section 394.4 and 394.5 until such time further clarifying details are adopted by the Commission.

I. RDQI Working Group

Some of the comments that we received recommend that there be a continuing stakeholder effort to address data quality and integrity issues. We will adopt that recommendation. Since the rules and procedures that we have adopted for direct access are entirely new, as are the rules and procedures imposed upon the ISO

and the PX by the FERC, a working group should be formed to identify any gaps or flaws in the rules and procedures for information exchange. This should include the informational exchanges at the ISO and SC level which impact the UDCs and ESPs. This working group shall be known as the Data Quality and Integrity Working Group (DQIWG)

The Energy Division shall convene a workshop within 60 days from today to determine who is interested in participating on the DQIWG. The DQIWG should evaluate all of the direct access informational exchanges for any gaps or problem areas. This evaluation should be completed within 90 days from the initial workshop. The DQIWG should then develop and file a report outlining the problem areas and the group's recommendations to solve the problem. This report should be filed within 180 days from today's date. The report should only be served on the Commissioners and the Commission staff, the members of the DQIWG, the attendees of the DQIWG meetings, the ISO and the PX and their governing boards, and on the FERC. The latter service requirement will help to ensure that the ISO, PX and the FERC are made aware of potential information exchange problems. It should also help to coordinate state and federal efforts to resolve these problem areas.

Findings of Fact

1. The RSIF workshop was held on July 7, 1997, and the RSIF Workshop Report was filed on July 25, 1997.
2. A series of supplemental reports were filed in connection with the RSIF Workshop Report.
3. The RSIF Workshop Report presents an overview of the information flows that are needed for a restructured electric marketplace to function.
4. Many of the issues raised in the RSIF Workshop Report and in the other supplements have already been addressed in D.97-11-087 and D.97-12-048.
5. Two types of universal identifiers have been proposed, a UNI system and a meter identifier system.
6. In order to implement a UNI numbering system, coordination with other market participants is needed.

7. The UNI system can be used to ensure that all SDPs receiving electricity are attributed to the correct entities.

8. A window of opportunity to adopt and implement a UNI system exists in 1998.

9. The idea of developing a statewide standard for the numbering of meters was first brought to our attention in the MDCS Report.

10. D.97-12-048 left it up to the PSWG to recommend what should be done about developing a meter identifier system.

11. Persons interested in the meter identifier system should participate in the PSWG.

12. A central repository to retain meter identification, accuracy testing, maintenance and meter usage data has merit.

13. The UDC and the ESP should both keep track of the end-use customers who have life support equipment.

14. In a competitive environment, the ESPs and the UDCs should be responsible for determining the creditworthiness of their own customers.

15. The MDMA should be notified by the entity who disconnects the meter of a direct access customer.

16. The UNI system in conjunction with other safeguards and controls can help to detect unserved SDPs.

17. Market pressure will compel the ISO to develop solutions for meter reporting errors or abuses.

18. The ISO and PX require that DLFs be applied to end-use customer meter data before submission.

19. DLFs are important to the scheduling and settlements process because of the lost energy that the DLFs represent.

20. PG&E, SDG&E and Edison have proposed their own DLF methodologies for use in their respective service territories.

21. A uniform DLF methodology will help to ensure that systemwide DLFs are calculated in the same manner.

22. No objection has been raised with respect to the DLF communication protocols.

Conclusions of Law

1. The UNI system is approved in concept and the UNISWG is authorized to address design and implementation issues.
2. The UDCs should modify the DASR form to reflect whether an end-use customer has life support equipment.
3. The UDCs should modify Section Q.(1)(g) of Appendix A of D.97-10-087 to reflect the notification to the MDMA.
4. The failure to schedule electricity through a SC may amount to the theft of utility services.
5. Regulatory jurisdiction over the settlement interactions between the SCs, the PX, and the ISO resides with the FERC.
6. The data quality and integrity of the information that the SCs communicate to the ISO are dependent on the provisions contained in the ISO and SC agreement.
7. With the exception of the Distribution Loss Calculation shown in the RSIF Workshop Report, PG&E, SDG&E and Edison were the only parties who provided any information regarding the DLFs methodologies.
8. The DLF methodologies proposed by PG&E, SDG&E and Edison should be adopted for use in 1998 in their respective service territories.
9. The DLFWG should be formed to examine how the DLF methodologies can be improved.
10. The customer rights language should be incorporated on the back of the bill of either a UDC or an ESP.
11. PU Code Sections 394.4 and 394.5 apply to all ESPs offering electrical services to residential and small commercial customers.
12. A working group to address ongoing data quality and integrity issues should be formed.

O R D E R

IT IS ORDERED that:

1. The Commission authorizes the formation of the following working groups and directs the Energy Division to convene the following workshops:

a. The Universal Node Identifiers (UNI) System Working Group (UNISWG) shall be formed to address the design and implementation issues regarding the UNI system.

(1) The Energy Division shall convene a workshop within 45 days to solicit interest from those who are interested in participating on the UNISWG.

(2) The UNISWG shall address the preliminary issues noted in the decision, and shall file a workshop report at the Commission's Docket Office within 30 days after the close of the workshop discussions.

(a) The workshop report shall be served on the Commissioners, the Commission staff, and persons attending the workshop. A notice of workshop report's availability shall be served on the rest of the electric restructuring service list.

(b) Any persons who want to file comments on the workshop report may do so within 20 days from the date of service of the notice of availability.

b. The Distribution Loss Factor Working Group (DLFWG) shall be formed to look into how the distribution loss factor methodologies can be improved.

(1) The Energy Division shall convene a workshop within 90 days to solicit interest from those who are interested in participating on the DLFWG.

(2) The DLFWG shall examine the adopted methodologies and how well these methodologies operate.

(3) The DLFWG shall develop a report with its recommendations regarding what distribution loss factor methodologies should be used beginning January 1, 1999, and shall file the report at the Docket Office within 240 days from today's date.

(a) The report shall be served on the Commissioners, the Commission staff, and persons attending the workshop. A notice of the report's availability shall be served on the rest of the electric restructuring service list.

(b) Any persons who want to file comments on the report may do so within 30 days from the date of service of the notice of availability.

c. The Data Quality and Integrity Working Group (DQIWG) shall be formed to identify any gaps or flaws in the rules and procedures for information exchange.

(1) The Energy Division shall convene a workshop within 60 days from today to determine who is interested in participating on the DQIWG.

(2) The DQIWG shall within 90 days from the initial workshop evaluate all of the direct access informational exchanges for any gaps or problem areas.

(3) The DQIWG shall develop a report outlining the problems areas and its recommendations, and shall file the report at the Docket Office within 180 days from today's date.

(a) The report shall be served on the Commissioners, the Commission staff, and the members of the DQIWG, the attendees of the DQIWG meetings, the Independent System Operator and the Power Exchange and their governing boards, and on the Federal Energy Regulatory Commission. A notice of the report's availability shall be served on the rest of the electric restructuring service list.

(b) Any persons who want to file comments on the report may do so within 30 days from the date of service of the notice of availability.

2. Persons interested in commenting on the central repository concept shall file their written comments at the Docket Office within 60 days from today.

a. Filing parties shall serve a notice of the comments' availability on the electric restructuring service list.

(1) Response to the comments may be filed within 30 days from the date of service of the notice of availability. The response shall be served only on those who filed initial comments.

3. All of the utility distribution companies who are subject to our orders regarding direct access shall modify their direct access tariff provisions to reflect the changes discussed in the text of this decision.

a. An advice letter to change the direct access service request form shall be filed with the Energy Division no later than February 20, 1998.

b. An advice letter to reflect the notification to a meter data management agent shall be filed with the Energy Division within 30 days.

c. An advice letter to reflect the inclusion of the customer rights language on the back of the electricity bill shall be filed with the Energy Division within 30 days.

4. The distribution loss factor methodologies of Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company, as described in this decision, are adopted for use beginning on January 1, 1998 in their respective service territories.

a. The distribution loss factor communication protocols discussed in this decision are adopted.

This order is effective today.

Dated December 16, 1997, at San Francisco, California.

P. GREGORY CONLON

President

JESSIE J. KNIGHT, JR.

HENRY M. DUQUE

JOSIAH L. NEEPER

RICHARD A. BILAS

Commissioners

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