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RENZ D. JENNINGS
Chairman
MARCIA WEEKS
Commissioner
CARL J. KUNASEK
Commissioner

Arizona Corporation Commission
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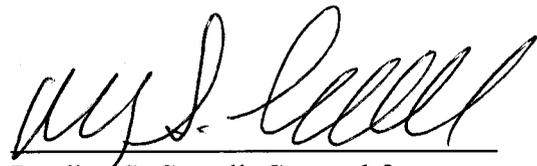
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DOCUMENT CONTROL

IN THE MATTER OF THE COMPETITION IN) DOCKET NO. U-0000-94-165
THE PROVISION OF ELECTRIC SERVICES)
THROUGHOUT THE STATE OF ARIZONA.) **NOTICE OF FILING**

Tucson Electric Power Company hereby submits its Second Set of Comments on the Commission's Proposed Rule Regarding Retail Electric Competition.

RESPECTFULLY SUBMITTED this 4th day of December, 1996.

TUCSON ELECTRIC POWER COMPANY

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Original and ten copies of the foregoing filed this 4th day of December, 1996 with:

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Phoenix, Arizona 85007

1 **Copies of the foregoing hand delivered**
2 **this 4th day of December, 1996 to:**

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BEFORE THE ARIZONA CORPORATION COMMISSION 4 48 PM '96

RENZ D. JENNINGS
Chairman
MARCIA WEEKS
Commissioner
CARL J. KUNASEK
Commissioner

DOCUMENT CONTROL

IN THE MATTER OF THE COMPETITION IN)
THE PROVISION OF ELECTRIC SERVICES) DOCKET NO. U-0000-94-165
THROUGHOUT THE STATE OF ARIZONA.)
_____)

SECOND SET OF COMMENTS ON PROPOSED RULE
REGARDING RETAIL ELECTRIC COMPETITION
On Behalf of
TUCSON ELECTRIC POWER COMPANY

December 4, 1996

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1 On November 7, 1996 Tucson Electric Power Company ("TEP" or "Company") submitted its
2 First Set of Comments on the Arizona Corporation Commission's ("Commission") Proposed Rule
3 Regarding Retail Electric Competition ("TEP's First Set of Comments"). At that time TEP indicated
4 that because the Commission requested that comments on the Proposed Rule ("Rule") be filed by
5 November 8, 1996, TEP's comments would be submitted in two sets. TEP indicated that this
6 Second Set of Comments would primarily address operational, reliability and pricing issues. TEP,
7 by this reference, incorporates herein in its entirety, TEP's First Set of Comments. TEP's written
8 comments, together with its oral statements before the Commission in the docket should be taken
9 together to present a complete understanding of TEP's position regarding the Rule. Accordingly,
10 TEP states as follows:

11 **A. Introduction**

12 The Rule requires that distribution unbundling begin with the start of customer choice in
13 1999. TEP believes the most efficient process to allow customer choice for generation by 1999 is to
14 unbundle the following: generation; transmission; distribution; a stranded cost charge; and a public
15 goods charge. For the purpose of these comments, the following definitions shall apply:

- 16 • **Generation** - The production of electrical energy. Bulk electricity is generated at remote
17 plant sites, local plant sites and purchased from the wholesale market for reliable system
18 operation.
- 19 • **Transmission** - The transportation of bulk quantities of electricity on high voltage lines
20 by means of electric conductors from generation sources to an electric distribution
21 system, load center or interface with a local control area.
- 22 • **Distribution** - The delivery of electricity to customers connected to the local distribution
23 system. The distribution system includes primary and secondary lines which deliver
24 electricity, and substation and distribution transformers which lower electric voltage from
25 transmission to distribution levels. Distribution also includes metering, meter reading,
26 billing, customer service and other services that the traditional monopoly distribution
27 company has performed in the past.
- 28 • **Stranded Costs Charge** - A non-bypassable charge for recovery of unmitigated stranded
29 costs.
- 30 • **Public Goods Charge** - A non-bypassable charge for funding public goods programs

1 such as low-income assistance, demand side management, mandated renewables and
2 other programs that the Commission sponsors.

3 The details involved with unbundling products and services beyond the capabilities of the
4 system will ultimately prevent an efficient transition to competition. TEP believes that complete
5 unbundling of products and services deemed to be competitive should occur after customer choice
6 has started in order to give adequate time to develop clear rules and standards, and for any required
7 technology development and installation to take place.

8 There are several reasons why TEP believes that complete unbundling of competitive
9 products and services should be left until after customer choice starts in 1999. First, the Commission
10 is attempting to create a new industry structure that contains two key communication links that TEP
11 believes will require significant technological changes. The first link is between the new
12 competitive generation market and the local area control room. The second link is between the local
13 area control room and the customer.

14 Second, there are reliability issues that will take time to fully address, given the fact that the
15 Rule is attempting to restructure the industry. TEP believes that it is wise to give adequate time to
16 implement new reliability standards, given the changes required in the industry structure and to let
17 the Federal Energy Regulatory Commission ("FERC") changes to be implemented this year take
18 effect before deciding further significant changes.

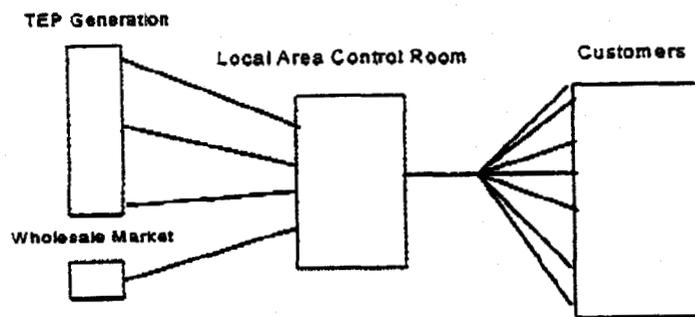
19 Third, clear distinctions must be determined between competitive and monopoly products
20 and services in order to allow time to design and install necessary systems to facilitate unbundled
21 customer transactions. TEP believes that customer choice can be implemented on a limited basis
22 without this process being completed. Limited competition parameters for the 1999 start-up date
23 have to be determined quickly to allow for any required system development and installation.
24 Subsequently, work can begin on decisions required to fully define and unbundle competitive
25 products and services by the end of the phase-in period in 2003.

26 Finally, there are many informational details that need to be addressed prior to complete
27 competitive product and service unbundling. These details involve meter reading, customer
28 information and billing requirements. The decisions surrounding the availability and access to
29 customer data may require significant changes in regards to meters, computer systems and protocols
30 for all competitive players.

1 The following discussion explains the reasons why TEP believes that the changes required
2 for full competitive product and service unbundling are significant and will take a great deal of time
3 and effort. Further the discussion describes how TEP believes the transition from a regulated to a
4 competitive environment should progress.

5 **B. Industry Structure**

6 **Figure A**
7 **Current Industry Structure**



16 A change from the current regulated environment to a competitive environment requires
17 enforcement of reliability and operational issues at the generation, transmission and distribution
18 levels of the electric supply business. Reliability mechanisms and operational procedures must be
19 adapted to conform to the new environment. Figure A above shows how the industry is currently
20 structured to handle transactions and reliability. Generation, transmission and distribution systems
21 were built to facilitate the delivery of bundled generation supplies and are dispatched and controlled
22 by the local area control rooms of jurisdictional utilities. Customers purchase bundled, firm electric
23 service from one supplier. The local area control room acts to obtain resources and deliver them to
24 all control area customers. Effectively, all retail customers are treated as one customer under the
25 current system.

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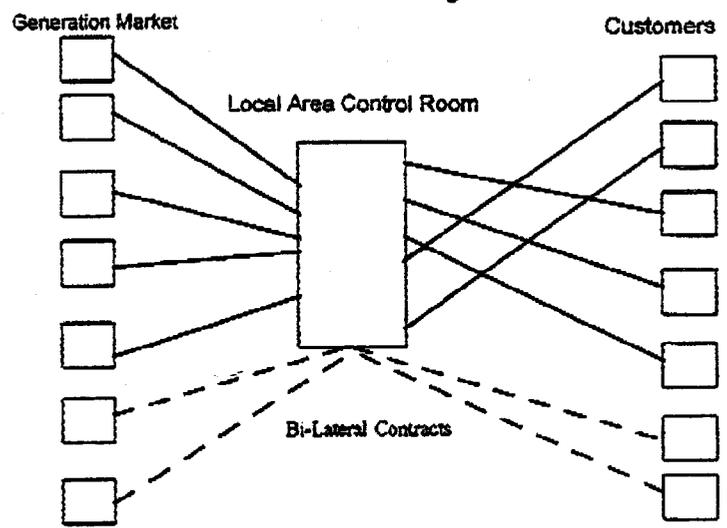
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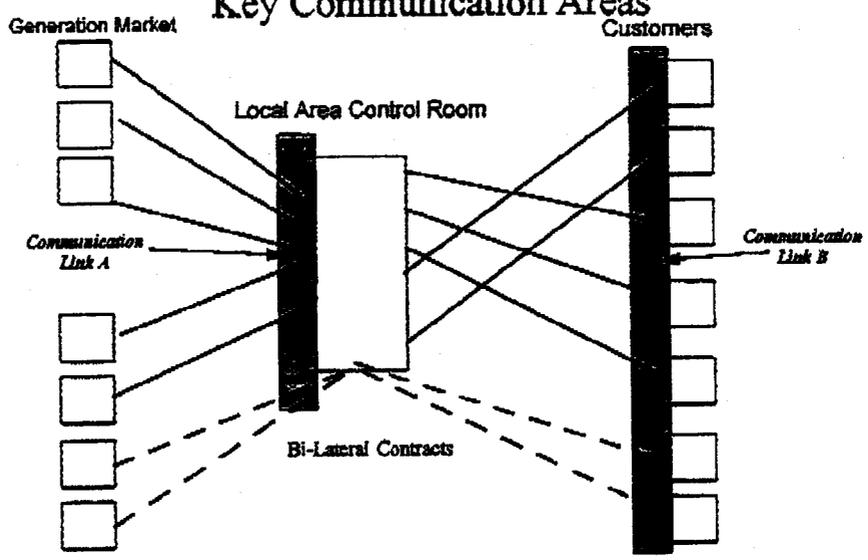
Figure B
New Industry Structure



A competitive environment which allows for an endless variety of electric supply and related service options will require significant delivery system modifications. Figure B above shows what such a structure might look like. First, there will potentially be many more generation suppliers. Second, customers will purchase a variety of different types of services (i.e., firm, non-firm, unbundled, etc.) Third, there will be some customers who will purchase energy services directly from a third party through bi-lateral contracts. In this environment, the local area control room will have to match numerous customers with specific supply sources. This type of competitive system requires that the unbundled distribution company have the ability to tie specific resources to specific customers and to drop individual customers or suppliers from the system in the event that their energy supplier discontinues service or their load drops. The local area control room effectively becomes a clearing-house in a competitive environment with significant customer options. This function is vastly different from the current role of the local area control room.

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Figure C
New Industry Structure
Key Communication Areas



Energy management systems, communication systems, billing systems and general system operations will need to undergo significant changes and improvements before the number of independent system transactions dramatically increase. Figure C above shows the two transaction areas that TEP is most concerned with. The first area, Communication Link A, is between the local area control room and the generation market. The local area control room currently controls generation and purchases electricity for its customers on an aggregated basis. The key in the existing environment is to match generation and purchases to the aggregated load. If load increases, the local area control room ramps up generation or purchases from the market and backs off generation or purchases when load falls.

A full choice competitive environment will result in local area control rooms that facilitate transactions between specific suppliers and specific customers and require that the local area control room be able to follow specific customer loads and their respective suppliers moment to moment. If a customer's supplier does not deliver power, then that specific customer will be required to cut its load or purchase alternative supplies. This change from managing a handful of supplies for one customer (total retail load) to a brokering role between many separate customers and suppliers will require significant changes to existing energy management systems as well as more phone lines and people to facilitate customer transactions.

1 The second area of concern, Communication Link B, is between the local area control room
2 and the customer, and is where all the metering and information coordination issues are
3 concentrated. Full choice competition will require that the customer delivery points (meters) are
4 capable of handling the increased information flows and load control capabilities that go along with
5 the new customer options. The meters will need, among other things, to be capable of tracking load
6 on an hourly or more frequent basis, providing continuous information flow to the local area control
7 room and various suppliers, and communicating billing information to the billing agent.
8 Additionally, the direct access customer interface will need to include equipment that allows
9 suppliers and/or the local area control rooms to curtail deliveries (*i.e.*, to facilitate interruptible or
10 non-firm service.)

11 TEP believes these issues are solvable, but will require careful consideration and time for
12 development and installation of new technologies. Until such issues are resolved and systems are
13 re-engineered, services must be deliverable with existing facilities or Affected Utilities must
14 implement those changes that can be quickly added prior to the provision of a competitive service.

15 Because of these changes to the industry structure, TEP believes that the quickest and easiest
16 solution is to limit the type of access allowed in the initial phases of the industry restructuring.
17 Using our illustrations, an example of limited access would be to allow only Communication Link A
18 to be opened to the competitive environment starting in 1999. The purpose of limiting the initial
19 competitive options is to allow competition to begin quickly and in an orderly fashion while
20 allowing additional time to sort out details which must be considered before a wider array of options
21 become available. One example of limiting initial competitive options would be to allow customers
22 to purchase a base supply from the third party market (*i.e.*, 100% load factor portion of their load)
23 but require back-up supplies, load following and other ancillary services to be purchased from the
24 jurisdictional utility. In this phase, billing and metering would be required distribution services
25 from the jurisdictional utility. This would allow competition to begin without requiring significant
26 operational changes.

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Figure D
Transitional Industry Structure

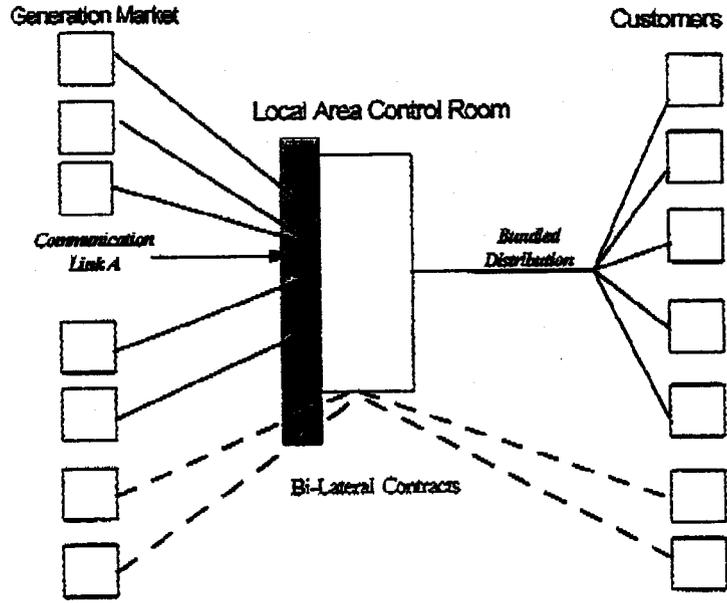


Figure D above illustrates what the transitional industry might look like. By keeping most of the distribution functions in a regulated monopoly setting, competition can be initiated and time will be given to the areas that need more development and definition. In this limited access structure, bilateral contracts will be a viable option for some customers that choose to immediate direct access to the competitive market.

TEP has provided a possible time line for distribution unbundling in Appendix A. The issues surrounding unbundling the distribution system are diverse, but TEP believes that most of the problems can be resolved through clear, standardized rules along with time to implement the necessary changes. Some issues such as reliability are black and white and there will be little controversy as to the best solution. Other issues such as whether customer data is public or private information will require much debate. Additionally, there are some issues which are not controversial, but will require significant time for implementation to take place such as new metering systems. Industry standards and protocols will be important for flexibility and to promote competitive efficiencies.

...

1 *1. Reliability*

2 The responsibility for reliability currently rests on the bundled electric supplier.
3 Retail suppliers coordinate all components of reliable service from generation to customer meters.
4 Generation and transmission reliability are guided by the Western Systems Coordinating Council
5 ("WSCC") and the National Electric Reliability Council ("NERC"), while distribution reliability is
6 largely guided by state regulatory bodies. Historically, electric supply has been extremely reliable
7 with oversight from NERC, WSCC and state regulators. However, on a day-to-day basis, regulated
8 utilities have provided oversight in compliance with the obligation to serve and mandated service
9 standards.

10 In the future, assuming competitive markets for at least the generation component of the
11 electric supply business, different parties may be responsible for reliability at the generation,
12 transmission and distribution levels. The distribution supplier is likely to be responsible for
13 reliability from the local area control room to the meter, regulated transmission providers will be
14 responsible for high voltage transmission reliability and competitive market suppliers will be
15 responsible for generation reliability. This type of electric supply market may be much more
16 difficult to police from a reliability standpoint due to the different types and increased number of
17 players involved with providing service from the generation source to the meter. The WSCC, an
18 organization that largely relies on member cooperation, may not be an effective reliability agency in
19 a competitive generation market. NERC and state regulators probably will not be effective
20 reliability monitors in competitive generation supply markets as they do not have jurisdiction over
21 all the generation suppliers. Additionally, none of these organizations provide day-to-day oversight
22 similar to the current regulated utility.

23 The FERC supports the concept of Independent System Operators ("ISO") as a mechanism
24 for transmission owners to transfer the obligation for reliability and access to an unbiased third party.
25 Given the broad reliability concerns and complexities of the electric supply system discussed above,
26 TEP believes that an ISO type of organization is needed to facilitate generation and transmission
27 reliability in a competitive electric supply market. Such an organization could become the
28 clearinghouse for generation and transmission supply transactions and oversee the reliable delivery
29 of power to distribution suppliers.

30 ...

1 The ISO should function both as an independent grid operator and an independent power
2 pool operator. The ISO does not need to be a power pool in the sense that it dispatches generation
3 but should act as a "clearinghouse" for all electric transactions. This would help reduce some of the
4 burdens that would land on the local area control room given distribution unbundling. It should have
5 the responsibility and authority for scheduling transactions on the transmission grid, as well as
6 ensuring the reliability of the supply and transmission systems. In the course of conducting business,
7 the ISO should establish and enforce standards, procedures and rules that are needed for the reliable
8 and efficient operation of the transmission system and the supply market (assuring, for example that
9 adequate operating and spinning reserves are maintained.) Additionally, oversight of the ISO by the
10 WSCC, FERC and state regulators would likely be more effective than working with individual
11 market competitors.

12 The ISO should be fully operational when competition begins so as to clearly establish the
13 responsibilities, authorities, standards and procedures that are critical to the reliability of the bulk
14 power systems in Arizona and its effects on other systems in the West. The ISO should be a non-
15 profit entity, with direction from a small board which is representative of the suppliers, customer
16 groups and distribution companies. Owners would retain ownership of their transmission and turn
17 over to the ISO its operating responsibility.

18 In addition to creating an ISO, the reliability work group needs to establish distribution
19 reliability standards. It may be necessary to establish new ancillary services for the distribution
20 system once complete unbundling at the distribution level begins. Standards need to be established
21 for the following services, among others:

- 22 a) VAR support
- 23 b) Load following
- 24 c) Capacity back up
- 25 d) Metering
- 26 e) Communication networks
- 27 f) Load shed contingency plans
- 28 g) Two county power flow

29 ...

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1 The reliability work group should first focus on issues pertaining to customer choice for
2 generation starting in 1999, and then work on the details of the unbundled distribution company.
3 This effort should be coordinated with the work group established to define which services should be
4 unbundled from the distribution company as discussed above.

5 2. *Distribution Functions*

6 The responsibility to maintain an adequate and safe distribution system should remain
7 part of the distribution company's mission. Clear distinctions between the services that the
8 distribution company currently provides that could be competitive and services that should remain
9 monopolistic must be established by the onset of full deregulation in 2003. During the transition
10 phase, the distribution company would most likely provide the same services as it does today, but
11 start to prepare for the unbundling process. The Commission should establish a review process to
12 evaluate which services fall into the competitive arena and which services should remain with the
13 regulated distribution company. This should be an ongoing process since it is possible that as new
14 technologies and systems are developed, services should be moved from the regulated distribution
15 company to a competitive environment.

16 A "bright line" between which products will be considered regulated distribution services and
17 which products will be considered competitive is essential for successful unbundling. The main
18 reason for this distinction is for rate design and pricing development. Affected Utilities may have
19 different strategic initiatives depending on these distinctions. This could include the decision to
20 outsource certain services for efficiency reasons such as billing, meter reading or other services
21 currently associated with the regulated distribution company. How costs are allocated between
22 services will be critical to making important decisions both in terms of human resources and product
23 development.

24 3. *How Far to Unbundle Distribution*

25 Both the California Public Utilities Commission ("CPUC") and the New Hampshire
26 Public Utilities Commission ("NHPUC") have started implementing plans to provide customer
27 choice in their respective states by 1998. The Ratesetting Work Group ("RWG") in California has
28 created five options for potential unbundling. There is consensus in the group that at the least
29 generation, transmission, distribution, competitive transition charge and public goods should be
30 unbundled in order to create a competitive market for generation. However, the RWG has struggled

1 to determine the extent to which distribution services need to be unbundled (if at all) in order to
2 support the CPUC's stated policy goal of making direct access available to customers of all sizes and
3 classes. Appendix B lists out the five options and some of the detail questions the working groups
4 are dealing with.

5 On September 10, 1996 the NHPUC issued a preliminary plan on industry restructuring. The
6 NHPUC decided that at first, simple unbundling is sufficient for customer choice, and states:

7 In order for consumers to choose their electricity provider, utilities must first
8 unbundle retail electric services and rates. The process of unbundling involves
9 segregating each of the various bundled service components and pricing the
10 monopoly components separately. Enumerating these components and
11 understanding who provides what service at what price is the first step in
12 determining how markets will be structured.

13 At a minimum, we believe utilities should unbundle their electric rates and
14 services into generation, transmission, distribution and conservation and load
15 management services. We do not preclude a more comprehensive unbundling at a
16 later date. However, we remain concerned that the failure to further disaggregate
17 distribution services will stifle the development of competitive markets and
18 discourage innovation in the areas of metering, billing and customer services.

19 Both of these state commissions are struggling with the question of how far to unbundle the
20 distribution company in order to affect customer choice by January 1, 1998. Although California is
21 still undecided as to the states direction, if the Commission continues with the minimum
22 requirements for customer choice, the goal of moving towards a competitive environment will not be
23 delayed.

24 The issues other state commissions are having difficulty addressing include customer
25 information. The Commission will have similar issues to address and should take the time required
26 to appropriately analyze the available options. The meter is the only physical link between the
27 customer and the energy provider and is used to establish an accurate revenue stream for the energy
28 provider and an accurate usage measure for the customer. Current technology only allows this
29 measurement to happen after the fact. A monopoly business performing this function can easily
30 maintain the proper data base required for tracking each customer's usage level and therefore, its bill.
Opening these distribution functions up to other providers at the same time as initiating customer
choice for energy providers creates a series of issues to resolve, including but not limited to:

1 a) Metering:

- 2 i) The need for smarter measurement devices considering the increased number of
3 transactions.
- 4 ii) The frequency of billing information required (*i.e.*, hourly, monthly or other levels of
5 frequency.)
- 6 iii) The need to establish meter reading and operating standards.
- 7 iv) The need to establish who is responsible for maintaining and reading the meter.

8
9 b) Customer Information:

- 10 i) The need for market information versus protection of customer privacy.
- 11 ii) The need to coordinate information between different service providers and create
12 information standards.
- 13 iii) Compensation to existing utilities for providing market information.
- 14 iv) The need to establish "ownership" of customer data once an open market is
15 established.

16
17 c) Billing Requirements:

- 18 i) Who will be responsible for credit management.
- 19 ii) Who will be responsible for billing corrections.
- 20
21 iii) How will customer deposits be handled, especially for large subdivision additions.

22 There are a multitude of related issues that are listed in Appendix C and Appendix D. TEP
23 believes that these issues should be the responsibility of workshops and evidentiary hearings
24 scheduled to commence next year. The lists are included in this filing to indicate some of the details
25 that need to be addressed in order for customer choice to be effective.

26 The decisions of how far and when to unbundle the distribution system are vital to the next
27 stages of restructuring. TEP believes all services which are competitive should be unbundled from
28 the distribution company allowing the competitive process to control prices and create operational
29 efficiencies. However, TEP is more in-line with how NHPUC is proceeding with distribution
30 unbundling. TEP suggests that the Commission continue to work towards providing the necessary

1 changes to create a competitive generation market starting in 1999, but allow time to investigate
2 complete distribution unbundling. What TEP is requesting from the workshop and evidentiary
3 hearings are precise standards and timing for the unbundling process to occur in order to minimize
4 the chaos that is created by the restructuring.

5 C. Conclusion

6 TEP is a firm proponent of industry restructuring and moving towards a competitive
7 environment and would like to work with the Commission to help develop a clear plan to achieve
8 this goal. Delaying the process of complete unbundling will not slow down or harm this process. In
9 fact it should create an easier transition for customers at all levels by leaving some of the smaller but
10 important details to a later phase. TEP believes that electric supply should be unbundled in 1999 to
11 the point that allows customer access to competitive generation markets within the constraints of
12 supply mechanisms and technology that exist and are in place at that time. Additional unbundling
13 should occur after all competitive market structure issues have been determined and necessary
14 technology has had adequate time for development and installation.

15 The time line TEP provided should give the Commission reasonable assurance that the
16 ultimate goal is to unbundle all potentially competitive services without putting system reliability at
17 risk or harming customers. The main reasons for delaying the unbundling of certain services are:

- 18 1) Many of the required technology changes will be driven by the market structure that is
19 allowed and thus appropriate technology cannot be developed and installed prior to the
20 market structure being defined.
- 21 2) The communication links between the new generation market, the local area control room
22 and individual customers required for competitive access will take significant time to
23 develop and implement and cannot be dealt with prior to determination of an appropriate
24 market structure.
- 25 3) The reliability issues will take some time to fully address. An ISO, for example, will take
26 significant time to develop. Consequently, the need for such an entity and the general
27 purpose thereof must be determined quickly.
- 28 4) It is important to establish clear distinctions between competitive and monopoly products
29 and services provided by the distribution company and other energy suppliers. Each
30 individual determination of competitive and monopoly products and services will require
separate consideration as the resulting market structure and technology impacts will vary
from product to product.

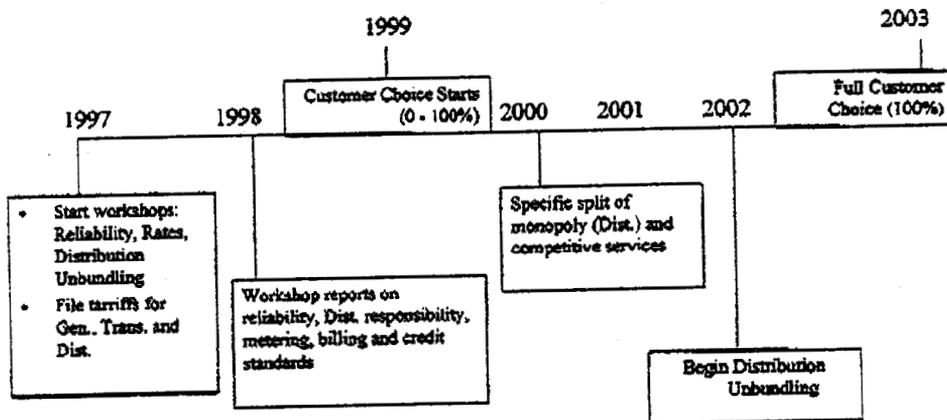
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5) There are many details that need to be addressed prior to full unbundling of competitive services. These details include meter reading, customer information and billing requirements. Decisions regarding items such as ownership of, and access to, customer data may require significant changes to meters, computer systems and industry protocols.

TEP's primary concern is that the horse must come before the cart. In other words, decisions regarding what is competitive and how competitive service levels will be monitored must be made before the development and implementation of the appropriate service definitions, tariffs and system changes required to complete the transition to a competitive electric supply market. The Rule does not resolve these issues, nor does it provide a mechanism for so doing before its implementation. Accordingly, TEP submits that it is in the public's best interests that the vital issues raised in these comments be resolved prior to the Rule being adopted and becoming effective. Consequently, TEP requests that the Rule be amended, if possible, to cure the defects (and fortify its strengths) as outlined in its comments in this docket.

Appendix A - Time Line

Restructuring Time Line



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1 **Appendix B - California Restructuring Issues**

2 **Option 1** identifies the Track 1¹ items as Generation, Transmission (including ancillary
3 services), Distribution, Competition Transition Charges and Public Goods (collectively, the "Five
4 Consensus Items"). This will require the investor-owned utilities to separate their bundled revenue
5 requirements into these five functional categories, a process involving refunctionalization of assets
6 and direct assignment and allocation of common costs and administrative and general expenses.
7 Proponents believe that determination of Track 2 items, including the threshold policy and
8 methodological issues associated with such unbundling of distribution products and services, must
9 be deferred until after the start of direct access in order to avoid any risk of delaying the
10 implementation date.

11 **Option 2** calls for unbundling of the Five Consensus Items to meet the January 1, 1998
12 deadline for Direct Access. In addition, Option 2 identifies a separate, parallel process within the
13 Ratesetting Working Group process to identify potential distribution services that are candidates for
14 unbundling. Under this option, parties will begin now to evaluate which Track 2 items are
15 candidates for post-January 1, 1998 unbundling, determining what Commission decisions are
16 necessary for additional unbundling to proceed, specifying the needed cost studies, and engaging in
17 essential groundwork. Proponents believe that Option 2 will best balance the need to implement
18 Direct Access by January 1, 1998 with the desire to address the possible unbundling of distribution
19 services.

20 **Option 3** supports unbundling the Five Consensus Items and further unbundles selected
21 distribution services under Track 1. Option 3 selects certain revenue cycle services for Track 1,
22 chosen from metering, billing, customer and uncollectibles services. Services are screened according
23 to criteria which will differentiate between competitive (retail) and monopoly Utility Distribution
24 Company ("UDC") services and determine whether the UDC is or is not the default provider.
25 Monopoly services remain bundled with exclusive UDC franchise rights. Other competitive
26 distribution services are identified, prioritized and unbundled after January 1, 1998 (Track 2) as new
27 retail products and services are identified. Option 3 unbundles UDC cost savings (credited to the bill)

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30 ¹ Track 1 items include services that need to be unbundled to provide customer choice by 1/1/98, Track 2 items are services that can be unbundled after 1/1/98.

1 when retailers, rather than the UDC, provide the service. Where the UDC is the default provider,
2 UDC cost savings are based on marginal attributable costs. Where the UDC is not the default
3 provider, UDC cost savings are based on higher average attributable costs. Proponents believe that
4 Option 3 meets CPUC goals and achieves a balance among the nine evaluation criteria defined in
5 this report to ensure timely direct access and support retailing.

6 **Option 4** provides a comprehensive, phased distribution function unbundling process in
7 which the component services included in the retail distribution function now restricted to the UDC
8 are ultimately divided into three categories: i) unbundled and competitively provided by multiple
9 organizations, which might include the UDC; ii) unbundled, but provided exclusively by a monopoly
10 at two or more levels of quality at the customer's choice; and iii) bundled monopoly services
11 required of all customers. The process begins now with an assessment of what services fit into each
12 category and then determines when to make these changes. A limited number of services may be
13 appropriately unbundled by January 1, 1998. The proponents believe that the process should begin
14 by unbundling some services duplicative of direct access providers under monopoly supply in order
15 to develop the intelligence needed to make more informed judgments about the suitability of full
16 scale competitive unbundling. Their view is that, while distribution function unbundling is a key
17 element of consumer choice, no party has sufficient information to judge what end state can be
18 supported by markets. This option does not require a priori judgments about which services can be
19 successfully shifted to the unbundled, competitive market and is proposed to be an orderly process
20 under which a succession of unbundling and competitive supply opportunities can be tested, while
21 preserving the possibility of a regulated monopoly as the end state for some services.

22 **Option 5** proposes that three features be incorporated in the CPUC's end state vision of the
23 restructured industry. First, unbundle certain distribution services, thereby creating a first tier of
24 retail service providers within whom the obligation to serve rests, one member of that group being
25 the utility's retail arm. Participation in that group of retail service providers would be restricted to
26 firms meeting financial and operating standards. In the end state, most distribution services would
27 be both unbundled and offered competitively. Second, unbundle several of the credit protections
28 used by the utilities such as the uncollectibles account, customer enrollment issues and customer
29 terminations for failure to pay. Third, permit the prepayment of the tariff charges, inclusive of full
30 prepayment of embedded ratebase, as a payment option within all electric tariffs, while changing no

1 other features of the tariff's terms of service. Implementation/testing of these proposed changes
2 would be sequenced throughout the restructuring phase-in period. Proponents believe that a firm
3 commitment to accomplish these changes within a reasonable time frame is more important than the
4 precise order or timing of them. Proponents further believe that these proposed changes are
5 necessary to ensure that all groups of customers have access to competition and that most parts of the
6 bundle, as perceived by the customer, are open to competitive forces.

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Appendix C - Direct Access Work Group's ("DAWG") Data Requirements

Data to Support Outage Detection and Restoration

Utilities need real-time notification of outage conditions in order to dispatch crews and restore service to customers. Utilities also need outage restoration information and "power on" checks to significantly improve customer service quality and efficiency.

Data to Support Turn Ons And Shut Offs

Utilities require opening and closing readings when customers move into or out of a premises. The reads are on-request. Utilities also prefer to monitor vacant residence for idle consumption.

Data to Support Power Quality Monitoring

Power quality data is desired by certain groups of customers to ensure that energy service quality is maintained for critical production operations. For example, voltage quality and harmonics control may be required for a factory's service.

Data to Increased Scope of Operations

Many believe that two-way communications are essential to create the benefits of increased scope of services and to leverage customer opportunities to participate in the competitive market. The distribution system operator, for example, may benefit from having customer-specific data and two-way communications with the Schedule Coordinator.

Data to Detect Meter Tampering and Theft Detection

Meter tampering and theft detection are operating costs incurred by all utilities; the monitoring and control of which would lead to more efficient operations.

Data on Interruptible Loads and Demand-Side Management

Real-time meter reads are used by distribution companies on interruptible loads during curtailment periods to monitor and verify contract compliance. Daily load profiles are used by distribution companies to monitor demand-side management applications.

Data on Power Quality Monitoring

Where necessary or desired, meters could be installed to monitor power quality: spikes, surges, sags, drop-outs (zero voltage), over voltage, under voltage (brown outs) and harmonic distortion. When a power quality event occurs out-of-band, alarms could be triggered automatically

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1 to notify the customer and UDC. With that information, steps could be taken to mitigate the power
2 quality problems.

3 The DAWG group also determined that the following systems standards are necessary to
4 ensure that requirements are met in the following areas:

5 1) Metering and data communications:

- 6 a) Compatibility of equipment and systems provided by different entities
- 7 b) Integrity of metering and data communications - the system works as desired
- 8 c) Development of licensing/certification requirements
- 9 d) Enforcement of adopted standards
- 10 e) Security of meter data
- 11 f) Unauthorized Access
- 12 g) Theft prevention/deterrence of tampering
- 13 h) Timeliness of meter data delivery/access
- 14 i) Safety—both public and employee
- 15 j) Accuracy of metering systems -- initial and ongoing

16 2) Performance of Work:

- 17 a) Metering equipment operations
- 18 b) Metering equipment installation
- 19 c) Metering equipment maintenance
- 20 d) Metering equipment testing - procedures and frequency
- 21 e) Licensing of metering installers
- 22 f) Coordination with local electrical inspection authorities
- 23 g) Meter vendor certification

24 3) Hardware and Software:

- 25 a) Meter communications protocols
- 26 b) Meter reading systems
- 27 c) System integration
- 28 d) Data storage
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- e) Data access
- f) Data transfer systems and protocols
- g) Meter programming systems and protocols

1 "apples to apples" when shopping for specific products. Again, the Rule needs to be specific
2 concerning information about basic services.

3 Before the Rule is implemented, the Commission must make some major decisions
4 concerning the access of customer information to new energy service providers and vice versa. In
5 California, DAWG concluded that the following questions must be answered by the CPUC in order
6 to implement a plan to access customer information:

- 7 1) Establishing rules and mechanisms to ensure fair or comparable access by competing
8 retailers, which requires answering these questions:
- 9 a) What kinds of customer information should be made available?
 - 10 b) Which parties should be eligible for access to customer information?
 - 11 c) By what mechanism should it be made equally available to all qualified parties?
 - 12 d) How can we prevent privileged access by some competitors?
 - 13 e) How much will information access cost, on which entities will costs be imposed, and
14 how should costs be recovered?
- 15 2) Protecting customer privacy, which requires answering these questions:
- 16 a) How should informed customer consent to release information be obtained?
 - 17 b) What rules should govern appropriate use of customer information by retailers?
 - 18 c) How can rules be enforced and complaints be quickly and fairly resolved?

22 *2. Information Between Different Service Providers*

23 One concern that TEP has is the coordination efforts that will be required between
24 different service providers for customer information. There needs to be an established standard for
25 data requirements, type of data available and responsibility of each service provider to furnish
26 customer data. Particularly in the credit area, the Commission and or work groups need to determine
27 how to distribute customer payments between multiple providers of energy or services if partial
28 payment, delinquent payments or deposits are made by the customer.

29 It can be assumed that each Affected Utility has its own customer computer system and that
30 these systems are not universally compatible without modifications. Although standardizing data

1 requirements is not a show stopper, consideration must be given to the cost of modifying systems or
2 the possible requirement for new system installations. When FERC established its OASIS
3 requirements, most utilities needed to purchase new software or develop the product in-house at their
4 own expense.

5 As discussed above, some of this type of information fits into the customer privacy issue, and
6 consent forms will need to be provided to share information between service providers such as credit
7 history, delinquent payment history and other sensitive data. Some customers could take advantage
8 of the system and switch energy service providers in order to avoid back payments. In this situation,
9 sharing credit information will be useful to all competitors, yet customers may feel that their privacy
10 rights are being violated.

11 The Rule also needs to establish who gathers the information and their responsibility to share
12 or analyze it for others. For instance, if a customer has different providers for energy, transmission,
13 distribution and ESCO services, and the customer requests load, outage, power quality or other types
14 of analysis, service providers have to access the same information and be able to provide useful
15 information to the customer. This could require vast amounts of data storage and widespread use of
16 information access and analysis tools especially if data will be stored on an hourly basis as
17 mentioned in the metering section.

18 *3. Market Information and Data Ownership*

19 The issue of who "owns" or who should control previous monopoly customer data is
20 another topic that will require considerable discussion. This is another gray area that will cause
21 parties on all fronts major concern. For analysis purposes, it is helpful to focus on two opposite
22 sides of the issue, although there are certainly more than two positions to this issue. Some parties
23 assert that customer data is the property of the utilities that have collected and maintained it. Since
24 the utilities collect this data as a matter of necessity and incur business expenses in so doing, they
25 own the data. Others disagree with this viewpoint, arguing that the business expense is borne by
26 ratepayers with little or no risk borne by shareholders in the process, and that the necessity of data
27 collection does not imply ownership.

28 Affected Utilities will declare that the information proposed to be made available to
29 competing providers has been collected and maintained by the utilities, and the process of making it
30 available would impose some costs on them. At the very least, there will be some costs associated

1 with obtaining customer consent to release information and with preparing the data and delivering it
2 to eligible providers. The implementation of information access must assess the nature and
3 magnitude of all relevant costs, and provide means to recover those costs and compensate the
4 appropriate parties.

5 Another option to consider is that customer information is owned by the customers
6 themselves, and that if any monetary return is realized from the economic value of the information
7 that return should be shared with customers. This information is also a necessity to establish a fair
8 and efficient market and transform the industry to one of competition. At least in the initial stages,
9 customer information should readily be available to any new entrant.

10 **B. Billing Requirements**

11 Once competition is allowed to start and there are multiple service providers to a single
12 customer, there must be an answer to the question of who provides the billing for that customer's
13 energy services. The quickest and simplest solution will be to have the distribution company
14 provide this service. Since the customer must receive services from the distribution company for
15 wires services, it makes sense for the distribution company to simply continue billing for services it
16 supplies to the customer and add to that any additional services provided to the customer by the
17 market.

18 Conversely, the Rule states that billing and credit services are competitive and that
19 companies providing these services do not need a Certificate of Convenience and Necessity. This
20 implies that any company can set up shop and sell billing and credit services. Therefore, it will be
21 necessary for the Rule to state specific standards concerning the data requirements and bill
22 processing.

23 ***1. Credit Management***

24 In the new competitive environment, credit management will need to be coordinated
25 between different energy providers. Standards will need to be established if a customer has multiple
26 providers and only contributes partial payments each month, or if the customer is in arrears. Another
27 issue is when a customer leaves a certain energy provider and still has an outstanding balance. One
28 possible solution is to examine the telephone billing and credit systems already in place and look at
29 how these companies handle different suppliers and different customer's credit arrangements.

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1 A good credit management system will depend on a good computer system. Under a
2 competitive environment a computer system will need the ability to allow for credit information
3 input from other energy providers and reporting capability to easily identify those customers who are
4 skipping from provider to provider to avoid bad credit. There must also be a system to collect and
5 reimburse bad debts to other utilities for transferring customers.

6 If electricity is a commodity obtained in a competitive market, it is not unreasonable to expect
7 all energy providers to minimize bad debt. There should be a mechanism established whereby energy
8 providers, not just the Affected Utilities providing standard offer services, work with bad debt
9 customers to determine whether the cause of non-payment is related to a problem with the provider, or
10 whether the customer needs a lifeline rate. If not, the energy provider should be able to notify the
11 distribution company that the customer is in arrears and the energy provider will no longer be serving
12 that customer. At this point, the distribution company will have to determine if the customer can afford
13 standard offer services or not. The main concern is that consistent procedures be developed to
14 eliminate a bad debt burden on the distribution company.

15 Another dilemma concerning credit management is service termination. The Rule does not
16 specify standards concerning this area, yet considering the implications for some low-income
17 customers, standards need to be developed. New energy providers will probably not have the ability
18 to physically terminate service. The Rule needs to determine if the distribution company will be the
19 only company to terminate physical connection. If a new energy provider terminates its service
20 contract, the end user will have the option of choosing another retailer or taking standard offer services
21 depending on the standards established for changing service providers.

22 2. *Billing Corrections*

23 The issue with billing corrections also relates to meter reading issues. Again, this is
24 mostly a coordination issue between the different service providers. The more companies that are
25 involved with customer usage and billing services, the more difficult it will be for correcting a
26 problem. Another concern is who is responsible for determining that a correction is required.
27 Sometimes it will be the customer, but energy providers need to have standards for correct meter
28 readings and review of customer bills.

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3. Customer Deposits

The current Commission rules and regulations support deposits and cost of ownership related to regulated, protected customers. When the market is open to competition and a regulated utility's service territory is no longer protected, these rules are not relevant. Customers will be able to switch energy and other service providers. A new mechanism will need to be put in place so that the company installing the equipment will earn a fair return either through energy charges or a contract. TEP is currently holding millions of dollars that are refundable deposits for line extensions and subdivision contracts. A portion of the contract is refunded when a meter is set and TEP starts receiving revenue for its services. After competition starts, there is no guarantee that TEP will be the service provider and therefore earn its rate of return on the capital installed. Customers may have to have a contract signed in order to get a new installation completed if recovery can not be guaranteed through a service charge.