COMMI 0000121416

C.

CARL J. KUNASEK
COMMISSIONER

EXCEPTION

ORIGINAL 12

STUART R. BRACKNEY
ACTING EXECUTIVE SECRETARY

RECEIVED
AZ CORP COMMISSION

ARIZONA CORPORATION COMMISSION

April 13, 1999 APR 14 8 04 AM '99

DOCUMENT CONTROL

Mr. Jim Fisher
Senior Policy Advisor
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

RE: DECISION NO. 60977
DOCKET NO. RE-00000C-94-0165

Dear Jim:

This letter is in response to your verbal request this morning for additional information related to Decision No. 60977 and the proposed order related to it.

You had asked for two items. First, you wanted a copy of Staff's exceptions to the proposed orders on the electric competition rules and stranded costs. Second, you wanted a copy of a March 11, 1998, memo by consultant Steve Dickerson concerning electric competition.

Attached are the following:

- Staff's Exceptions to Proposed Order (on electric rules), February 17, 1999
- Memorandum from Steve Dickerson to Commissioners, March 11, 1998
- Letter to Commissioner Kunasek about the Dickerson memo from Paul Bullis, June 3, 1998

I hope this is what you were looking for. Please let me know if you have any other requests.

Sincerely,

Ray T. Williamson

Ray T. Williamson
Acting Director
Utilities Division

RTW

To: Jim Fisher

BEFORE THE ARIZONA CORPORATION COMMISSION

JIM IRVIN
Commissioner-Chairman
TONY WEST
Commissioner
CARL J. KUNASEK
Commissioner

IN THE MATTER OF THE COMPETITION IN THE PROVISION OF ELECTRIC SERVICES THROUGHOUT THE STATE OF ARIZONA.

DOCKET NO. RE-00000C-94-0165

STAFF'S EXCEPTIONS TO PROPOSED ORDER

Staff of the Arizona Corporation Commission hereby files its exceptions to the recommended order in this matter. Specific language changes necessary to adopt these exceptions are proposed. Staff notes that corresponding changes to the Concise Explanatory Statement and proposed order will also have to be made in the event Staff's exceptions are adopted. All rule references are to the revised Appendix A issued by the Hearing Division on February 11, 1999.

R14-2-202. Certificate Of Convenience And Necessity for Electric Utilities Filing Requirements on Certain New Plants

Staff recommends that the phrase "maximum rates" in R14-2-202.A.1.b. be replaced with just the word "rates," because the term "maximum" suggests that there is implicit discounting authority for non-competitive services. This rule addresses the filing requirements for Certificates of Convenience and Necessity ("CC&Ns") for non-competitive services. This is in contrast with R14-2-1603, the CC&N Rule, which applies to "Any Electric Service Provider intending to supply Competitive Services . . . ." R14-2-1603.A. Rule R14-2-1611.B. explicitly provides for maximum rates for competitive services. However, there is no contemplation in the Commission's rules dealing with non-competitive services that an electric utility does or should have discounting authority. Indeed, there is no economic justification for discounting non-competitive services, other than in individual situations where a customer has a self-generation alternative. Those situations have been dealt with through special contracts. The word "maximum" in reference to rates for noncompetitive services should therefore be deleted.

R14-2-211. Termination of Service

The proposed amendment to subsection A.1.d. of this rule states that a customer may avoid termination if the customer agrees to pay a previous underbilling "over a mutually agreed period of time." This is a change from the prior language stating that the payment could be "over a reasonable period of time." Staff believes that the new language is less consumer-friendly and gives the utility veto power over a proposed payment schedule. Staff recommends that "mutually agreed" be replaced with "reasonable."

R14-2-1601. Definitions.

Staff recommends that the definition of "Must-Run Generating Units" at R14-2-1601.26. be clarified in two respects. First, it should be made clear that this definition is describing "local generating" units. Second, the reference to the Federal Energy Regulatory Commission's ("FERC") determination of such units should be deleted, because FERC does not make the determination whether a particular generating unit is required for security and stability. The definition should read as follows with Staff's proposed new language is in double-underline:

> Must-Run Generating Units are those local generating units that are required to maintain distribution system reliability and to meet load requirements in times of congestion on certain portions of the interconnected transmission grid.

R14-2-1606. Services Required to Be Made Available

Rule R14-2-1606.C.1. makes references to a date indicated in R14-2-1602. That date has been deleted in the proposed amendments. Staff recommends that March 19, 1999, be utilized as the date for filing proposed tariffs to provide Standard Offer Service, consistent with the date contained in R14-2-1606.D for filing Unbundled Service tariffs.

Section C.1. addresses Standard Offer tariffs. However, it is unclear whether an Affected Utility or Utility Distribution Company that proposes a rate increase (or change) over existing rates for bundled service in its initial filing of Standard Offer tariffs must fully justify such increase (or change) through a rate case proceeding. Staff believes that requiring justification through a rate case proceeding is appropriate, and recommends that similar language found in R14-2-1606.C.2. be included in R14-2-1606.C.1. With the changes suggested above, this section would read as follows with Staff's proposed language is double-underlined:

> By ~~the date indicated in R14-2-1602~~ March 19, 1999, each Affected Utility ~~may~~ shall file proposed tariffs to provide Standard Offer ~~Bundled Service and such~~Service. Such rates shall not become effective until approved by the Commission. Any rate increase proposed by an Affected Utility or Utility Distribution Company for Standard Offer Service must be fully justified through a rate case proceeding. ~~If no such tariffs are filed, rules and services in existence as of the date in R14-2-1602 shall constitute the Standard Offer.~~ Standard Offer tariffs shall include the billing cost elements required by R14-2-1612(N).

In addition, Staff recommends that R14-2-1606.C.5. be clarified by adding language from the discussion of this subsection on p. 24 of Appendix C, the Concise Explanatory Statement. This would clarify that Electric Service Providers ("ESPs") can continue to offer time-of-use rates, interruptible rates and self-generation deferral rates to their customers. This subsection would read as follows, with Staff's proposed language in double-underline:

> After January 1, 2001, tariffs for Standard Offer Service shall not include any special discounts or contracts with term, or any tariff which prevents the customer from accessing a competitive option, other than time-of-use rates, interruptible rates or self-generation deferral rates.

R14-2-1606.F. is ambiguous and could be read to require Affected Utilities and Utility Distribution Companies to provide transmission, distribution and ancillary services. Staff does not believe that this is the intent. Staff therefore recommends that this section apply only if the services are rendered. Staff suggests the following changes, with Staff's proposed language in double-underline:

> If ~~T~~the Affected Utilities and Utility Distribution Companies ~~must~~ provide transmission, distribution and ancillary services, those services must be provided according to the following guidelines:

R14-2-1606.H applies to rates for unbundled services. Pursuant to subsection H.1., the rates are for both Competitive Services and Non-Competitive Services. Section H.3. states that the rates may be downwardly flexible if approved by the Commission. However, R14-2-1611.E. allows an ESP to price below the maximum rate only for Competitive Services.

Therefore, Staff recommends that R14-2-1606.H.3. be clarified to apply only to Competitive Services, as follows, with Staff's proposed language in double-underline:

> ~~Such r~~ Rates for competitive services may be downwardly flexible if approved by the Commission.

R14-2-1607. Recovery of Stranded Cost of Affected Utilities

R14-2-1607.E.9. appears to be missing a word after "interruptible," which word Staff assumes to be "customers." This subsection should therefore read "The applicability of Stranded Cost to interruptible customers."

R14-2-1609. Solar Portfolio Standard

The Solar Portfolio Standard has been targeted for elimination because it would be "prohibitively expensive and would hinder competition in Arizona." However, the record developed over the past four years shows that, if solar electricity is added as a small percentage into the generation mix, there will be minimal impact on customers. In particular, Appendix A of the September 26, 1997, Final Report of the Solar Portfolio Standard Subcommittee (attached) shows that rather than being prohibitively expensive, the impact of a small amount of solar generation will only be marginally more expensive and, in conjunction with competitive electricity price reductions, will still be less expensive than current electricity costs.

The Solar Portfolio Standard percentage contained in the current Rules (.2% of electricity sold) is less than 1/10th of the annual increase in demand for electricity. So, as the demand for electricity in Arizona increases by 2-3% every year, the initial Portfolio Standard would only require 1/10th of the annual increase to be committed to solar. Finally, much has been said about "expensive" solar technologies and that some of the solar technologies cost more than 30 cents per kWh. Today's conventional peaking plants, when evaluated on a per kWh basis, often exceed 30-50 cents per kWh because the plants are used so infrequently. However, nobody complains that they are "prohibitively expensive," because that cost is "blended in" with other costs in the utility portfolio mix. The same applies to solar electricity which will be .2% or less (when extra credit multipliers are considered) of electricity sold.

There is a claim that the Solar Portfolio "would hinder competition in Arizona." Even with the current Solar Portfolio Standard in place, Arizona has received applications from 13 potential competitors. These include the major players who dominate the major share of the California competitive market: PG & E Energy Services, APS Energy Services, New Energy Ventures, Sempra Energy Trading Corporation, Enron Energy Services, and New West Energy, as well as others. They have applied for CC&Ns in Arizona and are prepared to do business under the Rules adopted in 1996 and revised in 1998, which include the Solar Portfolio Standard. Had the Solar Portfolio Standard been seen as a hindrance to competition, these "major players" would not have applied for CC&Ns in Arizona.

The stated justifications for eliminating the Solar Portfolio Standard are not, in Staff's view, adequately supported. Therefore, Staff recommends maintaining the Solar Portfolio Standard as modified in 1998, although with two changes. Since there seems to be significant concern about the cost of the Standard, Staff recommends freezing the Solar Portfolio percentage at .2% in 1999 and 2000, and increasing it gradually by .1% per year starting in 2001. After 2003, the percentage could continue the .1% annual increase only if the price of solar electricity reached an acceptable cost/benefit point or solar kWh cost impact cap to be determined by a Solar Electricity Cost Evaluation Working Group in 2002. Staff further proposes to add language in a new subsection M that would allow solar water heaters to qualify for up to 20% of the Solar Portfolio Standard requirement.

It should be noted that the current .2% standard, combined with the extra credit multipliers, would produce an effective Solar Portfolio rate of approximately .1%, which was proposed by both APS and TEP in past filings as a reasonable approach.

Staff's recommendation is to retain the entire Section 1609 with the following changes with Staff's language in double-underline:

> B. Starting January 1 of each year from 2001 ~~2000~~ through 2008 ~~2003~~, the solar resource requirement shall increase by .1% ~~.2%~~ with the result that starting January 1, 2008 ~~2003~~, any Electric Service Provider selling electricity or aggregating customers for the purpose of selling electricity under the provisions of this Article must derive at least 1.0% of the total retail energy sold

> competitively from new solar energy resources. The 1.0% requirement shall be in effect from January 1, 2008 ~~2003~~ through December 31, 2012. The Commission would continue the .1% per year increase in the solar portfolio percentage after December 31, 2003, only if the cost of solar electricity has declined to an acceptable cost/benefit point. The Director, Utilities Division shall establish, not later than January 1, 2002, a Solar Electricity Cost Evaluation Working Group to make recommendations to the Commission of an acceptable solar electricity cost/benefit point or solar kWh cost impact cap that the Commission could use as criteria for the decision to continue the increase in the solar portfolio percentage. The recommendations of the Working Group shall be presented to the Commission not later than December 31, 2002.
>
> Add new subsection:
>
> M. An Electric Service Provider shall be entitled to receive a credit of up to 20% of the solar portfolio requirement for solar water heating systems purchased by the Electric Service Provider for use by its customers, or purchased by its customers and paid for by the Electric Service Provider through bill credits or other similar mechanisms. The solar water heaters must replace the use of electric water heaters for residential, commercial, or industrial water heating purposes.

R14-2-1609. Transmission and Distribution Access

Section A of this rule requires Affected Utilities to allocate transmission capacity that is reserved for use by the retail customers on a pro-rata basis among Standard Offer customers and competitive market customers, in accordance with FERC Orders 888 or 889. However, this allocation is a feature of Arizona's state retail access program and is not the result of a specific FERC directive in Orders 888 or 889. Staff therefore recommends that the reference to the FERC Orders be deleted, as follows:

> A. The Affected Utilities shall provide non-discriminatory open access to transmission and distribution facilities to serve all customers. No preference or priority shall be given to any distribution customer based on whether the customer is purchasing power under the Affected Utility's Standard Offer or in the competitive market. Any transmission capacity that is reserved for use by the retail customers of the Affected Utility's Utility Distribution Company shall be allocated among Standard Offer customers and competitive market customers on a pro-rata basis. ~~in accordance with FERC Orders 888 and 889.~~

Section I of this rule addresses services from Must-Run Generating Units. Under the auspices of the Arizona Independent Scheduling Administrator Association ("AISA'), stakeholders have made considerable progress in developing Must-Run Generation protocols. In accordance with the draft AISA protocol, Staff recommends that fixed Must-Run Generation costs be recovered through a charge to end-use customers in the appropriate load zone. In some cases, such a charge may be most effectively levied by the Commission when there is an appropriate nexus, such as distribution service. Therefore Staff recommends that the Commission reserve the right to approve the pricing features of the Must-Run Generation protocol, when such approval is appropriate. Staff's proposed language changes are double-underlined:

> I. The Affected Utilities and Utility Distribution Companies shall provide ~~services from the~~ Must-Run Generation services ~~Generating Units~~ to Standard Offer retail customers and competitive retail customers on a comparable, non-discriminatory basis at regulated prices. The Affected Utilities shall specify the obligations of any ~~the Must-Run Generating Units~~ generation units needed for providing Must-Run Generation in appropriate sales contracts prior to any divestiture. Under auspices of ~~the Electric System Reliability and Safety Working Group~~ Arizona Independent Scheduling ~~Coordinator~~ Administrator, the Affected Utilities and other stakeholders shall develop statewide protocols for pricing and availability of ~~services from~~ Must-Run Generation ~~Generating Units~~ services ~~with input from other stakeholders~~. These protocols shall be presented to the Commission for review and, when appropriate, approval, and filed with the Federal Energy Regulatory Commission~~,~~ ~~if necessary, by October 31, 1998~~ in conjunction with the Arizona Independent Scheduling ~~Schedule~~ Administrator tariff filing. Fixed Must-Run Generation costs are to be recovered through a charge to end-use customers. This charge must be levied by the Commission as part of the end-use customer's distribution service.

R14-2-1612. Service Quality, Consumer Protection, Safety, and Billing Requirements.

Section K.1. of this rule requires an ESP who provides Metering or Metering Service shall provide access to meter reading using EDI formats data to other ESPs serving that same customer when authorized by the customer. Although Staff's comment on this section is not technically an exception to the Hearing Officer's proposal because no amendments are recommended in the proposed order, Staff notes that EDI formats are not used by Metering Service Providers and the reference should therefore be deleted. Staff recommends that this section of the rule should therefore read as follows, with Staff's changes in double-underline:

> An Electric Service Provider who provides ~~Metering or~~ Meter Reading Service pertaining to a particular consumer shall provide access to meter reading data using EDI formats ~~to meter reading data~~ to other Electric Service Providers serving that same consumer when authorized by the consumer.

Section K.6. of this rule should also be modified slightly for clarification. The proposed new language refers to "predictable loads such as streetlights" that will be permitted to use load profiles rather than hourly consumption measurement meters or meter systems. However, pursuant to R14-2-209.B.1., streetlights are not required to have meters. Consequently, since streetlights are not required to have meters in any event, the reference to streetlights as a candidate for load profiling should be deleted. The section should therefore read as follows, with Staff's changes in double-underline:

> Minimum metering requirements for competitive customers over 20 kW, or 100,000 kWh annually, should consist of hourly consumption measurement meters or meter systems. Predictable loads ~~such as streetlights~~ will be permitted to use load profiles to satisfy the requirements for hourly consumption data. The Affected Utility or Electric Service Provider will make the determination if a load is predictable.

R14-2-1615. Separation of Monopoly and Competitive Services

R14-2-1615.B. states that after January 1, 2001 an Affected Utility shall not provide Competitive Services. R14-2-1601.5. defines Competitive Services as meaning all aspects of retail services (other than Noncompetitive Services), which includes billing and collections, metering and meter reading services. Language in R14-2-1615.B. has been deleted that explains the services that Affected Utilities and Utility Distribution Companies may offer as well as the time frame during which those services may be offered. Staff is concerned that an Affected Utility may not be able to offer billing and collections, metering and meter reading services to Standard Offer customers after January 1, 2001, thereby forcing Standard Offer customers to choose a competitive supplier for these services.

Staff therefore recommends adding the following language to R14-2-1615.B. after the first sentence:

> This rule does not preclude an Affected Utility or Utility Distribution Company from billing its own customers for distribution service, or from providing billing services to Electric Service Providers in conjunction with its own billing or from providing meters for Load Profiled residential customers. Nor does this rule preclude an Affected Utility or Utility Distribution Company from providing billing and collections, metering and meter reading services as part of the Bundled Standard Offer tariff to Standard Offer customers after January 1, 2001.

In addition, this section B. should also be clarified by adding language from R14-2-1612.K.10. and 11., indicating that Affected Utilities and Utility Distribution Companies may own distribution and transmission primary voltage Current Transformers and Potential Transformers. Staff recommends adding the following sentence:

> This rule does not preclude an Affected Utility or Utility Distribution Company from owning distribution and transmission primary voltage Current Transformers and Potential Transformers.

R14-2-1616. Affiliate Transactions

Section A of this rule adds a new sentence applying the rule to any affiliate of an ESP that would be deemed a Utility Distribution Company if operating in Arizona and subject to the Commission's jurisdiction. Staff recommends deleting this sentence on both legal and policy grounds.

The legal issue at work here is self-evident from the new language itself, which purports to exert Commission jurisdiction over entities that are not subject to the Commission's jurisdiction. Presumably this would include out-of-state utilities who operate in Arizona through subsidiaries. The Commission does not have jurisdiction over those utilities, and could not enforce this rule against them.

. . .

Staff also believes that there are strong policy reasons against applying this rule to out-of-state utilities. The intent of the rule is both to protect captive ratepayers from subsidizing competitive services, and to counteract the vertical market power of incumbent utilities. While this Commission has an obligation to protect Arizona captive ratepayers, it has no such duty to ensure that captive ratepayers in California are not subsidizing competitive customers in Arizona. In addition, out-of-state utilities have no vertical market power in Arizona. Thus, the argument of the Affected Utilities that a level playing field must be established vis-a-vis affiliates of out-of-state utilities is merely self-serving protectionism.

For these reasons, Staff recommends deleting the proposed new second sentence in R14-2-1616.A.

The proposed amendments also delete the words "and shall not provide access to confidential utility information" from R14-2-1616.A.8. because, as discussed at p. 49 of Appendix C, Concise Explanatory Statement, this is covered in R14-2-1616.B. This does not appear to be entirely accurate.

R14-2-1616.B. requires confidential information "concerning customers" to be made available by a Utility Distribution Company or ESP to its affiliates and other ESPs on the same terms and conditions. This leaves the loophole that confidential utility information not concerning customers is not precluded from being provided to an affiliate of a Utility Distribution Company.

Therefore, Staff recommends that the language stated above not be deleted from R14-2-1616.A.8.

R14-2-1617. Disclosure of Information

This rule addresses the disclosure of information to customers. The proposed amendment to R14-2-1617.A. replaces the term "Load Serving Entity" with "Electric Service Provider providing generation services" to describe the entity responsible for providing certain information to residential customers.

Staff is concerned that the proposed language does not describe the entire universe of entities providing generation services to residential customers. For example, Utility

Distribution Companies providing Standard Offer service provide generation service. In addition, Affected Utilities provide generation service until they separate their competitive arm. Staff therefore recommends retaining the term "Load Serving Entity."

CONCLUSION.

For the reasons discussed above, Staff recommends that its exceptions to the proposed rule amendments be adopted.

RESPECTFULLY SUBMITTED this 17th day of February, 1999.

By:________________________
Paul A. Bullis
Christopher C. Kempley
Janet Wagner
Janice Alward

Original and ten copies of the foregoing filed this 17th day of February, 1999 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

A copy of the foregoing was mailed this 17th day of February, 1999 to:

All parties on the service list for Docket No. RE-00000C-94-0165

By________________________

JIM IRVIN
COMMISSIONER-CHAIRMAN

RENZ D. JENNINGS
COMMISSIONER

CARL J. KUNASEK
COMMISSIONER

ARIZONA CORPORATION COMMISSION

JACK ROSE
EXECUTIVE SECRETARY

June 3, 1998

Commissioner Carl J. Kunasek
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Re: Stranded Cost Proceeding
Docket No. RE-00000C-94-0165

Dear Commissioner Kunasek:

At the morning session of today's Special Open Meeting, you noted that a memorandum prepared by Steven Dickerson had not been placed in the docket. A copy of that memorandum is attached and is being docketed with this letter.

I will note that the memorandum is a discussion of market structure in a competitive regime. Included in that discussion is a description of the fundamentals of various stranded cost calculation methodologies, including divestiture.

The Commission's ex parte rule, A.A.C. R14-3-113, prohibits communications not on the record between parties and the Commissioners concerning the substantive merits of a contested proceeding. The memorandum does not address the merits of positions in the stranded cost proceeding, and therefore, does not fall within the ex parte rule.

In addition, the ex parte rule explicitly does not prohibit communications between Staff and Commissioners on technical matters. In my opinion, the description of the calculation methodologies fits within this exception.

In short, my opinion is that there has been no violation of the Commission's ex parte rule resulting from the memorandum. I will be happy to discuss this matter with you if you have any questions.

Sincerely,

Paul A. Bullis

Paul A. Bullis
Chief Counsel
Legal Division

PAB:mi
Attachment

cc: Commissioner-Chairman Jim Irvin
Commissioner Renz D. Jennings
Docket Control

I:\PAUL\WP60\060398L1.WPD

JIM IRVIN
COMMISSIONER-CHAIRMAN
RENZ D. JENNINGS
COMMISSIONER
CARL J. KUNASEK
COMMISSIONER

JACK ROSE
EXECUTIVE SECRETARY

ARIZONA CORPORATION COMMISSION

MEMORANDUM - FOR INTERNAL DISTRIBUTION

To: Commissioner-Chairman Jim Irvin,
Commissioner Renz D. Jennings,
Commissioner Carl J. Kunasek
From: Steven S. Dickerson
Date: March 11, 1998
Subject: Electric Competition

The Electric Competition Rules accomplished the simplest part of the restructuring process - the destruction of the old regulatory regime. The Commission now faces the most difficult part of the restructuring process - building a market to replace it.

If the Commission does not take up this task, a market will evolve to fill the void. However, the evolution process may not provide the best possible solution for Arizona. In fact, I do not believe that the evolution process will provide benefits to residential customers, because the process is controlled by the incumbent utility companies, entering energy service providers, and the large industrials.

Therefore, if the benefits of restructuring are going to be reaped by the residential customers of Arizona, the Commission must be proactive in the designing of the market. Early and informed decisions on our part will prevent needless mucking through and ensure the greatest possible benefit for the electric power consumers.

Toward this end, I have attached three worksheets. The first worksheet describes different possible market mechanisms for the electric power industry. These are some of the possible answers to the question, "How will the market function?" The different approaches define the type of transactions that will be possible, where these transactions will take place, and what information will be seen (or not seen) in the new marketplace.

The second worksheet reviews market structure issues, or "Who will compete in the market, and what are their roles?" Prior to the rule changes, all utility activities were regulated. Now, some activities are competitive while others continue to be regulated. This creates incentive problems within the old vertically integrated utility companies: namely, cross-subsidization and access discrimination. Possible approaches to solving or mitigating these incentive problems are presented.

The third worksheet presents the different methods to calculate stranded costs. Although this is not directly related to the creation of a new market, this decision must be made to reconcile the past. During the stranded cost hearing, many variations of three basic approaches were proposed.

The three categories of approaches are: replacement value, net revenue lost, and divestiture. The outline briefly discusses the fundamentals of each approach.

Without further decisions by the Commission, a market will evolve on its own. However, it is unclear who would benefit from this evolution and whether regulators would need to continually revisit these issues during the evolution. If the Commission can guide the design of the market to benefit the public, I would strongly advocate the worthiness of the effort.

If you or your assistants would like to speech about these issues with me, please contact me at your convenience.

CC: Jack Rose

ENERGY MARKET ISSUES

The potential gains of restructuring lay in efficiency and innovation. Both are affected by the design of the market. Proponents of bilateral contracting claim that everyone can negotiate a better deal without a power exchange even though prices are not revealed. Proponents of a full-nodal price power exchange argue for the revelation of prices through the market. This ensures both efficiency in generation and efficiency in transmission pricing. In addition, under bilateral contracting residential consumers and other small users are disadvantaged in the negotiation of power contracts.

	Bilateral contracts	*ISO/PX California style*	*ISO/PX Pool*
How power is bought, sold, and dispatched.	Consumers contract for delivery of power from either Energy Service Providers or generators directly. Balanced schedules must be sent to the operator of the grid, presumably an ISO. Price information remains proprietary.	Power can be purchased directly from the PX or contracted from a Energy Service Provider. Each ESP sends a balanced schedule to the ISO for dispatch. The ISO must balance the entire system and redispatch any conflicting schedules. Only the PX price is revealed.	All power must be purchased from the pool. The market balances supply and demand at each node, and dispatches power at the market clearing price. Financial contracts based on the market price can emulate any possible bilateral contract, except prices are revealed.
Efficiency - Generation	Not guaranteed.	Not automatic. The ISO is under the requirement to dispatch generation at least cost. It is uncertain that the ISO can efficiently do this.	Guaranteed. All power is purchased from the pool. Lowest cost generation is dispatched first.
Efficiency - Transmission	Not guaranteed.	Not guaranteed. Rules must be developed to estimate, collect, and disperse loss charges. These rules would need to be gaming proof, since utilities could load individual nodes to increase revenue.	Guaranteed. All power is sold at the node. The prices at each node incorporate all physical system constrains. Transmission and congestion rents can then be allocated to infrastructure development.
Load pockets - ancillary services	The grid operator must control some generation for reliability and transmission.	The ISO has contracts with Must-Run generation facilities for reliability purposes as well as facilities in load pockets. This mitigates market power created by congestion.	The ISO would have Must-Run contracts with generation facilities for reliability purposes as well as facilities in load pockets. Markets for ancillary and other services may develop.
Markets for green power	Green-power is sold through contract. Individual consumers must choose from available ESPs offering green-power. The ESPs submit balanced schedules to the grid operator for dispatch.	Green-power is sold through contract. Individual consumers must choose from available ESPs offering green-power. The ESPs submit balanced schedules to the ISO for dispatch. Provisions for a secondary market for green-power could be incorporated into the PX.	A second market can easily be created for green power. Green-power consumers can purchase power generated with green technology at the market-clearing price. New technology can be immediately incorporated when cost effective.

MARKET STRUCTURE ISSUES

The Competitive Electric Rules the competitive generation of electricity while transmission and distribution services, essentially, remain regulated as before. Metering and billing activities are also to be opened up to competition. By creating competitive markets for some activities and continuing to regulate others, certain incentive problems are created. The two most critical incentive problems created are an incentive for the incumbent (or distribution company) to give preferential treatment to its competitive agent while discriminating against its competitors (access discrimination), and an incentive to pass costs to the regulated agent (cross-subsidization). Below is a summary of how these incentive problems can be regulated under several corporate forms.

	Vertically integrated utility	*Functionally separated affiliates*	*Separate corporate affiliates*
Description	All activities of the incumbent utility are retained in a single vertically integrated company.	All activities of the incumbent are retained in a single company, but the company reorganizes by activity.	All activities controlled through different companies under a single holding company.
Regulation - Vertical market power Access Discrimination	Rules need to be developed to prevent incumbent utilities from discriminating against other energy suppliers - open information rules and open access rules.	Affiliate rules must be developed to limit the favorable access to customers and information to the affiliated competitive energy provider.	Affiliate rules still necessary to ensure no preferential treatment is given to affiliate. Enforcement is easier, since all transactions are in the market.
Regulation - Vertical market power Cross-subsidization	Rules need to be developed to ensure that the competitive activities are not subsidized by regulated activities. Rules must be very specific.	Affiliate rules must be developed to ensure costs are not passed incorrectly between affiliates. Less specific rules are needed. However, this is difficult to monitor.	Affiliate rules still needed to prevent incorrect transfer pricing; however, the separate corporate form better aligns management's incentives to prevent cross-subsidization.
Stranded costs - Calculation Concerns	Stranded costs are recovered by the vertically integrated utility. If the incumbent is over-compensated for stranded cost, the incumbent will have a competitive advantage.	Assets must be correctly priced when transferred to each affiliate. If asset prices are not correct, one of the affiliates may have an advantage over its competitors.	Assets must be correctly priced when transferred to each affiliate. Massachusetts uses voluntary divestiture to ensure the assets are correctly priced.
Regulation - Horizontal market power - this issue is closely linked with the Energy Market Issues and Divestiture. See below.	If the incumbent utility retains control of all its generation assets, regulatory oversight is needed to prevent the firm from exercising market power. Coordination between generation and transmission assets can be used to game the system for higher profits. FERC is concerned whenever a single entity owns or controls both generation and the grid.	The separation of control between the generation assets and control of the grid reduces the potential for the exercise of market power, but regulatory oversight is still needed. FERC is concerned whenever a single entity owns or controls both generation and the grid.	Further separation of activities reduces the possibility of coordination of transmission and generation. If generation of assets are auctioned to several independent generators, the possibility of a single firm exercising market power is greatly reduced - see divestiture.
Consumer Protection	Supplier of last resort responsibilities remain with the incumbent utility. Rules need to be developed to ensure consumers are protected from unfair activities.	Supplier of last resort responsibilities are assigned to the affiliate providing regulated services. Rules need to be developed to ensure consumers are protected from unfair activities.	Supplier of last resort responsibilities are assigned to the regulated distribution affiliate. Rules need to be developed to ensure consumer are protected from unfair activities.
State Regulatory Requirement	IL, ME, MD, MI, NV, NH, NJ, PA	AZ,CA, MT, NY, OK, RI, VT	MA

STRANDED COST CALCULATION

The past must be reconciled, so the future can begin. Stranded costs must be calculated as accurately and immediately as possible. The recovery of these costs must be as competitively neutral as possible. Below are brief overviews of the various methods for calculating stranded costs. Many variations of each approach were proposed in written testimony for the stranded cost hearing.

	Replacement Value - Bottom-up	*Net Revenue Loss - Top-down*	*Divestiture*
Calculation method	Administratively determine a fair and reasonable value for each utility's generation assets, subtract the book value of the same assets.	Calculate the difference between the revenue, which the utility would have received under continued regulation, and the estimated revenue under competition.	Auction each utility's generation assets, subtract book value of the same assets from the proceeds. If negative, this is stranded costs.
What is being measured or operationalized definition	The difference between the appraised value of the generation assets and the book value of the assets.	The NPV of the difference between the revenue stream under regulation and an estimate of the revenue stream under competition.	The difference between the true market value and book value of the assets.
Administrative process	A fair and reasonable value for each generation asset must be determined.	Two series of numbers must be estimated: the revenue stream under continued regulation and the revenue stream under competition. The success of this method is imprudently dependent upon the accurate estimation of the future market price of electric power.	No estimation of any value is necessary. By definition, the winning bid for an asset is its market value of that asset. Thus, the process involves the two known values: market value and book value. Auctions have already been successfully completed in several states.
Mitigation	Mitigation is only a concern before and during the appraisal stage. It would be in a utility's interest to influence the appraised value downward.	Utilities are compensated for the difference between their revenue under regulation and their expected revenue under competition. Utilities are free to use their assets as they see fit.	The only mitigation concern with divestiture is during the period prior to the auction. Utilities may not have incentives to mitigate losses (e.g. maintenance). If utilities have some rights to the auction revenue above book value, this incentive problem is mitigated.
True-up	No true up is necessary. Under some versions of administrative valuation the calculation time period would be lengthened to incorporate future events.	A true-up process is necessary to link estimated competitive revenue streams with actual revenue streams. A potential problem is that stranded costs will then compensate for poor management during the calculation phase. APS's plan has no true-up.	No true-up is necessary.
Main Proponent	RUCO, AECC	APS, TEP	PG&E, Enron, Goldwater Institute