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**BEFORE THE PUBLIC UTILITIES COMMISSION OF
THE STATE OF CALIFORNIA**

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

ORIGINAL

R.94-04-031

(Filed April 20, 1994)

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the Commission's Proposed Policies)
Governing Restructuring)
California's Electric Services)
Industry and Reforming Regulation.)
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OPINION

A. 1000

In this opinion we advance a number of recommendations

I. EXECUTIVE SUMMARY AND INTRODUCTION

Today's policy decision in context. On May 24, we advanced the policy deliberation phase of this proceeding by releasing for public comment two proposed sets of policy preferences enunciating views of a restructured electric services industry. Consistent with our unprecedented attempt to achieve the broadest base of public and stakeholder participation, we have held full panel hearings and received voluminous written comments on both sets of policy preferences. Most recently we used the vehicle of "Coordinating Commissioner's Rulings" to pose questions and seek further clarification on critical points. Having completed this deliberative phase of our proceeding we are now prepared to announce our policy decision.

This Rulemaking and its companion Investigation have attracted an extraordinary degree of formal participation. At last count four hundred ninety-seven persons and entities have become formal parties. The views and opinions of our fellow Californians were sought in a series of public participation hearings held across the state; our full panel hearings were broadcast on public access channels and carried by many of California's cable television operators. As a result of heightened public awareness, we have received hundreds of letters from individuals and benefitted from the organized views of many of California's vital communities such as the Latino Issues Forum, California/Nevada Community Action Association (Cal/Neva), the Greenlining Institute, Senior Utility Ratepayers of California, Inc., and the American Association of Retired Persons. Realizing that we could benefit from an even more broadly based effort to receive views and opinions we dispensed with the need for formal party status in the first Ruling by the Coordinating Commissioner.

A. Our Goal**TRANSITION**

In this opinion we advance a much matured description of market institutions and a much clearer view of the role of customer choice. The reader will find a more in depth discussion of both vertical and horizontal market power issues which must be resolved before either we or our counterparts at the Federal Energy Regulatory Commission can be expected to entrust the well being of this state's economy to market forces. We build upon our call in May for an era of Cooperative Federalism to set forth the foundation of a California Consensus based position on the structure of those institutions committed under our federal system to the stewardship of the national government.

The issues of transition cost, their identification, calculation and recovery are discussed from a policy perspective but also in sufficient detail to enable those with existing interests to determine our expectations respecting their opportunities and obligations as we work together to achieve a more sensible and sustainable future. Our objective continues to be the collection of transition costs through the

imposition of a non-bypassable Competitive Transition Charge (CTC) that is competitively-neutral, fair to various classes of ratepayers and which does not increase rates beyond the revenue requirements we have established on January 1, 1996 without adjustment for inflation.

To assure the continued financial integrity of California's investor owned utilities, and give them an opportunity to be vital participants in the restructured market following the transition, we will allow them to recover 100% of the CTC.

We propose to complete the valuation of the CTC by 2003, after which time no further accumulation of transition costs will be allowed unless derived from existing generation contracts and related ongoing contractual payments. With this exception, we will complete the collection of the CTC by 2005. The CTC will include regulatory assets, existing contractual obligations for generation, including Qualifying Facilities, and the undepreciated book value of a utility's generation plant as reflected in rate base as of this decision date. Our methods for valuing the CTC will rely to the extent possible on market mechanisms and will seek to minimize the burden of regulatory proceedings and the economic cost to California's economy.

California's commitment to public purpose and social aspects of the provision of energy services to all of our citizens has been marked by legislative, commission inspired, industry based and community prompted initiatives in the past and we fully anticipate such aspirations and effort to mark our state's future. In today's decision we set the stage for these developments by speaking directly to the fate of renewable resources; demand-side management, and public purpose research, development and demonstration efforts. Low income assistance, Women, Minority, and Disabled Veteran Business Enterprises, baseline rate, economic development programs, special rate discounts, low-emission vehicle and under grounding are all implicated in the reforms which are now launched, and today's discussion furnishes those constituencies with vitally affected interests with a more fulsome statement of our vision.

Throughout this proceeding we have acknowledged the applicability of the California Environmental Quality Act and the need for compliance once our deliberations had advanced to the stage that a project could be assessed. We believe that today's decision brings us to this critical juncture and so we define and discuss our compliance strategy.

Each of the general subjects covered by chapter heading in today's opinion is vital, and yet the focus of most debate and controversy has centered on the role of customer choice and the market mechanisms and institutions which must be developed to ensure an array of informed customer options. It is thus to these allied topics that we turn briefly in summarizing our actions of today.

B. Customer Choice and Consumer Protection

In the absence of well understood and easily exercised consumer options, the genius of competition is thwarted. We began this Rulemaking and Investigation by declaring our single minded dedication to discovering and deploying strategies and mechanisms which would place sustainable, downward pressure on the cost of electricity to all classes of California ratepayers. From the beginning, our policy preference has inclined strongly in the direction of competition and market mechanisms. As we move from the realm of theoretical discussion toward deployment, our task is to ensure that the competition is genuine and market mechanisms are open to competitive entrants and transparent to those who must depend upon their function. With today's decision we believe that we have opened the door to the broadest possible array of choice in which the

former "ratepayer" can function as an intelligent, self-interested "customer." We will briefly summarize those choices before detailing the market structure which will support their availability.

Customers for electric services in California reflect the diversity of our economy and society. They range from large industrial and commercial users to the smallest householder. They include agricultural users of every variety of description and husbandry. These differences in circumstances produce radically different load profiles and usage patterns. What we have termed as an "electric services industry" includes a basic commodity—electric energy—as well as a host of services in their generation, transmission and distribution.² Over time Californians have achieved world class leadership in the development of conservation strategies aimed at cost containment as well as environmental concerns. But there has been one aspect of the industry in which we have conspicuously failed to maintain a competitive presence and that is in the cost of electric energy. Our debates have revealed the broadest consensus that our rates are too high and must be brought into alignment with regional averages if California is to sustain a competitive posture as we enter the twenty-first century. Equally strong is the consensus that if market mechanisms can be developed that

2. Financial Issues

² Throughout our discussion a convention has arisen in which references are made to "electrons" or "electricity" as the commodity that is generated, transmitted, distributed and consumed. Those who are concerned that we acknowledge the basic teachings of physics or electrical engineering will point out that the electrons oscillate and it is power that moves and is consumed. Customers are free to elect hedging contracts which may be concluded.

send strong, sustained and easily comprehended price signals both new market entrants and consumers will react with intelligent choices.

If our vision of the near term reform is realized, shortly after the first of January, 1998, customers in California will face an impressive array of choice.

Ranged along a continuum of the degree to which the customer desires to become proactive in taking charge of cost containment, the essential choices will be made from three broad categories:

1. **Retain the traditional relationship as a full service customer of the local electric utility;**

A customer of any class is free to elect continued reliance upon the local distribution utility to procure as well as deliver electrons. Yet even here there is choice as to how the customer's bill will be calculated. Those who prefer to retain an exact replica of the status quo can opt to have their volume of usage multiplied by a rate which reflects the average cost to the distribution utility of procuring the electric power. Customers who are willing to shift load in response to hourly or half-hourly price signals can elect what we have termed "virtual direct access", a rate structure which takes into account not only their volume but also the time of their usage.

2. **Financial hedges:**

Many customers may be disinterested in the choice of generation but desire price stability and predictability over a defined period of time. Such customers are free to elect hedging contracts which may be concluded with any

individual or entity willing to take the counter-part risk. A customer who has formed such a contract continues to receive a bill from the local utility which reflects both the cost of electric power and distribution services. Periodically such a customer totals the amount of these payments to the local utility and determines whether they exceed the price guarantee concluded in the hedging agreement. In that event a bill is submitted to the other party who reimburses the customer so as to bring the cost of electricity for the period to within the agreed maximum. In the event that excess outlays have not been experienced the party who sold the guarantee keeps the premium for taking a risk that was never realized.

In our view parties agree to accept the risk in a hedging contract may have generation facilities or contracted rights to generation but we see no need to restrict their qualification or to in any manner make hedging contracts, termed "contracts for differences" in much of the literature, the object of Commission staff concern. Both entry into and exit from such a business, as well as the terms of such contracts are left to the genius of the marketplace and the will of market participants.

3. Direct access through physical, bilateral contracts:

With today's decision we propose to advance the availability of a direct access customer option even as we seek to clarify its consequences. While some have contended that, in the final analysis, such contracts represent but a variant upon the purely financial transaction, this view is disputed by those who see in them a genuine advantage and a distinct choice. We need not settle this

debate for, in the final analysis, the decision will take place in the marketplace. In one clear respect this option differs from the hedging arrangement described in the second set of choices. In a direct access contract the parties seek to dispatch specific generation on the part of sellers as well as provide fixed financial terms to the consumer of electricity. To the extent that the dispatch matches a correlative customer load, the net impact of such contracts is to reduce the amount of electricity which will be procured on the spot market which will serve the needs of those customers who elect from the first and second categories.

Our evolved willingness to begin a phased availability of direct access contract options simultaneously with the introduction of the wholesale spot market stems from a hard won understanding of their true nature. A customer who forms a physical, bilateral contract directly with a generator, or an aggregator who will then delegate the task of generation to those actually in that business, forms a contractual arrangement which will influence the dispatch of generation and govern the financial consequences of consumption. However, save for those extraordinary circumstances in which the contracting parties bear the economic and societal costs of constructing a discrete, private means of transmitting the electricity from the contracting generator to the contracting customer, the bilateral contract does not control the actual physics of the generation, transmission and distribution of the electricity the buyer consumes. Such a customer will take physical service from the local utility which will deliver power commingled from

and in them a genuine advantage and a distinct choice. We need not settle this

an undifferentiated array of generators who are making common, simultaneous use of the transmission grid and distribution facilities.

The financial consequences of direct access contracts involve, at a minimum, four interests, three of which are readily identifiable: those of the customer who consumed a quantity of electricity; those of the generator who simultaneously supplied to the transmission grid a correlative quantity of electricity, and the local utility which delivered an equivalent amount to the customer's physical premises. So long as the expectation interests of both parties to the bilateral contract are realized, and a settlement is made with the utility for all costs incurred other than that associated with the generation of the electrons, we see no need for the Commission to take a proactive role in defining these settlement arrangements.

The Independent System Operator is a fourth party with a financial stake in the bilateral transaction. As is the case with generation nomination from the spot market, a dispatch nomination originating from a bilateral contract must obtain transmission services and thereby incur a liability for these service costs. Transmission liabilities must be settled with the operator of the transmission grid irrespective of their origin. In the case of nominations from the spot market settlement will be made by the utilities which then distribute the electricity to their customers. Bilateral contract nominations may be settled by the generator, the end use customer, the broker or aggregator, or the distribution utility acting as an agent for any of the parties. Again, we note the obligation to be resolved without the felt need that the Commission dictate the resolution. By the same token we leave the issue of compensating the broker or aggregator to the contracting parties who have elected to utilize such an intermediary.

Market Structure guidelines are being developed to ensure that the market structure is consistent with the goals of the California Energy Commission.

The variety of customer choice which we seek for Californians after January 1, 1998, is currently unavailable anywhere in the world. To attain it will require the efforts of virtually every present and aspirant industry stakeholder, our staff, and the members and staff of the Federal Energy Regulatory Commission. Much of the common labor will be directed toward framing the structure, fixing the rights and duties, and the deployment of two critical institutions: the Independent System Operator (ISO) and the Power Exchange (Exchange).

The creation of two distinct entities to handle transmission and the spot market represents a change from the positions set forth on May 24, 1994.

We affirm a key policy decision and announce an amended position on a critical implementation strategy. In the statement of proposed policy preferences the majority declared its conviction that the vertically integrated electric utility is not compatible with the institutions of a competitive market for electric services. Today we are even more firmly convinced with respect to this belief. We also affirm our conviction that the interests of all Californians requires the creation of a transparent, visible spot market for electric generation and that operating control over all transmission assets be divorced from the underlying pattern of ownership and vested in the hands of an independent system operator which will operate these combined assets as a single, state-wide grid. However,

unlike the majority's proposed policy preferences of May 24, we are now persuaded to vest the spot market pool and transmission grid operations in two distinct entities. We also adopt the suggestion that the spot market pool be termed the "Power Exchange" and that we refer to the operator of the transmission grid as the "Independent System Operator." The basic structure and function of these two entities and their critical inter-relationship are defined in this opinion. They may be briefly outlined.

2. The Power Exchange:

The Power Exchange will foster and sustain the development of a transparent spot market for the generation of electricity. Under the terms of the policy decision we announce today, the Exchange will have no financial interest in any source of generation nor will it have any ownership ties to the Independent System Operator. It will determine on a forecast basis the needs of those California customers with loads that are not being met by generators under the terms of direct access contracts. As a market institution it will function as a clearinghouse by providing a transparent auction for generation with hourly or half-hourly price signals evident to immediate users and long-term investors. We anticipate that the performance of this function will provide critical assurances to generators, wholesale buyers, and consumers.

California economy is to realize the efficiency gains brought about by competition

a. The Exchange will facilitate open competition among generators;

The integrity of competition at the wholesale level will depend upon the formulation and continuous deployment of nondiscriminatory rules which permit rival generators to compete on common grounds using transparent rules for bidding into the Exchange. Generation units outside of California, including those operated by municipal utilities or public power entities, will be welcome to bid into the Exchange. Over time the ability to observe the price information will send the most reliable signals respecting the need for additional generation as well as cost-cutting steps required to keep existing units competitive.

b. The Exchange will provide invaluable services to consumers, including those who elect to contract directly for generation dispatch;

From the perspective of both wholesale and retail customers the most critical contribution of the Exchange lies in the auction determination of real time pricing of electricity and the transparent manifestation of these price signals. In the absence of such an institution the market will be hidden and the price signals obscured or subject to selective, discriminatory dissemination. If the California economy is to realize the efficiency gains brought about by competition

among generators, the impact of that competition on the price of electricity must gain the broadest customer awareness.

Compared to the present practice of receiving and paying a totally unexplained utility bill, those customers who elect to remain with their local utility for purposes of generation procurement and distribution services gain the most startling advantage. They will be direct beneficiaries of the wholesale competition among generators in that the local utility will simply pass through to its customers the prices which it has paid to procure power through the Exchange. Customers who have chosen to have their bills computed on the average cost of power times consumption receive the benefit of the average pool price. Those who are willing to consider shifting load in response to the hourly or half-hourly price signals will have a rationale basis for electing the virtual direct access billing option.

Revelation of pool prices is also the key to the intelligent use of hedging or contracts for differences. The market for such contracts will be premised on the revelation over time of the spot price for electricity. Only by assessing the risk of spot market volatility can a consumer make a rationale decision that the vagaries of the pool price warrant the formation of a contract with a counterpart party who will guarantee a price over an agreed span of time.

We anticipate that the maturing market for energy conservation will also benefit from the price revelation of the avoided cost of energy.

By the same token, knowledge of the cost of receiving energy from the spot market will provide both end users and generators with the

information from which they can calculate the relative advantages of forming physical, direct access contracts.

3. The Independent System Operator (ISO):

Reform of California's electric services industry begins with the creation of the Exchange and transparent spot market for generation. The creation of an Independent System Operator provides the essential entity to coordinate the daily scheduling and dispatch activities of all market participants as required to meet the critical objectives of providing open, nondiscriminatory access to the transmission grid while preserving reliability and achieving the lowest total cost for all uses of the transmission system.

The unavoidable interactions in the transmission network require the services of a system operator to coordinate the actual use of the system and apply a pricing structure that supports competition and avoids cost shifting. The central importance of these functions demands the confidence of all participants that the system operator is truly independent and that the protocols for pricing and operations are both economically efficient and compatible with the competitive market. We have described in some detail the minimum requirements to make fully clear our intent that these prices and procedures will be fair and economically efficient.

The ISO will take no position in the market nor have any economic interest in any load or generation. Its coordination functions will be limited to the short term, including the facilitation of day-ahead scheduling and Hourly

redispatch in order to balance the system and respect transmission constraints. Of necessity, the independent system operator must have the final responsibility for the redispatch of the system needed to integrate the nominations from the Power Exchange and from direct access transactions. In executing these limited but fundamentally important responsibilities, we are dedicated to the view that the ISO must be indifferent to the status of generation or load as from the Exchange or from a bilateral transaction. Furthermore, the ISO must determine the rational economic prices to apply to all uses of the transmission grid to ensure that the associated incentives are consistent with the competitive market and least cost use of the transmission system. We have specified the elements of such an efficient pricing system that ensures that charges for transmission use avoid any bias for or against participation in bilateral transactions or in the Exchange. The essence of this pricing system stands on the well established foundation of the competitive market principles of marginal cost pricing. The ISO will determine the marginal cost prices, differentiated by location and time, that will apply to all uses of the transmission system. These locational, hourly prices will apply to purchases and sales through the Exchange and the equivalent differences in prices between locations will apply as the transmission prices for bilateral transactions. The implementation of this efficient, nondiscriminatory pricing system could be achieved simply through a so-called "hub and spoke" system that would organize transmission grid usage around a number of regional hubs that will be the focus of relevant features of other reforms in transmission systems elsewhere in the United

commercial transactions. We invite the suggestion of alternative strategies that can achieve these policy objectives.

Many market participants have a legitimate need to achieve some certainty about their future costs for transmission use, in order to arrange for long-term power transactions. Ideally, a system of physical property rights defining use of the transmission grid would exist and be able to support our objectives for a competitive market. However, the same conditions which require the coordination role of the ISO preclude any practical system of independent physical property rights which could govern use of the transmission grid. The alternative is to create a system of contracts that provide the equivalent certainty for long-term transmission costs without compromising short-term operations coordinated through the ISO. Therefore, in addition to coordinating the daily and hourly dispatch, the ISO will administer a system of transmission congestion contracts. We believe this system of tradeable contracts provides the best method of meeting the legitimate needs of the market while respecting the special conditions of the interconnected transmission grid.

We recognize fully that these various functions of the ISO constitute an important innovation that, while fully consistent, goes well beyond the minimum requirements currently being considered in proposed rulemakings at the Federal Energy Regulatory Commission. We have adopted this consistent set of proposals based on the comments of many parties and a careful study of the relevant features of other reforms in transmission systems elsewhere in the United

States and in other countries. We are confident that California can capture and improve upon the best practice, and that Californians are fully capable of implementing here incremental improvements on what has been embraced elsewhere. Hence we direct the participating utilities to formulate a detailed proposal that adheres to the minimum requirements we have specified and to present such a proposal to FERC for its approval. We are confident that this system will meet and advance well beyond the FERC minimum standards by providing a package which is both a "conforming, open access" and an "innovative pricing" proposal.

II. PROCEDURAL HISTORY

In April 1992, we initiated a comprehensive review of current and future trends in the electric industry. This process produced a Rulemaking proceeding on restructuring California's electric services industry and reforming regulation, which was issued on April 20, 1994. The Rulemaking envisioned a future in which customers would have choice among competing generation providers, and in which traditional cost-of-service regulation would be replaced by performance-based regulation. We issued the Rulemaking for extensive public comment and solicited comprehensive alternatives to the vision described in that document.

Since April, we have sat together in San Francisco, Sacramento, San Diego, and Los Angeles for six days of public hearings on industry restructuring and regulatory reform. Over 140 individuals and organizations have presented comments on the Commission's Rulemaking, either in written form or as oral testimony at these full panel hearings.⁴ (See Appendix C.) In addition, thousands of California citizens have voiced their opinions on industry restructuring, many of them at the 16 public participation hearings attended by the Commissioners and held throughout the state: Eureka, San Diego, South Lake Tahoe, Stockton, San Francisco, Martinez, San Jose, Fresno, Pasadena, Bakersfield, Ventura, Garden Grove, Carson, San Bernardino, and Huntington Park. Many more have

⁴ Such public, recorded meetings where all Commissioners are present are generally called "full panel hearings." They are conducted in a legislative style.

participated via Internet with written comments, submitted videos, or watched the full panel hearings on public broadcasts over CAL-SPAN.

We also conducted a week of evidentiary hearings on issues related to uneconomic assets. In addition, we have engaged our western North America counterparts, federal agencies, and legislators in constructive dialogues on cooperative solutions to jurisdictional issues. On December 7, 1994, we invited a working group, comprised of interested parties, to prepare a written report on sustainability of public purpose programs and options for attaining our objective in a variety of restructured market models. On January 31, 1995, numerous parties filed briefs on legal issues. Appendix B presents a procedural history of our proceeding on electric industry restructuring and regulatory reform.

On May 24, 1995, we issued our majority and minority policy preference statements. For those unfamiliar with those documents, their essence was captured in our preface to the majority's proposed policy decision:

We commenced this Rulemaking because of our unanimous belief that as the electric services industry moves toward embracing competition, command and control regulation is no longer an appropriate mechanism. We have concluded that two of the major proposals offered to the Commission, generally referred to as the "PoolCo model" and the "Direct Access Model", reveal few true conceptual differences. Both proposals share a foundational premise of encouraging competition to flourish in the production of power. Mirrored in both is the proposed application of performance based ratemaking techniques where competition is absent. Both

called full panel hearings. They are conducted in a legislative style.

proposals also recognize the need for an entity independent of generation ownership charged with transmitting power. Furthermore, both plans recognize and address critical issues related to market power, jurisdictional ambiguity, transition costs and consumer choice. The significant difference between [the pool based and contract predicated models] lies with the manner in which the economic dispatch of power would be achieved.

The essential similarity as well as the difference between the two models found reflection in the Commission majority's vision of preferred market structures as well as the preferences of the minority. The majority proposed creating an independent system operator which would perform two critical functions: it would dispatch generation predicated on an open bidding mechanism to meet day ahead forecasts for California's electricity needs, and it would arrange transmission access for those generators with bids that cleared the pool price. The majority envisioned two distinct roles for private contracts. Financial instruments of any nature designed to hedge the pool price were deemed outside the realm of governmental regulation and immediately available to customers and other market factors who wished to contract for price stability on any terms congenial to the parties. Physical, bilateral contracts between a customer and a generator were also envisioned, but in the majority's preference their introduction would occur two years after the pool had been established and the characteristics of the wholesale

market to "guarantee" the pool price. The Commission majority's vision of the pool price was based on the principle that the pool price should be determined by the marginal cost of the next unit of generation required to meet the load. The majority's vision of the pool price was based on the principle that the pool price should be determined by the marginal cost of the next unit of generation required to meet the load.

market had become familiar to customers.⁴ The minority differed from the majority in asserting the view that the establishment of a wholesale pool should not be a precondition to the availability of a market structure predicated on physical, bilateral contracts. While acknowledging the indispensable role of an independent system operator, a preference was expressed for a role which did not include the dispatch of generation save in those circumstances in which it was necessary to achieve system balance or preserve system stability. The minority also expressed doubt as to the need for a single operator and held forth the vision of multiple, competing operators of the transmission grid.

By unanimous vote the four sitting Commissioners issued both policy proposals for comment with the explicit request that stakeholders express their views on both our selection of goals as well as articulated means to achieve those goals. "Equally important is the sincerity of our invitation that we are open to the suggestion of alternate goals or alternative means to pursue the goals which we have advanced." The response from stakeholders has been both gratifying and constructive. In addition to both written and oral contributions to our hearings, participants have arrayed themselves in a variety of discussion groups seeking to evolve common understandings and positions. Two of these efforts merit special

⁴ The majority also expressed concern that both transmission and jurisdictional impediments to the implementation of what has been widely termed "retail wheeling" or "direct access" be resolved during this two year period. The singular policy goal was that any costs and benefits from such bilateral arrangements be born and enjoyed by the direct participants and not imposed on other users of common transmission and distribution facilities.

mention. In September we received a Memorandum of Understanding which⁶ conveyed the joint recommendations of four of the major participants in our school proceedings.⁶ While it covered numerous points, its basic focus was on issues of market structure and stranded asset and liability issues. In early October we were favored with a joint submission of eleven public interest, environmental, alternative energy, and consumer advocacy organizations. Termed a "Framework for Restructuring in the Public Interest," it elaborated on public interest and customer oriented principles.⁷ The recommendations in these submissions, as well as from other sources, are acknowledged and examined in the course of today's decision. Their influence has been substantial and is repeatedly acknowledged. While some have elected to look askance at these efforts we are not to be included in their number. We regard these submissions as compliant with both the letter and spirit of our invitation of May 24. Common to both recommendations was the open acknowledgement that the task of divining the public interest and selecting policy choices to defend and advance that interest is ours. Therefore unless we are instructed otherwise by legislation or discover unanticipated and serious

⁶ The Memorandum of Understanding or MOU was submitted by of Southern California Edison (SCE), the California Manufacturers Association (CMA), the California Large Energy Consumers Association (CLECA), and the Independent Energy Producers (IEP).

⁷ Framework sponsors included the Utilities Consumer Action Network (UCAN), Union of Concerned Scientists, Toward Utility Rate Normalization (TURN), Sierra Club of California, Natural Resources Defense Council (NRDC), Environmental Defense Fund (EDF), Center for Energy Efficiency and Renewable Technologies (CEERT), California Public Interest Group, California/Nevada Community Action, and the American Wind Energy Association.

impediments in the course of our implementation effort, today's decision may be looked to as the foundation for California's emerging market institutions and regulatory reforms. While it covered numerous points, its basic focus was on

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III. MARKET STRUCTURE

Introduction

With today's decision we launch California's bid for a market structure that embraces competition in the provision of electric services, offers retail customers choice and flexibility in energy services, and reforms the manner in which we regulate utility monopoly services. Critical to this new market structure is the establishment of a statewide Independent System Operator (ISO) responsible for coordinating the dispatch and delivery of power over the transmission system. In addition, the creation of a regional Power Exchange, charged with the purpose of developing a visible spot market with transparent prices for electricity and open to all suppliers, including out-of-state suppliers and municipal utilities, will enhance efficiency by introducing competitive pressures into the generation sector. The Power Exchange and the ISO would be two independent and separate entities, the design and operation of which will require approval by FERC.

No later than January 1, 1998, simultaneous with the establishment of the Power Exchange and the ISO, we will advance the opportunities for customer choice in electric services by implementing several options for customer participation in the market. With direct access, customers can choose to purchase power according to default rates or through negotiated terms and conditions directly with competing nonutility generators, or less directly, through brokers and marketers. We fully expect that all customers will have the opportunity to enjoy these forms of customer choice no later than five years from the start of our new

market structure. Utilities will continue to procure power for those customers who choose not to arrange retail contacts with suppliers and will continue to provide nondiscriminatory distribution services to all customers within their service territories. These procurement and distribution functions of the utilities will remain under our regulation and be subject to incentive regulation.

Our decision today advances federal and state goals of increasing competition in generation and providing open, nondiscriminatory transmission access and service. At the outset, we recognize that establishing a new market structure for electricity in California will require close cooperation and coordination with the Federal Energy Regulatory Commission. The creation of the ISO and the Power Exchange requires exercise of jurisdiction by both this Commission and the FERC under a policy of cooperative federalism. This shared jurisdiction raises the possibility that disgruntled parties may attempt to delay or overturn our decision by claiming that our authority to act is preempted by federal law. Such tactics would be disruptive of reforms which command the broadest support on the record before us. As private decisions, they cannot be precluded; nevertheless it is our intention to minimize any provocation by the steps we take today. We begin by acknowledging that the boundaries of federal and state jurisdiction begin to blur in the context of new market structures. Our policy of cooperative federalism embraces our counterparts at the federal level as well as other western jurisdictions. It also manifestly includes market participants who must, in the final analysis, cooperate actively if a shared vision of a more

competitive and productive electric services industry is to be realized. In furtherance of these objectives we now begin a statement of our policy preferences respecting the formation and function of the critical market institutions. We suggest ways of furthering these policies in the context of industry initiatives as well as filings here and at the FERC. Finally, in areas committed to shared jurisdiction or conceded to be within the domain of federal authority, we suggest mechanisms and protocols which would advance the preferences we have identified as in California's interest. Our intention is not to forestall other suggestions of means to achieve these ends, but to demonstrate plausible strategies which have convinced us that our goals are attainable.

We acknowledge that by choosing to cooperate in the development of new market structures, the three major utilities subject to our regulation have removed much of the jurisdictional uncertainty associated with electric restructuring. These utilities have voluntarily agreed to support a consensus model based on transferring control over the transmission system and dispatch operations to the ISO, participating in a Power Exchange, and providing their retail customers with direct access to alternate suppliers. Without this cooperation, it is unlikely that new market structures could be implemented in California in the time frame we propose today.

Even with this level of cooperation, the implementation of the ISO, the Power Exchange, and retail competition raises questions of where jurisdiction lies over cost recovery and regulation of transmission service and sales of power. We

suggest ways to coordinate with the FERC on these issues in our discussion of market structure.

We describe this new market structure in the following sections. In Section III.A, we discuss the disaggregation of the utilities' transmission function and the transfer of that function to an ISO, how the ISO is to be established, its critical scheduling and balancing responsibilities, safety and reliability issues, and the financial settlement process. In Section III.B, we describe the Power Exchange, which we believe will enhance efficiencies. In Section III.C, we discuss the ownership and structure of the ISO and Power Exchange. Section III.D describes the opportunities for customer choice in electric services. We then turn to Section III.E, where we discuss our continued regulation of the utilities and how Performance Based Ratemaking fits into this process.

III.A. Disaggregation of the Utilities' Transmission Function and the Establishment of an Independent System Operator

The electric grid is an interconnected system of transmission, distribution, and other related facilities. Operation of the electric grid requires that variations in generation supply and demand levels are continuously balanced. Currently, the responsibility for system operation resides with the vertically integrated utilities which also own and control a majority of generation assets and nearly all of the distribution assets serving the California market.

We

Our May proposals concluded that, at a minimum, it was necessary to disaggregate the vertically integrated electric utility by separating the elements of generation, transmission and distribution. Focusing on market power concerns that arise from the utilities' ownership and control over transmission facilities, we proposed that the utilities transfer the operational control of all transmission facilities to an ISO. Today we affirm this proposal. The establishment of an ISO lessens the potential for owners of the transmission system to favor their own generation facilities over nonutility facilities in providing transmission access. Coupled with FERC's principles of open, nondiscriminatory transmission access, disaggregation of the transmission function will enhance fair competition among generators. The establishment of the ISO will confer four immediate and lasting advantages upon all users of electricity in California:

1. The state will achieve a permanent and functional resolution of transmission access disputes between the transmission-owning utilities and those dependent upon access to the system.
2. There will be a lasting efficiency gain resulting in cost savings due to combining the now distinct control functions of many entities under the auspices of a statewide independent system operator.
3. There will be an operational efficiency inherent in a transmission network which has no economic interest

other than fostering open access and the facilitation of

supply from generators irrespective of their ownership.

4. There will be a consistent pricing system for the use of the common network facilities that prevents cost shifting and supports the competitive market.

1. The ISO is Separate from the Power Exchange

The May pool proposal conceived that in addition to coordinating the transmission system, the ISO would have a second function: making a transparent market for generation with price signals evident to immediate users and long-term investors. The MOU built on the May pool proposal's concept of the ISO by suggesting one significant change: the separation of the ISO from the spot market pool functions, which the MOU assigned to an entity called the Power Exchange.

Parties favoring separation advance two primary reasons to separate the ISO from the pool. First, separation would prevent the ISO from favoring pool transactions over transactions occurring outside the pool or from unfairly restricting the operation of nonpool suppliers in case of grid congestion. Second, separation would provide an opportunity for developing transparent information about system operations and congestion which would aid in eliminating any perception of discriminatory decisionmaking. Parties preferring establishment of a single entity with the responsibilities of an ISO and a power pool assert that the coordination between two separated entities could be complicated. They also

argue that the separation would interfere with economic dispatch of generation and would create additional transaction costs.

Because the new market framework must at its conception have the support and confidence of market participants, and because the separate entities will function similarly to and bring the same benefits as a structure which combines the two, we are convinced that these potential problems are best resolved by requiring that the functions of the ISO and the pool be vested in separate entities. The independence of the ISO from the pool reinforces the principle that all market participants are subject to the same protocols regarding allocation and pricing of transmission access along with resolution and pricing of transmission congestion. This separation should eliminate any perception that the ISO could gain financially by preferring one supplier over another in dispatching generation and scheduling transmission.

2. Principles for Operation of the ISO

Under the Federal Power Act the FERC has authority over rates, terms, and conditions of sales for resale and transmission in interstate commerce. Courts have determined that the transmission of electricity, even between two points within a state, making use of interconnected interstate grids falls within the federal interest in interstate commerce. Thus, the FERC must approve rates, terms and conditions of transmission services provided by the ISO. We expect that the ISO will file its own transmission tariff and operating procedures with the FERC. Under state law we must approve transfer of control over the investor-owned

utilities' transmission systems and dispatch facilities to the ISO. Following the FERC's approval of the ISO, utilities will need to file for our approval under the Public Utilities Code § 851⁴ to transfer control of their transmission facilities to the ISO.

We authorize PG&E, SCB and SDG&E to work with parties and each other to develop a detailed proposal for submission to the FERC to establish the ISO and its protocols and transfer operational control of the utilities' transmission facilities to the ISO. We fully recognize that these proposals go beyond the minimum requirements specified by FERC and include new, innovative transmission access and pricing approaches. However, we believe that these proposals will amply meet the test of being a conforming, open access system that improves over the minimum requirements in the directions recommended by FERC and necessary for the competitive market. These proposals shall be filed at FERC and simultaneously filed in this docket within 130 days after the effective date of this decision. The filing should incorporate the principles delineated below, which we believe are critical to the successful operation of the ISO.

The ISO will have primary responsibility for the determination of the final operation and dispatch of the system to preserve reliability and achieve the lowest total cost for all uses of the transmission system. The ISO will have control over the operation

⁴Unless otherwise indicated, all statutory references in this decision are to the Public Utilities Code.

of the transmission facilities. The participating in IIA investor and publicly owned utilities will continue to own those facilities and be responsible for their maintenance.

2. The ISO will have no financial interest in the Power Exchange or in any source of generation or load. This restriction will ensure that the ISO will have no bias in favor of or against generators who participate in the pool or as suppliers with direct access contracts. The ISO will own no generation, transmission, or distribution facilities and will have no affiliation with any companies that own those facilities.
3. The ISO will maintain frequency control and comply with all standards of the North American Electric Reliability Council (NERC) and the Western Systems Coordinating Council (WSCC).
4. The ISO will provide open and nondiscriminatory services and access to the transmission grid for all users of the transmission system, including purchasers and suppliers in transactions arranged through the Power Exchange and suppliers contracting directly with customers, consistent with the principles espoused by FERC in its proposed rulemaking on

open access transmission services and stranded costs.

The distinction between procurement and provision is critical in identifying what can

be unbundled and treated as a competitive service for individual choice. For example,

* Notice of Proposed Rulemaking and Supplemental Notice of Proposed Rulemaking Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities (Docket No. RM95-8-000); Recovery of Stranded Costs by Public Utilities and Transmitting Utilities (Docket No. RM94-7-001), 60 Fed. Reg. 17662 (April 7, 1995).

All market participants will be subject to the same to protocols and prices regarding transmission access and treatment of transmission congestion.

5. The ISO will procure from suppliers ancillary services needed to support transmission and dispatch. (Where possible, this procurement should be from suppliers on a non-discriminatory, competitive, unbundled basis. The ISO will offer to users ancillary services either as competitive, unbundled activities, for those services that can be metered and measured separately for individual users, or as cost-effective joint products, for those inherently inseparable network services.
6. The ISO will coordinate day-ahead scheduling and balancing for all uses of the transmission grid. For both the day-ahead schedules and the hourly balancing transactions, the ISO will accept nominations from the market participants. The nominations from the Power Exchange will include the tentative dispatch, the locations of the generation and loads, and the associated bids for generation and loads. The nominations from the bilateral participants must include the amount and timing of power deliveries.

1995) IV FERC Stats & Regs ¶ 32, 514 (1995) [hereinafter referred to as the "MegaNOPR"].

¹⁰ The distinction between procurement and provision is critical in identifying what can be unbundled and treated as a competitive service left to individual choice. For example, spinning reserve can be purchased from many sources on a competitive basis, but it may not be possible to separately identify the individual customer uses of spinning reserve. In this case, the ISO would pay suppliers the competitive price for spinning reserve and charge all users an allocated share of the total cost of spinning reserve.

7. The ISO will coordinate the scheduled nominations from the Power Exchange and the bilateral transactions to determine any redispatch that would be necessary to meet the twin objectives of assuring operational reliability and achieving least-cost use of the system. Along with this redispatch, the ISO will determine the locational marginal costs incorporating the cost of generation, losses and congestion that will define the market clearing prices for the Power Exchange and the price of transmission use for the bilateral transactions. The marginal costs of redispatching to provide an increment of load at each location will define the purchase and sale prices through the Power Exchange. The differences in the locational marginal costs between source and destination will define the price of transmission applied to the bilateral transactions. The ISO will notify the Power Exchange and the bilateral participants of the final redispatch for the scheduled

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