

**STAFF REBUTTAL TESTIMONY On:
ELECTRICITY RESTRUCTURING
MARKET POWER CONCERNS**

Prepared for the August 14, 1996
ER 96 Committee Hearing

Primary Staff Witness:

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INTRODUCTION

The following is the Staff rebuttal to **ER 96** Testimony provided by Southern California Edison (Edison) on electricity restructuring and market power. Both Staff and Edison filed Testimony on July 17, 1996, responding to the **ER 96** Committee question regarding the potential for exercise of undue market power. However, Edison did not provide any specific comments for Testimony, but rather incorporated its filings to FERC and the CPUC by reference to reflect their position regarding market power.¹ The Staff rebuttal focuses on the Edison comments set forth in the **Response of Southern California Edison to Comments on Horizontal Market Power Report** that was filed at the CPUC on July 11, 1996.

The following provides an overview of the issues in contention, Staff recommendations and an **Attachment** with a more detailed discussion of areas of disagreement.

OVERVIEW

The Edison comments referred to above, were filed in response to market power comments filed by the Energy Commission at the CPUC on June 25, 1996 and two Staff reports on the topic.²

Specifically, Edison is responding to the Energy Commission position that Edison's efforts to evaluate market power have fallen short in several respects. Edison also provides a critique of the Staff report on market power, claiming that there are a number of serious deficiencies and "arbitrary computational decisions" that

¹ Supplement Filed at the Federal Energy Regulatory Commission by Southern California Edison Company and San Diego Gas and Electric Company, **Report on Horizontal Market Power Issues**, May 30, 1996, **Response of Southern California Edison Company to Comments on Horizontal Market Power Report**, July 11, 1996, and **Southern California Edison Company's Motion to File its Supplemental Answer to Motions to Intervene at the Federal Energy Regulatory Commission**, July 16, 1996, FERC Docket No. ER 96-1663-000 and CPUC Docket R. 94-040-31 and I. 94-04-031.

² **Attachment #1: Staff Report on Generation Market Power in Electricity Restructuring** and **Attachment #2: Staff Proposal on the Utility Market Power Showing**, May 1, 1996. Both Staff reports were filed at the CPUC on May, 1, 1996 as attachments to the Energy Commission comments regarding the utility divestiture proposals. Earlier drafts of Attachment #1 (August 3, 1995 and December 21, 1995) were provided to interested parties and members of the Market Power Committee for peer review and comment.

have little relevance for assessing market power associated with sales to the Power Exchange (PX). (Edison Comments at 5.) Furthermore, Edison contends that the Staff analysis "fully supports" the utility's conclusion that "with the proposed generation divestiture it will not possess market power." (Edison Comments at 3.) In general, it appears that Edison is trying to suggest that the Commission disagrees with only a few policy points and that the much of the basis for the other Commission disagreements are flawed. Therefore, Edison suggests that there is no need for further analysis of market power.

Staff disagrees with much of Edison's critique on specific elements of the Staff reports and Edison's conclusion that, other than for locational issues, there are no market power concerns associated with industry restructuring and the shift to market-based rates. Staff also finds that Edison has taken much of the Staff's analysis out of context, mis-characterizes many sections and ignores the original message in the Commission comments to the CPUC.

Staff completed a scoping analysis on utility market concentrations of potential electricity sales to the PX, using available information. Staff acknowledged, in the report, the limitations of the information and assumptions that were used in the analysis. In fact, Staff presented the preliminary results to all parties, soliciting comments and additional information to improve the analysis. The purpose of the analysis was to engage in a first-level market power screening, recognizing that further analysis was needed to properly define the geographic scope and products in a restructured market. Regardless, the Staff analysis demonstrated that the results of a market concentration evaluation can vary significantly, depending on the assumptions. This was the primary finding of the Staff analysis and reason for recommending that a second step analysis is needed to adequately review all market power concerns.

Edison went to great lengths to critique some of the Staff's assumptions, highlighting only those results that support a finding of no market power. Edison makes reference to the one scenario in the Staff analysis that resulted in low market concentration values to imply that market power does not exist. Edison also claims that the other Staff scenarios that resulted in significantly higher concentration values, that suggest the potential for market power, are not relevant. The Pacific Gas & Electric Company (PG&E) market power filing to FERC includes a more detailed review of the market than what was completed by Staff and Edison.³ PG&E even acknowledges that there is a potential for horizontal market power during certain periods in the year. Staff does not believe that the initial screening analysis provided by Staff or Edison are

³ **Market Power Analysis of Pacific Gas & Electric Company in Support of Joint Application**, FERC Docket No. ER 96-1663-000, July, 19, 1996.

sufficient to conclude that there is no potential for market power on part of utilities in California. "The results of the Staff analysis simply suggest that further work is needed to adequately measure the potential for market power in a restructured market." (Staff Report at 54.)

Considering that there is a strong difference of opinion regarding the use of assumptions, Staff believes that much work is needed to develop and validate the proper assumptions for this type of structural market power study. Furthermore, it is important to recognize that a structural analysis also has its deficiencies and will not provide sufficient evidence to demonstrate, without any doubt, that market power abuses will not occur. Staff provided a list of the type of evaluation that should be undertaken for a proper horizontal market power analysis in the **Staff Proposal on Utility Market Power Showing** that was attached to the Commission divestiture comments filed with the CPUC on May 1, 1996. The evaluation should also consider other structural and behavioral characteristics relevant to the market structure in question. Each of these elements should be defined before any party can adequately understand the operation of the proposed market structure and determine the potential for market power abuses.

Edison also claims that the Energy Commission endorses the adoption of monitoring programs along the lines of that proposed by Edison and San Diego Gas and Electric. (Edison Comments at 3.) In general, Staff does agree with the need for monitoring. However, the Commission expands the monitoring proposal beyond what is suggested by the utilities. The Commission believes that the State, not the ISO, should be assigned the initial responsibility for managing a monitoring program. The ISO would have the limited responsibility of collecting pertinent data. The State would then report to FERC on those issues under their jurisdiction. "The Energy Commission does not believe it is appropriate for the ISO to be monitoring PX activities for potential market power abuses. Rather, it is more appropriate for government, at least during the early stages of the competitive market." (Commission Comments at 16.)

RECOMMENDATIONS

Staff continues to disagree with the assumptions that Edison uses for defining geographic scope and products for the market power analysis. It is apparent that there are numerous uncertainties and debatable assumptions that can significantly alter the results and findings of a horizon-tal market power analysis. Furthermore, there are still a number elements of the market structure, as well as the bidding and pricing protocols, that need to be defined before a reasonable market power determination can be made. It is also important to understand that the market structure and market power concerns will likely be significantly different during and

after the transition period.

As stated in earlier Testimony, Staff recommends that further analysis should be completed to evaluate the seriousness of any market power concern. Evidentiary hearings, such as those normally conducted at the Commission and CPUC, may provide the proper forum for experts to resolve differences in opinion and the debatable assumptions. The evaluation should go beyond structural indicators of market power and address the types of behavior that are ultimately the concern of regulators, market participants and consumers. Only then can the CPUC and FERC determine the need or effectiveness of market power mitigation strategies.

A T T A C H M E N T

STAFF RESPONSE TO SPECIFIC COMMENTS BY EDISON REGARDING MARKET POWER

The following respond to a number of specific comments provided by Edison in the July 11, 1996 filing to the CPUC.

1. Edison Comment: The CEC Staff Report defines markets arbitrarily (Edison at 6).

As a scoping exercise, Staff considered four plausible scenarios for two uses and three market definitions (24 in all) that may reflect the operation of the restructured market during the transition period. Staff believes that the derived assumptions were adequate for the initial phase of the study.

For example, Staff prepared one market share scenario assuming that there is limited competition between the Northern and Southern California. Staff found this reasonable, considering that the most significant transmission constraint is likely to be between the two regions. The maximum non-simultaneous transfer capability between the two regions is 3,000 MW, a fraction of total dependable generating capacity. The availability of simultaneous and scheduled transmission capacity is likely to be lower. Staff assumed that the resulting congestion costs between the two regions may constrain competitive opportunities for generators to supply incremental loads. Market shares were thereby calculated based on the assumption of two separate wholesale power pools, with the out-of-state market competing in both regions.

Staff solicited comments on the draft study from all interested parties and in particular, from the California utilities. Staff received only two sets of comments. The first comment criticized the Staff use of generation capacity as a relevant product. This was the reason for Staff shifting to an energy analysis and formed the basis of the Commission's comments to Edison on the use of generation capacity for the market power analysis. The second set of comments were from Edison, which was solely a critique of the proper HHI screening thresholds. Staff responded to Edison; some of the main points of the response are included in item 3 below. Staff believes that there are many assumptions that should be discussed to determine the appropriateness for use in a meaningful market power analysis.

2. Edison Comment: The CEC Staff relies on outdated data to define "competitive energy" under its preferred approach to measuring market shares and concentration ratios (Edison at 6).

Edison claims that the assumptions used in **ER 94** are no longer valid, particularly the assumptions relating to natural gas prices, load growth and the cost of new generating capacity. Staff agrees that each of these elements in the **ER 94** data sets change, but does not think that the changes will significantly alter the definition of "competitive energy." For example, the out-of-state power price forecasts are indexed to natural gas and coal prices. Since the out-of-state power price forecast will decline at the same rate as updated coal and gas prices, the modeling dispatch will likely not be significantly different. The **ER 94** out-of-state surplus energy availability forecasts are also not likely to change significantly. Staff thereby believes that the use of the **ER 94** data set are adequate for the one scenario in the Staff report deriving market shares. To quote Edison in their May 15, 1996 **ER 96** filing, "we appreciate the flexibility the CEC has shown in agreeing to use the data from **ER 94** as a practical expediency that avoids unnecessary effort by us and the CEC Staff in generating or collecting new data."⁴

3. Edison Comments: The CEC Staff Report does not provide a sound basis for relying on a threshold HHI screening criteria of 1800 (Edison at 8).

Edison made this same criticism in a letter to Staff on December 1, 1995. Within the letter, Edison "urges the CEC Staff to concur that the proper screening criterion for assessing whether to permit competition in the electric generation market in California is an HHI of 2500." Edison suggests the 2500 HHI creates a "rebuttable presumption" that markets are sufficiently competitive to permit market-based pricing. Edison cites the Department of Justice (DOJ) in its evaluation of oil pipeline deregulation and Gregory J. Werden, a senior economist at the Antitrust Division at the Department of Justice.

Staff responded to the Edison letter on March 1, 1996 and incorporated the HHI discussion in the May 1, 1996 Staff Report. Although there are several noted experts that support the position presented by Edison, Staff found that there are many other varying opinions presented in the industrial organization economic literature and regulatory cases. Furthermore, Staff believes that

⁴Southern California Edison Company's Submittal of Supply-Side Data per the Committee's April 9, 1996 Order Granting Request for Stay on Order on Submittal of Supply-Side Data and Establishing Filing and Service Requirements for Non-Parties, May 15, 1995, Docket No. 95-ER-96, page 6.

the use of an 1800 HHI initial screening threshold is useful considering that calculated market concentrations vary significantly, depending on the assumptions used to define the uncertain restructured market. An HHI above 1800 is not a finding that the potential for market power is likely to be exercised; it is simply an indicator that other factors should be examined.

Staff also reviewed the report cited by Edison and analyzed FERC's response. The FERC, not the United States Department of Justice, has ratemaking jurisdiction over oil pipeline services. As discussed in detail below, FERC has carefully considered the use of HHI's in the context of requests by oil pipelines to sell at market based rates in the context of two separate rulemakings and a companion notice of investigation. In all instances, FERC has declined to adopt any threshold standards, let alone approve any presumptions of competitiveness with respect to a specific HHI.

1. The July 13, 1993 NOPR

Title XVIII of the Energy Policy Act of 1992 required FERC to simplify oil pipeline rate-making methodology. Reed & Michalopoulos, Oil Pipeline Regulatory Reform: Still in the Labyrinth?, 16 Energy L.J. 65, 74 (1995) (hereafter "Oil Pipeline Reform"). In response, FERC published a Staff Proposal, issued without FERC endorsement, for public comment. Id. at 75 (citing "Commission Staff Proposal For Revisions to Oil Pipeline Regulation Pursuant to the Energy Policy Act of 1992," at 80 (FERC issued March 1993)).

The Staff Proposal recommended "an indexing methodology under which a pipeline would be able to increase each of its point-to-point rates up to a ceiling . . ." without participating in a rate-making proceeding; pipelines desiring to increase rates above the ceiling would be required to justify the increase in a cost-of-service proceeding. Oil Pipeline Reform at 76.

As an alternative, "a pipeline could show that it lacked significant market power in the relevant markets, . . . [in which case], the pipelines' rates could be market-based and would not be subject to regulatory constraints." Id. In addition to specific product and market definitions, the "Staff proposed the creation of a rebuttable presumption that the pipeline lacks significant market power upon a showing that any one of three numerical threshold tests was satisfied in the market. These thresholds were an HHI of 2500 or less, a pipeline market share of 10% or less, or a waterborne transportation market share of 10% or more of deliveries/receipts." Id. at 77. In proposing the HHI criterion, FERC staff was, presumably, following the Department of Justice's May 1986 oil pipeline deregulation report on which SCE and SDG&E rely in their supplemental market power filing. Market Power Supplement at I-25-26.

In response, FERC published a Notice of Proposed Rulemaking. Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992, IV FERC Stats. & Regs. ¶ 32,497 (1993), 58 Fed. Reg. 37,671 (July 13, 1993) (hereafter "Pipeline NOPR"). Although the Pipeline NOPR "retained the alternative of market-based rates upon a showing of lack of market power, . . . [it] explicitly abandoned all of the recommendations in the Staff Proposal for simplifying that showing." Oil Pipeline Reform, at 78 (citing Pipeline NOPR at 32,726). Specifically, the Pipeline NOPR provides:

Establishment of a simplified and streamlined methodology for market-based ratemaking for oil pipelines would involve resolution of several complex anti-trust issues [including "concentration thresholds"] which do not appear to lend themselves to generic resolution.

Any attempt to establish threshold standards for determining pipeline market-power, in order to shortcut the decision-making process in competitive-market inquires, would necessitate, under due process requirements, allowing shippers to rebut the evidentiary implications flowing from such thresholds. Moreover, to the extent the threshold standards were crafted to be broadly applicable (i.e. apply to more than just clearly competitive markets), the rebuttal presumption mechanism would be more frequently invoked by shippers, thus leading to the protracted litigation which Congress seeks to avoid.

Nor does it appear that the solution to this problem is to be found in establishing "conclusive" presumptions to identify competitive markets. Conclusive presumptions would have to be crafted narrowly so as to identify only the most clearly competitive markets. The procedure then, would be successful in expediting the competitive-market inquiry only rarely--the majority of cases would entail full hearings. This being so, it is doubtful that a conclusive-presumption procedure would make more than a minimal contribution toward accomplishing the statutory goal of streamlining and simplifying the Commission's decision-making on oil pipeline ratemaking.

Pipeline NOPR at 32,726. FERC's position on this point has survived substantial review. First, the Final Rule does not depart from this conclusion. Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992, Final Rule, III FERC Stats. & Regs. ¶ 30,985 (1993), 58 Fed. Reg. 58753 (November 4, 1993). However, FERC initiated a separate Notice of Inquiry concerning market-based rates. Id. at 30,958. Second, as discussed below, FERC's subsequent inquiry and rulemaking, which was devoted exclusively to market-based rates, failed to provide a sufficient record to justify adoption of threshold criteria.

2. The July 28, 1994 Rulemaking

On October 22, 1993, the FERC issued a Notice of Inquiry ("NOI") concerning market-based rates for oil pipelines. Market-Based Ratemaking for Oil Pipelines, Notice of Inquiry, 58 Fed. Reg. 58814 (November 4, 1993), FERC Stats. & Regs. ¶ 35,527 (October 22, 1993). FERC specifically sought comments on whether it should permit market-based rates, and if so, what substantive and procedural requirements should be imposed on applicants with respect to their burden to establish that they lack significant market power.

In response to disparate comments, FERC issued a NOPR proposing only procedural rules. Market-Based Ratemaking for Oil Pipelines, Notice of Rulemaking, 59 Fed. Reg. 39985 (August 5, 1994), IV FERC Stats. & Regs. ¶ 32,508 (July 28, 1994). FERC expressly declined to propose any substantive rules, including any threshold criterion with respect to specific HHIs. Id. at 32,888.

FERC noted the lack of consensus "on key issues such as the appropriate geographic market and the use of screens and rebuttable presumptions." Id. With respect to HHIs, FERC noted that while there is support for the use of HHIs

as an appropriate market concentration measure, there is no consensus with respect to details about the HHI or about the threshold for creating a rebuttable presumption.

Id. Instead, the NOPR proposes procedural rules that require applicants for market-based rates provide a detailed factual showing demonstrating lack of significant market power as part of their application. See id. at 32,889 - 32,892.

The Final Rule confirms this approach and requires detailed analysis of the following: (1) the geographic markets, including both origin and destination markets; (2) the product markets; (3) description of the applicant's facilities and services; (4) competitive alternatives; (5) potential competition; (5) maps; (6) analysis of market power measures including HHI; and (6) and any other factors the applicant believes will support its request. Market-Based Ratemaking for Oil Pipelines, Final Rule, 59 Fed. Reg. 59148 (November 16, 1994), III FERC Stats. & Regs. ¶ 31.007 (October 28, 1994) at 31,187-31,193. Again, with respect to the HHI, FERC states that it

is not proposing any particular HHI level, such as 1800 or 2500, as a screen or presumption, rebuttable or otherwise. All factors must be considered in determining whether an oil pipeline lacks significant market power.

Id. Similarly, even assuming SEC and SDG&E have adequately defined the appropriate markets and products, no presumption should attach to their HHI calculations.

4. Edison Comments: ...the CEC Staff Report overstates the uncertainties about market shares and concentration ratios by including calculations that are inconsistent with its theoretical arguments and that present unrealistic cases (Edison at 8 and 9).

Edison claims that "the large number of tables and figures contained in the CEC Staff Report appear to have been introduced to create the impression of much more uncertainty than exists in reality and to obscure some very clear conclusions." (Edison at 9). Edison makes reference to Figure #1 in the Report which shows that market shares of all generation resources. Edison also points out that in Figure #2, Staff did not include divestiture in the market share analysis. Edison also claims that the scenario that evaluates all existing generation, inappropriately includes Mission Energy as part of Edison's market share.

As described in the Report, Staff reviewed a number of plausible scenarios. Given the difficulty and uncertainty in predicting the outcome of the restructured market, Staff believes that it is prudent to review more than one possible future scenario. For example, divestiture or even an evaluation of the effectiveness of divestiture is not clear, as described later. There are still remaining uncertainties regarding the participation of publicly-owned utilities. Staff included Mission Energy as part of Edison's market share in one scenario, because FERC includes affiliates in the market share evaluation of other market-based rate proposals. To repeat the Staff conclusion, "the results of the Staff analysis simply suggest that further work is needed to adequately measure the potential for market power in a restructured market." (Staff Report at 54).

5. Edison Comment: The CEC asserts that Edison's market power analysis is deficient because, the CEC claims, it failed to consider "system constraints, air quality rules, regulatory obligations in other western states, temporal variations in loads and availability of competitive resources, and uncertainties regarding actual market participation." These claims are simply wrong (Edison at 9).

Staff believes that the above mentioned factors are important for determining the proper market products and amounts of electricity that are available to compete in the PX. It is not clear whether Edison completed the necessary analysis of these factors to identify competitive energy.

Edison claims that the Market Power Report clearly did take nearly all of these factors into account. However, Staff found that the only representation of temporal variations that Edison considered

was in the availability of surplus transmission capacity to define geographic markets. There was an extensive discussion about temporal considerations of supply and demand, but Edison discounted the need for any further analysis due to a claimed difficulty in modeling. A temporal analysis would show different HHI results for each time period and season.

The focus of the Staff comments on Edison's horizontal market power study is on the use of generating capacity to represent available energy that will compete in the PX. This becomes important in characterizing the out-of-state electricity suppliers that may compete in the restructured California market. Staff believes that the appropriate product is energy, and, specifically, only those amounts of energy that reflect regulatory, generation and transmission dynamics. Furthermore, since only limited amounts of surplus energy are available from out-of-state generators, only these amounts that can be delivered to California should be considered in an HHI analysis.⁵ California utilities often take advantage of non-simultaneous peak capacity purchase opportunities, as noted in the past several Electricity Reports. However, these spot capacity transactions generally involve small amounts of energy relative to other out-of-state energy purchases. It is also important to note that out-of-state utilities will operate with different regulatory and contractual obligations than the California investor-owned utilities. The availability of western energy and California loads will also have seasonal and daily dimensions that are lost in the use of capacity values. Staff thereby believes that the use of generation capacity overstates the availability of out-of-state competitive resources to California.

Edison also asserts that "capacity-based rather than output-based measures are favored by the DOJ/FTC Horizontal Merger Guidelines as long as their associated economic attributes are given appropriate weight, as they are in the Market Power Report" (Edison Comments at 10). Edison assumes, but does not show, that the characterizations of the "swing capacity" and "Bid-In/Must Take Capacity" reflect the

⁵Staff projections show that energy availability for the Desert Southwest region will decline by almost 50 percent by the year 2003. Only a portion of this excess is useable by California because most of the surplus energy is available during off-peak hours, when demand in the Southwest and California is lowest. A substantial surplus of energy is expected to be available in the Pacific Northwest and Canada due to the operational nature of the hydroelectric system and season demand characteristics of the region. However, most of the available surplus energy is available during the spring and early summer months. (Staff Comments at 12) The Staff out-of-state projections incorporate western utility demand forecasts and load shapes, existing generation characteristics and expected new generation additions to meet load growth. These projections were completed with extensive input from many interested parties in the Electricity Report process, in particular from Edison.

appropriate weighting as economic attributes. This means that all of the western generation facilities in these categories have the same operating characteristics and will bid into the California market. Staff notes that the "swing capacity" case also suggests that the only type of market power abuse identified in the analysis will pertain to manipulating the price of the resources competing on the margin. This ignores the possibility that other competitive, but non-marginal resources may, be able to manipulate or influence which marginal resources will be accepted by the PX to set the market clearing price, as various reports claim to have occurred in the United Kingdom.

Edison also claims that Staff is incorrect in asserting that since utilities from western states other than California will continue to have native load obligations, the relevant product for out-of-state suppliers should be limited to surplus energy. Edison claims that "the relevant product definition must reflect the product for which Edison seeks market-based pricing authority, which in this case is energy to supply loads that are being served or may be served by generators making use of the transmission facilities controlled by the ISO." However, "because the PX auction process requires no commitment of capacity and only requires a commitment to sell energy for one hour at a time, excess capacity is simply not relevant." Edison continues, "to the extent that native loads may be relevant (such as under peak conditions) Edison's Swing and Bid-In/Must-Take relevant products incorporate such native obligations, but do so in a much more sophisticated way that recognizes the fact that even an entity that has no surplus still may be a seller of energy into the PX, at times when all of its capacity is not required for purposes of meeting native load demand, and when it is priced competitively." Therefore, the "CEC's concern is one which, to the extent valid, Edison's analysis already has taken into account" (Edison Comments at 11 and 12).

Staff reviewed the referenced pages in the Edison Market Power Report (II-32 to II-35). Staff does not find that the above mentioned CEC concerns are already taken into account. Staff still finds that the use of generation capacity overstates the availability of competitive resources in the market.

6. Edison Comment: Edison's analysis properly considered transmission constraints in light of historical limitations (Edison at 13).

Edison claims that it was not valid for the CEC to criticize Edison's transmission analysis for using non-simultaneous import capability as opposed to simultaneous measures (Edison reply comments at 14). Edison further states:

As Edison explained in the Market Power Report, Edison utilized non-simultaneous import capabilities only because it analyzed the simultaneous limits and found that they were rarely, if ever, binding. Indeed, those analyses that Edison performed showed large quantities of unused import capability during all time periods and seasons and found only a very small number of hours, less than one tenth of one percent of the total, when there were fewer than 1000 megawatts of additional import capability into Southern California.

This entire argument misses the point of the CEC's comments. The point made by the CEC in its comments was that using non-simultaneous import capabilities can result in exaggerated estimates of unused transmission capacity.

In its analysis, Edison utilizes unused transmission capacity as a measure of the nonexistence of transmission congestion. It follows then that maximizing the estimates of unused transmission capacity would minimize the likelihood of market power. The CEC's concern is precisely that Edison's use of non-simultaneous import capabilities may have resulted in Edison over-estimating the amount of unused transmission capacity which in turn leads to possible underestimates of market power. If Edison initially analyzed the simultaneous limits as they claim, why did they not use this analysis as a basis for their estimates of unused transmission capacity? Why did Edison instead use non-simultaneous import capabilities as the basis for their estimates of unused transmission capacity thereby possibly resulting in overestimates of unused transmission capacity? If Edison had simply stayed their course and utilized the simultaneous values, their results and conclusions would have been more accurate and the CEC would have had no grounds to criticize Edison on this point.

Staff does not dispute the fact that there are varying degrees of unused capacity on the major interties throughout the year. Staff includes the transmission factor in the out-of-state power resource availability and price forecasts that were completed for the last four Electricity Reports. Edison did not explain the reasons why there is unused and available transmission capacity and why it will be different during the transition period. Furthermore, Edison did not engage in a system analysis to determine how much of the

claimed western surplus power may compete in California with the existing bulk power transmission system.

7. Edison Comment: Publicly-Owned Utilities can be expected to be active participants in the energy market (Edison at 15).

Staff prepared *ER 96* Testimony on municipal utility participation in restructuring. (Staff Report on "*Municipal Utilities Strategies to Deal with Restructuring and Competition*," May 14, 1996). Staff understands that publicly-owned utilities (POUs) are not required to join or transfer operational control of their transmission systems to the ISO. Staff stated in its Testimony that, at this time, POUs continue to indicate, aside from the issue of joining the ISO, they will "wait and see" about voluntary participation in the PX as well. The Staff position is that if the ISO and PX rules are correctly designed, POUs would recognize the potential benefits and choose to participate in the PX or join the ISO, but it still remains unclear what those final rules will be and whether POU participation will prove beneficial. Therefore, Staff concludes it is prudent to continue to consider a scenario in which the POUs do not participate in the new market when doing our market power analysis.

8. Edison Comment: The specific units that Edison will divest will not affect the calculation of this or the overall analysis contained in the market power report in any significant way (Edison at 16).

Edison states on page 16 that "The CEC asserts that the specific units that will ultimately be divested will have a significant effect on the calculation of the HHIs." To be precise, what the CEC said on page 16 of its June 25, 1996 comments was that "If HHI's are based on energy, rather than capacity, as the Energy Commission maintains, the assumptions about which specific units are divested could make a significant difference, since some units may provide very little energy" (emphasis added).

Edison then went on to say that it had committed to divest 50 percent of its gas-fired units, that "the bulk of these facilities have marginal operating costs that are quite close together" and that as a result, "it makes very little difference for purposes of analyzing market power which units Edison elects to divest."

Edison would have one believe that its gas-fired "swing" units are virtually interchangeable. If this were the case, one might expect electricity production to be relatively evenly distributed across these units. Yet, the annual capacity factors for these units for 1994 and 1995, as shown in the work papers Edison submitted to FERC on May 29, 1996, reveals that they vary from near-zero to 50 percent. Indeed, establishing a loading order requires discrete choices among even very similar units. Those decisions may hinge on very small differences in thermal efficiency, yet can result in

significant differences in plant operation.

The historical production of Edison's swing units shows that they do vary widely in energy generation. It is axiomatic that energy-based HHI's computed assuming that Edison divests itself of the most productive half of its swing unit capacity must differ, perhaps significantly, from those computed assuming Edison divests itself of the least productive half of its swing units. The Energy Commission stands by its original statement that in assessing market power it is important to know which specific units are to be divested.

9. Edison Comment: A detailed computer modeling exercise is neither necessary nor desirable for purposes of assessing market power (Edison at 17).

Although Staff contend that computer modeling of complex systems can increase one's understanding of such systems, we never did nor do we currently think that this analytic technique is a panacea, as Edison asserts. We contend that such an effort will increase parties understandings of the emerging electricity market in California. Many parties, including some electric utilities, are assessing the emerging electricity market using simulation models to decide a number of issues: whether they should participate in the Power Exchange; what power stations appear to be in a position to profit from deregulation and which ones are candidates for retirement or other options; and how deregulation will alter the value of transmission systems.

Staff contends that the CPUC should require detailed simulations to better assess the potential for market power, especially during particular times of the year. We need only remind the CPUC of how two dominant firms in the United Kingdom at particular times of the year and under certain load and resource conditions apparently have been able to withhold generation and significantly drive up clearing prices. The California situation, no doubt, is different but it is not clear yet just how different.

Given what is at stake, we encourage the CPUC to require a more detailed analysis, one that relies on computer simulations. This analysis can be done without causing significant delays to the process and can provide insights into a number of issues including market power. We recommend that the CPUC convene a forum for this purpose while going forward with other aspects of deregulation. The Energy Commission Staff offers its expertise in such a forum.

**Witness Qualifications
for
AL ALVARADO**

Mr. Alvarado is employed at the California Energy Commission as an Electric Generation System Specialist in the Electricity Resource Assessments Office. Mr. Alvarado currently has oversight responsibility for regional markets assessments, utility financial issues and electricity restructuring market power concerns.

Mr. Alvarado has been a member of the Energy Commission staff since 1981 serving in various capacities, including Special Advisor to Commissioner Robert Mussetter and an analyst in the Engineering Office and Fuels Resource Assessments Office. Mr. Alvarado received a Bachelors in Science in Environmental Policy Analysis and Planning from the University of California, Davis.