As filed with the Securities and Exchange Commission on January 28, 1998.

File No. 70-09033

UNITED STATES OF AMERICA
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 2 TO
FORM U-1 APPLICATION OR DECLARATION

UNDER

THE PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

Mineral Energy Company
101 Ash Street
San Diego, California 92101

(Name of company or companies filing this statement and address of principal executive offices)

None

(Name of top registered holding company parent of each applicant or declarant)

Richard D. Farman
President and Chief Operating Officer
Pacific Enterprises
555 West Fifth Street, Suite 2900
Los Angeles, California 90013-1001
(213) 895-5000
Stephen L. Baum
President and Chief Executive Officer
Enova Corporation
101 Ash Street
San Diego, California
(619) 696-2000

(Name and address of agents for service)

The Commission is requested to send copies of all notices, orders and communciations in connection with this Application to

Ruth S. Epstein, Esq.
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044-7566

UNITED STATES OF AMERICA {PRIVATE}
SECURITIES AND EXCHANGE COMMISSION

Mineral Energy Company	)	
	)	File No. 70-9033
Amendment No. 2 To Application On	)	
Form U-1 Of Mineral Energy Company	)	

INTRODUCTION

On March 26, 1997, Mineral Energy Company, a newly formed California corporation (the "Company"), filed an application on Form U-1 (the "Application") with the Securities and Exchange Commission (the "SEC" or the "Commission") seeking (1) authorization for its acquisition of Pacific Enterprises ("Pacific") and Enova Corporation ("Enova") (the "Transaction") under Sections 9(a)(2) and 10 of the Public Utility Holding Company Act of 1935)(the "1935 Act" or the "Act"); and (2) an order exempting the Company under Section 3(a)(1) of the Act from all provisions of the Act except Section 9(a)(2). The Application was amended on May 13 and July 21, 1997, by the submission of additional exhibits.

The Company hereby amends the Application for the purpose of expediting the Commission's action on the Application

by providing information about the progress of related approval proceedings before the California Public Utilities Commission (the "CPUC"), and the Federal Energy Regulatory Commission ("FERC"). These proceedings are in their final phases. FERC has approved the Transaction, subject to certain conditions over which it retains jurisdiction. The CPUC has completed extensive hearings concerning all issues raised by the Transaction, and has received a favorable opinion from the California Attorney General regarding the absence of any adverse effect of the Transaction on competition. A

preliminary decision by the administrative law judge in the CPUC proceeding is expected in February, with a final decision by the CPUC likely in March.

The CPUC and FERC proceedings directly address a number of issues that overlap, to some extent, with the issues in this proceeding under the 1935 Act. The most significant of these issues is the effect of the Transaction on competition, an issue that has been raised by intervenors in all three proceedings. As to this issue, the Company requests the Commission to apply the doctrine of "watchful deference." Where the Commission and another regulatory agency both have jurisdiction over a particular transaction, the Commission, with judicial approval, has held that it is appropriate for the Commission to "watchfully defer" to the proceedings before -- and the results reached by -- that other agency.

The Company requests the Commission to issue its final order on the Application promptly upon completion of these regulatory proceedings. [FN1] FERC has already found that, subject to certain conditions, the Transaction is in the public interest. The California Attorney General's opinion, based upon the extensive record compiled in the CPUC proceeding, concludes that with one possible, and quite limited exception, the Transaction will not adversely affect competition. Favorable action by the CPUC would reflect the determination by that agency that the Transaction is in the public interest. It is critical to reaping the substantial benefits of the Transaction for both shareholders and consumers that all unnecessary delays in the regulatory process be eliminated. The Company believes that this Amendment -- by keeping the Commission apprised of the progress of those

proceedings -- will assist in expediting the Commission's final decision when those proceedings conclude, and thus will avoid such delay.

To this end, this Amendment will include:

1. A discussion of the competitive issues raised in the various proceedings, and of the watchful deference doctrine.

2. A discussion of the mandate of the CPUC, its expertise, and its proceedings in this matter;

3. A description of the FERC order and matters remaining to be resolved in that proceeding; and

4. Information concerning Enova's recent decision to divest SDG&E's generation assets, which bears on the competition issues.

Information provided in this Amendment will generally follow the format of Form U-1. The description of the divestiture of generation assets will be described in Item 1: Description of the Parties to the Transaction. The competition issues, the watchful deference doctrine, and the effects of the generation divestiture on competition will be addressed in Item 3: Applicable Statutory Provisions. The discussion of the FERC and CPUC proceedings will be provided in Item 4: Regulatory Approvals. [FN2]

All capitalized terms used in this amendment will refer to the definitions in the Application, unless otherwise indicated.

Item 1. Description of the Parties to the Transaction

Divestiture of Generation Facilities by SDG&E

On November 24, 1997, the Board of Directors of SDG&E approved a proposal to auction all of its electric generation assets. The auction will include SDG&E's two fossil power plants, its 19 combustion turbines, its 20-percent interest in the San Onofre Nuclear Generating Station, and its portfolio of long-term power contracts. The proposed divestiture of these assets reflects SDG&E's long-term business strategy of concentrating on the distribution and transmission of electric power, rather than electric power generation.

The proposed sale of SDG&E's electric generation assets is subject to the prior approval of the CPUC, and SDG&E filed a request for such approval on December 19, 1997. Once SDG&E has received approval from the CPUC, it will proceed with an auction of its generating assets. The CPUC must then approve any transaction that results from the auction. The disposition of SDG&E's interest in the San Onofre Nuclear Generating Station is subject to approval by the Nuclear Regulatory Commission.

Item 2. Applicable Statutory Provisions

A. Vertical Market Power

Under Section 10(b)(1) of the Act, the Commission may disapprove a proposed acquisition if it finds that the acquisition "will tend towards interlocking relations or the concentration of control of public-utility companies, of a kind or to an extent detrimental to the public interest or the interest of investors or consumers." Two parties seeking to intervene in this proceeding (the "Intervenors") have argued that the Transaction will enable the merged entity to exercise vertical market power in the California electricity market, i.e., that SoCalGas will be able to exercise its market power in gas transportation to benefit SDG&E's gas-fired electric generation assets. The core of this attack on the Transaction, which the Intervenors have also made before FERC and the CPUC, has been the allegation that SoCalGas will raise (or otherwise manipulate) electricity prices in California by raising (or otherwise manipulating) the price of the gas that it delivers to gas-fired electric generators. In this manner, the Intervenors contend, SoCalGas will be able to increase the profits of its electric affiliates, principally SDG&E.

The Company has submitted showings to FERC and the CPUC that this allegation is without basis because, inter alia: (1) the CPUC's pervasive regulation of gas transportation and storage services on the SoCalGas system precludes the kind of price manipulation that would be necessary for such a scheme to be effective; (2) SoCalGas and SDG&E account for only a small share of the natural gas production and interstate pipeline capacity that serves California; (3) the market for wholesale electric power in the western

United States is highly competitive and would discipline any effort to manipulate the overall market price of electricity; and (4) the merged entity will have a strong disincentive to increase the price of wholesale electric power. [FN3] Moreover, to alleviate any concerns about vertical market power and to fulfill the conditions imposed by FERC in its order approving the Transaction, discussed below, the Company has proposed stringent remedial measures that would govern SoCalGas' provision of service to SDG&E and other utility electric generators. These measures, the Company has stated, preclude any possibility that SoCalGas could exercise vertical market power. As described below, the California Attorney General found the vertical effects of the Transaction to be "negligible".

In light of the foregoing, the Commission should "watchfully defer" to FERC and the CPUC with respect to the claim that the Transaction would have an adverse vertical effect on competition. FERC has already fully considered these vertical competition concerns, and has imposed conditions that it has found sufficient to allay them. Similarly, the CPUC has committed extensive time and resources to addressing the vertical competition issue. As further discussed in Item 4 of this Amendment, prior to approving the Transaction the CPUC is required by law to find that the Transaction will not adversely affect competition. Pursuant to its express statutory mandate, the CPUC has requested an advisory opinion from the California Attorney General as to the effect of the Transaction on competition and the appropriate mitigation measures, and the Attorney General has opined that the Transaction will have no adverse effect on competition in the California electricity market. Both FERC and the CPUC have longstanding expertise in this area and staff

dedicated to addressing these issues; both agencies enjoy reputations for diligence, fairness, and a commitment to competitive markets. [FN4]

This Transaction thus presents a classic case for application of the doctrine of "watchful deference." That doctrine was succinctly stated by the United States Court of Appeals for the District of Columbia Circuit: The Commission should not "pretend that it is the only agency addressing the issue when it is not;

> that would only lead it to conduct a wasteful, duplicative proceeding. Rather, when the SEC and another regulatory agency both have jurisdiction over a particular transaction, the SEC may watchfully defer to the proceedings held before -- and the result reached by -- that other agency." [FN5]

There could hardly be a more compelling case for watchful deference than this one, with respect to competition issues. First, at least two other agencies will resolve these issues. [FN6] Second, since the asserted market power concern centers on anticompetetive effects in California, the CPUC is especially entitled to deference on this issue.

FERC's expertise and competence to resolve the competition issues is beyond question. Moreover, state regulation in this case is anything but lax, pro forma, or otherwise undeserving of the customary deference. The CPUC has demonstrated in past proceedings under the predecessor statute to the one at issue here that its review of a proposed merger is exhaustive. In 1991, the CPUC disapproved the proposed acquisition of SDG&E by the parent corporation of Southern California Edison. [FN7] Earlier this year, the CPUC approved the merger of two Bell regional holding companies, Pacific Telesis Group and SBC Communications, Inc. [FN8] In both instances, the CPUC rendered its decision on the basis

of a thoroughly developed written and oral record which included extensive discovery and evidentiary hearings and applied the statutory criteria with rigor. If the doctrine of watchful deference cannot be applied here, it can never be applied at all.

Finally, it should be noted that the Company's showing on vertical market power was submitted to FERC, and the California Attorney General rendered his opinion, before the Company's announcement that it would divest its generation. As described more fully below, FERC, in its June 25 order conditionally approving the merger, stated that such divestiture, in and of itself, would "eliminate" vertical market power concerns.

IV. Regulatory Approvals

A. State Regulatory Authority

1. CPUC Proceedings

The CPUC's review of the proposed Transaction pursuant to Section 854 of the California Public Utilities Code is well underway. Under that statute, the CPUC must find that the acquisition (1) provides short-term and long-term economic benefits to utility ratepayers; and (2) will not adversely affect competition. The CPUC will be required to find that the business combination equitably allocates short-term and long-term forecasted economic benefits of the business combination between shareholders and utility ratepayers, with ratepayers receiving not less than 50% of the benefits from regulated operations. In addition, the CPUC must find that the Transaction is, on balance, in the public interest upon due consideration of specified public interest factors, including (1) the fairness and reasonableness of the acquisition to affected employees and shareholders; (2) the overall benefits to the California and local economies and to communities served by the utilities; and (3) mitigation of significant adverse consequences arising from the merger. The CPUC is also required to take into consideration an advisory opinion of the Attorney General of the State of California, which is summarized below.

An Administrative Law Judge has presided over a hearing to review the proposed merger, together with the regular participation of one or more assigned CPUC Commissioners. Throughout the proceedings, there have been over 45 submissions of prepared direct testimony, including supplemental and rebuttal testimony. The Applicants

have responded to over 3,800 detailed interrogatories and data requests propounded by interested parties, and have produced over 100,000 pages of documents. In addition, certain intervenors took the oral depositions of eight of the Applicants employees, eliciting 12 days of testimony. Evidentiary hearings began on September 17, 1997, and continued, with some recesses, through October 23. The evidentiary record developed during these hearings includes 277 exhibits and 2,232 transcript pages of oral testimony taken over 16 hearing days. [FN9]

The Company and interested intervenors submitted opening briefs on November 5, and reply briefs on November 26, 1997. Supplemental briefs to address the proposed divestiture of SDG&E's generating assets were filed on December 19, 1997. It is presently expected that the Administrative Law Judge will issue a proposed order in late February. [FN10] Thereafter, the parties will have 20 days to comment on the proposed order, and five days to reply to those comments. The CPUC is expected to issue a final order by the end of March. [FN11]

2. Attorney General's Opinion

On November 20, 1997, the Attorney General of the State of California submitted to the CPUC an advisory opinion as required by Section 854 of the California Public Utilities Code. [FN12] (See Exhibit D-9.) The Attorney General there concluded that the merger will not adversely affect competition within either the wholesale electricity or interstate gas markets. A.G. Op. at 1. The Attorney General further concluded that the merger of the utilities [gas] procurement operations will not adversely affect competition in the interstate gas market and that the applicants are not actual potential competitors for retail electricity services. Id.

The only area in which the Attorney General expressed even limited concern was with respect to SDG&E's status as a potential competitor of SoCalGas in the intrastate gas transmission market. [FN13] The Attorney General recommended that, if the CPUC were to find that SDG&E is a significant potential competitor of SoCalGas, the CPUC should require SoCalGas to auction a quantity of transmission rights over the SoCalGas system equal to SDG&E's average usage of the system. (The Opinion expressed no view as to whether SDG&E is, in fact, a potential competitor of SoCalGas.) The Attorney General made this recommendation with the expectation that the auctioned transmission rights would constitute an alternative source of intrastate transportation, thereby offsetting the loss of SDG&E as a potential competitor. Id. at 45.

Lastly, the Attorney General recommended that the CPUC retain jurisdiction over the merger for a period of two years for the limited purpose of determining whether the

restructured California marketplace, now scheduled to become effective on March 31, 1998, will have any effect on the merged entity's ability to affect the price of wholesale electric power. Although stating that such an outcome was unlikely, id. at 46, the Attorney General expressed concern that the full extent of competition within the restructured marketplace will not be known until the market is operational. Accordingly, the Attorney General suggested that the CPUC retain jurisdiction over the merger to monitor the extent to which competition in the restructured marketplace imposes constraints on electric power prices.

3. Affiliate Transaction Ruling

On December 19, 1997, in the context of a general rulemaking proceeding, the CPUC adopted certain restrictions on dealings between utility companies and their unregulated affiliates that engage in energy-related activities. The purpose of these restrictions is to prevent utilities from favoring their affiliates in providing either services or information relevant to the affiliates' marketing activities, and to prevent regulated utility assets from being used for the benefit of unregulated affiliate business.

The CPUC's order adopting these restrictions states that it will be determined in the course of the CPUC's approval proceeding for the Transaction whether any variations in these restrictions are appropriate for the Company. The ALJ has indicated that, unless the evidence compels a different result, he will recommend adoption of the pertinent generic provisions without variation. The ALJ has requested submissions on this point, which were filed on January 23, 1998. The Company will not object to application of the restrictions as

they relate to transactions between utilities on the one hand and unregulated entities on the other hand. The Company expects to request limitations on the application of the restrictions to transactions between utility companies, to the extent necessary to maximize the synergies expected from the Transaction.

B. Federal Power Act

On April 30, 1997, FERC issued an order stating that the disposition of jurisdictional facilities that would result from the proposed merger of Enova and Pacific was subject to FERC's jurisdiction and approval under Section 203 of the Federal Power Act. See Enova Corporation and Pacific Enterprises, 79 FERC 61,107 (1997). Accordingly, the Commission proceeded to consider the request for authorization and approval of the Transaction that the Applicants in that case (the "Applicants") had filed in the event that FERC found the Transaction to be jurisdictional.

On June 25, 1997, FERC issued an order conditionally approving the Transaction. [FN14] In that order, FERC found that Transaction raised potential concerns about vertical market power, in that it would bring the gas transportation and storage operations of SoCalGas under common ownership with the electric generation operations of SDG&E. The Commission further found, however, that the vertical market power concerns raised by the merger could be adequately mitigated and that the most effective mitigation mechanisms are within the jurisdiction of the [CPUC]. Id. at 62,553. The Commission stated that while this Commission has the authority under [the Federal Power Act] to determine what remedies are necessary to mitigate market power concerns and to condition

our approval of a transaction on those conditions being implemented, in this particular case effectuation of most of the [required] remedies is within the jurisdiction of the [CPUC].Id. at 62,565. Specifically, the Commission observed that the intrastate gas transmission and distribution operations of SoCalGas that are the source of the vertical market power concerns are within the regulatory jurisdiction of the CPUC. Accordingly, the Commission approved the Transaction on the condition that the Applicants adopt specific remedial measures intended to allay vertical market power concerns, and that the CPUC commit to enforce certain of those measures with respect to SoCalGas, whose operations are within its exclusive jurisdiction. [FN15]

FERC also specifically noted that divestiture of SDG&E's electric generation would eliminate any concerns about vertical market power arising from the Transaction:

> Another method of eliminating the vertical market power problems herein would be divestiture by SDG&E of gas fired generation plants. However this remedy would require authorization of the California Commission. [FN16]

Thus divestiture, independently of the conditions proposed by FERC, resolves the vertical competition question.

The remedial measures required by FERC with respect to SoCalGas are based largely on FERC's Order No. 497 regulations, which are designed to prevent abuses between natural gas pipelines and affiliated natural gas marketers. In essence, the goal of these regulations is to place downstream affiliates on the same competitive basis as non-affiliated entities, and to require a strong measure of transparency in the pipeline's

operations. FERC also required the Applicants to adopt additional remedial measures above and beyond those required by Order No. 497. [FN17]

In the proceedings before the CPUC, the Applicants have proposed specific remedial measures to fulfill FERC's conditions, as well as additional remedial measures not required by the FERC order. [FN18] Taken together, these commitments completely allay whatever concern might exist concerning the exercise of vertical market power by the merged entity prior to the divestiture of SDG&E's electric generation assets. Moreover, as shown above, SDG&E's divestiture plan independently resolves the concerns underlying the conditions provided in FERC's order, by eliminating any factual basis for such concern.

Item 6. Exhibits and Financial Statements

The following exhibits are filed with this Amendment:

Exhibit D-6 Order of FERC Conditionally Approving Disposition of Facilities, Dismissing Complaint as Moot, and Denying Request for Consolidation, issued June 25, 1997.

Exhibit D-8 Chart of Testimony Before the CPUC.

Exhibit D-9 Opinion of the Attorney General on Competitive Effects of Proposed Merger Between Pacific Enterprises and Enova Corporation, submitted to the CPUC on November 20, 1997.

SIGNATURE

Pursuant to the requirements of the Public Utility Holding Company Act of 1935, the undersigned company has duly caused this Amendment to the Application to be signed on its behalf by the undersigned thereunto duly authorized.

MINERAL ENERGY COMPANY

Date: January 26, 1998

By: ___________________________

Stephen L. Baum

[FN1] The Company has requested the Commission to issue a conditional order approving the Transaction, upon completion of the Commission's consideration of all issues within its expertise, without waiting for the conclusion of either the FERC or CPUC proceedings. This order would be contingent on satisfactory approvals from both of those agencies. See Reply of Mineral Energy Company to Motion to Intervene of Southern California Edison Company (June 4, 1997).
[FN2] Recent financial and other information relating to Enova, Pacific and their subsidiaries is included in the periodic and current reports of those companies filed with the Commission under Section 13(a) of the Securities Exchange Act of 1934. To the extent relevant to this Application, such reports are incorporated herein by reference.
[FN3] SDG&E's retail electricity rates are subject to a four-year freeze. Within the "headroom" allowed by this cap on its rates, SDG&E must recover not only its costs for distribution, transmission, and generation, but also any recovery it seeks for stranded asset costs. Thus, to the extent that the wholesale price for electricity goes up, SDG&E's opportunity for stranded cost recovery is diminished.
[FN4] A third agency expert in competitive issues, the Antitrust Division of the U.S. Justice Department, is also reviewing the Transaction. Under the Hart-Scott-Rodino Act, the Transaction may not be consummated until Pacific and Enova have given formal notification and submitted certain information, and the applicable waiting period has terminated. Such notification was given on January 9, 1998.
[FN5] City of Holyoke Gas & Electric Dept. v. SEC, 972 F.2d 358, 363-364 (D.C. Cir. 1992) (citing Wisconsin's Environmental Decade v. SEC, 882 F.2d 523, 527 (D.C. Cir. 1989).
[FN6] The doctrine clearly applies both to state as well as federal agency action. See Wisconsin's Environmental Decade, Inc., v. SEC, 882 F.2d 523 (D.C. Cir. 1989).
[FN7] Re SCEcorp, 122 P.U.R.4th 225 (1991).
[FN8] Re Pacific Telesis Group, 177 P.U.R.4th 462 (1997).
[FN9] A list of witnesses and the subject matter of this testimony is included as Exhibit D-8, filed with this amendment.
[FN10] Based on a scheduling order dated July 1, 1997, the proposed decision of the Administrative Law Judge (the "ALJ") was previously expected in January. In an order dated December 24, 1997, the ALJ modified that date, stating that he expected his proposed decision to issue on February 25, 1998, although he would strive for an earlier date. This extension will provide the ALJ with time to consider submissions relating to affiliate

transaction restrictions and synergies, discussed below, which were filed on January 23, 1998.
[FN11] By order dated December 30, 1997, the ALJ stated his preliminary recommendation with respect to scheduling and allocation of savings to be realized by the Transaction, and directed the parties to provide certain related information. Those submissions were filed on January 23, 1998.
[FN12] As noted above, the Attorney General issued his opinion shortly before SDG&E announced the proposed divestiture of its generation assets. Accordingly, the opinion does not take into account the effect that the divestiture will have on allegations of vertical market power.
[FN13] Significantly, this is not a concern raised by the Intervenors in this proceeding.
[FN14] San Diego Gas & Electric Company, 79 FERC 61,372 (1997). A copy of the FERC's order is included as Exhibit D-6. The Company has previously described FERC's June 25 order in the Reply of Mineral Energy Company to Supplement to Motion to Intervene of Southern California Edison Company, filed in this docket on October 1, 1997.
[FN15] FERC further conditioned its approval of the Transaction on the adoption of certain remedial measures that are within its own jurisdiction. Specifically, the Commission required that SDG&E file a code of conduct and Enova Energy file a revised code of conduct that comports with FERC's requirements for codes of conduct for utilities or marketers with market-based rate authority. Both SDG&E and Enova Energy have made these filings with FERC.
[FN16] 79 FERC 61,372 at 62,565 n.58.
[FN17] FERC's specific conditions were as follows:

1. SoCalGas must commit to the affiliate dealing restrictions set forth in Order No. 497 and apply them to its dealings with all members of the Pacific-Enova corporate family.

2. SoCalGas must operate its GasSelect electronic bulletin board as an interactive, same-day reservation and information system.

3. SDG&E and Enova Energy must separate their purchases of transportation by SoCalGas as between (a) electric generation volumes, and (b) other volumes, and make purchases of transportation for electric generation volumes on the SoCalGas GasSelect bulletin board under terms and conditions comparable to non-affiliated electric generation shippers.

4. SoCalGas must publicize in advance on GasSelect its planned use of pipeline capacity to fill storage.

[FN18] The additional remedial measures proposed by the applicants are as follows:

1. SoCalGas will further separate its Gas Operations and Gas Acquisitions functions;

2. SoCalGas will restrict information flow with regard to financial positions in futures markets;

3. SoCalGas will seek prior CPUC approval of transportation rate discounts or rate designs offered to any affiliated shipper; and

4. SoCalGas will post an unprecedented volume of information regarding the operation of the SoCalGas system so that all parties may be satisfied that SoCalGas is not attempting to manipulate the operation of its system to benefit affiliates.

(..continued)

San Diego Gas & Electric Company and Enova Energy, Inc.

Enova Corporation and Pacific Enterprises

Southern California Edison Company

V.

San Diego Gas & Electric Company, Enova Energy, Inc., and Ensource Corp.,

Docket No. EC97-12-000

Docket No. EL97-15-001

Docket No. EL97-21-000

Order Conditionally Approving Disposition of Facilities, Dismissing Complaint as Moot, and Denying Request for Consolidation

(Issued June 25, 1997)

Before Commissioners: James J. Hoecker, Chairman; Vicky A. Bailey, William L. Massey, and Donald F. Santa, Jr.

On January 27, 1997, San Diego Gas & Electric Company (SDG&E) and Enova Energy, Inc. (Enova Energy) (collectively, Applicants) filed an application in Docket No. EC97-12-000 pursuant to section 203 of the Federal Power Act (FPA) [FN1] for an order approving the merger of Enova Corporation (Enova) and Pacific Enterprises (Pacific). Enova and Pacific are both exempt public utility holding companies under section 3(a)(1) of the Public Utility Holding Company Act (PUHCA) of 1935. [FN2] Enova is the parent of SDG&E, a traditional utility, and Enova Energy, a power marketer authorized to sell power at market-based rates. [FN3] Pacific is the parent of Southern California Gas Company (SoCalGas), a natural gas distribution company.

As discussed below, on April 30, 1997, the Commission issued an order in Docket No. EL97-15-000 asserting jurisdiction over the disposition of the jurisdictional facilities of SDG&E and Enova Energy that would occur as a consequence of the merger of Enova and Pacific. However, the Commission did not assert jurisdiction over the merger of Enova and Pacific. [FN4] Therefore, we will consider the application for section 203 merger approval in Docket No. EC97-12-000 as a section 203 application for approval of the disposition of SDG&E's and Enova Energy's jurisdictional facilities occurring in conjunction with the merger of Enova and Pacific.

The April 30 order addressed only the question of whether the Commission's section 203 jurisdiction is applicable to the instant corporate realignment, or any aspect thereof. Some intervenors in that docket raised additional issues and concerns relating to the propriety of approving the proposed transaction and/or requested evidentiary hearing on certain matters. The April 30 order deferred addressing those additional concerns until after the matter of jurisdiction was established. Therefore, we will address those concerns in the context of our review of the

application for section 203 approval filed in Docket No. EC97-12-000.

On January 10, 1997, Southern California Edison Company (SoCal Edison) filed a complaint against SDG&E, Enova Energy, and Ensource Corporation, a subsidiary of Pacific, in Docket No. EL97-21-000 requesting that the Commission find the merger of Enova and Pacific subject to the Commission's jurisdiction under section 203. Since the jurisdictional status of the merger of Enova and Pacific and the consequential disposition of the jurisdictional facilities of SDG&E and Enova Energy were established in the April 30 order, we will dismiss SoCal Edison's complaint as moot. [FN5]

As discussed more fully below, the Commission concludes that the proposed disposition of facilities raises vertical market power concerns and the potential for the merged entity to exercise market power that could adversely affect wholesale power markets. However, we believe that these market power concerns could be mitigated. In particular, the most effective mitigation mechanisms

are within the jurisdiction of the California Commission. Therefore, we will conditionally approve the proposed disposition conditioned upon the adoption of market power mitigation remedies, as discussed below.

I. Description of the Corporate Realignment, Participants, and Contents of the Application

A. Description of Corporate Realignment Participants

1. Enova, SDG&E, and Enova Energy

As indicated above, Enova is an exempt public utility holding company [FN6] and the parent of two public utilities: SDG&E, an electric utility, and Enova Energy, a power marketer. SDG&E owns and operates electric generation, transmission, and distribution facilities, and serves electric and natural gas customers at retail in California. Enova Energy is a power marketer with market-based power sales rate authority. [FN7]

2. Pacific and Subsidiaries

Pacific is also an exempt public utility holding company and the parent of, among others, SoCalGas. [FN8] SoCalGas provides gas service to customers in California and owns certain qualifying facilities (QFs) with a total of 1.6 megawatts (MW) of capacity. Pacific's subsidiaries also include various natural gas pipelines, specifically: Pacific Interstate Transmission Company, Pacific Interstate Offshore Pipeline Company, and Pacific Offshore Pipeline Company. Pacific's subsidiary, Pacific Energy, has direct and indirect ownership interests in certain QFs totaling 182 MW of capacity. However, the Applicants state that Pacific Energy intends to divest itself of 88.5 MW of QF capacity in order to maintain QF status under the Public Utility Regulatory Policies Act.

B. Description of the Corporate Realignment

The application states that the two holding companies, Enova and Pacific, would be combined under a newly created holding company, NewCo. [FN9] NewCo would own all of the

stock of Enova and Pacific and would be owned by Enova's and Pacific's stockholders. NewCo Enova Sub, a subsidiary of NewCo, would merge into Enova, with Enova as the surviving corporation. NewCo Pacific Sub, also a subsidiary of NewCo, would merge into Pacific, with Pacific surviving. All Enova and Pacific common stock would be converted into the right to receive NewCo common stock. Upon consummation of this transaction, Enova and Pacific would be wholly owned subsidiaries of NewCo. Enova, Pacific, SDG&E, and SoCalGas would continue their separate corporate existence and would continue to operate under their existing names.

The application further explains that Enova and Pacific have formed a joint venture that would engage in marketing natural gas and electricity. The application states that the joint venture would not make jurisdictional power sales until after consummation of the merger and after filing a separate application for, and receiving, sales authorization from the Commission.

C. Application for Approval under Section 203

The Applicants state that the proposed transaction satisfies the criteria set forth in the Merger Policy Statement. The Applicants state that the competitive screen analysis established in the Merger Policy Statement is not required in this case because the parties to the corporate realignment do not have facilities or sell relevant products in common geographic markets.

The Applicants further state that Pacific's role in sales and transportation of natural gas does not give rise to concerns related to the sale of electricity. The Applicants state that the Public Utilities Commission of the State of California (California Commission) imposes restrictions that prevent SoCalGas from operating in a discriminatory manner by either favoring SDG&E over competing generators in terms of service or pricing, or by providing market information to its affiliates that is not also provided to competing power sellers. Further, the Applicants state that SoCalGas has undertaken to post contemporaneously, and to offer to other similarly-situated non-affiliated shippers, any discounts it offers to SDG&E, and that Pacific and Enova have adopted a code of conduct that would forbid SoCalGas from providing sensitive market information to any marketing affiliate unless it simultaneously makes the information available to unaffiliated electric marketers.

The Applicants also assert that the corporate realignment will have no adverse effects upon competition in transmission since Pacific owns no electric transmission and SDG&E has an open access tariff. The Applicants also point out that SDG&E will turn over operational control of its transmission system to an Independent System Operator (ISO) under the California restructuring. The Applicants further assert that any effects on the retail market resulting from the corporate realignment would be reviewed by the California Commission. Nevertheless, the Applicants prepared an analysis of the competitive effects of the proposed corporate realignment in a portion of Orange County, California, where SDG&E's and SoCalGas' service territories overlap. The Applicants state that there is "scant fuel substitutability and little competition between the two fuels." Also, the Applicants assert that, with the advent of retail customer choice resulting from the current restructuring of the electric industry in California, "intrafuel competition will discipline the market more effectively than interfuel competition could."

The Applicants state that the proposed corporate realignment would have no effect on competition in electric generation markets. The Applicants state that the only generation owned by Pacific is an ownership interest in 182 MW of QFs. The Applicants state that Pacific will divest itself of some or all of its interests prior to consummation of the corporate realignment to the

extent necessary to maintain QF status under the Public Utility Regulatory Policies Act. Nevertheless, the Applicants assert that application of the competitive screen analysis to this aspect of the transaction indicates that there would be no increase of more than 16 points in the Herfindahl-Hirschman Index (HHI) for any destination market. The Applicants state that this shows there is no basis for concern in this regard.

The Applicants further explain that SDG&E is able to exercise horizontal market power within the San Diego Basin because its own units are needed to meet load under certain conditions due to transmission constraints into the Basin. However, the Applicants argue that the Commission need not be concerned about this matter for two reasons: (1) SDG&E has no wholesale customers within the San Diego Basin; and (2) this existing situation would not be affected by the proposed corporate realignment.

The Applicants also state that the proposed corporate realignment would have no adverse effect on rates because neither SDG&E nor Enova Energy has firm wholesale customers. The Applicants state that SDG&E's only wholesale sales are economy energy sales and short-term sales of capacity. Further, the Applicants state that SDG&E will be obligated, after commencement of the proposed California Power Exchange (PX or California PX), to bid all of the output of its fossil generation into the PX for a five-year period at variable costs and to rebate to customers any PX revenues for such generation exceeding variable costs. Since SDG&E's variable costs would not be affected by the proposed corporate realignment, the Applicants opine that the transaction would have no adverse effect on wholesale rates.

The Applicants also state that SDG&E has no firm transmission contracts for service through its system other than for short-term as- available service and mutual assistance short-term back-up transmission assignments. Any other transmission commitments involve interchange contracts, Western System Power Pool as-available commitments, or transmission under SDG&E's open access tariff. Nevertheless, the Applicants state that SDG&E will hold its future wholesale and transmission customers harmless from any increase in jurisdictional costs arising out of the transaction for at least five years after the corporate realignment is consummated. Also, the Applicants state that SDG&E would undertake the burden in any Commission rate case it files within five years after the consummation of the corporate realignment to show that its rates are not higher than they otherwise would have been absent the merger.

The Applicants assert that the proposed corporate realignment would have no effect on regulation since the transaction is subject to approval by the California Commission, and since a registered holding company would not be created as a result of the transaction.

II. Notice of Application, Interventions, Protests, and Answer

Notice of the Applicants' application in Docket No. EC97-12-000 was published in the Federal Register, with comments, protests, and interventions due on or before March 28, 1997. [FN10] Timely motions to intervene were filed by the California Industrial Group and the California Manufacturers Association, jointly; Electric Clearinghouse, Inc.; El Paso Natural Gas Company and Mojave Pipeline Company, jointly; International Brotherhood of Electrical Workers, Locals 18 and 47; KN Marketing, Inc.; Nutra Sweet Kelco Company; and Pan- Alberta Gas Ltd. The California Commission filed a notice of intervention. The above-listed motions and notice raise no substantive issues.

Pacific Gas and Electric Company (PG&E) and the City of San Diego (San Diego) filed

timely motions to intervene which take no position on whether the proposed disposition of facilities should be approved. However, San Diego raises certain issues for consideration which are noted in the following discussion. PG&E, while not stating a position regarding the requested approval, states that the Commission should consider the impact of the proposed corporate realignment on: (1) the competitiveness of electricity markets; (2) electric industry restructuring; (3) possible affiliate transaction issues that may arise; (4) existing transmission contracts, including the Pacific Intertie agreements; and (5) how the merged entity will interact with the ISO being proposed for California.

U.S. Generating Company (USGen), Imperial Irrigation District (Imperial Irrigation), Kern River Gas Transmission Company (Kern River), SoCal Edison, the Southern California Utility Power Pool (the Power Pool) [FN11] and the City of Vernon (Vernon) filed timely motions to intervene and requests for hearing regarding the competitive effect of the propose corporate realignment. The Southern California Public Power Authority (Public Power Authority) [FN12] filed a timely motion to intervene and a motion to consolidate the instant docket with Docket Nos. EL97-15-000 and EL97-21-000, stating that the three proceedings are integrated in issues and concerns such that their disposition must be consolidated to avoid redundant proceedings and litigation. Imperial, Kern River, the Power Pool, Public Power Authority, SoCal Edison, and Vernon also protest the application.

Intervenors [FN13] assert that the proposed corporate realignment would combine a company with monopoly power over interstate gas transportation release capacity to southern California and a monopoly in intrastate natural gas transportation and storage capacity in southern California, [FN14] with an electric utility in a position to exploit the opportunity to control the market-based price of electricity to be traded in the California PX. [FN15] Intervenors assert that the Applicants' control of essentially all natural gas pipelines in southern California, and the Applicants' control of interstate gas pipeline capacity entering southern California through the pipeline's capacity release mechanism, would allow the Applicants to manipulate the delivered price of natural gas to SDG&E's gas-fired generators and other competing gas-fired generators. Through such manipulations, the Applicants could: (1) force SDG&E's competitors to charge higher, anticompetitive prices for generation; [FN16] (2) discriminate in the degree of convenience, reliability, or flexibility of gas supply to SDG&E to the detriment of its competitors; [FN17] (3) act as a barrier to entry for competing electric generators; [FN18] and (4) raise the PX spot market price. [FN19]

Regarding the PX, Intervenors assert that a relevant market for the analysis of the potential anticompetitive effects of the proposed corporate transaction is the market for gas-fired generation in southern California, since gas-fired generation within the state is expected to set the California PX hourly spot price during the majority of hours. Intervenors assert that since the PX hourly spot bids would reflect the higher delivered gas costs paid by SDG&E's competitors (assuming SoCalGas favored SDG&E over other customers), the spot price would be artificially increased. Since SDG&E arguably would not have to pay the higher gas costs, the Intervenors assert that SDG&E's bid into the PX would be lower than that of its competitors, and thus SDG&E would profit from the higher spot price resulting from SoCalGas' manipulations of delivered gas prices to SDG&E's competitors. [FN20]

Intervenors state that the Merger Policy Statement is directed primarily toward horizontal mergers (or other forms of corporate realignment) and that the Merger Policy Statement adopted the Department of Justice and Federal Trade Commission Horizontal Merger Guidelines [FN21]

as the analytical framework for evaluating proposed corporate realignments. Intervenors state that the instant proposal raises vertical merger issues (i.e., the merged entities' ability to manipulate delivered gas costs to gas-fired generators that compete with SDG&E's gas-fired generators), in addition to horizontal issues, and suggest that the vertical analytical framework outlined in the Department of Justice 1984 Merger Guidelines, [FN22] should be applied rather than the 1992 Horizontal Merger Guidelines adopted in the Merger Policy Statement as the basis for analyzing the proposed corporate realignment. [FN23] San Diego suggests that the Applicants be required to submit a competitive screen analysis in the form of computer simulations.

Intervenors also express concern that the SoCalGas could share real-time knowledge of the gas usage and costs of SDG&E's generation competitors, as well as other types of customer information, that SDG&E would be able to use to its competitive advantage. Public Power Authority suggests imposition of standards of conduct and restrictions on affiliate abuse to alleviate this concern. [FN24] Similarly, the combination of managerial control over electric and gas subsidiaries operating in the same geographic market region has been raised as a concern. [FN25]

Further, Intervenors argue that the Applicants will be able to manipulate gas supply in order to evade rate regulation. [FN26] Intervenors state that by "assigning" higher priced gas to SDG&E for retail ratemaking purposes, the Applicants could pass these increases through to downstream ratepayers, collecting the increased profits despite retail rate regulation.

Intervenors also raise concerns regarding the Applicants' ability to use SoCalGas' natural gas transportation and storage services to adversely affect natural gas competition in southern California. For example, Intervenors argue that the Applicants will be able to impose short-term and long-term adverse effects on competition in the transportation of natural gas in southern California, and limit expansion of current pipeline capacity into southern California. [FN27] Kern River and Power Pool state that this situation would be alleviated to some extent if the Commission required termination of SoCalGas' existing option to acquire Kern Rivers' interstate pipeline facilities located in California. Intervenors also assert that the proposed transaction would serve to eliminate SDG&E as a potential competitor of SoCalGas, or, alternatively, as a direct customer and anchor tenant of any other pipeline that might seek to enter the San Diego market. [FN28]

USGen also states that SDG&E holds the only available pollution allowances under the regulations of the San Diego Air Pollution Control District for oxides of nitrogen (NO/x\) in the San Diego Basin for boilers and gas turbines used for the generation of electric power in the San Diego area. USGen states that any new entrant into the electric generating market, such as USGen, must obtain NO/x\ allowances from SDG&E, and that SDG&E is under no requirement to make these allowances available to others; USGen concludes that this creates a barrier to entry that, along with control of fuel access, should be investigated through hearing.

Intervenors raise concerns regarding Energy Pacific, the joint venture created by Enova and Pacific. [FN29] Intervenors state that the creation of Energy Pacific encompasses a de facto merger within the Commission's section 203 jurisdiction. Further, Intervenors intimate that Energy Pacific is engaging in jurisdictional activities (i.e., wholesale power sales) without proper authorization from the Commission. Intervenors request that the Commission impose restrictions on the activities of Energy Pacific. Intervenors also argue that Energy Pacific should be precluded from having a financial interest in any gas-fired unit served by SoCalGas or own or contract to supply gas to any such unit, and that Energy Pacific should be precluded from participating in any

futures markets that involve southern California power generation.

Intervenors assert that an important product market that would be affected by the proposed corporate realignment is the energy services market, and that the Commission should either include the energy services market in its market power evaluations or investigate this issue at hearing. [FN30]

Intervenors request that the Commission impose conditions that would: (1) ensure that the merged company and its subsidiaries cannot favor their own gas transportation requirements over the gas transportation requirements of competitors; (2) provide transparency with respect to supply, availability, and price of gas transportation services; and (3) increase available interstate gas transportation capacity that is not controlled by SoCalGas. [FN31]

Intervenors also ask that the merging entities be required to offer discounts, capacity, contracts, or other information for interstate gas transportation on a non-discriminatory basis. Power Pool states that the Applicants' commitment to offer gas transportation capacity discounts to all "similarly situated" customers should not be used to discriminate between wholesale customers (such as SDG&E) and gas-fired generators (retail customers). Further, it is suggested that the Commission require that the merging entities offer for sale at cost any gas transportation capacity that is not required to meet their own retail native gas distribution load. [FN32] Vernon asks that the Commission condition any approval of the proposed transaction on a requirement that competition in gas transmission in southern California not be diminished.

Power Pool states that SDG&E's gas operations should be merged into SoCalGas so that all California generators would be served under uniform tariff provisions, cost allocation principles, and rates. Power Pool also states that SoCalGas should be required to hold an open season permitting customers, and possibly others, to acquire an undivided interest in SoCalGas transmission and associated storage facilities.

Power Pool also suggests that the Commission order the merging entities to separate their interstate gas transportation and gas marketing operations to ensure that the Applicants have no opportunity to favor their own gas marketing efforts over those of their competitors, and impose standards of conduct which would preclude any communications regarding the availability, or price, terms, or conditions of gas transportation services between the merging parties and their affiliates' gas transportation operations and marketing personnel.

Intervenors also request that SoCalGas be required to divest itself of its gas transmission and storage facilities and that SDG&E be required to divest itself of its gas distribution facilities, or that SDG&E and SoCalGas be required to divest themselves of all of their gas-fired generators and SoCalGas be required to divest itself of all of its contract and other rights in interstate pipelines. [FN33] Intervenors assert that such divestiture would increase competition by providing access to facilities necessary for marketers or new market entrants to provide competitive services, and that barring such divestiture, new entrants would be unable to enter the market. Intervenors also argue that SoCalGas' control of interstate gas transportation facilities and related capacity rights on interstate pipelines serving the relevant markets is sufficient to require the suggested divestiture of facilities.

On April 14, 1997, the Applicants filed an answer to various motions, arguing (1) that the Intervenors fail to state adequate grounds for an evidentiary hearing; (2) that the claims that Energy Pacific represents a de facto merger are baseless; and (3) that the Intervenors' requests for consolidation, a revised market power analysis, and a hearing on NO/x\ issues should be denied.

The Applicants assert that Intervenors have failed to state adequate grounds for setting

this application for hearing to investigate the proposed corporate realignment's potential adverse effects on competition. The Applicants state that any discounts in transportation rates to SDG&E could not be targeted to SDG&E's electric generation function, as distinct from SDG&E's own core and noncore customers, absent specific approval from the California Commission; that SoCalGas has committed in a California Commission proceeding to abide by the Commission's order No. 497 [FN34] restrictions on transportation discounts to affiliates; that SoCalGas had proposed to the California Commission strict limitations on the transfer of valuable customer information to affiliated entities; and that SoCalGas would apply the same strictures to conveyance of customer information to SDG&E's electric-merchant function. The Applicants also state that with the price cap imposed by the California Legislature in Assembly Bill 1890 any increases in the PX price for electricity would diminish SDG&E's ability to recover stranded costs; therefore, the Applicants state that there would be a strong disincentive to increase PX prices as long as the price cap is in effect.

The Applicants further assert that all of SDG&E's fossil generators are must run, and that the Applicants are seeking ISO concurrence on that issue. The Applicants also state that any of SDG&E's gas-fired capacity not covered by a must-run contract that assures recovery of fixed operating and maintenance costs would be unprofitable at PX prices and would be shut down. Therefore, the Applicants state that any generation deemed to be must run would almost certainly be placed under one of the two versions of the ISO's must-run contract (the "B" or "C" contract) under which the Applicants could not benefit from a higher PX price. [FN35]

The Applicants assert that the vertical arguments made by Intervenors relate to matters within the California Commission's jurisdiction, and that these issues are currently being addressed by the California Commission. Aside from their filing with the California Commission, the Applicants report that the California Commission has recently instituted a rulemaking and companion investigation "to establish standards of conduct governing relationships between California's natural gas local distribution companies and electric utilities and their affiliated, unregulated entities providing energy and energy-related services, and to determine whether the utilities should be required to have their nonregulated or potentially competitive activities conducted by their affiliate companies." [FN36] The Applicants also relate that the California Commission intends to "coordinate our consideration of any affiliate transaction rules in the PE/Enova [California Commission] docket." [FN37] The Applicants also state that in its 1997 Business Plan, the California Commission has indicated its intention to take actions to "remove alleged market distortion in transportation and to ensure, equal, adequate access to market information." [FN38]

The Applicants also refute the allegations that the merged company can increase the border price of gas flowing into California by manipulating capacity release practices on an interstate pipeline. The Applicants state that this issue is before the Commission in a complaint proceeding in Docket No. RP97-284-000. [FN39] The Applicants further state that the Interstate Transition Cost Surcharge, which is the means through which it is alleged that the Applicants could recover from SoCalGas' customers the demand charges for any unused pipeline capacity that is not recovered in the capacity release market is a matter of state regulation, specifically the manner in which the California Commission allocates excess capacity costs between core and noncore classes.

III. Discussion

A. Procedural Matters

Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, [FN40] the timely, unopposed motions to intervene and notice of intervention serve to make the following parties in Docket No. EC97-12-000: the California Industrial Group and the California Manufacturers Association, jointly; Electric Clearinghouse, Inc.; El Paso Natural Gas Company and Mojave Pipeline Company, jointly; International Brotherhood of Electrical Workers; KN Marketing, Inc.; Nutra Sweet Kelco Company; Pan-Alberta Gas Ltd.; the California Commission; PG&E; San Diego; USGen; Imperial Irrigation; Kern River; SoCal Edison; Public Power Authority; the Power Pool; and Vernon. Pursuant to Rule 213(a)(2), [FN41] the Commission will not consider those aspects of the answer filed by the Applicants that respond to protests.

Public Power Authority filed a motion to consolidate the instant docket with Docket Nos. EL97-15-000 and EL97-21-000, stating that the three proceedings are integrated in issues and concerns such that their disposition must be consolidated to avoid redundant proceedings and litigation. However, in light of the fact that Docket No. EL97-21-000 is being dismissed as moot, and that any remaining issues raised in Docket No. EL97-15-000 (that were not address in the April 30 order) are being addressed in the context of Docket No. EC97-12- 000, consolidation is not required.

B. Background

1. Statutory Criteria

As noted, on April 30, 1997, the Commission issued an order which determined that the corporate realignment of Enova and Pacific would result in the disposition (via a transfer of control) of the jurisdictional facilities of SDG&E and Enova Energy which requires Commission authorization under section 203 of the FPA. Section 203 reads in pertinent part:

(a) No utility shall sell, lease, or otherwise dispose of . . . its facilities subject to the jurisdiction of the Commission . . . or by any means whatsoever, directly or indirectly, merge or consolidate such facilities or any part thereof with those of any other person, or purchase, acquire, or take any security of any other public utility, without first having secured an order of the Commission authorizing it to do so. . . . After notice and opportunity for hearing, if the Commission finds that the proposed disposition, consolidation, acquisition, or control will be consistent with the public interest, it shall approve the same.

(b) The Commission may grant any application for an order under this section in whole or in part and upon such terms and conditions as it finds necessary or appropriate to secure the maintenance of adequate service and the coordination in the public interest of facilities subject to the jurisdiction of the Commission. The Commission may from time to time for good cause shown make such orders supplemental to any order made under this section as it may find necessary or appropriate.

2. Merger Policy Statement

The Commission's Merger Policy Statement sets forth the criteria and considerations for

evaluating applications under section 203. [FN42] The Commission examines three factors in analyzing whether a proposed transaction is consistent with the public interest: the effect on competition, the effect on rates, and the effect on regulation. The Commission also recognized:

[A]s the industry evolves to meet the challenges of a more competitive marketplace, new types of mergers and consolidations will be proposed. For example, in addition to mergers between public utilities, market participants already are considering restructuring options that include mergers between public utilities and natural gas distributors and pipelines, consolidations of electric power marketer businesses with other electric or gas marketer businesses, and combinations of jurisdictional electric operations with other energy services. (Footnote omitted.) As a consequence, our merger policy must be sufficiently flexible to accommodate the review of these new and innovative business combinations that are subject to our jurisdiction under section 203 and to determine their implications on competitive markets. We believe that the analytical framework articulated in this Policy Statement provides a suitable methodology for determining whether such mergers will be consistent with the public interest. [FN43]

C. Evaluation of the Proposed Disposition of Facilities

1. The Effect on Competition: Vertical Market Power

Unlike horizontal mergers, which eliminate a seller in the market and therefore increase concentration, vertical mergers do not involve firms competing in the same product market and therefore do not increase concentration in a single product market. While vertical mergers can result in efficiencies from integrating input and output operations, they can also increase the merged firm's incentives to use its market position in one segment of its vertically integrated business to adversely affect competition in a related segment of its business. Any benefits arising from a vertical merger are necessarily weighed against the competitive harm the merger is likely to cause. As discussed below, the proposed transaction before us raises vertical market power concerns because it would consolidate the intrastate gas operations of SoCalGas [FN44] with the electric operations of SDG&E. SoCalGas delivers natural gas not only to SDG&E's gas-fired generators but to virtually all gas-fired generators in southern California that compete with SDG&E in the wholesale electricity market.

The Commission has evaluated the competitive concerns raised by the proposed transaction within the context of a framework that is consistent with our Merger Policy Statement. This framework is informed by the Department of Justice's (DOJ's) approach to evaluating the competitive effects of vertical mergers. [FN45] However, although the same general factors that govern our analysis under the Merger Policy Statement apply here, the Merger Policy Statement originally was crafted to apply primarily to horizontal mergers. The Commission's approach to evaluating the competitive effects of vertical mergers is evolving as the Commission gains more experience with the convergence of gas and electric utilities. Additional experience will undoubtedly bring new insights to bear in refining our analysis.

Vertical mergers raise three types of general competitive concerns: (1) denying rival firms access to inputs or raising their input costs; [FN46] (2) increased anticompetitive coordination; and (3) regulatory evasion. These potential actions can adversely affect competition through higher prices or reduced output in the downstream output market.

Applicants performed no analysis of the vertical effects of the proposed transaction.

However, based on our own evaluation of vertical concerns, we believe that the proposed transaction poses the first two of the competitive problems discussed above: (1) foreclosure/raising rivals' costs; and (2) increased anticompetitive coordination. On the facts of this particular case, the Commission views regulatory evasion as largely a retail issue that does not require additional investigation by this Commission. [FN47]

For a vertical merger to have a potentially adverse effect on competition in the wholesale electricity market, resulting in lower output or higher prices, it is necessary for the upstream delivered gas and downstream wholesale power markets to be conducive to the exercise of market power after the merger. A vertical merger is unlikely to have an adverse effect on competition unless the merged company has the incentive and ability to affect prices or quantities in the upstream and downstream markets.

As a starting point to evaluating the competitive effects of the proposed transaction, we have used the basic principles laid out in the 1992 Horizontal Merger Guidelines and adopted in the Commission's Merger Policy Statement, applied to both the upstream delivered gas and downstream wholesale power markets to determine whether those markets are conducive to the exercise of market power after the merger. The Commission views this approach as the correct framework in which to evaluate the competitive effects of vertical mergers. As such, we have: (1) defined relevant product and geographic markets; (2) examined the competitive circumstances in the upstream market (here, delivered gas) and the effect of entry into that market; (3) examined the competitive circumstances in the downstream market (here, wholesale electricity) and the effect of entry into that market; and (4) considered, based on the circumstances in the upstream delivered gas market and downstream wholesale electricity market, whether the net effect of the merger would likely be significantly higher wholesale electricity prices.

Both the Applicants and Intervenors address the effects of the proposed transaction assuming that the California PX defines the wholesale power market. However, our concerns are not limited to a market arrangement consisting of a PX in California. In large part, our analysis regarding the competitive effects of the proposed transaction applies equally to a bilateral or PX market arrangement. Where our analysis here differs depending on whether a PX or bilateral market arrangement is assumed, we specifically note that fact.

a. Relevant Markets

i. Product Market

As a first step, it is necessary to define relevant product and geographic markets. In the upstream (or input) market, the product is delivered gas.

With respect to the downstream market, the Applicants point out that SDG&E is capacity-short at least through the rest of the decade and, as such, only participates in the energy markets. The Commission agrees that it is reasonable to consider energy the relevant product for the purposes of analyzing the competitive effects of the proposed transaction in the downstream wholesale power market. As discussed below, this conclusion applies under any market arrangement, i.e., either the current, bilateral trading arrangement or the planned PX auction for spot energy into which SDG&E will sell all its generation.

ii. Geographic Market

We conclude that southern California is the relevant geographic market in both the upstream and downstream markets. SDG&E and SoCalGas have operations in a common geographic area - southern California. This area contains many of the potential wholesale customers who may be affected by the proposed merger, i.e., those customers who can purchase from the merged company and its competitors. Under the proposed PX electricity market arrangement, the relevant geographic market is defined as California, since SDG&E, SoCal Edison and PG&E are required to bid all of their generation into the PX. However, Intervenors argue that transmission constraints between northern and southern California define southern California as the relevant market for some of the year. Together, these factors suggest that southern California, therefore, is a reasonable starting point for defining the relevant geographic market.

Wholesale power customers in the relevant geographic market, however, could potentially purchase from entities outside southern California, if it were physically possible and economic to do so. Entities outside California may also bid into the proposed PX. As discussed more fully in the Merger Policy Statement, transmission rates and transmission constraints play an important role in determining whether such energy would be economic under the delivered price test. Applicants have not performed a delivered price test. Nevertheless, the Commission notes that while southern California utilities historically have purchased from regions outside California, including the desert Southwest, Nevada, Utah/Colorado, the Pacific Northwest and northern California, such imports are limited by available transfer capability on the associated transmission ties and transmission constraints.

b. Upstream Delivered Gas Market

i. Competitive Conditions

In southern California, SoCalGas is the dominant supplier of delivered gas services to gas-fired generators. These services are regulated by the California Commission. Intervenor City of Vernon estimates, and applicants do not refute, that SoCalGas delivers gas to 96% of gas-fired steam and combined cycle generators (excluding qualifying facilities) in southern California. As a result, gas-fired generators competing with the merged company have few, if any, alternatives to SoCalGas for delivered gas services. Additionally, SoCalGas' near-monopoly on delivered gas services in southern California means that it transacts with virtually all gas-fired generators in southern California and has access to potentially sensitive market information regarding those competing generators' costs and fuel usage.

Under these circumstances in the delivered gas market, the Commission concludes that the merged company may use its market power to restrict competing generators' access to delivered gas services and to raise such generators' input costs, as discussed below and further summarized in section e.

ii. Entry

The Merger Policy Statement discusses the importance of entry into markets affected by potential mergers. If entry by competitors is timely, likely, and sufficient, this can effectively

discourage the merged company's strategy of raising competing generators' input costs. There is nothing in this record to support a conclusion that entry is easy in the upstream delivered gas market. For example, Intervenors argue that the merger may reduce potential competition, and therefore entry, in the delivered gas market by eliminating SDG&E as a potential "anchor tenant" of a new pipeline entrant. Perhaps more important, SoCalGas is the single, largest regulated gas distributor in southern California. By virtue of its regulated franchise, it controls the distribution and storage infrastructure in southern California. Moreover, a competing distributor or bypass pipeline would have to be approved by the California Commission. In the Commission's view, this would not occur, if at all, in a time frame which would effectively discourage the merged company from raising competing generator's input costs.

c. Downstream Wholesale Electricity Market

i. Competitive Conditions and Effects of Imports

As discussed earlier, the Commission recognizes that a broader definition of the relevant geographic market would include imports from various regions outside southern California. However, a precise definition of the geographic market is not possible on this record because the Applicants did not prepare a delivered price analysis. Nevertheless, in assessing the effect of the merger on competition in the downstream wholesale power market, the Commission has considered two cases, one with maximum imports and one without any imports. We believe that the actual effect on competition likely will be between these two extremes and note that even under the "import" case generators served by SoCalGas still represent a significant share of the market.

Presently, gas-fired steam and combined cycle generation account for the preponderance of generation on SDG&E's system and the systems of other southern California utilities. [FN48] As such, this generation=particularly gas-fired steam generation =is a major determinant of the market price for energy. The Commission notes that under the proposed PX market arrangement, gas-fired generation in southern California is more likely than not to set the market price for spot energy in the PX for much of the year. As suggested in our Merger Policy Statement, a reasonable measure to evaluate conditions in energy markets is economic capacity, that is, all capacity whose variable costs are no more than 5% above the market price.

Under a bilateral market arrangement, wholesale power customers' range of alternative economic suppliers in the southern California geographic market is largely limited to energy from generating capacity competitive with gas-fired steam capacity. Included in this economic capacity would be capacity whose variable cost is equal to or less than 5% above the cost of gas-fired steam generation. The Commission's analysis shows that almost 60% of generating capacity that can potentially supply energy from economic capacity is served by SoCalGas. Generation served by SoCalGas, therefore, has a significant presence in the wholesale electricity market in southern California.

An indicator of the ability of wholesale power purchasers to turn to capacity not served by SoCalGas would be a statistic analogous to an HHI. Ideally, such a statistic would be calculated on the basis of economic capacity served by SoCalGas and economic capacity not served by SoCalGas. However, given the absence of a delivered price analysis, we have relied upon installed gas- fired capacity in our analysis. Assuming no imports, the southern California

wholesale electricity market would be characterized as "highly" concentrated (i.e., a concentration statistic substantially above 1800). [FN49] This statistic indicates that before and after the merger, wholesale power customers would have relatively few alternatives within southern California to capacity served by SoCalGas. Under these circumstances, higher delivered gas costs to generators served by SoCalGas would likely result in higher wholesale electricity prices.

Similarly, under a PX market arrangement, since gas-fired steam generation is expected to set the market price and SoCalGas controls gas deliveries to almost all such generation, there is the potential for higher wholesale electricity prices.

Under a bilateral market arrangement, the only effective discipline on higher wholesale electricity prices resulting from the merger would come from energy from economic capacity not served by SoCalGas. This energy could be imported from outside southern California. Similarly, the only effective discipline on wholesale electricity prices under a PX market arrangement would come from economic capacity bidding into the PX from outside southern California. In both the bilateral and PX cases, transmission prices, simultaneous import limitations and transmission constraints would all materially affect the amount of capacity that could supply energy into southern California. If this energy is not available at prices close to the market price for energy in southern California, those suppliers could not discipline a potential price increase brought about by the merged company.

Even assuming maximum imports into southern California, generation served by SoCalGas still accounts for over 30% of all capacity in the market. Under this assumption, the relevant market would be characterized as "moderately" concentrated (i.e., concentration statistic above 1000 and below 1800).

Based on the foregoing, the Commission believes that even after accounting for imports into the relevant geographic market, wholesale power customers would still be limited in their ability to switch to suppliers with capacity not served by SoCalGas. As such, the effect of the merger would be the potential increase in wholesale electricity prices.

ii. Entry

As noted earlier, the Merger Policy Statement discusses the role of entry in discouraging price increases in markets affected by potential mergers. If entry into the downstream market were timely, likely, and sufficient, it could effectively discourage higher wholesale power prices resulting from the merger. However, such entry does not appear to be likely in this case. The effect of the proposed merger could be to discourage competitive entry into the wholesale power market in southern California, since higher delivered gas costs would make new entry in that market difficult and unattractive. In particular, economic capacity, i.e., gas-fired steam and combined cycle plants, could be discouraged from entering the market. As aesult of these factors, the Commission believes that the effect of the merger would be to potentially increase wholesale electricity prices.

d. Net Effect of the Merger

On the whole, circumstances in the upstream delivered gas and downstream wholesale electricity markets indicate that the merged company could potentially raise input costs to competing generators, therefore resulting in higher wholesale electric prices. Under the

circumstances of this case, the Commission believes that the proportion of economic capacity (not including SDG&E) served by SoCalGas is still high enough to effectively limit wholesale power customers' alternatives to economic capacity not served by SoCalGas.

e. Mitigation Remedies

Based on the above analysis, we have determined that, without appropriate regulatory safeguards, SDG&E and SoCalGas could impair the marketability of power that is produced by competing gas-fired generators and sold in interstate wholesale power markets. In summary, we have determined that SoCalGas could potentially:

(1) use competitive market information (such as gas usage, service requirements of competing generators, advance knowledge of competitors' projected fuel consumption, patterns, and costs) to manipulate costs and service to SDG&E's advantage;

(2) offer transportation discounts to SDG&E that are not offered or made available to competing generators;

(3) withhold or deny access to pipeline capacity to competing generators;

(4) offer service contracts providing SoCalGas with unilateral and arbitrary control over pipeline access, delivery points, etc.;

(5) manipulate storage injection schedules to effectively withhold pipeline capacity from competing generators at strategic times and thereby drive up wholesale electricity prices;

(6) force competing generators to renominate volumes to other delivery points or purchase additional firm pipeline capacity by citing the existence of difficult to verify operational constraints on SoCalGas' system; and/or

(7) manipulate the terms and conditions of intrastate gas tariffs to SDG&E's advantage by, for example, enforcing the letter of SoCalGas' tariff when dealing with competing generators while enforcing the terms of the tariff less rigorously when dealing with SDG&E.

Such actions could discourage entry and raise competing generators' costs and/or limit their generation output, and, consequently, raise electricity prices in interstate wholesale power markets.

According to the Applicants, regulation over intrastate pipelines by the California Commission combined with the additional commitments made by the Applicants to the California Commission provide sufficient safeguards to alleviate any vertical market power concerns. For example, the Applicants have committed to comply with the requirements of this Commission's Order No. 497 with respect to SoCalGas' sales of transportation in intrastate gas markets. [FN50] The regulations promulgated under Order No. 497 [FN51] require that any interstate natural gas pipeline that has gas marketing or brokering affiliates and that transports [FN52] gas for others conform to a code of conduct that requires non-discriminatory treatment of the same or similarly situated persons, as set out in 18 C.F.R. s 161.3(a) through (k).

The Applicants also state that the California Public Utilities Code prohibits public utilities from granting any preference or advantage to any corporation or person or subjecting any corporation or person to any prejudice or disadvantage, and that the transportation tariffs for California gas utilities prohibit "unduly discriminatory" transportation rates to any particular transportation customer. [FN53] The Applicants also state that SoCalGas has an electronic bulletin board, called "GasSelect," and that SoCalGas would provide the type of posting required by Order No. 497 if it provided any discount to SDG&E. [FN54]

The Applicants also state that, in connection with any power marketing affiliate of either SDG&E or SoCalGas, a standard of conduct has been proposed to the California Commission which provides as follows:

Valuable customer information, such as customer lists, billing records, or usage patterns transferred, directly or indirectly, from Utilities to any non-utility affiliate shall be made available to the public subject to the terms and conditions under which such data was (sic) made available to the non-utility affiliate. This condition will not apply to such information that is proprietary to and in the possession of a business unit of Utilities at the time it is initially separated as a non-utility affiliate.

The Applicants state that this standard of conduct would ensure that any power marketing affiliate of SoCalGas would not receive confidential, market-sensitive information obtained by SoCalGas by virtue of its position as a gas transporter, unless such information is shared with unaffiliated power marketers. The Applicants further state that this same restriction would apply to any employee or group of employees employed by SDG&E, or any other subsidiary of the merged entity, that engages in a merchant sales function with respect to electricity. The Applicants add that this would allow Enova and Pacific to consolidate functions such as information systems in general and billing in particular, while ensuring that any employees of SDG&E who are involved in the sale or trading of power do not obtain access to information from SoCalGas that could provide an advantage in electricmarkets. [FN55]

We believe that the most direct and effective way to address the potential that SoCalGas will unduly discriminate in favor of downstream affiliates, and thereby put SDG&E's competitors at a disadvantage, is through specific mitigation requirements that would: preclude discriminatory conduct by SoCalGas; ensure transparency of transactions involving sales and purchase of gas transportation services; and require separation of SDG&E's purchases of transportation service from SoCalGas for gas that would be used for its electric generators. We discuss specific mitigation requirements in detail below.

While this Commission has the authority under FPA section 203 to determine what remedies are necessary to mitigate market power concerns and to condition our approval of a transaction on those conditions being implemented, in this particular case effectuation of most of the remedies discussed below is within the jurisdiction of the California Commission. Specifically, acceptance and enforcement of the Applicants' commitments to non-discriminatory treatment by SoCalGas and transparency of SoCalGas transactions are matters within the jurisdiction of the California Commission. As a natural gas distribution company, as well as a Hinshaw pipeline, SoCalGas falls within the regulatory oversight of the California Commission, and matters relating to the terms and conditions of SoCalGas' intrastate gas transportation service must be addressed and enforced by that commission. On the other hand, other remedies discussed below (those imposed directly on the public utilities in the proposed transaction, SDG&E and Enova Energy) are within this Commission's jurisdiction to effectuate. [FN56]

We conclude that if the Applicants commit to the remedial mechanisms discussed below, and if the California Commission in its ongoing merger proceeding accepts those remedial mechanisms discussed below that are within its jurisdiction, the proposed transaction will be consistent with the public interest. We therefore will approve the proposed disposition of facilities on the condition that the following remedies are adopted. In the interest of comity, we will defer to the California Commission in specifying the terms by which remedies within its jurisdiction are to be accomplished.

First, it will be necessary to ensure that SoCalGas and SDG&E do not inappropriately share market information. We have frequently discussed our concerns regarding the sharing of market information in market-based rate cases, and have routinely imposed related restrictions through the pertinent public utility's code of conduct. [FN57] The same concerns arise here. Therefore, to satisfy our concerns in this regard, SDG&E would need to file a code of conduct, and Enova Energy would need to revise its code of conduct, to comport with the restrictions we require in codes of conduct for market-based rate schedules.

Second, with regard to the commitments offered to the California Commission by the Applicants, we conclude that if the Order No. 497 restrictions were applied to SoCalGas, and if the focus of the restrictions were expanded, this would alleviate several concerns. The Order No. 497 regulations are directed toward abuses between natural gas pipelines and their affiliated marketers. Here, we are concerned not just with the potential for abuse between SoCalGas and affiliated marketers (such as Enova Energy), but also with the potential for abuse between any combination of the energy companies that would be affiliated under the proposed transaction=particularly abuse between SoCalGas and SDG&E (a non-marketer). Therefore, the Applicants would need to revise their commitment so that the restrictions and requirements would be applicable to the corporate family as a whole, and the California Commission would need to accept and enforce application of the requirements to SoCalGas.

Third, in order to safeguard against discriminatory treatment, SoCalGas' GasSelect EBB must be an interactive same-time reservation and information system for its gas transportation service, especially with respect to service for gas-fired generation, and the California Commission would need to accept and enforce application of this requirement to SoCalGas. Additionally, SDG&E and Enova Energy must separate the purchases they make from SoCalGas (or any affiliate of SoCalGas) of transportation of gas that is used in electric gas- fired facilities used for wholesale sales; in other words, they must make such purchases separate from other delivered gas purchases (e.g., gas that is resold to retail customers) and they must make such purchases on SoCalGas' GasSelect EBB under the same terms and conditions as SoCalGas' non-affiliated gas-fired generation customers. Also, SoCalGas must publicize in advance on the GasSelect EBB its planned use of pipeline capacity to fill storage.

As discussed above, acceptance and enforcement by the California Commission of remedies within its jurisdiction are of paramount importance. We expect that the California Commission will at a minimum adopt the mechanisms discussed above to preclude SoCalGas from manipulating wholesale power markets through discriminatory treatment of other competitors. [FN58] We direct the Applicants to file proposed mitigation measures with us no later than 30 days after the California Commission issues its merger decision in Application 96- 10-038. If there is any material deviation from the remedies described above, we will determine if the deviations are acceptable. [FN59] We note that the California Commission's current anticipated decision date is March 1998. If this timetable is delayed, the Applicants should inform us of the status of the California proceeding as soon as possible, and we will at that time determine whether other action, if any, is appropriate.

2. The Effect on Competition: Horizontal Market Power

The proposed merger would potentially eliminate an electric generation competitor by consolidating generation owned and operated by SDG&E with ownership interests in QFs held by

Pacific. The Applicants contend that the consolidation of generation would have no adverse impact on competition. The application shows that change in concentration in the smallest possible geographic market=southern California=resulting from the consolidation of Pacific's QF generation and SDG&E's generation is de minimis. [FN60] We agree, and note that no intervenor has raised concerns to the contrary.

The proposed merger would also consolidate retail gas service provided by SoCalGas and retail electricity service provided by SDG&E in the southern part of Orange County, California, where SoCalGas' and SDG&E's service territories overlap. This could potentially eliminate a competitor to the extent that gas and electricity compete in end-use energy services. Several intervenors voice concern about this possible effect of the proposed merger. We note that the California Commission, which also has jurisdiction over this transaction, can adequately address this issue and has not requested our assistance in this regard. [FN61]

3. The Effect on Rates

The Merger Policy Statement explains that the protection of wholesale ratepayers and transmission customers is the Commission's primary concern regarding the effects of a section 203 proposal on rates. [FN62] As stated earlier, the Applicants state that the proposed corporate realignment would have no adverse effect on rates because neither SDG&E nor Enova Energy has firm wholesale customers; instead, SDG&E's only wholesale sales are economy energy sales and short-term sales of capacity. The Applicants also state that SDG&E has no firm transmission contracts for service through its system other than for short-term as-available service and mutual assistance short-term back-up transmission assignments. The Applicants state that any other transmission commitments involve interchange contracts, Western System Power Pool as- available commitments, or transmission under SDG&E's open access tariff. In any event, the Applicants state that SDG&E will hold its future wholesale and transmission customers harmless from any increase in jurisdictional costs arising out of the proposed transaction for at least five years after the corporate realignment is consummated. The Applicants also state that SDG&E would undertake the burden, in any Commission rate case it files within five years after the consummation of the corporate realignment, to show that its rates are not higher than they otherwise would have been absent the merger. The Applicants' hold harmless provision and commitment to accept the burden of proof in any future related rate case should adequately protect ratepayers from the recovery of merger-related costs, particularly given the types of wholesale transactions in which SDG&E engages.

Intervenors contend that the Applicants' plan to consolidate the gas purchase portfolios of SoCalGas' sales customers and SDG&E's customers would provide SoCalGas the opportunity to "assign" higher priced gas supplies to SDG&E; the Applicants then could pass these increases through to retail ratepayers, collecting the increased profits and evading rate regulation. Except as this issue affects competition in wholesale power markets, which is being considered as discussed above, this issue is squarely a retail ratemaking matter more appropriately addressed by the California Commission. Therefore, we will not pursue the issue further.

4. The Effect on Regulation

The Merger Policy Statement discusses the Commission's concerns relating to (1)

creation of a regulatory gap as a consequence of a corporate realignment, or (2) shifts of regulatory authority between the Commission and state commissions or the Securities and Exchange Commission (SEC). [FN63] However, since it is anticipated that the newly-formed holding company will be granted an exemption under section 3(c) of PUHCA, the corporate realignment will not affect the Commission's jurisdiction vis-a-vis the SEC. Also, the California Commission has not raised concerns regarding impairment of its regulatory authority and will be able to approve or disapprove the merger. Therefore, regulatory authority would not be impaired by virtue of the proposed disposition of facilities.

The Commission orders:

(A) SoCal Edison's complaint in Docket No. EL97-21-000 is hereby dismissed as moot.

(B) The motion to consolidate filed by Public Power Authority in Docket No. EC97-12-000 is denied.

(C) The Applicants' proposed disposition of facilities is conditionally approved, as discussed in the body of this order.

FN1 16 U.S.C. s 824b (1994).

FN2 15 U.S.C. s 79c(a)(1) (1994).

FN3 Enova Energy, Inc., 76 FERC P 61,242 (1996).

FN4 Enova Corporation and Pacific Enterprises, 79 FERC P 61,107 (1997).

FN5 SoCal Edison raised various anticompetitive concerns in its complaint that are repeated in its intervention in Docket No. EC97-12-000, and, thus, are addressed in this proceeding.

FN6 The creation of Enova was approved by the Commission two years ago, whereupon Enova became the holder of all of SDG&E's common stock and SDG&E's common stockholders became the stockholders of Enova. San Diego Gas & Electric Company, 70 FERC P 62,118 (1995).

FN7 76 FERC P 61,242 (1996).

FN8 As noted in the April 30 order, Pacific has another subsidiary, Ensource, that was a power marketer authorized to sell power at market-based rates. However, on December 6, 1996, Ensource filed a notice of cancellation of its market-based rate schedule, which was accepted for filing by order issued January 29, 1997. See Ensource, 78 FERC P 61,064 (1997).

FN9 The Agreement and Plan of Merger and Reorganization submitted with the application does not refer to NewCo, but instead refers to the new holding company as Mineral Energy Company. NewCo Enova Sub and NewCo Pacific Sub are referred to as G Mineral Energy Sub and B Mineral Energy Sub, respectively.

FN10 62 Fed. Reg. 4993 (1997).

FN11 Power Pool states that its members are the Los Angeles Department of Water and Power, and the Cities of Burbank, Glendale, and Pasadena, California. Power Pool states that its members own and operate gas-fired generation resources in the Los Angeles Basin, and that SoCalGas is the sole provider of gas transmission service to their facilities.

FN12 Public Power Authority states that it is a joint powers agency under California law and a "municipality" as defined by section 3(7) of the FPA. Public Power Authority's members are: the Cities of Anaheim, Banning, Burbank, Colton, Glendale, Pasadena, Riverside, and Vernon, California; the Los Angeles Department of Water and Power; and the Imperial Irrigation District. Each of the members is engaged in the generation, transmission, and distribution of electric energy and provide electric service tocustomers in California.

FN13 Imperial Irrigation, Kern River, Public Power Authority, the Power Pool, SoCal Edison, and USGen.

FN14 For example, Vernon asserts that, if the corporate realignment is approved, the merged entity would: (1) provide natural gas transportation to 96% of the gas-fired, steam, or combined cycle plants in southern California; (2) provide retail or wholesale transportation service to 85% of the southern California natural gas market; and (3) directly control 72% of all gas storage capacity in southern California. Vernon asserts that SoCalGas and SDG&E together purchase 39% of the California gas commodity market (SoCalGas purchases 29%, while SDG&E purchases 10%).

FN15 See Pacific Gas and Electric Company, 77 FERC P 61,204 (1996) and 77 FERC P 61,265 (1996) for descriptions and discussions of the California PX, which is one aspect of the current restructuring of theelectric utility industry in California. The related proceeding before this Commission is often referred to as the WEPEX proceeding; WEPEX is an acronym for the Western Power Exchange, which was established to implement the California Commission's restructuring objectives.

FN16 Imperial Irrigation, Kern River, the Power Pool, San Diego, and SoCal Edison.

FN17 SoCal Edison.

FN18 Imperial Irrigation, Kern River, Public Power Authority, SoCal Edison, and Vernon.

FN19 Imperial Irrigation, the Power Pool, San Diego, SoCal Edison, and Vernon.

FN20 Imperial Irrigation, the Power Pool, San Diego, SoCal Edison, and Vernon.

FN21 57 Fed. Reg. 41,533 (1992).

FN22 49 Fed. Reg. 26,823 (1984).

FN23 Imperial Irrigation, Public Power Authority, and SoCal Edison.

FN24 Kern River, Public Power Authority, SoCal Edison, and Vernon.

FN25 SoCal Edison and Vernon.

FN26 Imperial Irrigation and SoCal Edison.

FN27 Kern River and the Power Pool.

FN28 Imperial Irrigation, Kern River, the Power Pool, Public Power Authority, San Diego, and Vernon.

FN29 Public Power Authority and SoCal Edison.

FN30 Power Pool and Public Power Authority.

FN31 For example, see Public Power Authority's motion to intervene.

FN32 Public Power Authority.

FN33 SoCal Edison and Public Power Authority

FN34 Inquiry Into Alleged Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines, Order No. 497, 53 Fed. Reg. 22139 (1988), FERC Statutes and Regulations, Regulations Preambles 1986-1990 P 30,820 (1988), order on rehearing, Order No. 497-A, 54 Fed. Reg. 52781 (1989), FERC Statutes and Regulations, Regulations Preambles 1986-1990 P 30,868 (1989), order extending sunset date, Order No. 497-B, 55 Fed. Reg. 53291 (1990), FERC Statutes and Regulations, Regulations Preambles 1986-1990 P 30,908 (1990), order extending sunset date and amending final rule, Order No. 497-C, 57 Fed. Reg. 9 (1992), FERC Statutes and RegulationsP 30,934 (1991), reh'g denied, 57 Fed. Reg. 5815, 58 FERC P 61,139(1992), aff'd in part and remanded in part, Tenneco Gas v. Federal Energy Regulatory Commission, 969 F.2d 1187 (D.C. Cir. 1992), order on remand, Order No. 497-D, 57 Fed. Reg. 58978 (1992), FERC Statutes and Regulations P 30,958 (1992), order on reh'g and extending sunset date, Order No. 497-E, 59 Fed. Reg. 243 (1994), FERC Statutes and Regulations P 30,987 (1994), order on reh'g, Order No. 497-F, 59 Fed. Reg. 15336 (1994), 66 FERC P 61,347 (1994).

FN35 Under the "B" contract, any revenues from the PX in excess of variable costs must be rebated back to the ISO as a credit against availability charges. Under the contract "C", the unit may not bid into thePX.

FN36 See Applicants' answer, appendix A, p. 1.

FN37 See Applicants' answer, appendix B, p. 6.

FN38 See Applicants' answer, pp. 7-8.

FN39 Subsequent to the filing of the Applicants' answer, the Commission issued an order in Docket No. RP97-284-000, finding that SoCalGas has not violated the Commission's capacity release regulations or policies. Southern California Edison Company v. Southern California Gas Company, 79 FERC P 61,157 (1997).

FN40 18 C.F.R. s 385.214 (1996).

FN41 18 C.F.R. s 385.213(a)(2) (1996).

FN42 See Inquiry Concerning the Commission's Merger Policy Under the Federal Power Act: Policy Statement, Order No. 592, 61 Fed. Reg. 68,595 (1996), FERC Statutes and Regulations P 31,044 (1996) (Merger Policy Statement).

FN43 Merger Policy Statement at p. 30,113 (footnote omitted).

FN44 SoCalGas is an intrastate pipeline by virtue of the Hinshaw provision in section 1(c) of the Natural Gas Act (NGA). A Hinshaw pipeline is exempt from the provisions of the NGA and is defined by section 1(c) of that act as:

any person engaged in or legally authorized to engage in the transportation in interstate commerce or the sale in interstate commerce for resale, of natural gas received by such person from another person within or at the boundary of a State if all the natural gas so received is ultimately consumed within such State, or to any facilities used by such person for such transportation or sale, provided that the rates and service of such person and facilities be subject to regulation by a State commission.

15 U.S.C. s 717 (1994).

FNIn this case, we do not reach the question of whether the Hinshaw exemption properly applies to SoCalGas.

FN45 The 1984 Guidelines, which are incorporated by reference in the 1992 Horizontal Merger Guidelines discussed at length in the Merger Policy Statement, describe four concerns raised by vertical mergers and the corresponding basis upon which DOJ would challenge a merger. Those four concerns are: elimination of potential entrants, barriers to entry, facilitating collusion, and evasion of rate regulation.As we discuss later, the first two of these concerns can be restated as foreclosure/raising rivals costs. The third and fourth concerns can be restated as increased anticompetitive coordination and regulatory evasion, respectively. See, e.g., Michael H. Riordan and Steven C. Salop, "Evaluating Vertical Mergers: A Post- Chicago Approach," 63 Antitrust Law Journal 513 (1995).

FN46 A related concern is denying or giving rivals limited access to downstream customers.

FN47 Regulatory evasion can result from passing higher input prices through to the retail

customers of a regulated affiliate. In this case, the California Commission has jurisdiction over both SoCalGas and over the proposed transaction and therefore can address this issue.

FN48 According to San Diego, gas-fired capacity accounts for 68% of installed generating capacity of southern California utilities.

FN49 See Prepared Testimony of John R. Morris on behalf of the City of San Diego, exhibit No. <<< (JRM-3), Schedule 1. Witness Morris' analysis overstates concentration because his analysis: (1) includescertain peaking capacity that may not be competitive; and (2) assumes that all utilities not served by SoCalGas are one seller when that obviously is not the case. However, correction for these deficiencies still results in an HHI well over 1800.

FN50 See n.4.

FN51 See 18 C.F.R. Part 161 and s 250.16 (1996).

FN52 "Transportation . . . includes storage, exchange, backhaul, displacement, or other methods of transportation." 18 C.F.R. s 161.2(e) (1996).

FN53 See Application for Approval and Authorization of Merger, Vol. I, Prepared Direct Testimony ofJeffrey K. Hartman, p. 5.

FN54 We note that Order No. 497 and the regulations promulgated thereunder address business practices between interstate gas pipelines and their affiliated marketers or brokers. Our concern in this case is how business is conducted between SoCalGas and SDG&E, which is not a marketer or broker as those terms are used in Order No. 497.

FN55 Application for Approval and Authorization of Merger, Vol. I, Prepared Direct Testimony of JeffreyK. Hartman, pp. 7-9.

FN56 Specifically, the Commission has the authority to impose requirements on the public utilities regarding the sharing of market information between the public utilities and SoCalGas, and the separation and transparency of SDG&E's and Enova Energy's gas transportation purchases from SoCalGas.

FN57 See, e.g., Heartland Energy Services, Inc., 68 FERC P 61,223 at p. 62,063 (1994); Wholesale Power Services, Inc., 72 FERC P 61,284 at p. 62,227 (1995); USGen Power Services, L.P., 73 FERC P 61,302 at p. 61,845 (1995).

FN58 Another method of eliminating the vertical market power problems discussed herein would be divestiture by SDG&E of gas-fired generation plants. However, this remedy also would require the authorization of the California Commission.

FN59 Our concern would be over deviations that weaken the remedial terms outlined above.

FN60 The Applicants' analysis evaluates concentration under a number of load conditions and shows that the largest HHI change is 8 points. This is well under the DOJ Guideline's threshold for concern for either moderately or highly concentrated markets.

FN61 See, e.g., Baltimore Gas and Electric Company and Potomac Electric Power Company, 79 FERC P 61,027 at pp. 61,115-16 (1997); Merger Policy Statement at pp. 30,127-28.

FN62 Merger Policy Statement at p. 30,123.

FN63 Merger Policy Statement at pp. 30,124-25.

SUMMARY OF TESTIMONY RECEIVED BY CPUC TO DATE

WITNESS(ES)
ON BEHALF OF
GENERAL SUBJECT MATTER

S.L. Baum and R.D. Farman
Enova/Pacific
Corporate policy issues related to merger

W.L. Hieronymus
Enova/Pacific
Market power; impacts of the merger on the competitiveness of electricity markets and retail gas markets.

T.J. Flaherty, F.H. Ault, and D.L. Reed
Enova/Pacific
Merger synergies

F.H. Ault and R. Todaro
Enova/Pacific
Allocation of merger synergies

F.H. Ault and R. Todaro
Enova/Pacific
Affiliate relationships

D.L. Reed, R. Todaro, and F.H. Ault
Enova/Pacific
Fairness to stakeholders

D.L. Reed, R. Todaro, and F.H. Ault (supplemental testimony)
Enova/Pacific
Effect of CPUC Performance-Based Ratemaking decision

S.L. Baum, R.D. Farman, and J.J. Leitzinger (supplemental testimony)
Enova/Pacific
Effect of FERC order conditionally approving merger; effect of proposed acquisition of AIG Trading Corp.

F.H. Ault, D.L. Reed, R. Todaro, and T.J. Flaherty (supplemental testimony)
Enova/Pacific
Impact of affiliate transaction rules and FERC conditions on merger approval

T.J. Flaherty, D.L. Reed, and R. Todaro (rebuttal testimony)

Enova/Pacific
Merger synergies

F.H. Ault and R. Todaro (rebuttal testimony)
Enova/Pacific
Affiliate relationship

D.L. Reed and F.H. Ault (rebuttal testimony)
Enova/Pacific
Fairness to stakeholders

W.H. Hieronymus, J.J. Leitzinger, L.M. Stewart, and D.S. Penney (rebuttal testimony)
Enova/Pacific
Market power

Office of Ratepayer Advocates
Office of Ratepayer Advocates
Affiliate relationship; cost allocation; market power

G.T.C. Taylor
Imperial Irrigation District
Market power; effect on competition in electric and gas markets.

C.E. Yap

Southern California Utility Power Pool
Market power; effect on competition in electric and gas markets.

K. Harper
Southern California Public Power Authority
Affiliate relationship

R. Sinclair
Southern California Public Power Authority
Market power; effect on competition in electric and gas markets.

R.T. Beach
City of Vernon
Market power; effect on competition in electric and gas markets.

C.J. Garner
City of Long Beach
Affiliate relationship; market power

T.F. Daniels
Watson Cogeneration

Effect of SoCalGas option to purchase Mojave Pipeline

P.J. Muller
California Cogeneration Council & Watson Cogeneration
Market power

L. Larsen and C. Wadlington
Kern River Gas Transmission Co.
Effect of SDG&E option to acquire Kern River

C. Roach
Kern River Gas Transmission Co.
Market power; effect on competition in electric and gas markets; affiliate relationship

W.B. Marcus
Toward Utility Rate Normalization/Utility Consumer Action Network ("TURN/UCAN")
Affiliate relationship; cost-sharing issues

M.P. Florio
TURN/UCAN
Market power

G. Shilberg
TURN/UCAN
Customer service issues

M. Shames
UCAN
Customer service, community impact, and allocation of cost savings

G. Rodriguez
Latino Issues Forum
Customer service issues

J. Gamboa
Greenlining Institute
Labor issues

S. Carter
Natural Resources Defense Council
Effect on environment and public purpose programs

P. Carpenter
Southern California Edison Company ("SCE")
Vertical market power; affiliate relationship

R. Graves
SCE
Vertical market power; effect on competition in electric and gas markets

J. Kelly
SCE
Affiliate relationship

Office of Ratepayer Advocates (rebuttal testimony)
Office of Ratepayer Advocates (ORA)
Market power; affiliate relationship

C. Roach (rebuttal testimony)
Kern River Gas Transmission Co.
Market power; affiliate relationship

C.E. Yap (rebuttal testimony)
Southern California Utility Power Pool
Market power

G.T.C. Taylor (rebuttal testimony)
Imperial Irrigation District
Market power

M.P. Florio (rebuttal testimony)
TURN/UCAN
Market power

W.B. Marcus (rebuttal testimony)
TURN/UCAN
Impact of SoCalGas Performance-Based Ratemaking decision

M. Shames (rebuttal testimony)
UCAN
Affiliate transaction rules

G. Rodriguez (rebuttal testimony)
Latino Issues Forum
Customer service issues

P. Carpenter (rebuttal testimony)
SCE
Market power

November 20, 1997

Requested by: PUBLIC UTILITIES COMMISSION

DANIEL E. LUNGREN, Attorney General
Wayne Smith, Chief Deputy Attorney General
Roderick E. Walston, Chief Assistant Attorney General
Thomas Greene, Assistant Attorney General
Kathleen Foote, Supervising Deputy Attorney General
Lindsay Bower, Deputy Attorney General

THE PUBLIC UTILITIES COMMISSION has requested an advisory opinion, pursuant to Public Utilities Code section 854, on the competitive effects of the proposed merger between Pacific Enterprises and Enova Corporation. The Commission has also asked for an opinion on mitigation measures that could be adopted to avoid any adverse competitive effects that do result.

CONCLUSIONS

(1) The proposed acquisition should not by itself adversely, affect competition in the markets for interstate gas or wholesale electricity.

(2) The merger may eliminate the disciplining effect of San Diego Gas & Electric as a potential competitor in the partially regulated intrastate gas transmission market. We recommend that the Commission consider requiring the merged entity to auction offsetting volumes of transportation rights within that system.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

In the Matter of the Joint Application of Pacific Enova Corporation, Mineral Energy Company, B Mineral Energy Sub and G Mineral Energy Sub For Approval Of A Plan Of Merger Of Pacific Enterprises And Enova Corporation With And Into B Mineral Energy Sub ("Newco Pacific Sub") And G Mineral Energy Sub ("Newco Enova Sub"), The Wholly-Owned Subsidiaries Of A Newly Created Holding Company, Mineral Energy Company.	A. 96-10-038 Opinion of the Attorney General on Competitive Effects of Proposed Merger Between Pacific Enter- prises and Enova Corp.

DANIEL E. LUNGREN,
Attorney General of the
State of California
WAYNE R. SMITH,
Special Assistant Attorney General
RODERICK E. WALSTON,
Chief Assistant Attorney General
THOMAS GREENE,
Assistant Attorney General
KATHLEEN E. FOOTE
Supervising Deputy Attorney General
LINDSAY BOWER
Deputy Attorney General
50 Fremont Street, Suite 300
San Francisco, California 94105-2239
415) 356-6377

Attorneys for the State of California

OUTLINE OF ANALYSIS

INTRODUCTION

I. ROCEEDINGS AND THE NATURE OF THIS OPINION
   A. Prior Proceedings
   B. This Advisory Opinion

II. THE APPLICANTS AND THE INTRASTATE GAS TRANSPORTATION AND ELECTRICITY SERVICES THEY PROVIDE

   A. The Purpose of this Merger
   B. SDG&E Market Power Mitigation under Electric Restructuring
   C. SoCalGas Intrastate Gas Transmission Services

      1. The SoCalGas Intrastate System
      2. Transportation "Unbundling" and System Bypass

III. INTERSTATE GAS AND WHOLESALE ELECTRICITY MARKETS AT THE CALIFORNIA BORDER

   A. Federal Deregulation and the Interstate Gas Market
   B. Federal Wholesale Electricity Deregulation
   C. The PX and the Western United States Wholesale Market

IV. THE RELEVANT MARKETS

   A. The Relevant Interstate Gas Market
   B. The Relevant Wholesale Electricity Market

      1. Alleged "Swing Capacity" Markets
      2. The Temporal Dimension

   C. The Relevant Intrastate Gas Transportation Market

V. THE COMPETITIVE EFFECTS

   A. The Vertical Integration of SoCalGas Intrastate Gas Transmission and SDG&E Wholesale Electricity Operations

      1. The Intervenors' Vertical Integration Models
      2. Futures Markets
      3. The Kern River and Mojave Pipeline Purchase Options
      4. The Applicants' "Remedial Measures"

B. Horizontal Effects in the "Gas Procurement" and Retail Gas Markets

C. Potential Competition for Intrastate Gas Transportation and Electricity Retail Services

1. The Perceived Potential Competition Doctrine
2. The Retail Electric Services Market

VI. RETENTION OF JURISDICTION

VII. CONCLUSION

INTRODUCTION

The proposed merger of Pacific Enterprises and Enova Corporation is a response to the mandatory restructuring of the electric industry which will begin on January 1, 1998. Through their subsidiaries, Pacific is the leading southern California supplier of intrastate gas transmission services, Enova is an electric distributor and a relatively minor participant in the wholesale electricity market, and both firms distribute gas within their respective service areas. As regulated utilities doing substantial business within this state, the parties have submitted their application under Public Utility Code section 854. This memorandum responds to a Commission request for an opinion on the competitive effects of the transaction.

Challenges to the merger have primarily focused upon alleged effects in the markets for wholesale electricity, interstate gas and intrastate gas transmission. Through Southern California Gas Company (SoCalGas), Pacific provides gas transmission services to many of the gas-fired generation plants within southern California, including plants now owned by San Diego Gas and Electric (SDG&E) and Southern California Edison (Edison). Edison and others contend that the merged company will "leverage" its position in the gas transmission market to manipulate the price of electricity sold by these plants in the wholesale market. Intervenors also allege that the applicants will unfairly benefit in financial markets and that, by exercising options to purchase competing intrastate facilities, their alleged ability to manipulate electricity prices will be enhanced in the future.

We conclude that this merger will not adversely affect competition within either the wholesale electricity or interstate gas markets. Because gas-fired plants now owned by SDG&E will be subject to comprehensive price regulation, the merged entity will lack any incentive (or, usually, the ability) to manipulate wholesale electricity prices. Moreover, the wholesale electricity and interstate gas markets are already highly integrated, and comprise most of the western United States. Price data -- as opposed to theoretical models -- shows that the wholesale electricity market connects California with numerous out-of-state suppliers over a transmission system that has never reached capacity. These out-of-state suppliers, along with California generation plants outside the SoCalGas service area, would defeat any attempt by the merged entity to raise wholesale electricity prices above competitive levels.

We also conclude that the merger of the utilities' procurement operations will not adversely affect competition in the interstate gas market and that the applicants are not actual potential competitors for retail electricity services. On the other hand, because the merger may eliminate the disciplining effect of SDG&E as a potential competitor in the partially regulated intrastate gas transmission market, we recommend that the Commission consider requiring SoCalGas to auction offsetting volumes of transportation rights within that system. finally, because of the uncertain effects of electric industry restructuring, we also recommend that the Commission retain limited jurisdiction over this merger for the purpose or reexamining the

question of whether the merged entity has used its intrastate gas transmission system for the purpose of manipulating the price of electricity it sells in the wholesale market.

I. PRIOR PROCEEDINGS AND THE NATURE OF THIS OPINION

A. Prior Proceedings

This merger would be completed by combining Enova and Pacific into NewCo, a holding company created for the purpose of consummating this transaction. into Enova, with Enova as the surviving corporation. Likewise, NewCo Pacific Sub would merge into Pacific with Pacific as the surviving corporation. Enova and Pacific would be wholly-owned NewCo subsidiaries. Enova, Pacific, SDG&E, and SoCalGas would operate separately and under their existing names.

On June 25, 1997, the Federal Energy Regulatory Commission (FERC) conditionally approved the merger. FN / In general, the conditions imposed by FERC would require SoCalGas to treat SDG&E and other affiliates "in the same way pipelines treat their gas' marketing affiliates." FN / The applicants subsequently incorporated those conditions, along with other proposed restrictions, within their merger application. FN /

B. This Advisory Opinion

This is the fifth Opinion letter submitted by this office under the 1989 amendments to Section 854. FN / Public Utility Code section 854 refers to the opinion as advisory. FN / Consequently this document does not control the PUC's finding under section 854, subdivision (b)(3). However, the Attorney General's advice is entitled to the weight commonly accorded an Attorney General's opinion see, e.g., Moore v. Panish (1982) 32 Cal.3d 535, 544 ("Attorney General opinions are generally accorded great weight"); Farron v. City and County of San Francisco, (1989) 216 Cal.App.3d 1071).

II. THE APPLICANTS AND THE INTRASTATE GAS TRANSPORTATION AND ELECTRICITY SERVICES THEY PROVIDE

Pacific Enterprises and Enova Corporation currently compete on a very limited basis. SoCalGas purchases gas in the interstate market, which it distributes to its 4.7 million residential and other "core" customers In southern and central California. Core customers include residential and commercial customers without alternate fuel capability, whereas "non-core" customers are large commercial and Industrial consumers that can buy gas from different sources. SoCalGas is the leading supplier of intrastate gas transmission and gas storage services for both "core" and "noncore" customers within southern California. Pacific Enterprises also sold electricity in the wholesale market through QF facilities, all of which were recently divested. FN / In 1996, Pacific generated revenues of $1,613 million from its gas distribution operations and $778 million from intrastate gas transportation services provided to commercial/industrial and gas-fired generation

plants.

market, FN / sells electricity to 1.2 million retail customers in San Diego and southern Orange Counties (including parts of the SoCaIcas service area). SDG&E also purchases gas in the interstate market, FN / which it distributes within its separate service areas." FN / SDG&E provides no gas transmission services outside of San Diego County." FN / In addition, an affiliate of Enova Corporation, Enova Energy, conducts extensive wholesale and retail energy marketing activities throughout California. In 1996, Enova generated revenues of $1,591 and $348 million from its electricity and gas distribution operations, respectively.

Applicants have formed a joint venture, Energy Pacific, to market gas, power and a "broad range of value-added energy management products and services." FN / The applicants also recently purchased AIG Trading, a natural gas and electricity marketer and a trader in financial markets for electricity and gas contracts. FN / Both of those companies are actively section discusses intrastate gas transmission services supplied by SoCalGas and SDG&E purchases and sales in the restructured electric industry. Interstate gas and services are discussed in Section III.

A. The Purpose of the Merger

The applicants claim that their merger will produce a firm with the necessary breadth and financial strength to compete with Edison, PG&E and out-of-state suppliers in the restructured electric industry mandated by AB 1890. As a result of that restructuring program, SDG&E and other California electric utilities will lose their exclusive "franchises" on January 1, 1998. The applicants contend that the merger will provide Enova, which is approximately one-fifth the size of Edison and PG&E," FN / with "access to adequate quantities of capital on favorable terms." The parties also believe that the merged company will achieve certain efficiencies s and will respond more effectively to customer demand or broader and more cost effective energy services.

B. SDG&E Market Power Mitigation under Electric Restructuring

Under industry restructuring, two separate central authorities, the Power Exchange (PX) and the Independent Service Operator (ISO), will coordinate all transactions between SDG&E and other California utilities. FN / SDG&E currently purchases a majority of the electricity it sells to its retail customers. In 1995, for example, SDG&E obtained 61 percent of its power requirements from short-term Western States Coordinating Council (WSCC) purchases, 22 percent from fossil generation plants--including its own 1,973 MW capacity plants--located within the San Diego Basin, FN / and the remaining 17 percent from the San Onofre Nuclear Generating Station (SONGS). FN / In 1996, the peak load for the SDG&E system was 3,299 MW. FN /

During a five year transition period beginning January 1, 1998, SDG&E and other investor owned utilities (IOUs) must purchase and sell all of their power through the PX, which will

establish a single clearing price for all hourly transactions. FN / Participating distribution companies and end users will submit "demand side" bids to the PX. FN / Generation plants and marketers will simultaneously submit advance supply bids. FN / The total capacity of WSCC members, including capacity divested from Edison and PG&E, FN / which can bid into the PX exceeds 150,000 MW. FN / From the resulting demand and supply schedules, the PX will establish FN / the market "clearing price" governing all purchases and included sales. FN /

Power produced by "must-take" and "must-run" resources will be priced separately. The output of must-run units -- the fossil generating plants used by the ISO to maintain system integrity FN / -- will be sold at their variable operating costs. FN /The ISO Governing Board "has chosen all of SDG&E's units for Must-Run status." FN / Must-take resources, which include SONGS and other nuclear plants, qualifying facilities (QFs) and pre-existing power contracts, FN / provide more than half of the electricity requirements of the California IOUs. FN / A "performance incentive mechanism . . . will isolate SONGS revenue received by SDG&E from the PX price." FN / Other nuclear power output prices will be regulated by the PUC, and existing contracts will determine the price of purchased power and QF output.

To preclude the exercise of any possible market power, SDG&E will bid the output of its gas-fired and other plants into the PX under ISO "Agreement B" FN / during periods when those plants are not operated on a must-run basis. That agreement applies separate payment provisions to the two periods. As noted above, SDG&E will recover its variable costs during must-run periods. At other times, Agreement B requires the operator to return to the ISO "90 percent of any revenues earned in excess of the running costs." FN / The remaining ten percent will apparently be applied to SDG&E stranded costs through the competitive transition charge (CTC) mechanism. FN / On October 30, 1997, FERC concluded that this arrangement "adequately mitigate[s] [SDG&E's] generation market power for PX sales of energy." FN /

In conjunction with the PX, the ISO will coordinate intrastate power flows and provide open access to the California transmission grid. FN / On January 1, 1998, all participants will transfer operational control of their transmission facilities to the ISO. FN / The state will initially be divided into "congestion zones" for northern and southern California, within each of which little or no congestion is expected. Users within the zones will pay a single transmission access charge based upon the revenue requirements of the owners of the transmission facilities. FN / A bidding process, similar to that used by the PX, will establish usage charges for entities which transmit power over congested paths through or out of the ISO grid. FN /

C. SoCalGas Intrastate Gas Transmission Services

SoCalGas carries gas to its "core" and "noncore" customers from delivery points for interstate pipelines or their intrastate extensions. When it created these customer

classifications in 1986, the PUC required SoCalGas to offer "transportation only" services to its noncore customers, including generation plants owned by some of the intervenors in this proceeding. Since 1986, the ability of noncore customers to choose among gas producers and transportation services has been significantly expanded.

1. The SoCalGas Intrastate System

Five interstate pipelines carry natural gas to California: the Transwestern Pipeline Company ("Transwestern"); the El Paso Natural Gas Company ("El Paso"); the Pacific Gas Transmission Company ("PGT"), a PG&E subsidiary; the Kern River Transmission Company, ("Kern River"); and the Mojave Pipeline Company ("Mojave"). At the Arizona-California border, SoCalGas receives gas from the Transwestern line at North Needles and from the El Paso line at Topock and Blythe. FN / In the northern part of its service area, SoCalGas receives gas from PG&E at Kern River Station and Pisgah, FN / and from the Kern River and Mojave lines at Wheeler Ridge and Hector Road. FN /The SoCalGas system is capable of receiving approximately 3.5 Bcf/d at these connection points. FN /

The SoCalGas Acquisition Group purchases about 1000 MMcf/d, which is ultimately transported to core customers. FN / SoCalGas noncore transportation customers include Edison, members of SCUPP, SDG&E, the City of Long Beach, and various large commercial and industrial customers. FN / SoCalGas supplies 42 gas-fired generation plants, including plants owned by SDG&E, Edison, Imperial Irrigation District (IID) and SCUPP members. FN / These plants have a total generating capacity of 15.837 MW. FN / SoCalGas is the only intrastate gas pipeline to which SCUPP members can feasibly connect. FN /

To coordinate deliveries to these customers and to preserve "system integrity." FN /SoCalGas calculates in advance of "flow day" FN / a system "window" from the difference between estimated overall next-day demand FN / and local FN / California gas production. FN / This "take away" capacity figure is then adjusted by anticipated injection or withdrawal volumes FN / for SoCalGas storage fields, FN / which according to Edison "are used to satisfy the majority -- approximately 57 per cent -- of peak day demand." FN / Windows are also established at each of the individual receipt points. FN /SoCalGas uses a variety of procedures, including "custody cut" FN / and Rule No. 30 restrictions, FN / to achieve system balance when demand "nominations" for core and noncore customers exceed system or individual receipt point windows. FN /

2. Transportation "Unbundling" and System Bypass

When the PUC "unbundled" transportation services in 1986, noncore customers were able to directly purchase commodity from wellhead producers at competitive prices and to make their own arrangements for the transport of that gas over interstate pipelines. In subsequent years, the Commission has also permitted the creation of a limited secondary market for intrastate

transportation, even though it still prohibits "brokering on the intrastate system. FN / The GasSelect electronic bulletin board, "an interactive same-time FN / reservation and information system," FN / provides information within this secondary market about intrastate transportation transactions between SoCalGas and its affiliates. FN /

Bypass opportunities for noncore customers have also been expanded. The Kern River and Mojave pipelines responded to these opportunities by extending their interstate systems across the California border into the SoCalGas service territory. FN / SoCalGas withdrew its initial opposition under 1989 agreements providing it with options to purchase in the year 2012 the California extensions of those two lines. FN / Since their completion in 1992, both systems have delivered gas to Enhanced Oil Recovery (EOR) and related cogeneration loads, and "to SoCalGas and PG&E for redelivery to other industrial and commercial loads." FN /

This competition has induced SoCalGas to "provide discounted FN / transportation rates and associated cost saving to numerous customers [perhaps including SDG&E FN /] on its system." FN / SoCalGas can provide such discounted service to noncore customers without obtaining prior CPUC approval. SoCalGas estimates that, since 1992, it has lost transportation volumes of 400 million cubic feet per day to competing gas pipelines. FN / SoCalGas also claims that competition from out-of-state electric generation plants ("bypass by wire") has reduced the aggregate load of California gas-fired facilities by an additional 275 million cubic feet per day. FN /

Along with federal deregulation efforts, these changes left SoCalGas and other utilities with contracts for interstate pipeline capacity that exceeded their market requirements. Accordingly, SoCalGas has since 1992 reduced its firm capacity on the El Paso pipeline from 1750 MMcf/d to 1150 MMcf/d and from 750 MMcf/d to 300 MMcf/d on the Transwestern system. FN /To mitigate the resulting losses, the PUC has required customers to pay SoCalGas an ITCS (Interstate Transportation Cost Surcharge) FN / to help recover certain fixed capacity costs. FN /

III. INTERSTATE GAS AND WHOLESALE ELECTRICITY MARKETS AT THE CALIFORNIA BORDER

SoCalGas and California generation plants purchase the majority of their gas supplies from four producing basins in the western United States and Canada. FN /Likewise, SDG&E purchases the majority of its electricity supplies from western United States and Canadian generation plants.

As a result of federal deregulatory efforts, these western United States gas and electricity markets are fully competitive. Both industries consist of three vertically-related stages: production, transmission, and distribution. FN / Production and interstate transmission services within both of those markets are highly integrated at the California border. Moreover, California

wholesale electricity transactions, which SDG&E and other utilities now make throughout the western United States, will remain integrated with the interstate market after the January 1, 1998 restructuring.

A. Federal Deregulation and the Interstate Gas Market

Federal deregulation of the gas market has created a network of transmission suppliers connecting purchasers at the wholesale level with middlemen and well operators at the production level. Prior to these efforts, each interstate "pipeline would purchase natural gas from producers, transport it largely along their own proprietary pipeline system, and resell the rebundled product to local distribution companies (LDCs) and other large customers." This institutional structure meant that "each producer could sell gas to a limited number of buyers" and that "LDCs and large end users had limited options in terms of the number of pipeline companies from which they could purchase gas." FN / As a result of FERC's deregulatory policies, "an active and viable spot market has developed for gas." FN /

FERC transformed the gas industry by providing open access to interstate pipelines, removing all controls over the wellhead price of natural gas, FN / and establishing secondary markets for storage and pipeline capacity. FN / Pipelines now compete to provide transportation services with each other and with middlemen and with other owners of capacity rights. Wellhead deregulation has simultaneously generated competition between producers in different basins. FN / Because end users attempt to minimize their "delivered prices," FN / competitive forces have also linked the production and transmission markets.

FERC's open access policies, instituted in Orders 436 FN / and 636, required that interstate pipelines separate gas sales from transportation services, FN / allowing users to enter into direct agreements with producers at the wellhead and arrange transportation in a separate transaction. Orders 436 and 636 also created a "secondary transportation market" for natural gas FN / by allowing "holders of unutilized firm capacity [to resell] them in competition with any capacity offered directly by the pipeline." FN / Previously, shippers were only able to purchase capacity rights directly from pipelines. FN / Under Order 636, shippers who wish to sell (i.e. "release") their firm capacity rights must first offer FN / those rights on the pipeline's electronic bulletin boards ("EBB") FN /, which carry "information about available and consummated capacity release transactions." FN /

These policies have allowed producers in Canada, the Rocky Mountains, the San Juan and Permian Basins, as well as other regions to compete for sales throughout California. The five pipelines which deliver this gas have an aggregate capacity of 7,130 MMcf per day. FN / The 3.5 Bcf/d El Paso Natural Gas Company and the 1.1 Bcf/d Transwestern Pipeline Company lines are the primary links between the southern California border and producers in the San Juan and Permian basins. FN / Pacific Gas Transmission Company ("PGT"), a PG&E subsidiary, transport gas from Canada to the California border on its own 1.89 Bcf/d pipeline.

Coupled with downstream pipeline system operated by SoCalGas and SDG&E, PG&E can serve end users in most of California. FN / As noted in Section II, the 770 MMcf/d Kern River line, which originates in the Rocky Mountain Basin, and the 400 MMcf/d Mojave pipelines began commercial operations in 1992.

In this deregulated interstate market, both purchasers and suppliers have various alternatives as they seek to minimize the overall cost of purchasing, transporting and storing gas. FN / Thus, many EOR customers, who previously transported gas from Southwest fields over the El Paso or Transwestern lines, substituted when they found it more economical to transport Rocky Mountain gas over the Kern River or Mojave lines. FN / In other instances, customers have substituted by transporting over the same pipeline to California gas purchased in entirely different basins. FN / Customers committed to a particular supply source can also substitute between firm contracts and capacity released in the secondary market. FN / Commodity and transportation markets are also linked, FN / as producers in the San Juan Basin demonstrated between November 1990 and April 1992 and again between March 1995 and December 1996 by reducing commodity prices to offset the temporarily increased cost of transporting gas over the constrained El Paso line. FN /

B. Federal Wholesale Electricity Deregulation

Federal deregulation has had similar effects on wholesale electricity prices at California delivery points. Congress initiated deregulation of the electricity industry by first allowing independent power producers and then utility affiliates to offer wholesale electricity at "market-based prices." FN / Through Order 888 and earlier mandates, FN / FERC simultaneously encouraged open access and other "wheeling" transactions between non-contiguous buyers and sellers. FN / By 1993, the "wholesale sector of the U.S. electricity industry [had] been transformed from an industry dominated by ineffectively regulated inefficient monopolists to an industry that is increasingly dominated by robust competition." FN /

Edison, SDG&E and PG&E actively participate in one of the most integrated of these wholesale electricity markets, the WSCC, which includes "fifteen states in the western United States and part of Canada." FN / The WSCC "is a highly complex network that interconnects the entire western United States from Canada to Mexico and east as far as Montana, Utah, and New Mexico." FN / WSCC members include Bonneville Power & Light, British Columbia Hydro, Los Angeles DWP, SMUD, and the Salt River Project. The aggregate capacity of WSCC members, which arrange wholesale electricity transactions through the Western States Power Pool ("WSPP") or through separate bilateral transactions, FN / exceeds 150,000 MW. FN /

As a result of industry deregulation, suppliers can now sell to any purchaser on the grid. FN / In fact, the availability of displacement contracts and the physics of electricity transmission has rendered irrelevant transmission constraints between any two points within the

network. FN / The existence of "loop flows," FN / in particular, means the power in a network "moves across many parallel lines in often circuitous routes." FN / Likewise, suppliers facing transmission constraints can indirectly meet their contractual obligations by entering into offsetting displacement contracts with sellers located on unconstrained links to the delivery point. FN / Accordingly, sellers must now compete for any sale with utility affiliates, independent power producers and power marketers.

The resulting competition has dramatically increased the integration and efficiency of the wholesale electricity market. The WSCC, in particular, had actually become a highly integrated market even before FERC issued Order 888. FN / Using data from 1994-1996 transactions, DeVany and Walls have shown that the implicit delivered price of wholesale electricity is identical throughout the western United States during most hours of the day. FN / The market is so highly integrated, in fact, that arbitrage opportunities are virtually nonexistent between supply points during both "peak" and "off-peak" hours. Thus, De Vany and Walls found that the California-Oregon Border ("COB"), Northern California, Palo Verde and Southern California were cointegrated FN / with all ten of the other major WSCC delivery points examined during off-peak hours; and with 9, 9, 10, and 9 of the other 10 delivery points, respectively, during peak hours. Order 888 has undoubtedly strengthened these results. FN /

C. The PX and the Western United States Wholesale Market

ISO and PX rules will allow out-of-state utilities to bid into the PX. FN / Those out-of-state suppliers will compete for sales of wholesale electricity sold through the Power Exchange, and their participation will equalize prices between the Exchange and the larger market. Any differences between the Power Exchange price and the prevailing wholesale price would also be disciplined by marketers and California utility customers who would bypass the PX and arrange direct purchases from out-of-state sources. FN /

As noted above, loop flows maintain system viability when constraints arise over individual transmission paths. The "contract path" between a generating plant and a customer is a "fiction," which "may and often does diverge" from the actual flow of power. FN / Thus, the physics of electrical networks would allow southern California customers to withdraw from the WSCC transmission grid power simultaneously generated by BPA, even if a link in the most direct transmission route between the two parties (e.g., Path 15) were at capacity. For that reason, the precise capacity of any single link between California and other WSCC members is not relevant to this proceeding. FN /

Price data -- which provides the best measure of market performance - -- confirms the implications of engineering data which show that California has never been isolated from the rest of the WSCC. FN / During off-peak hours, the implicit "shadow" price for transmitting electricity between the four major California delivery points at off-peak hours is virtually zero,` FN / reflecting the system's low variable supply costs. Implicit peak hour transmission rates

are higher, but wholesale electricity prices at the four delivery points during those times remain cointegrated within arbitrage bounds. FN / These data are inconsistent with the fragmented transmission system and isolated wholesale markets alleged by some intervenors.

IV. THE RELEVANT MARKETS

The traditional antitrust model assesses the competitive effects of a merger within a "relevant market," which generally exhibits both product and geographic dimensions. The relevant product refers to the "horizontal" range of products or services that are or could be easily be made relatively interchangeable, so that pricing decisions by one firm are influenced by the range of alternative supplies available to the purchaser. The substitutes comprising the product market can be differentiated, at least to some extent. Thus, local telephone calls within the same exchange between A and B and between C and D are not identical services, but they are still in the same product market because they are such close substitutes.

The relevant product also has a vertical dimension. In most antitrust cases, there is a "range of possible markets of varying breadth." FN / In theory, the horizontal and vertical dimensions of the relevant market are "immaterial." FN / In fact, however, empirical limitations require a "noticeable 'gap in the chain'" of substitutes and complements. FN / For example, it would usually be misleading to define separate product markets for left and right shoes or, because they are so strongly linked, for ski boots and ski bindings. FN /More generally, the relevant product is defined by including the good which is immediately in question along with all other substitutes and complements which significantly affect the ability of the supplier to raise price above marginal cost.

Similar considerations govern the delineation of the relevant geographic market. The relevant geographic market is defined as the area in which sellers compete and in which buyers can practicably turn for supply. FN /In any market, including interstate gas or wholesale electricity networks, the relevant geographic market will include all supplies whose prices remain closely linked, after transportation and other transaction costs are accounted for. Thus, distant seller A and local Seller B are in the same market if the price at B equals the price at A plus the cost of transportation between two points. More generally, two locations are in the same market if the differential between their (possibly independently varying) prices remains "less than the potential wedge created by arbitrage costs." FN /Accordingly "[p]rice relationships are clearly the best single guide to geographic market definition." FN /

A. The Relevant Interstate Gas Market

For purposes of analyzing this merger, a relevant market can be defined as gas delivered at interstate receipt points by pipelines from the San Juan Basin, the Permian Basin, and basins in the Rocky Mountains and Canada. FN / In a gas network, the ability of a customer (like SoCalGas) to deviate rates from competitive levels is determined by conditions at the

wellhead or the cost of transmission over a single line. Prices are inextricably linked between basins, between pipelines, between firm and interruptible capacity on each line, FN / and across these various service levels. FN / The most limited product market providing a "gap" in this "chain" of complements is delivered interstate gas.

The geographical extent of this market includes at least deliveries from the four basin area. FN / In 1995, total average production by these basins was 24,000 MMcf/d. FN / Estimated peak day supplies to California are 3,536 MMcf/d. FN / Because gas deliveries throughout the network are close substitutes, after transportation is accounted for, the geographic market is broader than gas deliveries to southern California customers. FN / Similarly, the relevant product and geographic market is broader than capacity rights on the El Paso line between the San Juan basin and the California border. FN /

Competition within this market is intense. The ability of a firm to raise prices above competitive levels is "commonly" shown with circumstantial evidence of industry concentration, FN / entry barriers, and the short-run ability of existing competitors to increase their output. FN / The courts also recognize the use of "direct evidence" to resolve market power questions. FN / In the relevant interstate gas market, there are many buyers and sellers at the wellhead level, numerous holders of capacity rights competing with pipeline owners for transportation services, and strong price interactions between those levels. Moreover, "direct" evidence shows that prices at delivery points within the four basin area remain cointegrated within arbitrage bounds.

B. The Relevant Wholesale Electricity Market

A relevant market also exists for wholesale electricity delivered throughout the WSCC. Like their counterparts i the natural gas industry, customers purchase wholesale electricity as the "delivered" combination of generation and transmission services. FN / Thus, the relevant market includes all suppliers whose combined "netback" and transportation costs would be competitive at California delivery points. FN / The relevant geographic market is the WSCC because that is "the region from which generators will be able to bid power into the Power Exchange." FN /

The relevant product market includes "all" effectively unregulated delivered electricity which can compete in the Power Exchange for residual wholesale electricity demand. FN / Within the WSCC, the total capacity of competitive gas-fired, hydro, and coal plants exceeds 150,000 MW. These resources will compete for the demand remaining in the PX after sales of price-regulated must-run and must-take capacity are completed. As in the gas industry, there are numerous buyers and sellers in the wholesale electricity market, strong interactions between generation and transmission prices, and highly cointegrated prices at delivery points.

1. Alleged "Swing Capacity" Markets

The relevant product market for wholesale electricity cannot be meaningfully limited to "swing capacity" producers. Edison and other intervenors implicitly allege a product market consisting of generation with "full load marginal costs" FN / within some range FN / of the variable costs of producing electricity on Edison and other WSCC gas-fired plants. Intervenors contend that gas-fired plans with their relatively high production costs will be the only firms bidding at or near the "clearing Prices" established by the Power Exchange. This proposed market, however, excludes Bonneville Power and other "inframarginal" suppliers located throughout the WSCC FN / that are equally likely to establish the clearing price. FN /

Intervenors exclude these other generation sources by implicitly assuming that out-of-state participants do not incur opportunity costs. FN / Theoretically, PX participants will offer wholesale electricity at their marginal supply costs, including fuel and other variable production expenses. FN / In addition, however, the relevant economic cost to out-of-state sellers FN / will include returns foregone by selling to the Power Exchange instead of other western United States buyers. FN / The existence of these opportunity costs explains why gas is not "the" marginal fuel, FN / why out-of-state suppliers will equalize the PX and prevailing WSCC prices FN / and, at least in part, why gas and electricity prices are weakly correlated in southern California. FN / Their existence also means that the relevant product market includes the output of "inframarginal," out-of-state suppliers. FN /

2. The Temporal Dimension

Similarly, the relevant market is not time-sensitive. A relevant market includes all firms which would respond to a hypothetical a"small but significant and nontransitory" price increase. FN /

As discussed above, WSCC suppliers can sell electricity throughout the grid during both peak and off-peak hours. FN / Some intervenors have suggested that the relevant market will be limited during peak hours. FN / It is true that during those periods, supply costs increase as some firms begin to reach capacity and (in some cases) as individual transmission paths become congested. These transitory, geographically dispersed costs increase price volatility. Even so, there is no evidence that, during peak periods, any WSCC firms withdraw from the market or that any out-of-state suppliers will be systematically excluded from the PX. In fact, price data shows that even before FERC issued Order 888 the major California delivery points were highly cointegrated during peak periods with the rest of the WSCC.

C. The Relevant Intrastate Gas Transportation Market

Although the applicants and many intervenors combine it with the interstate gas market, a separate relevant market can be defined for intrastate gas transportation and storage services within southern California. Ten years ago, SoCalGas and PG"&E were the principal

suppliers of these services. Since the completion of their intrastate extensions in 1992, Kern River and Mojave pipelines have also competed for transportation services to EOPR and related cogeneration loads. Private pipelines provide additional competition.

Despite this recent competition, SoCalGas has maintained significant market power over these services. SoCalGas controls most of the intrastate capacity within southern California, including all transportation facilities located within Los Angeles, Orange and Riverside Counties. FN / Moreover, as the extended kern River and Mojave pipeline application process demonstrated,potential suppliers face substantial regulatory entry barriers. A controlling market position reinforced by high regulatory barriers to entry is strong evidence of market power. FN / SoCalGas also price discriminates between transportation customers, and can sometimes discount without Commission approval. FN / The ability to persistently price discriminate between similarly situated customers also implies that a seller possesses market power. FN /

V. THE COMPETITIVE EFFECTS

Mergers are generally categorized as "horizontal," "vertical," or "conglomerate." The competitive effects of a merger are assessed by first defining the relevant markets and then determining whether the merged entity will have an enhanced ability to profitably skew price or output from competitive levels. FN / Under the DOJ/FTC Guidelines, the effects of a "horizontal" merger depend upon several related factors, including changes in concentration levels, entry conditions,a nd efficiency enhancements. The government's vertical merger guidelines "recognize only three possible anticompetitive effects: that vertical mergers might create entry barriers, facilitate horizontal coordination, or allow a regulated firm to evade rate regulation." FN / A failure to properly define the relevant markets is fatal to a plaintiff's prima facie case. FN / A plaintiff must also demonstrate "probabilities"--not "ephemeral possibilities"--of anticompetitive effects within those markets. FN /

A. The Vertical Integration of SoCalGas Intrastate Gas Transmission and SDG&E Wholesale Electricity Operations

Although this merger has some horizontal feathers, the primary link between the applicants is the gas transportation services SoCalGas provides to SDG&E. Those transportation services are an important component in the cost of generating electricity to SDG&E and other gas-fired plants in southern California. Vertical integrations do not, however, "automatically have an anticompetitive effect." FN / This is because, unlike horizontal consolidations, vertical mergers do not eliminate competitors from the market. FN / The vertical integration resulting from this merger, in particular, will not adversely affect competition in the wholesale electricity market because Agreement B negates any incentive of SDG&E (or the merged entity) to manipulate PX prices.

Even without the restrictions of Agreement B, however, out-of-state suppliers would defeat any attempt by the merged entity to manipulate the price of wholesale electricity sold in southern California. FN / The total capacity of plants supplied by SoCalGas is 15,837 MW. These plants will compete with aggregate WSCC, out-of-state capacity exceeding 100,000 MW FN / for California's relatively modest "residual" demand. Because out-of-state suppliers account for their opportunity costs, FN / the resulting PX price will equal the prevailing WSCC spot price. Price data -- as opposed to simulation models -- demonstrate that WSCC prices are competitively determined. Neither SoCalGas nor the merged entity will have the ability to profitably deviate prices from competitive levels within that market.

1. The Intervenors' Vertical Integration Models

The Intervenors have failed to demonstrate with "probabilities" that the integration of these vertically-related operations will have adverse competitive effects in any relevant market. Relying upon an engineering simulation instead of price data, FN / the Edison"swing capacity model" discussed above ignores opportunity costs incurred by low cost producers and fails to define a cognizable relevant market. Similarly, SCUPP cites a vertical integration model which assumes that inputs are consumed only by suppliers in the endproduct market. FN / That assumption does not hold in this case, where core and other noncore customers consume the vast majority of the gas transportation input gas-fired plants used to generate the wholesale electricity endproduct. Because both models assume that all suppliers employ the same technology to produce the endproduct, they also fail to account for other sources of competition in the wholesale market (e.g., hydro and coal general plants.) FN / Finally, and most important, neither model reflects the incentives of suppliers offering a price-regulated output, such as electricity sold by the merged entity under Agreement B.

2. Futures Markets

Edison, SCUPP and other intervenors also allege that the merged entity could "unfairly benefit" from vertical integration by manipulating wholesale electricity prices after it purchased contracts in the futures markets. FN / Thus, they contend, the merged entity would essentially trade on "inside" information. FN / As before, however, the merged entity would still be unable to manipulate wholesale prices and the merger would not enhance any existing ability of SoCalGas to profit in the futures markets. FN / Moreover, adverse effects upon competition within the futures markets -- which are characterized by their liquidity and ease of entry and exit FN / -- are extremely unlikely. FN / In any event, the hypothetical conduct would be unlawful under the Commodity Futures Trading Act.

3. The Kern River and Mojave Pipeline Purchase Options

Kern River claims that the merged entity can extract increased supracompetitive profits in the wholesale electricity market by exercising its options to purchase in 2012 the

California operations of the Kern River and Mojave pipelines. FN / This theory, which relies upon the swing capacity model, again overstates the significance of gas-fired generation and ignores the ability of an independent SoCalGas to obtain available supracompetitive profits. FN /

Kern River also ignores the competitive nature of the purchase options, whose effects should be assessed from the perspective of the original settlement agreements. Economic efficiency considerations require courts to establish rights and obligations "ex ante;" i.e., on the date on which a crucial choice was made. FN / In 1987, SoCalGas and PG&E dominated transportation service markets in southern California. The purchase options, which the applicants contend were integral to the settlements between the parties, permit Kern River and Mojave to compete for those services from 1987 to 2012. If the parties had not settled their dispute, entry by those two pipelines would have been delayed and the subsequent competition they furnished would have been reduced. Abrogating the purchase options now would reduce incentives of other firms to enter into similar pro-competitive settlements in the future.

In addition, the year 2012 effective date allows purchasers and alterative suppliers a substantial period in which to respond the possible exercise of these options FN / In any event, predictions about competitive effects 15 years into the future are highly speculative, particularly when they concern markets as dynamic as the rapidly changing gas industry. FN / We conclude that the purchase options, which contemplated increased competition within the intrastate market and which will not endow the surviving entity with additional market power, should not be abrogated by the merger.

4. The Applicants' "Remedial Measures"

Although this vertical integration does not "create" market power, it could alter the manner in which SoCalGas exercises its existing market power over intrastate transportation services. SoCalGas now exercises market power by discriminating in the price of services charged to gas-fired generation plans and other potential "bypass" customers. The merger will not provide new opportunities for profitable price or non-price FN / discrimination. We are also not aware of any evidence that the merged entity would use its market power to require simultaneous competitive entry into the gas and electricity markets or to facilitate coordination between SDG&E and other WSCC suppliers.

In fact, the remedial conditions proposed by the applicants will reduce the ability of the merged entity to engage in either price or non-price discrimination. Those proposed conditions expand FERC's requirement that Order 497 govern intrastate transactions between SoCalGas and SDG&E and other marketing affiliates. Order 497 generally requires interstate gas pipelines to treat their marketing and other affiliates and "similarly situated persons" on a non-discriminatory basis. Here, the applicants will retain their ability to price discriminate, but they have agreed to submit any planned discounts to the Commission for approval. In addition, they

have agreed to refrain from discriminating in the provision of various types of services, including: the application of tariff provisions; transportation scheduling, balancing, storage, or curtailments; the processing of transportation requests; the disclosure of transportation information; and the offering of intrastate transportation discounts. FN /

B. Horizontal Effects in the Intrastate Gas Transportation, "Gas Procurement" and Retail Gas Markets

The principal horizontal feature of this merger is the consolidated ownership of the applicants' gas procurement functions. FN / Both of the applicants purchase gas in the interstate market for their core and some of their noncore customers and SDG&E makes significant purchases for its electricity generation plants. In 1996, SoCalGas and SDG&E gas purchases averaged 963 FN /and 255 FN / MMcf/d, respectively, while total production in the relevant interstate market averaged 24,000 MMcf/d. FN / Thus, SoCalGas and the merged entity would account for approximately four and five percent, respectively, of purchases within the unconcentrated four basin gas market. We assume for within the unconcentrated four basin gas market. We assume for purposes of analyzing this merger that SoCalGas is among the largest purchasers in the western United States. Following the Guidelines, we conclude from this assumed distribution of buyers that the merger of the two companies will have an insignificant effect upon competition in the interstate gas market. FN /

The merger will also combine the two companies' partially deregulated non-core gas retailing functions. FN / Although both applicants currently distribute gas to non-core customers, PUC rules significantly restrict the ability of SoCalGas to compete for such sales within its service area. FN / Moreover, neither firm has made non-core sales outside its service area. FN / In 1996, total non-core sales in southern California averaged 1821 MMcf/d. FN / SoCalGas and SDG&E sales to non-core customers during that year averaged 58 and 144 MMcf/d, respectively. FN / We conclude that the consolidation of these non-competing, relatively limited operations will not adversely affect competition for non-core retail services.

C. Potential Competition for Intrastate Gas Transportation and Electric Retail Services

This merger may eliminate SDG&E as a limited potential competitor in the market for intrastate gas transportation services. The demand for intrastate transportation in southern California is approximately 1 Bcf per day for SoCalGas core customers, between 125 and 300 MMcf per day for SDG&E, FN / and approximately 1 Bcf per day for other noncore customers. The Project Vecinos agreement between the applicants and other evidence suggests, although not conclusively, that the threat of independent entry by SDG&E has provided some discipline to this less than fully competitive, high-entry-barrier market. We recommend that the Commission consider requiring SoCalGas to auction a volume of transmission rights over its system equal to the average SDG&E load.

The courts recognize two theories under which a merger between potential competitors may be challenged. The actual potential competition doctrine -- which is so speculative that it has never provided the basis for a successful challenge FN / -- applies if the acquiring firm would have "probably" entered a concentrated market, thereby providing significant procompetitive effects. FN / SDG&E may present a "threat of competitive entry by a bypass pipeline" and it may be an "attractive anchor customer" for pipeline construction "within" California. FN / The courts, however, require showings of an intent to enter FN / that go beyond evidence of generalized abilities and incentives. To avoid speculation, FN / they also require a showing that entry will occur, not in the "reasonably foreseeable" future, but in the near future. FN / We are not aware of any evidence that SDG&E had current or even reasonably contemporaneous plans to enter the gas transportation market.

1. The Perceived Potential Competition Doctrine

A merger may also be challenged if the acquiring firm is a "perceived potential entrant." This doctrine applies if the acquiring firm is "(1) perceived by existing firms as a potential independent entrant and (2) has exercised a tempering impact on the competitive conduct of existing sellers." FN / In this case, SDG&E may have tempered the pricing of intrastate transportation services by threatening to bypass the SoCalGas system. Thus, in 1988, SDG&E considered building a pipeline to directly interconnect with the El Paso system. FN / SDG&E considered at least two other bypass proposals during the next six years. FN / Finally, in 1994, the parties entered into their Project Vecinos Revenue Sharing Agreement, where SoCalGas agreed to reduce transportation rates by an amount equal to: "the potential benefits that SDG&E would have received had it partially or totally bypassed SoCalGas by utilizing transportation services from a pipeline constructed in Baja California. FN /

Despite this tempering effect, it is unclear if SDG&E is a current entry threat or if the Kern River pipeline and other suppliers view SDG&E as a potential entrant to the intrastate market. Because the Revenue Sharing Agreement remained confidential until recently, FN / these other suppliers may not have recognized that SDG&E was considering bypass alternatives. Similarly, because SDG&E would have to build dedicated facilities to bypass SoCalGas, SDG&E entry or withdrawal may not affect price or output levels elsewhere in the market. More important, SDG&E may not still be a potential supplier of intrastate services. Although SDG&E would constitute a valuable "anchor tenant," FN / perceived potential competition doctrine applies to suppliers, not customers, which have the ability to compete with their merging partners. Unfortunately, the record fails to clarify these issues.

If the Commission does conclude that SDG&E is a significant potential competitor, we recommend that it require the merged entity to auction transmission rights over the SoCalGas system equal in volume to the average SDG&E load which will be withdrawn from the intrastate market. Following SCUPP, we suggest that buyers of those rights obtain undivided interests based on contract paths "from an established point of receipt to an established point of delivery." FN / Those auctioned rights will constitute an alternative source of intrastate transportation, thereby offsetting the loss of SDG&E as a potential competitor. We propose an auction, with a long run marginal cost (LRMC) minimum bid, because it will ensure that the highest valued users receive these rights and because it will help reimburse SoCalGas for losses in the value of its system. Finally,m because the competitive effects of SDG&E withdrawal from the intrastate market appears somewhat

isolated, we suggest that the Commission establish this auction in separate proceedings following the completion of this merger.

2. The Retail Electric Services Market

IID alleges that SoCalGas is a potential competitor for retail electric sales within its gas distribution area. FN / For the actual potential competition theory to apply, entry must have a deconcentrating or other significant procompetitive effect. This predicate effect will not exist "if there are numerous potential competitors," because the elimination of one of many "would not be significant." FN /

As the applicants demonstrate, however, Edison and the Los Angeles Department of Water & Power already provide retail services within that region and 92 other companies, including eight of the leading firms in the industry, have already registered as Energy Service Providers with the Commission. FN / Furthermore, SoCalGas has no competitive retail affiliates and limited experience within the electricity industry. FN /There is also no evidence that Pacific had "actual" plans to provide such services or that Pacific's entry would have had significant procompetitive effects in any retail electricity markets. We conclude that the elimination of SoCalGas as a potential supplier would not have a significant effect upon competition in any California retail electricity market.

VI. RETENTION OF JURISDICTION

This office recognizes the uncertainty of the transition to the restructured system of wholesale electricity sales and transmission that will go into effect on January 1, 998. Although we believe it is unlikely, we acknowledge the possibility that out-of-state sellers will fail to discipline the pricing of electricity sold by the merged entity. We do expect, however, that SoCalGas will continue to provide intrastate transportation services to the vast majority of gas-fired generation plants within southern California. In the unlikely event that the merged entity can manipulated the PX price, plants supplied by the Kern River and Mojave pipelines and plants subject to "take-or-pay" contracts may provide valuable competition in the restructured market. Accordingly, we recommend that the PUC, during its continuing review of the competitiveness of the wholesale market, specifically examine the pricing practices of the merged entity and the relationship between those practices and the operation of the Commission consider retaining jurisdiction over this merger for a period of two years for the purpose of reexamining the limited questions of whether: (1) the merged entity has used its intrastate system to manipulate the price of electricity it sells in the wholesale market; and (2) whether abrogating the Kern River and Mojave pipeline options and the take-or-pay options would limit the ability of the merged entity to engage in such practices.

VII. CONCLUSION

The only difficult factual issue raised by this merger is whether the applicants are potential competitors in the intrastate gas transportation market. The merger has no adverse "horizontal" effects because competition between the applicants is limited to such areas as the vast interstate gas market and non-core gas retailing. Vertical effects are also negligible because wholesale electricity offered by the merged entity will be subject to the constraints of comprehensive price regulation mandated by ISO Agreement B. In addition, out-of-state WSCC sellers, which are highly integrated with southern California during both peak and off-peak hours, would defeat any attempt by the merged entity to manipulate wholesale electricity prices. Edison's swing capacity model comes to an opposite conclusion by overlooking the fundamental concept of opportunity costs.

Some evidence does suggest that SDG&E is a potential supplier of intrastate gas transportation services. If the Commission finds that evidence persuasive, we recommend that it consider, in proceedings subsequent to the completion of this merger, requiring SoCalGas to auction a volume of intrastate transmission rights equal to the SDG&E load which will be withdrawn from the market by this merger. This remedy would introduce competition into the intrastate market, thereby offsetting any adverse effect of the merger and reducing incentives to construct duplicative, "uneconomic bypass" facilities. Finally, we recommend that the Commission retain limited jurisdiction over this matter for a period of two years during which it can review whether the merged entity uses its intrastate system to manipulate the price of electricity it sells in the wholesale market.

FN ./ See San Diego Gas & Electric Co., 79 FERC &61,372 (1997) ("FERC June 1997 Merger Order").
FN ./ Exhibit 14, Chapter 3, at 11 ("Stewart Rebuttal").
FN ./ Stewart Rebuttal at 9-10.
FN ./ See Opinion of the Attorney General on Competitive Effects of Proposed Merger between Pacific Telesis Group and SBC Communications, Inc., 79 Cal.Ops.Atty.Gen. 301 (1996); Opinion of the Attorney General on Competitive Effects of Proposed Merger of American Telephone & Telegraph Company and McCaw Cellular Communications, Inc., 77 Cal.Ops.Atty.Gen. 50 (1994); Opinion of the Attorney General on Competitive Effects of Proposed Merger of GTE and Contel Corporations, Submitted Pursuant to PU Code Section 854(b)(2); Opinion of the Attorney General on the Proposed Acquisition of San Diego Gas and Electric Company by SCEcorp, the Parent of Southern California Edison Co., 73 Cal.Ops.Atty.Gen. 366 (1990).
FN ./ Section 854(b) provides in pertinent part:

Before authorizing the merger, acquisition or control of any electric, gas, or telephone utility organized and doing business in this state . . ., the commission shall find that the proposal does all of the following:

(1) Provide short-term and long-term benefits to ratepayers.

(2) Equitably allocates, where the commission has ratemaking authority, the total short-term and long-term forecasted economic benefits, as determined by the commission, of the proposed merger, acquisition, or control, between shareholders and ratepayers. Ratepayers shall receive not less than 50 percent of those benefits.

(3) Not adversely affect competition. In making this finding, the commission shall request an advisory opinion from the Attorney General regarding whether competition will be adversely affected and what mitigation measures could be adopted to avoid this result.
FN ./ Applicants' Opening Brief, at 86. These QF facilities included 67 MW capacity wastewood, 30 MW capacity hydroelectric, and 37 MW capacity landfill projects. Application at 16 n.11.
FN ./ SDG&E wholesale sales are "economy energy sales and short-term sales of capacity." FERC June 1997 Merger Order, mimeo at 6.
FN ./ Exhibit 2 at 30 ("Hieronymous Direct").
FN ./ According to SCUPP, SDG&E "represents a total load of about 350 MMcfd." Exhibit 105 at 52 ("Yap Direct").
FN ./ Hieronymous Direct at 30. In fact, San Diego Gas & Electric purchases its gas supplies from out-of-state producers, and transports them to San Diego over interstate pipelines and the SoCalGas intrastate system. Exhibit 104 at 6 ("Taylor Direct").
FN ./ Application at 30.
FN ./ The applicants state that AIG is the nation's 15th largest gas marketer and the 19th largest

electricity marketer. Exhibit 14, Chapter 1 at 44 ("Hieronymous Rebuttal"). Edison claims that AIG is the tenth largest gas marketer in the United States. Exhibit 209 at 17 ("Carpenter Rebuttal").

FN ./ Hieronymous Direct 6.

FN ./ Following "guidance" proceedings, FERC conditionally approved the ISO and PX on October 30, 1997. Pacific Gas and Elec. Co., San Diego Gas & Elec. Co., and Southern Cal. Edison Co. 81 FERC &61,122 (1997) ("FERC October 1997 ISO/ PX Order"). See Pacific Gas and Elec. Co., San Diego Gas & Elec. Co., and Southern Cal. Edison Co., 77 FERC &61,204 (1996) ("FERC November 1996 ISO/ PX Order"); Pacific Gas and Elec. Co., San Diego Gas & Elec. Co., and Southern Cal. Edison Co., 77 FERC &61,265 (1996) ("FERC December 1996 ISO/ PX Order"), and Pacific Gas and Elec. Co., San Diego Gas & Elec. Co., and Southern Cal. Edison Co., 80 FERC &61,128 (1997) ("FERC July 1997 ISO/ PX Order").

FN ./ Exhibit 2, Attachment A, Chapter III at III-9: Southern California Edison Company and San Diego Gas & Electric Company Report on Horizontal Market Power Issues ("Hieronymous MBR").

FN ./ Hieronymous Direct at 5. Firm purchases during 1996 were 1,434 MW. Id.

FN ./ Hieronymous Direct at 5 n.7.

FN ./ "After the transition period, the Companies' participation in the PX will be voluntary." FERC December 1996 ISO/ PX Order, mimeo at 2.

FN ./ End users who pay exit fees, however, can "directly access" suppliers in the wholesale market which are "interconnected to the ISO grid (directly or through wheeling arrangements)." Exhibit 2, Attachment A at I-5.

FN ./ After January 1, 1998, "utilities that join the ISO and PX will sell the output from their generating stations into the PX." Yap Direct at 75. "A uniform market-clearing price for PX buyers in a congestion management zone will be established based on the cost of the marginal generator in the zone for each hour." FERC December 1996 ISO/ OX Order, mimeo at 3.

FN ./ The Commission ordered Edison and PG&E to sell at least 50 percent of their fossil-fuel-fired generation capacity. FERC December 1996 ISO/ PX Order, supra, at 26. PG&E will divest nearly all of its gas-fired capacity. Exhibit 125, Chapter 2 at 77 ("Graves Direct"). Edison's Board of Directors has voted to divest all 9,600 MW of its gas generation. Id.

FN ./ Graves Direct at 84.

FN ./ The schedules devised by the PX, however, "are subject to adjustment by the ISO for reliability and congestion management purposes." FERC November 1996 ISO/ PX Order, supra, at 61,804.

FN ./ "The price received for energy sold into the PX will be established through a 'second price auction.' . . . [Thus,] the highest cost unit that is needed in order to meet the hour's demand will establish the price for power in that hour." Yap Direct at 75.

FN ./ "Must-run" units, would be "certain generating units the Companies would designate to provide necessary support services to the transmission system at cost-based rates." FERC December 1996 ISO/ PX Order, mimeo at 34-35 n.48. Under "call contracts" proposed by the

IOUs, these must-run units "would be paid a reservation fee or demand charge to be available. When that unit is required by the ISO to generate for reliability purposes, it would be paid its variable operating costs. When it is not required to generate, it would be treated like any other generator, i.e., it would be dispatched based on its bid and paid the market price." FERC December 1996 ISO/ PX Order, mimeo at 25-26.

FN ./ ISO Agreement B discussed below "provides an availability payment which covers the annual contribution to the initial capital investment, fixed fuel costs, fixed annual O&M costs, and annual auxiliary power costs; it also provides a payment for running costs when a unit is called to run." FERC October 1997 ISO/ PX Order, supra, at 251.

FN ./ FERC October 1997 ISO/ PX Order, supra, mimeo at 219-20. SDG&E expects to enter into "Agreement B," which "is intended for units that can participate in the market profitably in some periods but not in others."

FN ./ FERC December 1996 ISO/ PX Order, mimeo at 34 n. 48. "In the restructured California energy market, at least during the initial years of operation, nuclear units, QF contracts and pre-existing wholesale purchase contracts will not be bid into the PX and market-based prices will not apply to their output. Instead, these will be regulatory must-take resources scheduled by the ISO." Exhibit 2, Attachment B at &30: Affidavit of Joe D. Pace ("Pace MBR").

FN ./ Pace MBR at &27.

FN ./ Hieronymous MBR at III-15.

FN ./ ISO Agreement A will actually govern SDG&E from January 1, 1998 to April 1, 1998, after which Agreement B will be effective. "[T]he ISO has committed to revise the Agreement [B] by October 31, 1998." FERC October 1997 ISO/ PX Order, supra, mimeo at 225.

FN ./ FERC October 1997 ISO/ PX Order, supra, mimeo at 251; Hieronymous Rebuttal at 5 n.1.

FN ./ Proposed Decision of ALJ Minkin, A.96-08-001, slop op. at 50 (Oct. 20, 1997).

FN ./ FERC October 1997 ISO/ PX Order, supra, mimeo at 233-235.

FN ./ / An ISO "Oversight Board" will (1) establish nominating/ qualification procedures and determine the composition of the board representation and select the ISO and PX Governing Board members and (2) serve as a permanent appeal board for reviewing ISO Governing Board decisions. FERC November 1996 ISO/ PX Order, supra, at 61,817.

FN ./ See Hieronymous Direct at 21.

FN ./ FERC November 1996 ISO/ PX Order, supra at 61,799.

FN ./ See FERC July 1997 ISO/ PX Order, supra, at 26-27; FERC November 1996 ISO/ PX Order, supra, at 61,828-61, 834 (discussing congestion pricing).

FN ./ Stewart Rebuttal at 4.

FN ./ Line 401 runs from the California-Oregon border at Malin to the Kern River Station. That line, which went into service on November 1, 1993, has an average annual firm capacity of 755 MMcf per day.

FN ./ Stewart Rebuttal at 4. Edison claims, though, that SoCalGas does not "list Hector as a delivery point." Carpenter Direct at 37-38.

FN ./ Stewart, Rebuttal at 4. IID estimates that the system capacity is 3,700 MMcfd. Exhibit 104 at 23 ("Taylor Direct").
FN ./ Stewart Rebuttal at 9.
FN ./ Taylor direct at 5; Stewart Rebuttal at 3. See Yap Direct at 69. The SoCalGas "noncore throughput excluding SDG&E's load exceeds 1 bcf/d." Stewart Rebuttal at 32.
FN ./ Exhibit 115 at 25 ("Roach Direct"); Taylor Direct at 6.
FN ./ Id.
FN ./ SCUPP alleges that the intrastate system is an "essential facility." YAP direct at 65.
FN ./ Stewart Trans. at 2595.
FN ./ Stewart Trans. at 2556.
FN ./ SoCalGas estimates core demand from a statistical model and noncore demand from gas nomination information. Stewart Rebuttal at 5.
FN ./ "[O]ut-of-state sources supplied the vast majority -- approximately 84% -- of the total demand in southern California in 1996." Carpenter Direct at 21.
FN ./ Stewart Rebuttal at 5.
FN ./ See Stewart Trans. at 2560-2563. See also Stewart Trans. at 2407-2411, 2414 (discussing the consequences to SoCalGas under the Gas Cost Incentive Mechanism (GCIM) "of not meeting injection or withdrawal targets or storage levels").
FN ./ Stewart Rebuttal at 5. "SoCalGas owns all of the approximately 115 Bcf of gas storage in southern California. SoCalGas reserves 70 Bcf of this capacity for its core customers, reserves 5 Bcf for balancing, and markets the remaining 40 Bcf to noncore customers." Taylor Direct at 44.
FN ./ Carpenter Direct at 49.
FN ./ Stewart Trans. at 2401; Stewart Rebuttal at 7.
FN ./ A custody cut occurs when SoCalGas notifies an interstate pipeline that it cannot accept the full amount of gas nominated for delivery at a particular receipt point. Approximately 600 custody cuts occurred in 1995 and 1996. SoCalGas matches the window at that receipt point by pro-rating shippers' nominations. Carpenter Direct at 34.
FN ./ See Carpenter Direct at 31-37; Stewart Trans. at 2551-2557. SoCalGas imposes Rule 30 when its system is overnominated. Carpenter Direct at 35. SoCalGas has "called" Rule 30 events six times in 1997. Carpenter Direct at 36.
FN ./ Stewart Trans. at 2406-2409, 2547-2555; Stewart Rebuttal at 6-7.
FN ./ Re Gas Utility Procurement Practices and Refinement to the Regulatory Framework for Gas Utilities, D.91-11-025, mimeo at 20; 41 CPUC 2d 668 (1991) (CPUC 1990). See Exhibit 14, Chapter 2 at 9 n.24 ("Leitzinger Rebuttal").
FN ./ SoCalGas estimates that it posts transactions on GasSelect "within the hour." Stewart Trans. at 2578.
FN ./ Stewart Trans. at 2575-2576, 2583.
FN ./ Stewart Trans. at 2577.
FN ./ See Broadman and Kalt, How Natural Is Monopoly? The Case of Bypass in Natural Gas Distribution Markets, 6 Yale J. on Reg. 181 (1989); Kelly, Intrastate Natural Gas Regulation:

Finding Order in the Chaos, 9 Yale J. on Reg. 365 (1992); Pierce, Intrastate Natural Gas Regulation: An Alternative Perspective, 9 Yale J. On Reg. 407 (1992). Because PG&E and SoCalGas have "exclusive service territories," PG&E cannot "offer any customer in SoCalGas" service area direct connection to Line 300-A or -B." Stewart Trans. at 2776-2777.

FN ./ Exhibit 114, Chapter 1, at 5-7 ("Larsen Direct"); Exhibit 114, Chapter 2 at 9 ("Wadlington Direct"); Stewart Rebuttal at 34-35 ("There appears to be no dispute that Kern River only acceded to provide SoCalGas the option to purchase its California facilities as a means to induce SoCalGas and the Commission to withdraw their opposition before the FERC"); Stewart Trans. at 2524-2525, 2783-2786; Roach Direct at 63; Yap Direct at 58-60.

FN ./ Roach Direct at 25.

FN ./ Hieronymous Direct at 28.

FN ./ See Taylor Direct at 12, 51 ("SoCalGas provides gas transportation to SDG&E at less than the regulated rate because SDG&E could bypass SoCalGas gas transportation."); Yap Direct at 52-53. But see Stewart Rebuttal at 38 (contending that SDG&E merely shifted risk by agreeing to pay a higher demand charge and lower volumetric rate).

FN ./ Larsen Direct at 9. See Stewart Trans. at 2744 ("we compete vigorously against bypass and against all kinds of bypass and against all kinds of bypass including by wire and everything else"), 2772-2775 (referring to "local gas production as a form of competition," and competition from "municipalization efforts similar to Vernon's"); Leitzinger Rebuttal at 30 ("new construction" has "been a source of competitive discipline in the pipeline business"); Roach Direct at 69 (estimating that Kern River customers pay approximately 18% less for their transportation services).

FN ./ Yap Direct at 50.

FN ./ Stewart Rebuttal at 31. See Leitzinger Rebuttal at 31.

FN ./ Stewart Rebuttal at 20.

FN ./ The CPUC established the ITCS in Decision No. 91-11-025, Re Gas Utility Procurement Practices and Refinement to the Regulatory Framework for Gas Utilities, 41 CPUC 2d 668 (1991). The ITCS for any shipment equals the difference between "the maximum rates charged by the interstate pipelines for firm capacity" ("as-billed rate") and the actual shipping rate. The PUC capped ITCS charges recoverable from core customers at 10 percent of the core's total capacity reservation costs. D.91-11-025, mimeo at 51. Noncore customers, including Edison, pay all additional ITCS costs. The PUC annual "BCAP" proceedings establish the size of these ITCS funds and transfer balances from year to year. The amount SoCalGas and other intrastate pipelines can recover from ITCS funds is also limited, in some cases, by settlements which have discounted the maximum rate which the end-user must pay. Since May 1, 1996, SoCalGas has also offered "released" capacity on interstate pipelines at rates "posted" on "electronic bulletin boards" for all requirements beyond those of its core customers. As SoCalGas releases capacity, resulting revenues reduce the ITCS surcharge amount.

FN ./ See Stewart Trans. at 2744.

FN ./ Leitzinger Rebuttal at 8.

FN ./ Doane and Spulber, Open Access and Evolution of the U.S. Spot Market for Natural Gas, 37 J.L. & Econ. 477, 479 (1994); Black and Pierce, The Choice between Markets and Central Planning in Regulating the U.S. Electricity Industry, 93 Columbia L.Rev. 1339, 1343 (1993) (the electricity industry combines "production of wholesale electricity; transmission of bulk power over high-voltage lines from power plants to local geographic areas; and distribution of power to retail customers").
FN ./ DOE/ EIA, Natural Gas 1996, Issues and Trends, at 40 (Washington, D.C. Dec. 1996). Thus, each "pipeline was a link in a supply chain from a field whose resources were dedicated by contract to that line to the distribution company which was obligated by contract to buy gas from the pipeline." DeVany and Walls, The Emerging New Order in Natural Gas, at 5 (Quorum Books 1995).
FN ./ Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol under Part 284 of the Commission's Regulations, F.E.R.C. Stats. & Regs. (CCH) &30,939, at 30,396 (1992). See Black and Pierce, supra, at 1351; Pierce, Reconstituting the Natural Gas Industry from Wellhead to Burnertip, 9 Energy L.J. 1 (1988).
FN ./ The 1978 Natural Gas Policy Act, together with FERC Order 436 and the 1989 Decontrol Act, removed all controls over the wellhead price of natural gas. Order 636, supra, at 30,397. "Take or pay" disputes subsequently arose, however, because price regulation was retained for "old," "high cost," and other subcategories. "By the end of 1986, $10 billion worth of contracts were involved in take-or-pay disputes." Doane & Spulber, supra, at 483.

"Take-or-pay liabilities arise from a typical provision in a contract between an LDC and a gas producer which obliges the LDC to take a minimum volume of gas from the producer or pay for it anyway." Kelly, supra, 9 Yale J. on Reg. at 361 n.16. Order 436 "gave pipelines facing mounting take-or-pay liability the right to convert their sales obligations under their wellhead contracts to transportation entitlements from other suppliers." Fagan, From Regulation to Deregulation: The Diminishing Role of the Small Consumer within the Natural Gas Industry, 29 Tulsa L.J. 707, 721 (1994). FERC Order 500 attempted to resolve further disputes by, among other things, allowing the establishment of a "gas inventory charge" (GIC). Lyon and Hackett, Bottlenecks and Governance Structures: Open Access and Long-term Contracting in Natural Gas, 9 J. Law. Econ. & Org. 380, 387 (1993). Order 500, however, "fared poorly on judicial review." United Distribution Cos. v. F.E.R.C., 88 F.3d 1105, 1125-26 (D.C. Cir. 1996).
FN ./ DOE/ EIA, supra, at 40.
FN ./ Leitzinger Rebuttal at 16.
FN ./ Leitzinger Rebuttal at 25.
FN ./ Regulation of Natural Gas Pipelines after Partial Wellhead Decontrol, F.E.R.C. Stats. and Regs. &30,665 (1985), vacated and remanded, Associated Gas Distributors v. FERC, 824 F.2d 981 (D.C. Cir. 1987).
FN ./ Doane & Spulber, supra, at 477; Order 636, supra, at 30,396.

FN ./ "Among the central goals of Order Nos. 436 and 636 has been the conversion of bundled sales arrangements into separate transportation and gas sales transactions. On the transportation side, the Commission recognized that while much of the nation's interstate pipeline capacity was reserved for firm transportation those transportation rights ultimately were not being utilized . . . . FERC therefore sought to develop an active 'secondary transportation market,' with holders of unutilized firm capacity rights reselling them in competition with any capacity offered directly by the pipeline." United Distribution Cos. v. F.E.R.C., Circuit Review: September 1992-August 1993, 62 Geo. Wash.L.Rev. 718, 740 (1994) ("Order 636 mandates pipelines to 'unbundle' their gas services" and "offer the same quality of service to all potential customers, irrespective of where the gas was purchased.")

FN ./ "Brokering arrangements allowed a holder of firm capacity rights (the "releasing shipper") to sell those rights to a 'replacement shipper.' The transaction took place directly between the two parties and the replacement shipper essentially stepped into the shoes of the releasing shipper." United Distribution Cos., supra, 88 F.3d at 1149.

FN ./ Id.

FN ./ Edison alleges that, in developing that offer, SoCalGas can "take as tough a negotiating stance as it wants because there is no regulatory requirement for it to release any of the capacity it holds and the ITCS guarantees full recovery of all cost associated with the capacity." Opening Brief of Southern California Edison, at 40. Edison further alleges that "SoCalGas' minimum bid, minimum take, and other capacity release practices -- by withholding capacity from the market -- have the potential to raise the price of gas at the southern California border from what it otherwise would have been." Carpenter Direct at 53. As indicated below, however, this theory fails to account for the full extent of the competition that exists throughout the four basin interstate market. It also fails to explain how SoCalGas can limit supply in a market where unused capacity rights revert to the pipeline, which can then sell that capacity as interruptible transportation. Leitzinger Rebuttal at 20. Finally, Edison fails to reconcile its theory that SoCalGas capacity releases occur at prices under the initial opening offer." Stewart Rebuttal at 25; Leitzinger Rebuttal at 25.

FN ./ Leitzinger Rebuttal at 19. "[E]ach interstate pipeline is required to establish and administer an electronic bulletin board ('EBB') . . . The EBB carries information about available and consummated capacity release transactions. For example, holders of excess firm capacity rights may 'post' their available capacity on the EBB . . . . Pipelines are also required to post on the EBB any firm capacity that they have available for sale, where the capacity competes for buyers against capacity made available for resale by shippers." United Distribution Cos., supra, 88 F.3d at 1150.

FN ./ United Distribution Cos., supra, at 1150-1151. FERC requires that end users contract with gas producers during "bid week." Bid week "generally occurs about the last week of the previous month." Exhibit 353, Vol. I, at 56:2-4 ("Lorenz Depo.").

FN ./ Leitzinger Rebuttal at 21. See Yap Direct at 21.

FN ./ Stewart Rebuttal at 22. Transwestern and El Paso substantially increased the capacity of

those pipelines in 1991, and again in 1996. Leitzinger Rebuttal at 24. See Stewart Rebuttal at 23.
FN ./ PG&E "transports this gas across northern California to an interconnection with the SoCalGas system in Kern County, providing access to Canadian gas supplies for customers in southern California." Taylor Direct at 33.
FN ./ Leitzinger Rebuttal at 16; Leitzinger Trans. at 3148, 3155.
FN ./ Following its line 401 expansion, PG&E likewise increased its transportation of Canadian gas into California, while announcing plans to terminate its 1.14 Bcf/ d capacity contract with El Paso. Leitzinger at 21.
FN ./ Leitzinger Trans. at 3164. Edison notes that El Paso and Transwestern carry gas to California "from Canada via Northwest pipelines." Carpenter Direct at 21.
FN ./ Leitzinger Trans. at 3167. See Samuels, supra, 62 Geo.Wash.L.Rev. at 722 (Gas service is either provided on a firm or interruptible basis.)
FN ./ Leitzinger Rebuttal at 16.
FN ./ Leitzinger Rebuttal at Exhibit JJL-6, 24 (discussing "netback pricing"); Leitzinger Trans. at 3149-50. See also Leitzinger Rebuttal at 16 ("(T)o compete for southern California customers Canadian producers on some occasions agreed to contract pricing involving a netback price starting with the price of southwest gas delivered to southern California"); Leitzinger Trans. at 3145 ("if the price of transportation capacity goes up, it has the effect of lowering the basin price").
FN ./ Black and Pierce, supra, at 1348.
FN ./ Order No. 888, Promoting Wholesale Competition through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, F.E.R.C. Stats. & Regs. (CCH) &31,036 (1996). FERC also effectively deregulated non-firm transmission services. Id. at 31,743.
FN ./ Black and Pierce, supra, at 1349.
FN ./ Black and Pierce, supra, at 1350.
FN ./ Cities of Anaheim, Cal. et al. v. Southern Cal. Edison Co.,, 1990-2 Trade Cases &69,246 at 64,899-64,900 (C.D.Ca. 1990), aff'd 955 F.2d 1363 ("Anaheim v. Edison").
FN ./ Exhibit 379 at 4: DeVany and Walls, Open Transmission and Spot Markets for Power (July 1997) ("DeVany and Walls"). See Hieronymous Direct at 16-17 ("the WSCC transmission grid . . . is characterized by a great number of interconnections and includes companies with transmission ownership and rights covering wide geographic areas.") The WSCC includes two regional transmission groups, the Western Regional Transmission Association and the Northwestern Regional Transmission Association, both of which require members to provide open access, comparable service tariffed transmission services. WRTA, 71 FERC &61,158 (1995); NWRTA, 71 FERC &61,397 (1995).
FN ./ The WSPP, a power pool consisting of approximately 70 WSCC members, allows participating electric utilities to sell economy energy, capacity service and transmission service at "rates determined between predetermined price floors and ceilings." WSPP, 55 FERC &61,099 at

61,300. In approving the WSPP, FERC set the ceiling rate for power sales at 'sellers' forecasted incremental cost plus up to . . . 18.3 mills/ kWh." Id. at 61,321. Because WSPP and other applicable price ceilings are rarely binding, however, the vast majority of WSCC sales are effectively unregulated. Hieronymous Trans. at 2971. See Graves Direct at 96 (referring to "(largely) unregulated generation").

FN ./ Graves Direct at 84. The annual average WSCC load is 82,000 MW. Graves Direct at 79.

FN ./ The network provides multiple, alternative connections between generating plants, substations, and load centers, as well as multiple interconnections with other control areas, utilities and regions." DeVany and Walls, supra, at 6.

FN ./ LADWP, for example, obtains power from generation units located in the eastern half of Montana. Hieronymous Direct at 17. Likewise, after January 1, 1998, TRW will obtain power for its 44 California facilities from Montana Power Group. See TRW to Switch to Montana Energy Firm, Los Angeles Times (Orange Cty.), Nov. 6, 1997, at D1.

FN ./ See Hieronymous Trans. at 2973-2974 ("[A] loop flow . . . refers to the fact that electrons flow in the path of least resistance according to Kirchoff's laws. And so despite that you have a contract path from A to B, the electrons may actually go from A to C to B, or may even never get to B as electrons at all, and that's a loop flow. It loops around the area covered by the contract path.").

FN ./ Hogan, Contract Networks for Electric Power Transmission, 14 J.Reg.Econ. 211, 215 (1992) (also noting that "[o]ne of the most important economic implications of this prevalence of loop flow is that the power transmission highway is very unlike other highways, and analogies comparing other highways, railroads, or pipelines can be quite misleading").

FN ./ Hieronymous Trans. at 2976.

FN ./ DeVany and Walls, supra, at 3 n.2.

FN ./ De Vany and Walls, supra, at 2, 15.

FN ./ Cointegration is a statistical relationship which "occurs when variability over time in two respective data series which cannot be associated with a trend in either series individually is closely related as between those data series." Leitzinger Rebuttal at 12. See Michaels and De Vany, Market-Based Rats for Interstate Gas Pipelines: The Relevant Market and the Real Market, 16 Energy L.J. 299, 327 (1995) ("If two areas are in the same competitive market, their prices will inhabit a band whose width reflects the cost of arbitrage. Those costs include transportation, risk exposure, and information about profitable opportunities. If competition exists, it will quickly bring disparate prices back within their arbitrage limits. . . . If the cost of arbitrage varies little over time, two areas are in the same market if the difference between their prices is relatively constant. The statistical technique known as cointegration provides a criterion under which to determine the relative constancy of such a difference.").

FN ./ Hieronymous Trans. at 2978.

FN ./ "Any interfacing utility (or generators/ sellers with access to an interface) can sell into the PX and will be treated comparably to other market participants operating in the PX area."

FERC December 1996 ISO/ PX Order, mimeo at 4; FERC July 1997 ISO/ PX Order, mimeo at 18 (rejecting a "special settlement rule" and related "reciprocal transmission service" requirements). In our Reply Comments of Attorney General of California on Electric Industry Restructuring Proposals, R. 94-04-031 (Aug. 24, 1995), this office noted that an earlier version of the PX, which prohibited "Direct Access" transactions and which did not clearly permit sales into the PX by out-of-state suppliers, was vulnerable to coordinated bidding. We do not believe the formulation of the PX approved by FERC contains that defect.

FN ./ Joskow MBR at II-57 ("Other capacity, including that owned by entities other than the IOUs, and all of the IOUs' generating capacity that is divested or otherwise brought to market, is free to enter into physical bilateral contracts as an alternative to bidding into the PX. These contracts will be confidential and presumably could facilitate secret price cuts and output expansion that would further undermine the potential for coordinated pricing behavior by sellers in the PX.").

FN ./ Hogan, Contract Networks for Electric Power Transmission, 14 J.Reg.Econ. 211, 216 (1992).

FN ./ Nevertheless, FERC conducted such an analysis in one of its reviews of the PX and ISO. See FERC December 1996 ISO/ PX Order, mimeo at 22.

FN ./ In the WEPEX proceedings before FERC, Edison contended that "there will in fact be large quantities of resources chasing a relatively small residual demand curve." Joskow MBR at II-51. In Table 14 of its submission, Edison noted that its "must-take" resources "include [its] nuclear units (2,222 megawatts), its QF purchases (3,688 megawatts), and its purchases from other utilities (2,002 megawatts)." Joskow MBR at II-45. Demand in "SCE's control area" ranges between a low of around 5,670 megawatts and a peak of around 13,500 megawatts. Accordingly, Edison roughly estimated that residual demand in its control area will vary between 837 and 5499 megawatts. PG&E faces similar supply and demand schedules. These amounts are a small percentage of supplies available from California and out-of-state suppliers in the wholesale market.

In fact, Edison argued that the capacity of the transmission system connecting California to out-of-state suppliers easily satisfies demand. Thus, for Edison, the lines from the desert Southwest "were never constrained and [have been] never even particularly close to being constrained" (Joskow MBR, at II-20) and the capacity of North to South lines have never been fully loaded. Joshkow MBR, at II-20. similarly, "there has been an abundance of unused transmission capability into SCE's control area at . . . high demand times -- 5,303 megawatts on average during summer peak hours, 6,056 megawatts on average during summer mid-peak hours, and 6,165 megawatts on average during winter mid-peak hours." Joskow MBR, at II-48.

The capacity of transmission lines from the Pacific Northwest includes 3200 megawatts over the Pacific Intertie (PACI), 1600 megawatts over the California Oregon Transmission Project (COTP) and 3500-3800 megawatts over Path 15. Pace MBF, at 24, 26.

Power over these lines flows to southern California over the Midway to Vincent path. Joskow MBR, at II-21. Another path, the PDCI, "goes around PG&E's area and directly interconnects the Pacific Northwest with southern California." Pace MBR, at 24, 28. Although Path 15 can be individually constrained, these lines have so much excess capacity in the aggregate that 95 percent of the time, over 2,374 megawatts of their capacity was unused in 1995. Joskow MBR, at II-20. See also Pace MBR, at 25.

FN ./ Hogan defines the "efficient" short-run price of transmission as the difference between prices at delivery points. See Hogan, supra, at 214, 233.

FN ./ DeVany and Walls at 12-13, Table 2.

FN ./ Landes and Posner, Market Power in Antitrust Cases, 94 Harv. L.Rev. 937, 978 (1981).

FN ./ Id.

FN ./ Schmalensee, On the Use of Economic Models in Antitrust: The ReaLemon Case, 127 U.Pa.L.Rev. 994, 1010 (1979).

FN ./ Fisher, Diagnosing Monopoly, 19 Q.Rev.Econ. & Bus. 7, (Summer 1979).

FN ./ U.S. v. Connecticut National Bank, 418 U.S. 656, 668 (1974). See also Stigler and Sherwin, The Extent of the Market, 28 J.L. Econ. 555, 556 (1985) ("[T]he market area embraces the buyers who are willing to deal with any seller, or the sellers who are willing to deal with any buyer, or both.")

FN ./ Spiller and Huang, On the Extent of the Market: Wholesale Gasoline in the Northeastern United States, 33 J.Ind,.Econ. 131, 133 (1985). Spiller and Huang note: "Arbitrage costs, however, do not necessarily separate producers in different markets. Consider the case of two different geographic regions with one continuously exporting to the other. Prices will differ exactly by the arbitrage costs, and the two regions will be in the same economic market." Id. at 133 n.7.

FN ./ Areeda & Turner, 2 Antitrust Law &522a.

FN ./ See Leitzinger Rebuttal at 3, 10 (including within the relevant market "those locations where gas is bought and sold along the interstate gas supply network extending from [basins in the western United States] to points of interconnection with local California gas distribution systems"). See also Yap Direct at 29 (essentially alleging effects in the interstate market [see Leitzinger Rebuttal at 3] and referring to supplies from the "southwestern U.S., Rocky Mountain, and Canadian regions," but limiting the buyers within her proposed market to southern California customers). FERC uses "delivered gas" as the relevant product in its analysis and IID contends that the relevant product is "natural gas delivered to the burner tip." Taylor Direct at 32, 33. The relevant market employed by the applicants is generally equivalent to the combined interstate gas and intrastate gas transportation markets employed here.

FN ./ Stewart Rebuttal at 21.

FN ./ "The ability of customers to contract independently for pieces of the network acts both to discipline price differences along the network and bring locations across the network into competitive association with one another. Not only does the network mean that producers in the various basins compete and that pipelines serving the different basins compete, it also means that

producers in one basin discipline pipeline charges in other basins and vice versa." Leitzinger Rebuttal at 16.
FN ./ Various intervenors allege a delivered gas product market, but they apparently exclude from the geographic market delivered gas supplies which can be economically transported to California. See FERC at 20.
FN ./ Leitzinger Rebuttal at Exhibit JJL-2.
FN ./ Leitzinger Rebuttal at 21.
FN ./ See Yap Direct at 29 (alleging a southern California gas procurement market).
FN ./ Interruptible and short term firm transmission are strong substitutes for capacity rights held by SoCalGas on the El Paso and Transwestern pipelines. Leitzinger Rebuttal at 19. Because these rates interact so strongly with commodity prices, interstate gas transportation is not a separate product market. Leitzinger Rebuttal at 23 (discussing "derived demand"). Similarly, "inframarginal" southwest supplies, which have no price advantage at the California border, are included within the broader relevant market. Leitzinger Rebuttal at 14.

Edison alleges that the price of gas at the southwest border determines the price of gas coming from Canada and Rocky Mountain basins because the southwest is the "marginal supply region for California." Carpenter Direct at 24-25. It is true that prices at those basins are very strongly related. Leitzinger Rebuttal at 13, 26. We conclude in the absence of evidence of collusion, however, that those highly volatile prices are competitively determined. See Carpenter Direct at 27 ("gas prices vary significantly on a daily basis").
FN ./ Market share statistics are often misleading, however, and their value is particularly dubious when a proposed market is part of an integrated network. This is because any grouping composed of only a part of the network (such as the proposed capacity release and southern California gas procurement markets) will lack the required "gap in the chain of substitutes."
FN ./ Rebel Oil Co., Inc. v. Atlantic Richfield, 51 F.3d 1421, 1434 (9th Cir. 1995); Ryko Mfg. Co. v. Eden Serv. 828 F.2d 1215, 1232 (8th Cir. 1987). Thus, isolated concentration figures are inherently meaningless. See Lades and Posner, supra; Pace MBR at &23 (referring to "concentration statistics . . . calculated slavishly or interpreted mechanistically").
FN ./ FTC v. Indiana Fed'n of Dentists, 476 U.S. 447, 460-61 (1986); Rebel Oil, supra, at 1434.
FN ./ Hieronymous Trans. at 2979. Prior to open access, transmission services constituted separate product markets. See Town of Concord, supra, at 29; Anaheim v. Edison, supra, at 64,899-64,900.
FN ./ Hieronymous Rebuttal at 11. Thus, spot prices at Palo Verde and California "should be identical on a netback basis. That is, the Palo Verde price should equal the California electricity price, less the cost of interruptible transmission. The reason, simply, is that if electricity is available from Palo Verde at a lower price than the incremental price of producing it in California, utilities will purchase rather than generate." Id.
FN ./ Graves Direct at 78. In 1990, a federal district court rejected the WSCC as a relevant

geographic market because plaintiff wholesale purchasers "were not completely free to purchase bulk power from . . . other suppliers in the wester United States." Anaheim v. Edison, supra, at 64,899. FERC Order 888, however, subsequently provided wholesale purchasers with that freedom. See also Town of Concord, Mass. v. Boston Edison Co., 915 F.2d 17, 30 (1st Cir. 1990); Lopatka, The Electric Utility Price Squeeze as an Antitrust Cause of Action, 31 UCLA L.Rev. 563, 611 (1984).

FN ./ Similarly, FERC found that the relevant product was: "all capacity whose variable costs are no more than 5% above the market price," which FERC equated with the "cost of gas-fired steam generation." FERC June 1997 Merger Order, mimeo at 22. FERC, however, excluded out-of-state supplies from its analysis because the "Applicants did not prepare a delivered price analysis." Id.

FN ./ Joskow MBR at II-42.

FN ./ Edison contends that in "off-peak periods bid are likely to be fairly close to short run variable cost (mostly fuel cost)." Graves Direct at 96.

FN ./ Of the total WSCC capacity, coal plants account for 26 percent, gas/ oil for 21 percent, hydro for 33 percent, nuclear for 6 percent, geothermal for 1 percent, and remaining plants for 13 percent. Yap Direct at 78.

FN ./ See, e.g., Roach Direct at 32, who "stacked" power plants within the WSCC from lowest to highest cost, and excluded "plants owned by competitive power suppliers" by "view[ing]" them as "must run." These plants, in fact, are not must run and their incentive will be to bid their full marginal costs, including their opportunity costs, into the PX.

FN ./ Thus, Edison claims that, "The reason that competition from generators outside California to import power [sic] does not counteract the effect of higher gas prices is that the margin of the WSCC supply curve is dominated by California gas capacity. The inexpensive hydro, coal and nuclear capacity that is available from out-of-state (as well as in-state) generating stations is being utilized most of the time in any case, so it is inframarginal and does not directly affect the electricity price." Carpenter Direct at 85-86. It is true that some plant owners must consider the costs they incur throughout the day as those of a joint product, requiring them to calculate all bids simultaneously. Hieronymous Trans. at 2983-2984. See Hirshleifer, Peaks Loads and Efficient Pricing, 72 Q.J. Econ. 451 (1958). In general, however, out-of-state suppliers have sales alternatives throughout the WSCC and they "are going to bid where the prices are the highest, that's their incentive." Hieronymous Trans. at 2989.

FN ./ Edison contends that in "off-peak periods, bids are likely to be fairly close to short run variable cost (mostly fuel cost)." Graves Direct at 96.

FN ./ California utilities, on the other hand, will not recognize such costs because they will be required to sell their entire output to the Power Exchange.

FN ./ See Pace MBR at 40-41, 48, 57 (noting that swing analysis "fails to capture one extremely important source of potential supply responsiveness -- that is, the ability of owners with hydroelectric resources . . . to shape the output of those resources in an effort to maximize their

value"). See also Graves Direct at 86 (explicitly recognizing the concept of opportunity costs and its applicability to the analysis of competition within the WSCC).

FN ./ Contrary to the positions taken by the applicants and other parties in this proceeding, when several types of generation sell electricity in California, gas will not be the marginal fuel, even if it (along with coal or hydro or other types of fuel) is on the margin, and even if gas-fired generation has the highest variable costs. See Taylor Direct at 13, 52 (gas fired generation is "expected to be the marginal generation"); Hieronymous Trans. at 2866; Hieronymous Rebuttal at 10 (referring to the "production of hours that gas delivered to southern California generators is the marginal fuel).

FN ./ Hieronymous Trans. at 2980.

FN ./ While the correlation between gas and electric prices is only .22 (Hieronymous Rebuttal at 11; Surrebuttal at 9), wholesale rates throughout the WSCC are strong cointegrated. See De Vany and Walls, supra.

FN ./ Moreover, as then Judge Bryer recognized in assessing the market power of a low cost generation supplier, the "'extra profit' resulting from lower costs is not a monopoly profit," and the existence of these "economic rents" is "consistent with a perfectly competitive marketplace." Town of Concord, supra at 30. In a competitive market like the WSCC, the "opportunity costs" to a low cost firm foregoing alternative sales will equal its scarcity rents, which are the difference between the market price and its production costs.

FN ./ Merger Guidelines '1.01; State of N.Y. v.Kraft General Foods, Inc., 926 F.Supp. 321, 359 (S.D.N.Y. 1995).

FN ./ Hieronymous Trans. at 2976.

FN ./ Edison contends that "for the few percent of hours near peak demand (perhaps a few hundred out of 8760 hours per year), it is very likely that the marginal bid will substantially exceed short run costs of the marginal unit, particularly once the supply of peaking generation in the region tightens up." Graves Direct at 97. In fact, the optimal bid in a competitive auction will include variable and opportunity costs during both peak and off-peak periods.

FN ./ Yap Direct at 49.

FN ./ See U.S. v. Syufy Enterprises, 903 F.2d 659, 672 n.21 (9th Cir. 1990).

FN ./ Hieronymous Direct at 28.

FN ./ Posner, Antitrust Law: An Economic Perspective, at 63 (1976). It is not clear, however, whether SoCalGas has market power over those customers whose transmission rates re at the tariff level. See State of Ill. of ex Rel. Hartigan v. Panhandle Eastern, 730 F.Supp. 826, 905 (C.D. Ill. 1990).

FN ./ See U.S. v. Connecticut Nat'l Bank, 418 U.S. 656, 669 (1974).

FN ./ Areeda and Hovenkamp, Antitrust Law, '1015.1 (1977) Supp.).

FN ./ U.S. v. Mercy Health Services, 1995-2 Trade Cases &71,162.

FN ./ Section 7 "deals in 'probability,' not 'ephemeral possibilities.'" U.S. v. Marine Bancorporation, Inc., 418 U.S. 602, 622-623 (1974). "There must be 'the reasonable probability' of a substantial impairment of competition to render a merger illegal under '7. A 'mere possibility'

will not suffice." Fruehauf Corp. v. F.T.C., 603 F.2d. 345, 351 (2nd Cir. 1979).
FN ./ Fruehauf Corp. v. F.T.C., 603 F.2d 345, 351 (2d Cir. 1979), citing R. Posner, Antitrust Law, An Economic Perspective 200 (1976). In fact,the FTC and the DOJ "appear not to have challenged a purely vertical transaction during the period from 1981-1993." Roscoe B. Starek, III, Reinventing Antitrust Enforcement? Antitrust Enforcement at the FTC in 1995 and Beyond, Remarks at "A New Age of Antitrust Enforcement: Antitrust in 1995" (Marina Del Rey, CA Feb. 24, 1995).

In general, "there is but one maximum monopoly profit to be gained from the sale of an end product." See Town of Concord, 915 F.2d 17, 23 (1st Cir. 1990) (nothing that "several members of the Supreme Court have pointed out [this] 'widely accepted' (albeit 'counterintuitive') economic argument"). It is for this reason that the "government's 1984 vertical merger guidelines are not concerned . . . with the possible use of vertical integration to 'leverage' monopoly from one market into another." Areeda & Hovenkamp, supra, &1015.1. See also 3A Areeda & Hovenkamp, Antitrust Law, &756b at 12; Western Resources, Inc. v. Surface Transp. Bd., 109 F.3d 782 (D.C. Cir. 1997); Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536 (1991), cert. denied, 112 S.Ct. 1603 (1992).

Relying in part upon the single monopoly rent theory, Judge (now Supreme Court Justice) Breyer rejected a claim in town of Concord that the defendant utility manipulated the price of input generation and transmission services to "squ

eeze" the plaintiff in the endproduct delivered wholesale electricity market. Here, the endproduct is also delivered wholesale electricity, but the inputs are interstate gas, intrastate gas transmission, and electricity transmission. "[A] price squeeze occurs when the integrated firm's price at the first level is too high, or its price is too low, for the independent to cover its costs and stay in business." Town of Concord, supra, 915 F.2d at 18. The swing capacity theory advanced by the intervenors essentially alleges that the merged entity will "squeeze" the gas-fired plants served by SoCalGas. See Yap Direct at 67. Because SoCalGas tariff rates are not binding for all noncore customers,t his merger presents a mixture of the regulated and unregulated cases analyzed in the Town of Concord decision.
FN ./ Areeda & Turner, 2 Antitrust Law &527a at 376 (978).
FN ./ Apart from the issue of whether out-of-state competition constrains SoCalGas transportation rates, it is also highly questionable whether the merged entity would benefit from higher rates. As the applicants note, "SDG&E's share of revenues from SONGS is subject to the incentive-based ratemaking mechanism approved by the Commission in D.96-01-011 and D.96-04-059. Under this mechanism, the market price of electricity will have no impact on SDG&E's earning from SONGS through 2003." surrebuttal at 18. For other plants, higher transportation costs will reduce the stranded costs recoverable by the merged entity during the four year transition period, during which time AB 1890 has "frozen" retail electricity rates. The merged entity must recover all of these stranded costs through a Competitive Transition Charge ("CTC") which expires in 2002.

FN ./ See WSCC, Summary of Estimated Loads and Resources (April 1997).
FN ./ Edison acknowledges the applicability of the opportunity cost concept to the analysis of competition within the WSCC and, similarly, that suppliers will bid into the PX what "they believe the market will bear." Graves Direct at 86, 96.
FN ./ It is widely understood that "[a]lternative simulation models can give substantially different results." Lande & Langenfeld, The Evolution of Federal Merger Policy, 11 Antitrust at 9 n. 22 (Spring 1997). Thus, "the answers may come flowing out of the machine highly dependent upon the approach, depending upon how the data are handled, depending upon the framework, the functional form, and the method of estimation. . . . [I]n an adversarial setting with different data sets, lack of cooperation, and a very narrow group of players, only a few of whom understand the technical issues, the outcome can be really skewed." Interview with Economist Robert D. Willig, 11 Antitrust 11, at 13 (Spring 1997).

In this case, Edison and the applicants rely upon swing capacity models to support their positions on the questions of whether the merged entity would have the ability and incentive to manipulate California electricity prices. The applicants' PROSYM/ MULTISM model, based upon assumptions listed on "four inches of printout material," uses a "cost minimization approach. . . to identify the lowest cost mix of generators available to serve the electric load." Hartman Trans. 2434; Surrebuttal at 5. Inputs to the model include "fuel prices, transmission line, and pathways, and the ratings on those pathways." Hartman Trans. at 2434. From the resulting least-cost mix, the hourly marginal clearing price is "calculated based on the marginal generator's marginal cost and allocation of that particular generator's commitment costs during the peak period load period." Surrebuttal at 6. This model predicts that increased gas prices (Hartman Trans. at 2459-2461) would reduce electricity sales by SDG&E and other southern California gas-fired plants (Hartman Trans. at 2449, 2452), increase sales for plants locate din other parts of the WSCC (Hartman Trans. at 2449, 2452-55), and reduce revenues for the merged entity (Surrebuttal at 18).

Edison employed the Inter-Regional Market Model (IREMM) of the WSCC to predict the effect on California electricity prices of "changes in the price of gas delivered to the California boarder. Graves Direct at 84. This model "segments" the market into California and the remainder of the WSCC and "forecast[s] the market price of electricity by simulating power trades between electric utilities or market areas based on opportunities to buy and/ or sell electricity." Graves Direct at Attachment H. The IREMM model predicts that "a 5 per cent gas price increase translates to a 3.8 per cent electricity price increase." Graves Direct at 85.

For reasons discussed above, we conclude that both of those models are highly misleading because of their failures to account for competition from low cost, out-of-state supplies. Both models also overstate electricity revenues resulting from gas price increases because they assume the merged entity will receive the PX price, instead of the levels set forth in Agreement B. We do

note, however, that PROSYM/ MULTISYM, unlike IREMM, can simulate the effects of cost increases to gas-fired plants located in southern California. Graves Trans. at 3408. We also note Edison's admission that a hypothesized increase in electricity revenues resulting from higher gas prices would be more than offset by reduced transportation revenues. Gravel Trans. at 3407.

FN ./ Riordan and Salop, Evaluating Vertical Mergers: A Post-Chicago Approach, 63 Antitrust L.J. 513 (1995). In any event Riordan and Salop overstate the circumstances under which variable proportion models predict adverse competitive effects from vertical integration. See Reiffen and Vita, Comment: IS There new Thinking on Vertical Mergers? 63 Antitrust L.J. 917 (1995). Moreover, the economic model upon which Riordan and Salop apparently rely contains extremely limiting gage theory assumptions which necessarily restrict its applicability. Id. at 924-33 (noting that model uses a "static . . . game to analyze premerger equilibrium [which] shift[s] implicitly to a multi-stage, dynamic game to analyze post-merger conduct"); Remarks of Roscoe B. Starek, III, supra, at 8 (noting that vertical integration models "are notorious for their lack of generality -- their inability to predict likely as distinguished form possible, effect even under the most strictly devised theoretical conditions -- and for ignoring procompetitive rationales for vertical mergers that have greater empirical support"). Thus, Reiffen and Vita warn, "[e]nforcers must have some reason to believe that a particular model -- and a particular (anticompetitive) equilibrium of that model -- better describes behavior than some alternative model." Id. at 928.

FN ./ See Areeda & Hovenkamp, supra, at &759c at 38 ("When [a] primary market monopolist integrates into a competitive secondary market, no injury to competition is ordinarily apparent. . . . [This form of integration] -- is a clear candidate for a rule of absolute legality.").

FN ./ See Yap Direct at 102-120.

FN ./ Yap Direct at 108.

FN ./ Ensource or some other affiliate of SoCalGas could theoretically benefit from precisely the same machinations today." Applicants' Opening Brief, at 112.

FN ./ A seller wishing to corner a market must be able to limit supply. The supply of futures contacts is not "fixed," however, because the total volume of contracts promising future delivery expands with each new contract that is written. See Hieronymous Trans. at 2982 ("People can just come piling into the market."). See also Easterbrook, Monopoly, Manipulation, and the Regulation of Futures Market, 59 J. of Business S103, S109 (1986 ("Entry and exit [into futures markets] are so easy that monopoly cannot thrive."). Moreover, sellers wishing to corner a futures market must also control the underlying commodity market. See Sanner v. Board of Trade of City of Chicago, 62 F.3d 918, 927 (7th Cir. 1995) (recognizing that cash and futures markets move together).

FN ./ Few, if any, futures markets have been successfully cornered within the past 20 years. Hieronymous Trans. at 2981. See Easterbrook, supra, 59 J. of Business at S111 n. 7 ("n one has ever seriously alleged, let alone documented, a manipulation of a financial futures contract"). The Hut Browers did attempt to monopolize silver futures, but their unsuccessful efforts cost them several billion dollars. Hieronymous Trans. at 2981; Easterbrook, supra, 59 J. Business at S110

n.5.
FN ./ See Roach Direct at 73, Yap Direct at 58-60, Beach Direct at 31.
FN ./ We agree that the merged entity may be able to enhance its market power over intrastate gas transportation services by exercising those options, but there is no evidence that the gas-fired generation served by SoCalGas and these other two pipelines actually have market power in the broad wholesale electricity market.
FN ./ See Easterbrook, The Supreme Court 1983 Term; Forward: The Court and the Economic System, 98 Harv.L.Rev. 4, 10-12 (1984).
FN ./ A new pipeline can be built in one to four years. Steward Trans. at 2526.
FN ./ See Schuykill Energy Resources, Inc. v. Pennsylvania Power & Light Co., 113 F.3d 405 (3d Cir. 1997) (rejecting as speculation claims about competitive conditions in electricity markets in the year 2001).
FN ./ Edison and other intervenors contend that the merged entity could raise the costs of rival gas-fired generation plants by manipulating the windows into the SoCalGas transportation system to force re-routings or renominations of gas supplies. We conclude, however, that SoCalGas lacks the ability to impose such costs with the "surgical precision" alleged by these intervenors. As the applicants point out, "there is no significant or persistent advantage to be gained [for UEGs] by buying at one location over the others." Leitzinger Rebuttal at 26. In fact, when SoCalGas imposes Rule No. 30 restrictions, customers may still deliver up to the sum of 110% of their expected daily usage plus their firm storage injection rights. Stewart Rebuttal at 6. Thus, overnominations have not caused any plant to curtail operations within the past several years. Hieronymous Rebuttal at 8.
FN ./ To preclude the transfer of "inside" information, the applicants have also agreed to maintain an interactive EBB reservation and information system for its gas transportation network which would report all significant operational data, including maintenance and system status information. In addition, SDG&E will separately nominate and schedule its UEG volumes over the EBB and obtain CPUC approval before providing transportation discounts to any affiliates. Finally, groups responsible for gas operations will operate independently the gas acquisitions and marketing groups and of SDG&E employees providing "electric merchant functions."
FN ./ The Southern California Public Power Authority contends that the merger will adversely affect competition within an alleged "BTU" product market. Sinclair Direct at 21. The Power Authority fails, however, to provide any evidence of a significant cross-elasticity of demand between electricity and gas. See United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 404 (1956). In fact, there is a significant cost difference between gas and electricity for those applications were substitution is theoretically possible. Hieronymous Rebuttal at 32. Moreover, evidence that the two resources are jointly marketed is wholly inconclusive, and may suggest that they are actually complements. We conclude that a significant "gap" exists in the "chain" between these two hypothetical substitutes, and that "BTUs" is not a cognizable relevant product for purposes of reviewing this merger.
FN ./ Yap Direct at 32.

FN ./ Yap Direct at 34.
FN ./ Leitzinger Rebuttal at Exhibit JJL-2.
FN ./ In fact, because the procurement activities of the two companies will not be combined, market share statistics overstate the market power of the combined entity. See Leitzinger Rebuttal at 28.
FN ./ Until recently, PUC rules prohibited the companies from competing for sales to core customers. Hieronymous Rebuttal at 30.
FN ./ Hieronymous Rebuttal at 30.
FN ./ Id.
FN ./ Hieronymous Rebuttal at 31.
FN ./ Id.
FN ./ Stewart Trans. at 2781.
FN ./ Broadley, Potential Competition under the Merger Guidelines, 71 Ca. L.Rev. 376, 378 (1983). Areeda and Hovenkamp also question the doctrine as a basis for a section 7 violation. Agreeda and Hovenkamp, Antitrust Law ' 1118 (1996 Supp.).
FN ./ Marine Bancorporation, supra, at 630-32.
FN ./ See Yap Direct at 48, 55; Taylor Direct at 53. But see Stewart Rebuttal at 32 (noting that SDG&E loads are increasingly fragmented).
FN ./ Tenneco v. F.T., 689 F.2d 346 (2d Cir. 1982). See B.A.T. Indus., 104 F.T.C. 852 (the "best evidence . . . is likely to be subjective").
FN ./ See BOC Int'l Ltd. v. FTC, 557 F.2d 24, 29 (2d Cir. 1977) (rejecting a finding of "eventual" entry as "uncabined speculation").
FN ./ Republic of Texas Corp. v. Board of Governors of the Fed. Reserve Sys., 649 F.2d 1026, 1047 (5th Cir. 1981) (demonstrating entry in the "reasonably foreseeable future" was insufficient); BOC Int'l, supra, 557 F.2d at 29.
FN ./ Tenneco, supra, at 355; Merger Guidelines ' 4.11.
FN ./ Exhibit 3985 at Response to Request 6.16.
FN ./ Id.
FN ./ Yap Direct at 53.
FN ./ Yap Direct at 184.
FN ./ The anchor tenant theory advanced by some intervenors, although presented as a potential competition question, essentially alleges that the merger will vertically "foreclose" opportunities for Kern River and other competitors in the intrastate gas transportation market. The issue may have been reframed because the courts view foreclosure allegations in vertical merger cases with considerable skepticism. See Alberta Gas Chems. v. E.I. du Pont de Nemours, 826 F.2d 1235, 1244 (3d Cir. 1987) cert. denied, 486 U.S. 1059 (1988); 4 Areeda & Turner, Antitrust Law & 1004, at 211 (foreclosure argument has "grave weaknesses").
FN ./ Yap Direct at 61.
FN ./ Taylor Direct at 35.
FN ./ Mercantile Texas Corp., 638 F.2d at 1267. See also U.S. v. First National State

Bancorporation, 499 F. Supp. 793, 814 (D.N.J. 1980).
FN ./ Hieronymous Rebuttal at 42-43.
FN ./ Hieronymous Rebuttal at 43.