

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

Application of San Diego Gas & Electric)
Company (U 902 E) for a Certificate of Public) A.02-07-022
Convenience and Necessity for the)
Miguel – Mission 230kV #2 Project)

**DECLARATION OF MICHAEL MARTIN
ON BEHALF OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR**

Charles F. Robinson, General Counsel
Grant A. Rosenblum, Regulatory Counsel
California Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630
Telephone: 916-351-4400
Facsimile: 916-351-2350

Attorneys for the
California Independent System Operator

Dated: April 5, 2004

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

Application of San Diego Gas & Electric)
Company (U 902 E) for a Certificate of Public) A.02-07-022
Convenience and Necessity for the)
Miguel – Mission 230kV #2 Project)
_____)

**DECLARATION OF MICHAEL MARTIN
ON BEHALF OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR**

I, Michael Martin, declare as follows:

I am a Market Design Engineer with the California Independent System Operator (“CAISO”). I have been employed with the CAISO since May 1998 and specifically a Market Design Engineer since October 2000. As a Market Design Engineer, I am responsible for developing business requirements, including solutions that address the Intra-zonal Congestion. In the last six months, I have collaborated in efforts detailing the issues and solutions to Intra-zonal Congestion at the Miguel Substation, including consideration of the addition of the Miguel - Mission transmission line.

The purpose of this declaration is to provide the information requested by the Joint Assigned Commissioner and Administrative Law Judge’s Ruling and Scoping Memo, issued on March 24, 2004, in the above-captioned proceeding (“Scoping Memo”). In particular, the Scoping Memo requested that the CAISO provide the following information:

- a. Describe “the financial effect of managing the intra-zonal congestion, including Reliability-Must-Run costs that would be relieved by the Miguel-Mission project.”
- b. “[I]nclude a table that describes these effects to ratepayers of Southern California Edison, SDG&E, and Pacific Gas and Electric Company for each month between July 2002 and February 2004 in dollars.”

- c. “[E]stimate these costs for the first five years following construction of the facilities, assuming a June 2006 completion date.”
- d. “[E]xplain how changes in congestion management, referred to in a letter to the Commission dated February 20, 2004 from Jim Detmers, might affect congestion costs during the period following construction of the Miguel Mission line.”
- e. Explain any differences in the analysis provided by the CAISO and that presented in I.00-11-001, and referred to in D.03-02-069.

The Scoping Memo also asked SDG&E to respond to seven enumerated items. Item 4 asked: “Are the Sempra and Intergen plants currently operating at full capacity? If not, at what levels are they producing power? How much of that power is being transported to California on existing transmission lines? How, if at all, would their operation be affected in the event the MM project was not constructed?” In addition to the items directly addressed to the CAISO, I will also provide information on SDG&E item number 4.

CAISO Items a and b – Describing the Financial Effects of Intra-Zonal Congestion

Although the Scoping Memo requests that the CAISO describe the effects of Intra-zonal Congestion beginning in July 2002, significant and chronic levels of Intra-zonal Congestion only became prevalent at the Miguel Substation beginning in July 2003 with commencement of operation of La Rosita Units 1 and 2 (470 MWs) owned by Intergen and the Termoelectrica de Mexicali (“TDM”) facility (600 MWs) owned by Sempra. For instance, Intra-zonal Congestion costs for the entire CAISO control area totaled approximately \$1.4 million for all of 2002 and approximately \$800,000 for the first six months of 2003. (See, e.g., 2002 Annual Report, <http://www.caiso.com/docs/2000/07/27/2000072710233117407.html>.) Accordingly, my declaration focuses on the period from July 2003 through March 2004. It should be noted, however, that the Intergen and Sempra units are not the only new generating units contributing to the increase in congestion and congestion costs at the Miguel Substation. In addition, new generation located in the Hassayampa Arizona area with flows injecting into Palo Verde and in Mexico at La Rosita injecting into the CFE inter-tie also have significant energy flow impacts on the Miguel Substation.

As further foundational information, under the CAISO’s current zonal forward market design, the CAISO has no way to resolve Intra-zonal Congestion in its forward Day-ahead and

Hour-ahead markets. These markets only address congestion on the major Inter-zonal interfaces with external control areas and on Paths 15 and 26. All unresolved Intra-zonal Congestion is addressed in real-time through dispatch of real-time Imbalance Energy bids and, in some areas such as San Diego, dispatch of Reliability-Must-Run (“RMR”) units. In general, the CAISO takes the following steps to alleviate Intra-zonal Congestion: (1) dispatch in-sequence market bids if available (incremental bids are selected to increase output, while decremental bids are selected to reduce output); (2) increment RMR units if effective to alleviate congestion; and (3) dispatch out of sequence incremental or decremental energy bids. Under the CAISO’s compliance filing with the Federal Energy Regulatory Commission (“FERC”) regarding Amendment No. 50 to the CAISO Tariff, an independent third party – Potomac Economics – calculates decremental reference energy curves for all units within the CAISO control area, including the Intergen and Sempra units, which the CAISO uses to produce a merit order list of decremental reference bids to be utilized for real-time dispatch to relieve Intra-zonal Congestion.¹

Table A below sets forth the estimated costs incurred to relieve Intra-zonal Congestion at the Miguel Substation from July 2003 through March 2004. Total redispatch costs are the sum of RMR redispatch costs and other real-time redispatch costs, which includes both incremental and decremental redispatch costs. These costs total approximately \$34.4 million.

Table A: Estimated Miguel Congestion Costs (July2003 to March 2004)				
Month	Dec_MWh	RMR_Redispatch_Cost	RT_Redispatch_Cost	Total_Redispatch
Jul-03	2,754	3,669	62,162	65,832
Aug-03	125,476	2,182,943	1,992,632	4,175,575
Sep-03	120,980	1,269,698	2,281,905	3,551,603
Oct-03	133,866	2,068,135	1,857,001	3,925,135
Nov-03	72,474	1,265,532	232,104	1,497,636
Dec-03	117,528	2,397,311	1,831,056	4,228,367
Jan-04	141,303	2,321,703	2,368,017	4,689,720
Feb-04	313,624	3,050,595	4,366,670	7,417,265
Mar-04	217,743	1,234,935	3,615,752	4,949,107
Total	1,245,748	15,794,521	18,607,298	34,500,240

Estimating the cost of managing Intra-zonal Congestion and, in particular, cost savings had the Miguel-Mission project been energized as of July 1, 2003, entails uncertainty because the

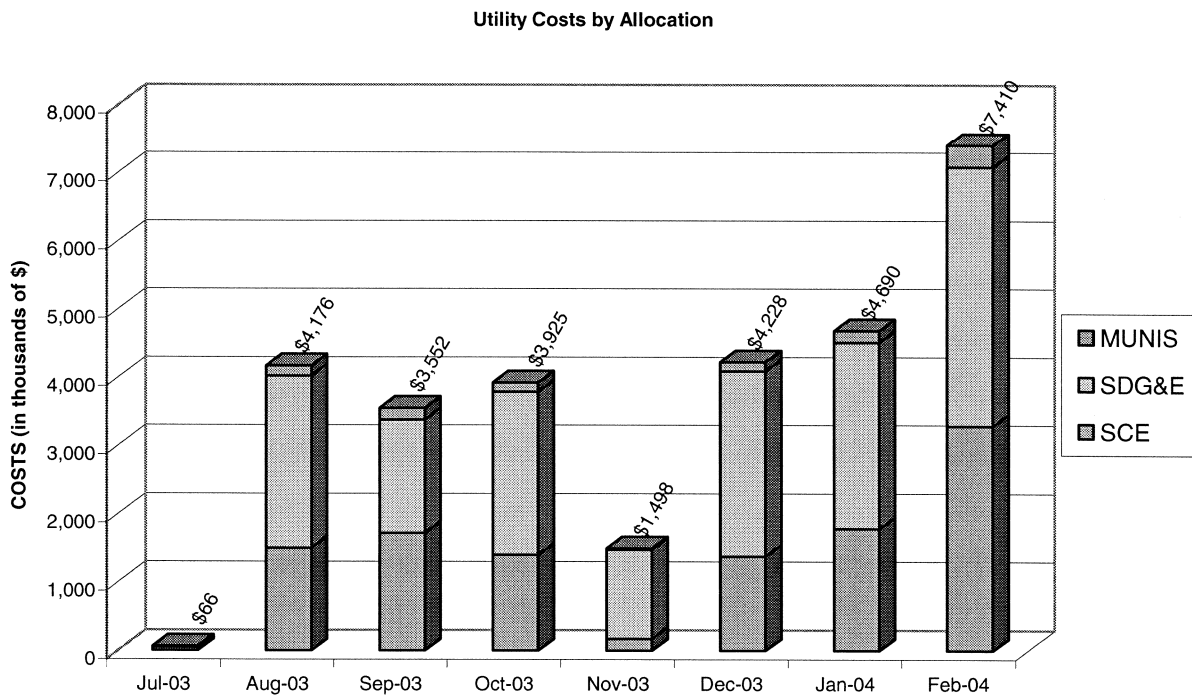
¹ See, *California Independent System Operator*, ER03-683-000.

presence of the additional transmission capacity would likely alter the bidding and scheduling behavior of market participants. The short period of time provided for responding to the Scoping Memo precludes a detailed cost analysis. Nevertheless, the financial benefit resulting from the assumed construction of the Miguel-Mission project on July 1, 2003 can be roughly estimated by taking into consideration the increased transfer capacity of the project in conjunction with the new Miguel Substation transformer bank scheduled for operation in December 2004. With these two projects, the transfer capacity at the Miguel Substation will be increased by approximately 910 MW. In other words, if decremental energy dispatches to relieve congestion at Miguel Substation was 910 MW or less in any particular hour, then it can be assumed that the presence of the Miguel-Mission project would have prevented the congestion. Consequently, the potential Intra-zonal Congestion costs that could have been prevented by the Miguel-Mission project can be roughly estimated as the difference between actual costs and the costs attributable to the first 910 MW of congestion in each hour. The results of this analysis are set forth in Table A1 and show that had the Miguel-Mission project and new transformer bank been in place Intra-zonal Congestion costs for the period from July 2003 through March 2004 would have been approximately \$28 million or 81% less. It should be noted that Intra-zonal Congestion costs were exacerbated in February 2004 by the outage at the San Onofre Nuclear Generating Station.

	Current Costs	TABLE A1 With 500/230 and Miguel/Mission Line (910 MW Congestion Relief)				
Date	all_redispatch_cost	mm_rmr_redispatch_cost	mm_rt_redispatch_cost	mm_all_redispatch_cost	Savings	Percent
Jul-03	65,832	0	0	0	65,832	100%
Aug-03	4,175,575	392,317	85,382	477,699	3,697,875	89%
Sep-03	3,551,603	74,312	221,764	296,077	3,255,526	92%
Oct-03	3,925,135	446,435	292,950	739,386	3,185,749	81%
Nov-03	1,497,636	0	0	0	1,497,636	100%
Dec-03	4,228,367	426,788	237,020	663,808	3,564,559	84%
Jan-04	4,689,720	528,802	269,914	798,716	3,891,003	83%
Feb-04	7,417,265	1,557,562	860,866	2,418,428	4,998,837	67%
Mar-04	4,949,107	430,978	691,191	1,122,169	3,826,938	77%
TOTALS	34,500,240	3,857,195	2,659,088	6,516,284	27,983,956	81%

In order to understand how the costs reflected in Table A are allocated among California ratepayers, it is necessary to describe who pays for RMR and Intra-zonal Congestion costs. Under the CAISO Tariff, RMR costs are charged to the transmission owner in whose service

territory the dispatched RMR units are located. In this case, the RMR units dispatched to relieve congestion at the Miguel Substation are within (or predominantly within) SDG&E’s service territory and therefore the RMR redispatch costs in Table A can reasonably be assigned to SDG&E ratepayers. Real-time redispatch to relieve Intra-zonal Congestion within SP 15 is spread to all load within SP 15 on a proportional basis. Using the load distribution data for the month of July 2003, and holding that constant for every month from July 2003 through March 2004, a rough estimate of the allocation of costs associated with congestion at the Miguel Substation can be assigned among consumers in SP 15, as set forth in the graph below.



CAISO Item c – Estimate of Costs for the Five Years Following Construction

The CAISO does not forecast Intra-zonal Congestion costs into the future and currently does not have any methodology that would allow it to do so under the time provided in the Scoping Memo. Moreover, the CAISO anticipates that within this five-year period, it will implement fundamental changes to its market structure as, or similar to those, proposed in pending FERC docket no. ER02-1656-000 (“MD02”) such that any current potential forecast would be of little predictive value going forward.

CAISO Item d – Changes in Congestion Management

Mr. Detmers' February 20, 2004, letter referred to two changes in the CAISO's management of Intra-zonal Congestion. The first involves long-term changes proposed in MD02. The second change involves recent changes to the decremental reference prices for the Inter-gen units calculated by Potomac Economics pursuant to CAISO Tariff Amendment No. 50. Amendment No. 50 procedures are intended to remain effective until replaced by superseding procedures adopted as part of MD02.

As noted above, under the CAISO's current zonal market design, the CAISO has no way to resolve Intra-zonal Congestion in the forward markets. Instead, all unresolved Intra-zonal Congestion is addressed in real-time through dispatch of real-time Imbalance Energy bids and, in the case of the Miguel Substation, dispatch of RMR units. With the implementation of MD02, specifically an Integrated Forward Market (IFM) and Full Network Model (FNM), the new market design would enforce network constraints and produce Locational Marginal Prices (LMP) that reflect congestion costs of all binding constraints such as the Miguel Substation. MD02 would thus resolve the Miguel Substation Intra-zonal Congestion problem in the forward markets, as sellers would compete for available transmission. Simply put, under MD02, the CAISO would be provided or otherwise construct a feasible integrated forward market schedule which would obviate the need to redispatch through decremental bids in real-time at additional cost to ratepayers. It should be noted that such congestion management only "manages" the transmission shortage but cannot increase energy transfer. Only new or upgraded transmission infrastructure allows all generation to reach consumers.

Potomac Economics is an independent contractor selected by FERC to provide the CAISO with decremental reference energy curves for all units in the CAISO control area that are used when decremental bids must be taken out of merit order sequence to relieve congestion. On January 19 and 20, 2004, Potomac Economics raised the reference levels applicable to the Inter-gen units. Raising a reference level has the general effect of decreasing redispatch costs and therefore reducing the cost to ratepayers of decrementing the Inter-gen units. The reference level for the TDM facility was not modified. The CAISO has not quantified the effect of the changes implemented by Potomac Economics for the entire period after January 20, 2004. However, it has analyzed the period from January 20, 2004 to February 10, 2004. During this period, actual Intra-zonal Congestion costs for the Miguel Substation totaled approximately \$5.2 million.

Absent the modification, such costs would have been approximately \$5.8 million, a difference of \$600,000 or 12% overall. It can be reasonably extrapolated that the overall Intra-zonal Congestion costs reflected in Table A would have been approximately 12% higher during the post-January 20, 2004 period without the changes instituted by Potomac Economics. Accordingly, while the changes have helped reduce redispatch costs, Intra-zonal Congestion at the Miguel Substation remains a serious problem.

CAISO Item e – Differences from I.00-11-001

The analysis presented here by the CAISO is conceptually similar to that detailed in Section 4 of Decision 03-02-069, in that both show the benefits of allowing lower priced energy to meet local load. The CAISO projections, however, are historical based on actual redispatch of resources. The analysis in the Decision 03-02-069 is a forward-looking projection based on generation additions and power flow simulations.

SDG&E Item 4

The Commission inquired whether the Sempra and Intergen plants are currently operating at full capacity. The TDM facility and La Rosita II are fully operational. La Rosita I has been offline since early January 2004 to install scrubbers for air quality reasons. Generally, Intra-zonal Congestion costs will likely increase when La Rosita I again becomes operational.

The Commission further asked at what “level” are the units producing power? This is an ambiguous question. The “level” at which a particular unit operates at any given moment is a function of the owner’s overall portfolio of resources, accepted schedules, market bids, and system conditions, and can vary on a 10 minute basis. However, evaluating the units over the period January 2004 through March 2004, La Rosita II is operating at a capacity factor of approximately 20%, while the TDM facility is operating at a capacity factor of approximately 41% [total metered generation/total capacity]. These rather low values can, in large part, be attributed to congestion at the Miguel Substation.

The Commission also asked SDG&E how much of that power is being transported to California on existing transmission lines? Again, the CAISO is unsure what is being asked. To the extent the units are operating, their power is transported to California over existing transmission lines.

Finally, the Commission asked how, if at all, would the operation of the Interger and TDM units be affected in the event the Miguel-Mission project was not constructed. Simply put, the operation of the units would be unaffected because they would continue to be subject to the current Intra-zonal Congestion management procedures that presently influence the manner in which they are operated.

I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 5th day of April, 2004 in Folsom, California.

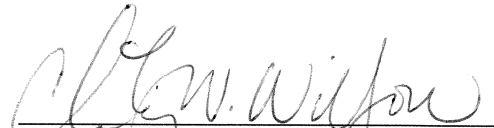


MICHAEL MARTIN

PROOF OF SERVICE

I hereby certify that on April 5, 2004 I served, by electronic mail, the Declaration of Michael Martin On Behalf of The California Independent System Operator in to the parties in Docket # A. 02-07-022.

DATED at Folsom, California on April 5, 2004

A handwritten signature in cursive script, appearing to read "Charity N. Wilson", written over a horizontal line.

Charity N. Wilson
An Employee of the California
Independent System Operator

JULIE A MILLER, ATTORNEY AT LAW
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVE
ROSEMEAD, CA 91770

MICHAEL D. MACKNESS, ATTORNEY AT LAW
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA 91770

THEODORE ROBERTS, ATTORNEY AT LAW
SEMPRA ENERGY
101 ASH STREET, HQ 13D
SAN DIEGO, CA 92101-3017

JOHN W. LESLIE, ATTORNEY AT LAW
LUCE, FORWARD, HAMILTON & SCRIPPS, LLP
11988 EL CAMINO REAL, SUITE 200
SAN DIEGO, CA 92130

James E. Scarff
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE ROOM 5121
SAN FRANCISCO, CA 94102-3214

TOM MURPHY
ASPEN ENVIRONMENTAL GROUP
30423 CANWOOD STREET, SUITE 215
AGOURA HILLS, CA 91301

CASE ADMINISTRATION
SOUTHERN CALIFORNIA EDISON
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA 91770

MARY TURLEY
REGULATORY CASE ADMINISTRATOR
SAN DIEGO GAS & ELECTRIC CO.
8315 CENTURY PARK COURT - CP22D
SAN DIEGO, CA 92123-1550

ERIC EISENMAN
PG&E NATIONAL ENERGY GROUP
77 BEALE STREET, MC: B10-C
SAN FRANCISCO, CA 94105

MRW & ASSOCIATES, INC. ,
1999 HARRISON STREET, SUITE 1440
OAKLAND, CA 94612

GRANT ROSENBLUM, ATTORNEY AT LAW
CAL INDEPENDENT SYSTEM OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA 95630

JEFFREY MILLER
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA 95630

KEVIN WOODRUFF
WOODRUFF EXPERT SERVICES
1100 K STREET, SUITE 204
SACRAMENTO, CA 95814

Maria E. Stevens
CALIF PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET SUITE 500
LOS ANGELES, CA 90013

Kim Malcolm
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE ROOM 5005
SAN FRANCISCO, CA 94102-3214

Roosevelt A Grant
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE ROOM 5215
SAN FRANCISCO, CA 94102-3214

Steven C Ross
CALIF PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE ROOM 4209
SAN FRANCISCO, CA 94102-3214

CLARE LAUFENBER GALLARDO
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS 46
SACRAMENTO, CA 95814