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Decision 03-02-069 February 27, 2003

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation Into Implementation of Assembly Bill 970 Regarding the Identification of Electric Transmission and Distribution Constraints, Actions to Resolve Those Constraints, and Related Matters Affecting the Reliability of Electric Supply.	Investigation 00-11-001 (Filed November 2, 2000)

INTERIM OPINION ON TRANSMISSION CONSTRAINTS: MISSION-MIGUEL AND IMPERIAL VALLEY UPGRADES

(See Attachment 1 for List of Appearances.)

TABLE OF CONTENTS

Title **Page**

LIST OF ATTACHMENTS

INTERIM OPINION ON TRANSMISSION CONSTRAINTS: MISSION-MIGUEL AND IMPERIAL VALLEY UPGRADES

1. Introduction and Summary[1]

We initiated this investigation in November 2000 to "identify and undertake those actions necessary to reduce or remove constraints on the state's existing electrical transmission and distribution system." (Pub. Util. Code § 399.15(a)(1) added by Assembly Bill (AB) 970 signed September 6, 2000.)[2] In Phase 1 of this proceeding, we directed Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE) to undertake thirty-one transmission projects to relieve system congestion by the summer of 2001 in specified areas of the state. (See Decision (D.) 01-03-077.)

In earlier phases of this proceeding, we identified specific transmission system improvements needed to maintain reliability based on grid planning criteria established by the Western System Coordinating Council (WSCC) and California Independent System Operator (CAISO).[3] However, the two projects considered in today's decision, upgrades to transmission west of Miguel (Miguel-Mission Project) and modifications to the Imperial Valley substation transformer bank (Imperial Valley Project) are not needed to meet these criteria.

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[1] Attachment 2 explains each acronym or other abbreviation that appears in this decision.

[2] Section 173 of Senate Bill 662, enacted in August 2001, renumbers Public Utilities Code Section 399.15 to Section 379.5.

[3] See D.01-03-077 and D.01-10-070.

Rather, they are being proposed and considered here on the basis of economic benefits to ratepayers, or "economic need." They are designed to address transmission congestion in Southern California that will occur as new generation plants in the California-Mexico border region and in Mexico are completed and sell power into the California market. These projects produce benefits in the form of reduced hours of congestion and access to lower production cost power.

Based on the record in this proceeding, we conclude that the construction of the Miguel-Mission and Imperial Valley Projects will reduce energy costs to SDG&E ratepayers by approximately $6 to $14 million per year, assuming that 1360 to 2360 megawatts (MWs) of new generation becomes operational in the California-Mexico border region and Mexico for export to California. Ratepayers in the CAISO control area[4], as a whole (including SDG&E) can expect energy cost reductions in the range of $13 to $50 million per year. Assuming that project costs do not exceed the preliminary estimates presented in this proceeding, the net annual benefits to SDG&E ratepayers are projected at approximately $3 to $7 million per year, and to CAISO ratepayers at approximately $10 to $43 million per year. These net benefits will diminish to some degree if new generation is constructed in the San Diego North area.

Based on this level of estimated economic benefits, we find that the Miguel-Mission and Imperial Valley Projects are needed and in the public interest. In order to proceed with the licensing process with confidence that the estimated economic benefits will actually accrue to ratepayers, we condition our finding of economic need in two ways. First, we require SDG&E to coordinate

[4] The CAISO control area corresponds to the SDG&E, SCE, and PG&E service territories, combined.

construction of the transmission upgrades with the construction of a threshold level of new generation in the border area. This will be accomplished through a set of milestone conditions discussed in this decision. Second, we cap project costs based on the estimates presented in this proceeding, subject to a reasonableness review.

With regard to licensing, we find that the Imperial Valley Project does not require the issuance of a Permit to Construct or Certificate of Public Convenience and Necessity (CPCN) under the requirements of General Order (GO) 131-D. However, we direct SDG&E to file an informational advice letter with documentation to describe the qualification of this project for an exemption, including the previous voltage rating of the substation and an explanation of how the work will be conducted within the existing substation boundaries. We conclude that the CPCN process does apply to the Mission-Miguel Project because this project would increase the existing 138/69 kilovolt (kV) transmission line to 230 kV capacity. However, we expedite the licensing process by permitting SDG&E to file its CPCN application under Section IX of GO 131-D absent the information required by subparts (c), (d), and (f). The schedule for these filings is contained in the Milestone Schedule presented in Attachment 4.

2. Procedural History

A prehearing conference (PHC) in Phase 2 was held on July 10, 2001 to identify high priority in-state upgrades that were not being evaluated in other proceedings before the Commission and that could produce significant economic benefits to ratepayers. Based on the discussion at the PHC, the assigned Administrative Law Judge (ALJ) scheduled evidentiary hearings to evaluate the net economic benefits to ratepayers of relieving two potential in-state transmission constraints in Southern California: (1) west of Miguel and (2) at the

Imperial Valley substation.[5] She directed respondents and interested parties to present testimony on the potential for generation projects coming on line that would trigger constraints or congestion in these areas, the costs of alternatives to relieve the constraints as well as the allocation of benefits between ratepayers and project developers.

SDG&E filed direct testimony on September 17, 2001. The Border Generation Group (Border Generation), comprised of Calpine Corporation, Coral Power L.L.C, Intergen, PG&E National Energy Group, and Sempra Energy Resources, filed intervenor testimony on October 11, 2001. SDG&E filed rebuttal testimony on October 19, 2001. SDG&E, the Border Generation Group and the Office of Ratepayer Advocates ("Joint Parties") filed a Joint Recommendation as a late-filed exhibit on October 26, 2001.

By ruling dated October 26, 2001, the assigned ALJ adopted a protective order and nondisclosure agreement to govern the use of confidential and proprietary information presented in this proceeding.

Evidentiary hearings were held on October 29 and 30, 2001 in San Francisco. Briefing was bifurcated to first address the applicability of GO 131-D to the proposed projects, and then to address economic need. On November 13, 2001, SDG&E filed its legal analysis of GO 131-D, and ORA filed a reply brief concurring with SDG&E's position. Opening briefs on all other issues were filed by SDG&E, Border Generation, and ORA on November 21, 2001. In their opening briefs, SDG&E and Border Generation proposed somewhat different milestone schedules for coordinating the construction of the Miguel-Mission and Imperial-Valley Projects with construction of new generation projects. On

[5] See ALJ rulings dated June 25 and July 19, 2001.

December 3, 2001, SDG&E filed a reply brief together with a milestone schedule jointly sponsored by SDG&E and Border Generation.

3. Project Descriptions

The following project descriptions are based on testimony presented by SDG&E.[6] In addition, SDG&E provided to the Commission numerous documents describing the projects in greater detail under the protective order adopted in this proceeding.

3.1 Miguel-Mission Project

Miguel is an entry point for electrical power from east and south into the SDG&E load center, which is north of Miguel. It is also an entry point of Mexico power for CAISO imports into other service territories north of SDG&E, i.e., SCE and PG&E. Power entering from Miguel can potentially originate from Mexico and the US-Mexico border area, from Arizona via the Southwest Power Link (SWPL), and from the Imperial Irrigation District. At the current time, most of the power enters Miguel via SWPL.

The proposed Miguel - Mission Project is designed to relieve potential overloads on various 69 kV and 138 kV transmission lines and 230/69 kV and 230/138 kV transformers on SDG&E's system. These potential overloads would occur during high power imports from Mexico and interconnection of new merchant generators in the US-Mexico border region. Figure 1 presents a map with the locations of these generators.

Without this project, SDG&E /CAISO imports are constrained and the CAISO must utilize congestion management to reduce generation output during

[6] Sources: Exh. 101, pp. 3-4, 9-10; Reporter's Transcript (RT) at 361-365, 377-379, 502-503.

high imports to prevent overloads to maintain reliability. The Miguel-Mission Project would relieve this congestion by allowing an additional 560 MWs to move north of Miguel.

FIGURE 1

The proposed Miguel-Mission 230 kV line will have two sections: Miguel-Fanita Junction (approximately 24.5 miles) and Fanita Junction-Mission (approximately 10 miles). For the first section, SDG&E proposes to modify existing 138 kV steel lattice towers from Miguel to Fanita Junction to accommodate a new 230 kV circuit with four 336 thousand circular mil (kcmil) conductors per phase. SDG&E will relocate the existing 138 kV and 69 kV transmission circuits that occupy these 138 kV steel lattice towers to a new wood/steel pole line. For the Fanita Junction to Mission section, the current 230 kV structure that has a split-phase one circuit will be changed into two circuits, both reconductored with two 900 kcmil conductors per phase. All construction is planned to occur within existing SDG&E right-of-way.

SDG&E presents a preliminary estimate of $26 million in project costs (in 2004 dollars) with a tentative in-service date of June 2004, subject to any Commission licensing requirements. SDG&E's planning studies looked at the upgrades of various lines and transformers at Miguel and upgrades of 69 kV and 138 kV lines west of Miguel. However, SDG&E states that these alternatives were all more costly than the proposed Miguel-Mission project, and were therefore not considered further in the economic analysis.

3.2 Imperial Valley Project

The Imperial Valley Project is also designed to address transmission congestion problems as new generation comes on line. SDG&E's studies show that the single existing 500/230 kV bank at Imperial Valley will overload with all lines in service with high export from Mexico and with generation interconnection at Imperial Valley. (See Figure 1.) In addition, the bank also overloads under the loss of the Tijuana - Miguel 230 kV path or the double contingency of the Miguel - Mission and Miguel - Sycamore 230 kV lines.

Without a transmission system upgrade to the Imperial Valley bank, congestion management would be used to curtail generation and maintain reliability.

SDG&E proposes to replace the existing transformer with a 500/230 kV, 1120 megavolt-ampere (MVA) transformer bank and install a second transformer of that same capacity within the boundaries of the existing substation. These upgrades are expected to more than double the approximately 500 MVA that can currently move through the Imperial Valley substation. However, as discussed further below, without the Mission Miguel Project, these modifications will not provide additional power to SDG&E's load center. The earliest feasible in-service date for the modifications is June 1, 2003. The total project cost is estimated to be $29.4 million in 2003 dollars.

4. Economic Need

SDG&E initially identified need for the Miguel-Mission and Imperial Valley projects through a series of system impact studies performed by SDG&E in connection with generators' requests for interconnection.[7] In this phase of the proceeding, SDG&E presents an economic analysis of the effect of these upgrades on energy costs to SDG&E ratepayers, as well as the effect on ratepayers throughout the CAISO control area. In the following sections, we briefly describe SDG&E's economic analysis and consider the results.

4.1 SDG&E's Economic Analysis

SDG&E hired Henwood Energy Services (Henwood) to analyze the effect of the transmission upgrades on annual energy costs to ratepayers. Using its Electric Market Simulation System (EMSS) and PROSYM production cost

[7] Exh. 101, pp. 3-4; RT at 357-360.

models, Henwood examined the operations of the power grid (generation dispatch and line loading) for the entire WSCC region, divided into 23 different market zones. The San Diego region was divided into two separate zones represented as San Diego North and San Diego South, with Miguel-Mission transmission as the path between. The modeling effort examined operations for all hours of a single year (2004), both with the transmission upgrade and without. In instances where the transmission between zones was not adequate to allow the most economic resources to meet load, the model redispatched to deliver more expensive energy via the unconstrained transmission paths that were available. The key assumptions used in Henwood's analysis can be summarized as follows:[8]

- The demand for electricity in WSCC is forecasted to grow at 2.1 percent per year over the next ten years.
- There is little retirement of existing generation between 2001 and 2004 other than that associated with repowering projects.
- Natural gas prices are assumed to revert from the higher price levels experienced in early 2001 to a lower long-term trend. After this reversion, the assumed real rate of growth in natural gas prices is 0.4 percent per year.
- Market clearing prices are equal to incremental production costs (fuel price multiplied by the incremental heat rate, plus variable operations and maintenance cost) plus a scarcity premium.

SDG&E provided Henwood with input data, which included load data and transmission path rating updates along with the following generation modeling scenarios:

[8] See Exh. 110.

- Case 1 (Base Case)--generation in the San Diego and North Baja areas equals the existing generation plus planned proposed summer peakers (343 MWs).
- Case 2--Base Case plus 510 MWs, representing the Otay Mesa Power Project.
- Case 3--Base Case plus 1360 MWs, representing the 510 MWs in Case 2 plus a 250 MW AEP Resources plant and 600 MW Sempra Energy Resources plant.
- Case 4--Base Case plus 2360 MWs, representing the 1360 MWs in Case 3 plus a second 250 MW AEP Resources plant and the 750 MW La Rosita Power Project (LRPP) planned by Intergen.
- Case 5--Base Case plus 3810 MWs, representing the 2360 MWs in Case 4 plus a 500 MW AES plant, 350 MW Intergen LRPP plant and 600 MW Sempra Energy Resources plant. The Path 45 rating is also increased from 800 to 1300 MWs.

SDG&E's planning studies indicate that the benefits from the Imperial Valley Project would not be seen without the Miguel-Mission Project. Therefore, the economic analysis assumes that the Miguel-Mission upgrade is already in place and uses the same cases to evaluate the Imperial Valley Project. According to SDG&E, the amount of generation in Case 3 would not require upgrades to the Imperial Valley transformer, but the amount in Cases 4 and 5 would require the upgrade (or congestion management).[9] Therefore, the Imperial Valley Project was modeled in the Case 4 and 5 scenarios, and its costs were added to those cases in the calculation of net benefits.

[9] Exh. 101, p. 10.

Figure 1 presents the location of the proposed new plants that are referenced in the generation scenarios.[10] Table 1 summarizes the results of SDG&E's economic analysis, as follows:

Table 1:

CASE 3	SDG&E	AEP1	AEP2	AES	INT1	INT2	OTAY	SER1	SER2	CAISO
PROJECTED BENEFIT ($ MILLIONS)	6.00	0.50	0.00	0.00	0.00	0.00	0.90	1.20	0.00	13.00
PROJECTED ANNUAL COST (1)(3)(4)	3.0									3.03
NET BENEFIT (2)	3.0	0.50	0.00	0.00	0.00	0.00	0.90	1.20	0.00	9.97
CASE 4	**SDG&E**	**AEP1**	**AEP2**	**AES**	**INT1**	**INT2**	**OTAY**	**SER1**	**SER2**	**CAISO**
PROJECTED BENEFIT ($ MILLIONS)	14.00	2.30	1.90	0.00	6.50	0.00	5.00	5.40	0.00	50.00
PROJECTED ANNUAL COST (1)(3)	6.77									6.77
NET BENEFIT (2)	7.24	2.30	1.90	0.00	6.50	0.00	5.00	5.40	0.00	43.24
CASE 5	**SDG&E**	**AEP1**	**AEP2**	**AES**	**INT1**	**INT2**	**OTAY**	**SER1**	**SER2**	**CAISO**
PROJECTED BENEFIT ($ MILLIONS)	33.00	1.80	3.60	0.00	0.00	2.10	0.40	3.20	0.00	181.00
PROJECTED ANNUAL COST (1)(3)	6.77									6.77
NET BENEFIT (2)	26.24	1.80	3.60	0.00	0.00	2.10	0.40	3.20	0.00	174.24

(1) The annual operating costs for the merchant companies have been included in the Net Operating Revenue Benefit
(2) Ignores the impact of incremental capital cost on merchants
(3) Case 3 only includes the cost of the Miguel Mission upgrade; Cases 4 and 5 add the cost of the IV bank upgrade
(4) All costs are shown in 2001 dollars

[10] Source: Exh. 103. NOTE: The AES 500 MW plant for Case 5 is not shown on the map in this exhibit, but is planned to connect at the "PJZ" (Presidente Juarez). The Intergen LRPP 350 MW plant referred to in Case 5 is the "Intergen B" project on the map. The map depicts this plant and Otay Mesa with slightly different nameplate ratings than used in the economic analysis.

Henwood's model projects that the upgrades will produce positive net benefits in Cases 3, 4, and 5 by reducing congestion hours and improving the economics of the transmission in that area. For example, in Case 3, the additional transmission capacity provided by the Mission-Miguel Project is estimated to reduce the number of hours of congestion from 4,077 to 371 in SDG&E's service territory, thereby reducing total annual costs of energy from $843 million to $837 million, or by $6 million. For the entire CAISO control area (corresponding to SDG&E, PG&E, and SCE service territories), the Henwood model projects a reduction in annual energy costs of $13 million under Case 3. The projected benefits increase as additional generation comes on line in Cases 4 and 5, as indicated in Table 1.[11] The benefits presented in Table 1 above reflect Henwood's modeling efforts for a single year, 2004.

The projected annual cost in Table 1 represents the levelized annual revenue requirement associated with the Mission-Miguel Project in Case 3, and both the Mission-Miguel and Imperial Valley Projects in Cases 4 and 5. Total project costs were discounted to 2001 dollars (to be consistent with the benefit figures developed by Henwood) and multiplied by a 15% levelization factor. In presenting the net benefits (benefits minus annual costs), Table 1 allocates all of the annualized costs to SDG&E ratepayers.

As indicated in Table 1, SDG&E's economic analysis projects that SDG&E ratepayers would receive $3 million in net benefits from the Mission-Miguel upgrade in 2004, assuming that 1350 MWs of new generation is developed in the US-border region or Mexico for export to California. If 2360 MWs of new generation develops, these net benefits increase to $7.24 million, including the

[11] See RT at 440-445, 453-460; Exh. 110, p. 2-1.

cost of the Imperial-Valley Project. They increase further to $26.24 million under a scenario with 3810 MWs in new generation.

The individual generators identified in the various generation scenarios are also projected to benefit from increased net operating revenues, as shown in Table 1. Net benefits to ratepayers within the CAISO control area, including those served by SDG&E, are projected to range from approximately $10 to $174 million in 2004, depending on the level of new generation in the California-Mexico border region and in Mexico that is sold into the California market.

ORA and Border Generation concur with the results of SDG&E's economic analysis and request a ruling from the Commission that, in view of the potential for net economic benefits associated with the Miguel-Mission and Imperial Valley Projects, these upgrades are in the public interest.[12]

4.2 Discussion

In examining the credibility of the results from SDG&E's analysis, we first consider whether the models and modeling approach used to simulate system operations are reasonable. We next consider alternative scenarios or input assumptions that might affect the magnitude of net benefits accruing to

[12] Exh 108, p. 6. While concurring with the results of Henwood's modeling efforts, Border Generation contends that ratepayer benefits are actually greater than those identified in SDG&E's analysis because that analysis does not consider: (1) reductions in reliability-must-run (RMR) costs, (2) qualitative reliability benefits and (3) reductions in market power. However, Border Generation presents no evidence that the Miguel-Mission or Imperial Valley Projects actually produce such benefits. Nor does Border Generation attempt to quantify them. In fact, Border Generation's contention that SDG&E's RMR contractual requirement would change as a result of the new generation and transmission upgrades is not supported by the record. The ISO establishes RMR requirements based on unrelated criteria. (RT at 404-407.) Moreover, the future of RMR contracts beyond 2002 appears uncertain. (RT at 511-512; ORA Opening Brief, pp. 2-3.) We therefore have no basis in this record for considering RMR cost reductions, or the other benefits that Border Generation mentions, in determining whether or not the upgrades are in the public interest.

ratepayers, and whether the modeling results presented by SDG&E are robust with respect to those changes.

The models used by Henwood simulate hourly operation and dispatch of individual generation facilities and consider transmission line interconnections, ratings, losses and wheeling rates for the entire regional transmission system. While modeling complexity does not guarantee against algorithm errors, we nonetheless have increased confidence when the models used attempt to simulate the electric system as it actually functions.[13] The record also documents Henwood's expertise in performing such analysis in the industry, as well as the wide use of its models to simulate electric markets by many other entities, including WSCC members.[14] The modeling methods described in the testimony present a logical approach for evaluating annual energy costs with and without the upgrades. In sum, we have confidence that the modeling approach presented in this proceeding is a reasonable one.

The downside to using such complicated, resource-intensive models, is that it is difficult to quickly run alternate scenarios to test the robustness of the results. In its testimony, SDG&E presented the modeling results across all 5 cases for only a single year, 2004, the year in which the transmission upgrades are projected to come on line. However, without further analysis, it is impossible to determine whether or not the annual cost reductions projected for that single

[13] In particular, we do not have concerns that the modeling effort conducted here represents a simplified tool that must be properly benchmarked against more sophisticated models in order to assure confidence in its use. See our discussion of this issue during our consideration of a new Southern California link to the Southwest: D.01-10-070, *mimeo.* pp. 21-22.

[14] See RT at 381, 448, 452-453.

year are representative of future years. We must be confident that they are before we can conclude that SDG&E ratepayers realize net benefits from the investment in these transmission upgrades over time.

At the request of Energy Division, Henwood modeled Cases 3 and 5 for additional years, and presented the estimated total energy cost savings from 2004 to 2010. For Case 3, the estimated cost savings to SDG&E ratepayers is $50 million over the seven-year period, or an average of about $7 million per year. For Case 5, the estimated savings over that period to SDG&E ratepayers is $328 million, or an average of approximately $47 million per year. Witness Lauckhart testified that these savings were relatively constant on an annual basis over that timeframe, and that one could make a reasonable estimation that the benefits would continue over a longer study period.[15] Based on this information, we conclude that the energy cost saving benefits projected for a single year are likely to continue at a relatively constant rate into the future.

We also examined the market pricing assumptions used in the modeling scenarios. One obvious area of inquiry is the "scarcity premium" used by Henwood. If employed indiscriminately, this premium could greatly overstate project benefits by imputed extremely high market prices in the modeling runs without the transmission upgrades. This, in turn, could overstate the economic need for the projects. However, based on the testimony of Witness Lauckhart, we are assured that this is not a problem. Because the Henwood study looked at normal weather conditions, there are very few hours in which the scarcity premium comes into play, i.e., in which loads are so high relative to resources

[15] Exh. 105, pp. 1-2; RT at 447-448, 468.

that bidders bid a large amount towards their fixed costs and drive up market prices exponentially.[16]

We also carefully examined the plausibility of the amount of generation assumed to be coming on line in the modeling scenarios. The individual members of Border Generation are the sponsors of four of these generation projects in the Otay Mesa area (east and south of Miguel) and in Mexicali, in Baja California, Mexico. Once constructed, these four generation projects will represent more than 2000 MWs of generation that will move through the Miguel substation into the SDG&E load center and potentially beyond. All of the generation projects sponsored by members of Border Generation have commenced construction, and all are scheduled to commence operation by the third quarter of 2003. The project developers have made substantial financial and contractual commitments at this time. Some of the key record evidence is as follows:[17]

- Otay Mesa (510 MWs). Calpine's Project Development Manager, Mitchell D. Weinberg, submitted a declaration stating that Otay Mesa Generating Company, LLC (a subsidiary of Calpine) has, among other things, commenced construction and purchased its major equipment, including combustion turbines, a steam turbine, heat recovery steam generators, and an air-cooled condenser.

[16] RT at 464-466.

[17] See Exh. 108, p. 5; Exh. 109, pp. 3-5, 19-21 and attached declarations of Mitchell D. Weinberg of Calpine Corporation, Stephen A. Kaufman of Intergen and Octavio Simoes of Sempra Energy Resources; Exh. 112; RT at 472-473, 477-483.

- Sempra Energy Resources Project (600 MWs). An affiliate of Sempra Energy Mexico, Termoelectrica De Mexicali ("TDM") is planning this 600 MW peaking capacity plant. According to Mr. Octovio Simoes, a Project Developer for Sempra Energy Resources, TDM commenced construction on September 1, 2001. TDM has also secured a 20-year firm gas transportation contract with Bajanorte Pipeline and awarded a $158.5 million contract for engineering and construction services.
- LRPP Projects (1060 MWs). Intergen and Coral are developing these two projects. Intergen's Manager, Business Development, Stephen A. Kaufman, filed a declaration stating that, for one of the projects, Intergen has: (1) spent in excess of $250 million, (2) entered into a 25-year power purchase agreement, (3) entered into fuel supply and natural gas transportation agreements, and (4) completed 14.3% of the project. For the other project, Intergen has (1) commenced construction, (2) spent approximately $65 million and (3) entered into fuel supply and natural gas transportation agreements.

Based on the evidence in this proceeding, we find it plausible that the new generation assumed in Cases 3 and 4 (1360 MWs and 2360 MWs, respectively) will develop in the California-Mexico border region or in Mexico for export to California. We concur with SDG&E's assessment that this range of new generation is more likely to develop than the higher level (3810 MWs) assumed under Case 5.[18]

However, the benefits associated with transporting this new generation from the California-Mexico border to SDG&E's load center will be offset to the extent that new generation develops within the transmission constrained area, i.e., in the San Diego North zone modeled in Henwood's analysis. SDG&E's

[18] RT at 411-412.

economic analysis assumes that there will be no such generation development. At the request of Energy Division, SDG&E presented additional information on this issue in order to explore the impact of alternate assumptions on ratepayer benefits.

In Exhibit (Exh.) 105, SDG&E presents a status listing of projects currently in its interconnection queue for the San Diego North area. Although there are approximately 3000 MWs in the queue, most of them have not completed the very initial step in project development (a system impact study), none have signed interconnection studies or initiated with CEC any permitting activity.[19] Assuming that one-fifth of this amount would actually be in operation by 2004, Henwood ran Case 3 from the years 2004 through 2010 adding a 600 MW plant in San Diego North. The results show that the total energy cost savings associated with the Mission-Miguel line decreases, but still produces net economic benefits over the seven-year period.[20] Given the uncertain status of project development in San Diego North and the relative robustness of SDG&E's scenario analysis if even 600 MWs of those projects come on line by 2004, it appears unlikely that the cost saving benefits associated with Miguel-Mission will be negated by increased development of generation within the constrained area. However, we note that those benefits will diminish to the extent that new generation comes on line in the constrained area.

This brings us to our final area of inquiry regarding the robustness of SDG&E's analysis: project costs. The record provides very little detail describing the basis for SDG&E's project cost estimates, particularly for the Miguel-Mission

[19] *Ibid.*, pp. 3-5; RT at 43433-436.

[20] Exh. 105, pp. 6-7.

Project. The construction cost information provided under protective order provides some detail for the Imperial Valley project, in terms of assumed labor hours and material costs by task, but there are no cost details presented for Miguel-Mission. Project cost estimates on the record are characterized as "very conceptual," "preliminary" and "subject to any CPUC licensing requirements."[21] For Miguel-Mission, SDG&E has done only feasibility engineering, not detailed engineering. SDG&E has not conducted any detailed environmental surveying or licensing activities, and states that the costs could significantly escalate if the proposed route is changed or the licensing is protracted. SDG&E's economic analysis does not include operation and maintenance costs for either projects.[22]

Therefore, we are unable to assess the reasonableness or credibility of the project costs presented in SDG&E's economic analysis, based on the record in this proceeding. We can only find that the net benefits to ratepayers justify the construction of these projects provided that: (1) a threshold amount of new generation develops in the California-Mexico border area and in Mexico, and (2) project costs are contained at or below the preliminary estimates presented in this proceeding.

In sum, we conclude that construction of the Miguel-Mission and Imperial Valley Projects can be expected to reduce energy costs to SDG&E ratepayers by approximately $6 to $14 million per year, assuming that 1360 to 2360 MWs of new generation becomes operational in the California-Mexico border region and

[21] Exh. 101, p. 4. Exh. 105, Response to Energy Division Data Request Question 5.

[22] *Ibid.* At the request of the ALJ, SDG&E's Witness Brown did provide rough estimates to indicate that these operation and maintenance costs would be relatively low, i.e., $150,000 to $200,000 per year for the Miguel-Mission Project and $25,000 per year for the Imperial Valley Project. RT at 490.

Mexico for export to California. CAISO ratepayers, as a whole (including SDG&E) can expect energy cost reductions in the range of $13 to $50 million per year. Assuming that project costs do not exceed the preliminary estimates presented in this proceeding, the net annual benefits to SDG&E ratepayers are projected at approximately $3 to $7 million per year, and to CAISO ratepayers at approximately $10 to $43 million per year. These net benefits will diminish to some degree if new generation is constructed in the San Diego North area.

Based on this level of economic benefits, we find that the Miguel-Mission and Imperial Valley Projects are needed and in the public interest. As discussed above, net benefits to ratepayers are contingent upon: (1) the development of at least 1360 MWs in new generation and (2) the reasonableness and accuracy of the preliminary cost estimates presented in this proceeding. Therefore, we will condition our finding of economic need in two ways. First, SDG&E is required to coordinate construction of the transmission upgrades with the construction of a threshold level of new generation in the border area. This will be accomplished through a set of milestone conditions discussed in Section 7 below. Second, we will cap project costs based on the estimates presented in this proceeding, subject to a reasonableness review. (See Section 5.) In this way, we can proceed with the licensing process with confidence that the projects are justified based on the economic analysis presented in this proceeding.

5. Reasonableness and Allocation of Project Costs

ORA, Border Generation and SDG&E recommend that the Commission defer the question of cost allocation to the Federal Energy Regulatory Commission (FERC), which they argue is "the regulatory body with jurisdiction

to determine the justness and reasonableness of SDG&E's transmission rates."[23] At the same time, these parties urge us to direct SDG&E to proceed with construction under the assumption that FERC will allocate all of the project costs to SDG&E ratepayers, consistent with current FERC policy. They contend that this is appropriate because the projects are economic to SDG&E ratepayers, even under this cost allocation.[24] However, the level of net benefits to SDG&E ratepayers is directly dependent upon the costs of the upgrades. The range of $3 million to $7 million in annual net benefits discussed above could greatly diminish or disappear entirely if actual project costs are substantially higher than those projected in SDG&E's analysis, particularly if energy cost savings are adversely affected by less than anticipated new generation in the California-Mexico border region or by new generation development in San Diego North. SDG&E's testimony indicates that substantial cost increases could occur under a number of circumstances. We cannot reach a determination of economic need if the projects are allowed to go forward with considerable uncertainty regarding project costs, and the full risk of this uncertainty is allocated to SDG&E's ratepayers.

We have jurisdiction pursuant to Pub. Util. Code § 1005.5 to address this issue through the imposition of a cost cap.[25] Although the Miguel-Mission and Imperial Valley Projects address separate system components of SDG&E's

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[23] Exh. 108, p. 6.

[24] *Id.;* Opening Brief of ORA, pp. 1-2; SDG&E Opening Brief, p. 8; Border Generation Opening Brief, p. 28. RT at 429-430; 496; 506-507.

[25] See D.01-05-059, mimeo. pp. 33-35. All statutory references are to the Public Utilities Code, unless otherwise noted.

transmission system, they are both designed to increase transmission capacity into SDG&E's load center during the same timeframe, are functionally interdependent (i.e., Imperial Valley Project cannot increase that transmission capacity unless Miguel-Mission Project is also built) and are jointly linked to the milestone conditions for proceeding with project construction (see below). Since the estimated costs for both upgrades exceed $50 million, we conclude that § 1005.5 is applicable in this instance. We will impose a cost cap of $55.4 million for the two projects, based on the estimates presented by SDG&E.

SDG&E has the burden of proving the reasonableness of its cost estimates, but has not done so in this proceeding. As we discussed in D.01-05-059, our consideration of those costs has bearing on the amount that SDG&E may seek from FERC.[26] We retain jurisdiction to review the reasonableness of SDG&E's final project expenditures pursuant to §§ 454.1, 463.5, 1005.5 and all other applicable law. We order SDG&E to file an application for such a review within 6 months of final completion of the Miguel-Mission and Imperial Valley upgrades. If SDG&E's reasonable costs for the projects exceed the cost cap, SDG&E may seek an increase in the cost cap pursuant to § 1005.5(b).

SDG&E's economic analysis also presents estimates of increased net operating revenues that are expected to accrue to specific generators with planned projects in the California-Mexico border region. (See Table 1.) Economic analysis of transmission upgrades should examine the allocation of benefits among various beneficiaries, such as generators, as SDG&E has done here. However, in this instance, it would not be reasonable to condition our finding of economic need on a requirement that specific generators contribute to

[26] *Id.*

project costs. Potential beneficiaries of the upgrades include current and future suppliers of power in Arizona (via SWPL), the Imperial Irrigation District and Mexico, not just the current sponsors of new generating facilities in the California-Mexico border region.[27] It is therefore not feasible to allocate the cost of these upgrades fairly among all of the private entities that will benefit from them, i.e., all generators and marketers whose power flows through the Imperial Valley substation and/or west of the Miguel substation. Moreover, as Border Generation points out, specific generators could not receive any firm transmission rights in return for their contribution to project costs. This is because the congestion at the Miguel and Imperial Valley substations is "intrazonal," and there are no firm transmission rights allowed within a CAISO zone.[28]

Our imposition of a cost cap, coupled with the milestone conditions discussed below, protects ratepayers against forecasting errors that would substantially undermine or even eliminate the economic need for these projects. With these conditions, we find that the projects are economically justified under current FERC ratemaking policies that would allocate project costs exclusively to SDG&E's ratepayers.

However, we note that SDG&E's economic analysis also supports a ratemaking policy that allocates project costs to ratepayers throughout the CAISO control area. As discussed above, the net benefits projected for this broader base of ratepayers are substantial, i.e., $10 to $43 million per year. At the time this project went to hearing, FERC was considering modifying its

[27] Exh. 109, p. 16, RT at 400-401, 475-476.

[28] Exh. 109, pp. 10-12, 17.

ratemaking approach to allocate the costs of new transmission lines and upgrades across the entire CAISO ratepayer base, rather than to individual utility customers.[29]

The record in this proceeding also indicates that proceeding with Miguel-Mission has cost allocation implications for the Valley-Rainbow Project that SDG&E has proposed in Application (A.) 01-03-036. Under this project, SDG&E would construct a new 500 kV line from SCE's Valley substation to a new substation at Rainbow. In conjunction with Miguel-Mission, the construction of Valley-Rainbow would enable additional amounts of generation entering Miguel (e.g., from the California-Mexico border region) to proceed north to SCE's and PG&E's service territories.[30] By D.02-12-066, we denied SDG&E's request for a CPCN for the Valley-Rainbow Project, without prejudice, stating that: "If SDG&E identifies a reliability or economic need for a similar transmission project in the future, SDG&E may file a new application seeing a CPCN for its proposed project. "[31] Should SDG&E file such an application in the future, we will consider the interaction of the proposed project with Miguel-Mission as we evaluate the allocation of project benefits and costs for the proposed project. We will also utilize the record in this proceeding in our future interactions with FERC on transmission cost allocation issues.

[29] Exh. 109, p. 18; RT at 392, 484-487.

[30] RT at 420-422, 461-463.

[31] D.02-12-066, p. 70.

6. Licensing Requirements

SDG&E, Border Generation, and ORA take the position that SDG&E should not be required to file a CPCN for either project.[32] They argue that the projects fall under specific CPCN exemption provisions of GO 131-D. We examine the requirements of GO 131-D for each project, and address the licensing requirements below.

6.1 Imperial Valley Project

Sections III. B and C of GO 131-D set forth the relevant criteria for evaluating the licensing requirements for substation construction. Section III.B provides in pertinent part:

> No electric public utility shall begin construction in this state of any electric power line facilities or substations which are designed for immediate or eventual operation at any voltage between 50 kV or 200 kV or new or upgraded substations with high side voltage exceeding 50 kV without this Commission's having first authorized the Construction of said facilities by issuance of a permit to construct in accordance with the provisions of Sections IX B, X, and XI B of this General Order. An upgraded substation is one in which there is an increase in substation land area beyond the existing utility-owned property or an increase in the voltage rating of the substation above 50 kV. Activities which increase the voltage of a substation to the voltage for which the substation has been previously rated are deemed to be substation modification projects and not substation upgrade projects. (Emphasis added.)

GO 131-D III C provides in pertinent part:

[32] Exh. 108, pp. 6-7. RT at 502-506. SDG&E's Brief Addressing The Applicability of GO 131-D, November 13, 2001.

> The construction of…substation modification projects which increase the voltage of an existing substation to the voltage for which it has previously been rated within the existing substation boundaries, does not require the issuance of a CPCN or permit by this Commission nor discretionary permits or approvals by local governments.

Because the proposed activities relate to a previously authorized substation (existing substation), would not increase the voltage rating beyond which the substation has previously been rated, and is within the existing substation boundaries, the Imperial Valley Project qualifies as a "substation modification project." Therefore, it does not require the issuance of a Permit to Construct (PTC) or CPCN. However, because it is important for the Commission and its staff to be kept informed of the activities of a regulated utility, SDG&E should file an informational advice letter that includes information establishing the previously authorized substation and previous rating of the substation, a description of how the planned work will be conducted within existing substation boundaries and why the project qualifies as a "substation modification project" pursuant to General Order 131-D.III.B and C. The schedule for this filing is included in the milestones we adopt today. (See Attachment 4.)

6.2 Miguel-Mission Project

As discussed above, a key element of this proposed project would result in increasing the existing 138/69 kV transmission line to 230 kV capacity. Section III.A establishes the CPCN requirement, and provides in pertinent part:

> No electric public utility shall begin construction in this state of…or the modification, alteration, or addition to…major electric transmission line facilities which are designed <u>for immediate or eventual operation at 200 kV or more</u>…without this Commission's having first found that said facilities are necessary to promote the safety, health, comfort, and convenience of the

> public, and that they are required by the public convenience and necessity. (Emphasis added.)

Exceptions are permitted for the replacement of existing power line facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing power line facilities, the conversion of existing overhead lines to underground, or the placing of new or additional conductors, insulators, or their accessories on or replacement of supporting structures already built.

In its November 13, 2001 brief, SDG&E concedes that the magnitude of the Miguel-Mission Project is considerable and that review under the California Environmental Quality Act is appropriate and consistent with the intent of G.O. 131-D and sound public policy. SDG&E also consents that an application providing a Proponents Environmental Assessment (PEA) for environmental review of the proposed project is consistent with GO 131-D and the Commission's Rule of Practice and Procedure 17.1.[33] Thus, the only issue is whether it is appropriate to submit an application for a PTC or a CPCN under GO 131-D.

SDG&E contends that the CPCN process is too lengthy and complicated, requiring the consideration of project need and cost allocation issues in addition to environmental issues. SDG&E requests that rather than requiring a CPCN application, which considers these factors, the Commission permit expedited review under a PTC application process. The rationale is not predicated upon or justified under the specific definitions and criteria of project activity enumerated under GO 131-D A or B. The request is based upon the argument that the issue of project need (whether or not the Miguel-Mission upgrade is an economic

[33] *Ibid.*, pp. 6-7.

benefit to the public) will be determined in this proceeding and that project cost allocation issues should be deferred to FERC jurisdiction.

The magnitude of the proposed project activities, and particularly replacement of existing power line facilities above 200 kV and beyond equivalent levels (138/69 kV to 230 kV), cannot be justified within the GO 131-D-III.B criteria for a PTC. For this reason we do not accept the Joint Recommendation of SDG&E, ORA, and Border Generation with respect to the licensing requirements for this project.

SDG&E is required to file an application for a CPCN consistent with GO 131-D III.A and IX, including a PEA consistent with Commission's Rule of Practice and Procedure 17.1. However we will expedite this process by permitting SDG&E to file its CPCN application under Section IX absent the information required by subparts (c)(d) and (f).[34] Since we have addressed economic need and have adopted a cost cap subject to reasonableness review in this proceeding, we do not require the information required by subparts (c) and (d) to move forward with licensing for this project. Based on SDG&E's project description, subpart (f) also does not appear to be relevant, and will not be required. These modifications to the CPCN submittal requirements provide an expedited process comparable to the PTC process described under Section IX.B. At the same time, it maintains the integrity of project description analysis

[34] Subpart (c) requires a statement of facts and reasons why the public convenience and necessity require the construction and operation of the proposed transmission facilities. Subpart (d) requires a detailed statement of the estimated cost of the proposed facilities. Subpart (f) requires a schedule showing the program of right-of-way acquisition and construction.

consistent with GO 131-D. III.A. SDG&E should file this application consistent with the milestone schedule we adopt today. (See Attachment 4.)

7. Milestone Schedule

As discussed above, the economic need for the Miguel-Mission and Imperial Valley Projects depends upon a threshold level of generation being developed in the California-Mexico border region and Mexico for export to California. SDG&E acknowledges that ratepayers would be economically disadvantaged if they paid for the upgrades and this generation is not developed.[35] As a solution, SDG&E proposes that licensing go forward for the projects, but that construction be tied to "certain generation development milestones or enforceable commitments from generation developers to proceed with their projects."[36] During evidentiary hearings, SDG&E stated that it would work with the other parties to develop such milestones for our consideration, subject to comment in the briefs.[37]

Attachment 3 presents the SDG&E and Border Generation joint proposal for milestones coordinating the construction of the Miguel-Mission and Imperial Valley upgrades with construction of new generation projects.[38] The milestone schedule provides target dates for construction progress and presents a process for monitoring the achievement of these target dates.

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[35] Exh. 101, p. 11.

[36] *Ibid.*

[37] RT at 492-493.

[38] ORA was provided a copy of this document during the briefing period and indicated that it does not have any objection to the proposal.

We have reviewed the proposed milestone procedures and find them to reasonable, with two exceptions. The first relates to the threshold generation level, and the second to the verification process outlined in the proposal.[39]

The milestones use 1350 MWs as the threshold generation level, that is, the level of generation that needs to meet specific milestones at periodic checkpoints in order for SDG&E to proceed with the next step of project development for the Miguel-Mission and Imperial Valley upgrades. Section A (General Principles) of the milestones states that this amount is selected because "once new generation in the Border area exceeds approximately 1350 MWs, the annual energy cost savings to SDG&E ratepayers could exceed the annual cost of both the Miguel-Mission Upgrade and the [Imperial Valley] Upgrade." However, this statement is not supported by the record because Case 3 does not include the costs of the Imperial Valley substation improvements. According to the economic study presented in this proceeding, the threshold for the Imperial Valley Project should be somewhat higher than Case 3 new generation levels (1360 MW) in order for both SDG&E and ISO ratepayers to realize annual net benefits.

In her proposed decision, the ALJ determined that the Case 4 threshold of new generation development (2360 MW) should be used as a threshold for construction of the Imperial Valley substation improvements, based on SDG&E's testimony that upgrades to the substation would not be needed until

[39] We also note that footnote 3 under "General Principles" concerning FERC jurisdication may reflect the views of SDG&E and Border Generation, but does not preempt this Commission from exercising what it considers to be its jurisdiction over transmission costs, as discussed above. We will remove language from the milestones that asserts facts concerning FERC jurisdication.

new generation approaches the amounts represented by Cases 4 and 5.[40] However, we are persuaded by SDG&E's comments on the proposed decision that a threshold lower than 2360 MW, but higher than Case 3, represents a reasonable requirement. In particular, SDG&E argues that a threshold level of 1660 MW would justify the project. We find that SDG&E's arguments are supported by the record, even though a separate scenario was not run with the assumption of 1660 MW of new generation. This can be seen by examining the results of Case 3 beyond the first year net benefits analysis: At 1360 MW of new generation, the economic analysis indicates that SDG&E ratepayers should experience net benefits from the Imperial Valley substation project over seven years, although not in the first year.[41] At this same level of new generation, CAISO ratepayers (including SDG&E) are expected to experience net benefits of approximately $130 million over seven years.[42] In sum, we find that the record indicates that the Imperial Valley substation is economic at a level of generation somewhat higher than 1360 MW, but well before the point at which 2360 MW of new generation (Case 4) develops. SDG&E's proposal to establish a threshold of 1660 MW is therefore reasonable, and will be adopted.

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[40] Exh. 101, pp. 10-11.

[41] In the first year, SDG&E ratepayers would not quite see net benefits ($6 million in benefits against $6.77 million in costs). Exh. 101, p. 9. Over seven years, SDG&E ratepayers would experience a net gain of approximately $3 million. (Compare SDG&E's Data Response to Energy Division (October 9, 2001), Exh. 105 showing $50 million in energy cost savings at Case 3 with Exh. 101 at 9, showing the annual costs at $6.77 million ($47.39 million over seven years).

[42] Compare Exh. 105, showing $178 million in cost savings with Exh. 101, p. 9 showing annual costs of $6.77 million ($47.39 million over seven years).

Accordingly, SDG&E should not make major financial commitments in the Imperial Valley Project unless and until new generation develops at a level of approximately 1660 MWs. Specifically, the milestones should be modified so that SDG&E will not proceed with ordering transformers (currently scheduled by the end of June 2002) or take the subsequent steps outlined in the milestone schedule for this project until at least 1660 MWs of new generation has achieved the corresponding generator milestones.

SDG&E and Border Generation propose the formation of a Verification Committee that will be comprised of selected representatives from their organizations. The Commission's Energy Division should also be represented on this Committee, and we delegate to the Assigned Commissioner the selection of that representative or representatives. Disagreements among Committee members concerning compliance issues, such as whether a missed milestone is significant enough to justify a delay of other milestones, should be resolved by the Assigned Commissioner, or her designee.

We also note that footnote 3 under "General Principles" concerning FERC jurisdication may reflect the views of SDG&E and Border Generation, but does not preempt this Commission from exercising what it considers to be its jurisdiction over transmission costs, as discussed above. We will remove language from the milestones that reflects assertions by the parties concerning FERC jurisdication.

Attachment 4 presents the milestones, as adopted herein.

8. Comments on Proposed Decision

The proposed decision of ALJ Gottstein was mailed to the parties in accordance with § 311(d) of the Pub. Util. Code and Rule 77.1 of the Rules of Practice and Procedure. Comments were filed on February 3, 2003 by Border

Generation, CAISO, ORA and SDG&E. No reply comments were filed. In response to comments, we have made a change to the milestone threshold for new generation, as discussed above. We do not make any other substantive changes to the ALJ's proposed decision.

9. Assignment of Proceeding

Loretta M. Lynch is the Assigned Commissioner and Meg Gottstein is the assigned ALJ in this proceeding.

Findings of Fact

1. The models used by SDG&E in this proceedings simulate hourly operation and dispatch of individual generation facilities, consider transmission line interconnections, ratings, losses and wheeling rates for the regional system, and are widely used in the industry. The modeling methods present a logical approach for evaluating annual energy costs with and without the upgrades, and are reasonable for the purpose of evaluating the economic need of the Miguel-Mission and Imperial Valley Projects.

2. The additional model runs produced at the request of Energy Division indicate that the energy cost saving benefits projected by SDG&E's analysis for a single year are likely to continue at a relatively constant rate into the future.

3. The economic analysis presented in this proceeding is not dependent upon the scarcity premium algorithm used in Henwood's model, because there are very few hours in which the scarcity premium comes into play under the normal weather conditions assumed in the analysis.

4. The record indicates that the development of new generation in the border region the range of 1360 to 2360 MWs is plausible.

5. Construction of the Miguel-Mission and Imperial Valley Projects reduces hours of congestion caused by limited transmission capacity and improves access

to economic power. This reduces energy costs to SDG&E ratepayers as well as ratepayers throughout the CAISO control area (i.e., SDG&E, SCE, and PG&E).

6. SDG&E's economic analysis assumes that Miguel-Mission is constructed at an annual cost of $3 million under the scenario where 1360 MWs of new generation develop, and that both Miguel-Mission and Imperial Valley Projects are constructed at an annual cost of $7.24 million under the scenario where 2360 MWs develop. Under these cost assumptions, the projects are estimated to produce $3 to $7.24 million in net benefits to SDG&E ratepayers and $9.97 to $43.24 million in net benefits costs to CAISO ratepayers (including SDG&E).

7. To the extent that new generation comes on line in the constrained area, i.e., San Diego North, the benefits from the transmission upgrades will diminish. However, given the uncertain status of project development in that area and the robustness of SDG&E's scenario analysis if even 600 MWs of those projects come on line by 2004, it appears unlikely that the cost saving benefits associated with the projects will be negated by increased development of generation within the constrained area.

8. There is no basis in this record for considering RMR cost reductions or reductions in market power in determining whether or not the upgrades are in the public interest.

9. The record provides very little detail describing the basis for SDG&E's project cost estimates, particularly for the Miguel-Mission project. SDG&E has the burden of proving the reasonableness of its cost estimates, but has not done so in this proceeding.

10. The net benefits to ratepayers justify the construction of the Miguel-Mission and Imperial Valley Projects provided that: (1) a threshold amount of new generation develops in the California-Mexico border area and in Mexico, and (2) project costs are contained at or below the preliminary estimates

presented in this proceeding. Based on SDG&E's economic analysis, the threshold amount of new generation for the Miguel-Mission Project should be 1360 MWs. The Imperial Valley project should not move ahead until 1660 MWs of new generation develops, because this is the level at which the project is needed to eliminate potential congestion and provides net benefits to SDG&E and all CAISO ratepayers.

11. The economic analysis presented in this proceeding supports a finding of economic need based on the estimates of project benefits and costs presented in this proceeding. However, a finding of economic need is not supported by the record if the projects are allowed to go forward with considerable uncertainty regarding project costs and generation development and if the full risk of this uncertainty is allocated to SDG&E's ratepayers.

12. The Mission-Miguel and Imperial Valley transmission upgrades are subject to the cost cap provisions of § 1005.5 as a single project since they are both designed to increase transmission capacity into SDG&E's load center during the same timeframe, are functionally interdependent (i.e., Imperial Valley Project cannot increase that transmission capacity unless Miguel-Mission Project is also built), are jointly linked to the milestone conditions for proceeding with project construction, and together exceed $50 million in estimated costs.

13. SDG&E's economic analysis also supports a ratemaking policy that allocates project costs to ratepayers throughout the CAISO control area, which is a policy that was under consideration by FERC during evidentiary hearings in this proceeding. The record in this proceeding should be utilized in the Commission's future interactions with FERC regarding transmission cost allocation issues.

14. The record in this proceeding indicates that proceeding with the Miguel-Mission Project has cost allocation implications for the Valley-Rainbow Project that SDG&E has proposed in A.01-03-036.

15. The milestone procedures proposed by SDG&E and Border Generation do not reflect the fact that the Imperial Valley Project will not yield economic benefits to SDG&E and CAISO ratepayers until somewhat more than 1350 MWs of generation is developed. The milestone procedures do not include representation of Commission staff in the proposed Verification Procedures. They should be modified to correct for these deficiencies.

Conclusions of Law

1. The Miguel-Mission and Imperial Valley Projects are economic to SDG&E's ratepayers and in the public interest, subject to the cost cap and milestone conditions discussed in this decision.

2. The Commission has jurisdiction pursuant to Pub. Util. Code § 1005.5 to cap project costs, and such a cap is applicable to the transmission upgrades we are considering in this proceeding.

3. The Commission should cap the project costs for the Miguel-Mission Project and Imperial Valley Project at $55.4 million for the combined upgrades. As discussed in this decision, the Commission should conduct a reasonableness review of SDG&E's project expenditures pursuant to Pub. Util. Code §§ 454.1, 463.5, 1005.5 and other applicable law.

4. Under Pub. Util. Code § 1005.5, SDG&E may return to the Commission to seek an increase in the cost cap if the reasonable combined costs of the projects exceed the cost cap we impose here.

5. As discussed in this decision, the Imperial Valley Project qualifies as a "substation modification project" which is exempt from GO 131-D requirements for either a CPCN or PTC.

6. SDG&E is required to file a CPCN for the Miguel-Mission Project under GO 131-D given the magnitude of the proposed project activities and the proposed replacement of existing power line facilities above 200 kV and beyond equivalent levels. As discussed in this decision, the filing requirements under subparts (c) and (d) can be eliminated in this instance because this proceeding has addressed economic need and the project costs will be capped and subject to a reasonableness review. Moreover, based on SDG&E's project description, the requirement of a schedule showing the program of right-of-way acquisition and construction under subpart (f) does not appear relevant, and can be eliminated.

7. SDG&E and Border Generation's proposed milestones, as modified by this decision, are reasonable and should be adopted.

8. In order to proceed expeditiously with these projects, this order should be effective immediately.

INTERIM ORDER

IT IS ORDERED that:

1. The Miguel-Mission Project and Imperial Valley Projects are economic and are in the public interest. San Diego Gas & Electric Company (SDG&E) shall proceed with the licensing of these projects subject to the following conditions:

   a. Project costs for the combined upgrades shall be caped at $55.4 million, and subject to reasonableness review.

   b. Construction of the projects shall be coordinated with the construction of a threshold level of new generation per the Milestone Schedule presented in Attachment 4.

2. Consistent with the milestone schedule set forth in Attachment 4, SDG&E shall file a Certificate of Public Convenience and Necessity (CPCN) for the construction of the Miguel-Mission Project. As discussed in this decision, SDG&E is permitted to file its CPCN application under Section IX of General Order 131-D absent the information required by subparts (c), (d), and (f).

3. Consistent with the milestone schedule set forth in Attachment 4, SDG&E shall file an informational advice letter that includes the following information on the Imperial Valley Project:

a. project description
b. information establishing the previously authorized substation
c. previous voltage rating of the substation
d. explanation that the work will be conducted within existing substation boundaries
e. explanation why the project qualifies as a "substation modification project" pursuant to General Order 131-D.III. B and C.

4. Within 180 days of final completion of the Miguel-Mission and Imperial Valley upgrades, SDG&E shall file an application at the Commission's Docket Office for reasonableness review of project expenditures. A notice of availability of the application shall be served on the appearances and state service list in this proceeding, or its successor. Complete copies of the application shall be served on the assigned Administrative Law Judge, Assigned Commissioner, Energy Division, and Office of Ratepayer Advocates.

This order is effective today.

Dated February 27, 2003, at San Francisco, California.

MICHAEL R. PEEVEY
President
CARL W. WOOD
LORETTA M. LYNCH
GEOFFREY F. BROWN
SUSAN P. KENNEDY
Commissioners

ATTACHMENT 1

LIST OF APPEARANCES

LIST OF APPEARANCES
I.00-11-001

Dennis W. De Cuir
Atty At Law
A LAW CORPORATION
2999 DOUGLAS BLVD., SUITE 325
ROSEVILLE CA 95661
(916) 788-1022
dennis@ddecuir.com
For: Transmission Agency of Northern California

David Marcus
ADAMS BROADWELL JOSEPH & CARDOZO
PO BOX 1287
1541 JUANITA WAY
BERKELEY CA 94701-1287
(510) 528-0728
dmarcus@slip.net
For: Coalition of California Utility Employees

Kate Poole
Attorney At Law
ADAMS BROADWELL JOSEPH & CARDOZO
651 GATEWAY BOULEVARD, SUITE 900
SOUTH SAN FRANCISCO CA 94080
(650) 589-1660
kpoole@adamsbroadwell.com
For: Coalition of California Utility Employees

Marc D. Joseph
Attorney At Law
ADAMS BROADWELL JOSEPH & CARDOZO
651 GATEWAY BOULEVARD, SUITE 900
SOUTH SAN FRANCISCO CA 94080
(650) 589-1660
mdjoseph@adamsbroadwell.com
For: Coalition of California Utility Employees

Evelyn K. Elsesser
Attorney At Law
ALCANTAR & ELSESSER LLP
ONE EMBARCADERO CENTER, STE. 2420
SAN FRANICSCO CA 94111
(415) 421-4143
lys@aelaw.com
For: ENERGY PRODUCERS & USERS COALITION

Michael Alcantar
Attorney At Law
ALCANTAR & KAHL LLP
1300 SW FIFTH AVENUE, SUITE 1750
PORTLAND OR 97201
(503) 402-9900
mpa@a-klaw.com
For: Cogeneration Association of California

Evelyn Kahl
LINDA SHERIF
Attorney At Law
ALCANTAR & KAHL, LLP
120 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO CA 94104
(415) 421-4143
ek@a-klaw.com
For: Energy Producers & Users Coalition

Barbara R. Barkovich
BARKOVICH AND YAP, INC.
31 EUCALYPTUS LANE
SAN RAFAEL CA 94901
(415) 457-5537
brbarkovich@earthlink.net
For: California Large Energy Consumers Association & Silicon Valley Manufacturers Group

C. Susie Berlin
Attorney At Law
2105 HAMILTON AVENUE, SUITE 140
SAN JOSE CA 95037
(408) 558-0950
sberlin@mccarthylaw.com
For: City of Anaheim

Scott Blaising
Attorney At Law
BRAUN & ASSOCIATES
8980 MOONEY ROAD
ELK GROVE CA 95624
(916) 682-9702
blaising@braunlegal.com
For: California Municipal Utilities Association

A Brubaker
BRUBAKER & ASSOCIATES, INC.
1215 FERN RIDGE PARKWAY, SUITE 208
ST. LOUIS MO 63141
(314) 275-7007
mbrubaker@consultbai.com

Fernando De Leon
Attorney At Law
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-14
SACRAMENTO CA 95814-5512
(916) 654-4873
fdeleon@energy.state.ca.us
For: California Energy Commission

Jennifer Tachera
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET, MS-14
SACRAMENTO CA 95814-5504
(916) 654-3870
jtachera@energy.state.ca.us

Jeanne M. Sole
Regulatory Counsel
CALIFORNIA INDEPENDENT SYSTEM OPERATOR
151 BLUE RAVINE ROAD
FOLSOM CA 95630
(916) 608-7144
jsole@caiso.com
For: California ISO

Theresa L. Mueller
Attorney At Law
CITY AND COUNTY OF SAN FRANCISCO
CITY HALL, ROOM 234
1 DR. CARLTON B. GOODLETT PLACE
SAN FRANCISCO CA 94102-4682
(415) 554-4640
theresa_mueller@ci.sf.ca.us
For: City and County of San Francisco

Grant Kolling
Senior Assistant City Attorney
CITY OF PALO ALTO
PO BOX 10250
PALO ALTO CA 94303
(650) 329-2171
grant_kolling@city.palo-alto.ca.us
For: City of Palo Alto

Frederick M. Ortlieb
Deputy City Attorney
CITY OF SAN DIEGO. CIVIL DIVISION
1200 THIRD AVENUE, SUITE 1100
SAN DIEGO CA 92101-4100
(619) 236-6318
fmo@sdcity.sannet.gov
For: City of San Diego

Marcie Milner
CORAL POWER, L.L.C.
4320 LA JOLLA VILLAGE DRIVE, NO. 250
SAN DIEGO CA 92122
(858) 526-2106
mmilner@coral-energy.com

Barbara Dunmore
COUNTY OF RIVERSIDE
4080 LEMON STREET, 12TH FLOOR
RIVERSIDE CA 92501-3651
(909) 955-1158
bdunmore@rceo.org

Robert Buster
Supervisor-District 1
COUNTY OF RIVERSIDE
4080 LEMON STREET, 14TH FLOOR
RIVERSIDE CA 92501-3651
district1@co.riverside.ca.us

Lindsey How-Downing
MYLIE BEESON
Attorney At Law
DAVIS WRIGHT TREMAINE LLP
ONE EMBARCADERO CENTER, STE 600
SAN FRANCISCO CA 94111-3834
(415) 276-6500
lindseyhowdowning@dwt.com
For: Calpine Corporation

Edward W. O'Neill
Attorney At Law
DAVIS WRIGHT TREMAINE, LLP
ONE EMBARCADERO CENTER, SUITE 600
SAN FRANCISCO CA 94111-3834
(415) 276-6582
edwardoneill@dwt.com
For: El Paso Merchant Energy

Kay Davoodi
1314 HARWOOD STREET SE
WASHINGTON NAVY YARD DC 20374-5018
(202) 685-0130
DavoodiKR@efaches.navfac.navy.mil
For: Navy Rate Intervention

Norman J. Furuta
ROGER GREEN
Attorney At Law
DEPARTMENT OF THE NAVY
2001 JUNIPERO SERRA BLVD., SUITE 600
DALY CITY CA 94014-1976
(650) 746-7312
FurutaNJ@efawest.navfac.navy.mil
For: Federal Executive Agencies

Douglas K. Kerner
Attorney At Law
ELLISON, SCHNEIDER & HARRIS
2015 H STREET
SACRAMENTO CA 95814
(916) 447-2166
dkk@eslawfirm.com
For: Duke Energy North America

Lynn M. Haug
Attorney At Law
ELLISON, SCHNEIDER & HARRIS, LLP
2015 H STREET
SACRAMENTO CA 95814-3109
(916) 447-2166
lmh@eslawfirm.com
For: Cal-wind Energy Association

Diane Fellman
ENERGY LAW GROUP, LLP
1999 HARRISON STREET, SUITE 2700
OAKLAND CA 94612-3572
(415) 703-6000
difellman@energy-law-group.com
For: NEO Corporation

Laura Roche
JSOLE@CAISO.COM
Attorney At Law
FARELLA, BRAUN & MARTEL, LLP
RUSS BUILDING, 30TH FLOOR
235 MONTGOMERY STREET
SAN FRANCISCO CA 94104
(415) 954-4400
lroche@fbm.com
For: California Independent System Operator

Catherine H. Gilson
JEANNE SOLE-JSOLE@CAISO.COM
Attorney At Law
FARELLA,BRAUN&MARTEL, LLP
RUSS BUILDING, 30TH FLOOR
235 MONTGOMERY STREET
SAN FRANCISCO CA 94104
(415) 954-4400
cgilson@fbm.com

Barry R. Flynn
President
FLYNN AND ASSOCIATES
4200 DRIFTWOOD PLACE
DISCOVERY BAY CA 94514-9267
(925) 634-7500
brflynn@pacbell.net
For: CITY OF SAN FRANCISCO

Mark J. Smith
FPL ENERGY
7445 SOUTH FRONT STREET
LIVERMORE CA 94550
(925) 245-4215
mark.j.smith@fpl.com
For: FPL Energy

Brian T. Cragg
JAMES D. SQUERI
Attorney At Law
GOODIN, MACBRIDE, SQUERI, RITCHIE & DAY
505 SANSOME STREET, NINTH FLOOR
SAN FRANCISCO CA 94111
(415) 392-7900
bcragg@gmssr.com
For: Ridgetop, LLC

Norman A. Pedersen
Attorney At Law
HANNA AND MORTON
444 S. FLOWER STREET
LOS ANGELES CA 90071
(213) 628-7131
npedersen@hanmor.com
For: Southern California Generation Coalition

Gayatri Schilberg
JBS ENERGY
311 D STREET, SUITE A
WEST SACRAMENTO CA 95605
(916) 372-0534
gayatri@jbsenergy.com
For: The Utility Reform Network (TURN)

Jeff Nahigian
JBS ENERGY, INC.
311 D STREET, SUITE A
WEST SACRAMENTO CA 95605
(916) 372-0534
jeff@jbsenergy.com
For: JBS Energy, Inc.

Richard W. Raushenbush
Attorney At Law
LATHAM & WATKINS
505 MONTGOMERY STREET, SUITE 1900
SAN FRANCISCO CA 94111
(415) 391-0600
richard.raushenbush@lw.com
For: PACIFIC GAS AND ELECTRIC COMPANY (PG&E)

Susan E. Brown
Attorney At Law
LATINO ISSUES FORUM
785 MARKET STREET, 3RD FLOOR
SAN FRANCISCO CA 94103-2003
(415) 284-7224
lifcentral@lif.org
For: Latino Issues Forum

Daniel W. Douglass
GARY ACKERMAN
Attorney At Law
LAW OFFICES OF DANIEL W. DOUGLASS
5959 TOPANGA CANYON BLVD., STE 244
WOODLAND HILLS CA 91367
(818) 596-2201
douglass@energyattorney.com
For: Western Power Trading Forum

William H. Booth
Attorney At Law
LAW OFFICES OF WILLIAM H. BOOTH
1500 NEWELL AVENUE, 5TH FLOOR
WALNUT CREEK CA 94296
(925) 296-2460
wbooth@booth-law.com
For: California Large Energy Consumers Association

Roy And Rita Lompa
4998 AIRLINE HIGHWAY
HOLLISTER CA 95023
(831) 637-3997

John W. Leslie
Attorney At Law
LUCE FORWARD HAMILTON & SCRIPPS, LLP
600 WEST BROADWAY, SUITE 2600
SAN DIEGO CA 92101-3391
(619) 699-2536
jleslie@luce.com
For: Border Generation Group

Barry F. Mc Carthy
Attorney At Law
2105 HAMILTON AVENUE, SUITE 140
SAN JOSE CA 95125
(408) 558-0950
bmcc@mccarthylaw.com
For: Northern California Power Agency

Daniel W. Meek
RUTHANNE WILLIAMS
Attorney At Law
10949 S.W. 4TH AVENUE
PORTLAND OR 97219-7715
(503) 293-9021
dan@meek.net
For: Residential Service Companies United Effort Rescue

Christopher J. Mayer
MODESTO IRRIGATION DISTRICT
PO BOX 4060
MODESTO CA 95352-4060
(209) 526-7430
chrism@mid.org
For: Modesto Irrigation District

Diane E. Pritchard
Attorney At Law
MORRISON & FOERSTER, LLP
425 MARKET STREET
SAN FRANCISCO CA 94105-2482
(415) 268-7188
dpritchard@mofo.com
For: Pacific Gas and Electric Company and National Energy Group

Sara Steck Myers
Attorney At Law
122 28TH AVENUE
SAN FRANCISCO CA 94121
(415) 387-1904
ssmyers@worldnet.att.net
For: Center for Energy Efficiency & Renewable Technology; and City of San Diego

Sam De Frawi
NAVY RATE INTERVENTION
1314 HARWOOD STREET, SE
WASHINGTON NAVY YARD DC 20374-5018
(202) 685-0130
defrawis@efaches.navfac.navy.mil

Hal Romanowitz
OAK CREEK ENERGY
14633 WILLOW SPRINGS ROAD
MOJAVE CA 93501
(661) 822-6853
rwitz@compuserve.com
For: Oak Creek Energy

David T. Kraska
Attorney At Law
PACIFIC GAS & ELECTRIC COMPANY
MAILCODE B30A PO BOX 7442

SAN FRANCISCO CA 94120-7442
(415) 973-7503
dtk5@pge.com

William V. Manheim
DAVID KRASKA
Attorney At Law
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, ROOM 3025-B30A
SAN FRANCISCO CA 94105
(415) 973-6628
wvm3@pge.com

Don Schoenbeck
RCS, INC
900 WASHINGTON STREET, SUITE 1000
VANCOUVER WA 98660
(360) 737-3877
dws@keywaycorp.com
For: Coalinga Cogen Co.

James A. Ross
RCS, INC
500 CHESTERFIELD CENTER, SUITE 320
CHESTERFIELD MO 63017
(636) 530-9544
jimross@r-c-s-inc.com
For: Midway Sunset Cogen Co.

William L. Nelson
RUTHANNE WILLIAMS
REECH, INC.
KERN-INYO LIAISON SITE, POSTNET PMB #424
785 TUCKER ROAD, SUITE G
TEHACHAPI CA 93561
(661) 823-8913
reechpubpol@mail.com
For: REECH, Inc.

Arlen Orchard
Attorney At Law
SACRAMENTO MUNICIPAL UTILITY DISTRICT
PO BOX 15830, MS-B406
SACRAMENTO CA 95852-1830
(916) 732-5830
aorchar@smud.org
For: Sacramento Municipal Utilities District

E. Gregory Barnes
Attorney At Law
SEMPRA ENERGY
101 ASH STREET
SAN DIEGO CA 92101-3017
(619) 699-5019
gbarnes@sempra.com

Joseph R. Kloberdanz
Regulatory Affairs Case Management
SEMPRA ENERGY
101 ASH STREET; HQ14A
SAN DIEGO CA 92101
(619) 696-4319
jkloberdanz@sempra.com

Steven C. Nelson
Attorney At Law
SEMPRA ENERGY
101 ASH STREET
SAN DIEGO CA 92101-3017
(619) 699-5136
snelson@sempra.com
For: San Diego Gas and Electric Company

Richard Esteves
SESCO, INC.
77 YACHT CLUB DRIVE, SUITE 1000
LAKE FOREST NJ 07849
(973) 663-5125
sesco-lf@att.net
For: SESCO, Inc.

Marc B. Mihaly
Attorney At Law
SHUTE MIHALY & WEINBERGER LLP
396 HAYES STREET
SAN FRANCISCO CA 94102
(415) 552-7272
armi@smwlaw.com
For: Save Southwest Riverside County

Osa Armi
Attorney At Law
SHUTE MIHALY & WEINBERGER LLP
396 HAYES STREET
SAN FRANCISCO CA 94102
(415) 552-7272
armi@smwlaw.com
For: Save Southwestern Riverside County

David M. Norris
Attorney At Law
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD
RENO NV 89511
(775) 834-3939
dnorris@sppc.com
For: SIERRA PACIFIC POWER COMPANY

Michael D. Mackness
JULIE MILLER
Esquire
SOUTHERN CALIFORNIA EDISON CO
2244 WALNUT GROVE AVENUE
ROSEMEAD CA 91770
(626) 302-2863
mike.mackness@sce.com
For: Southern California Edison

Michael D. Montoya
JENNIFER.HASBROUCK@SCE.COM
Attorney At Law
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVENUE, ROOM 345
ROSEMEAND CA 91770
(626) 302-6057
mike.montoya@sce.com
For: Southern California Edison Company

Stacy Van Goor
Attorney At Law
SOUTHERN CALIFORNIA GAS COMPANY
101 ASH STREET, HQ13
SAN DIEGO CA 92101
(619) 699-5070
svangoor@sempra.com
For: San Diego Gas & Electric Company

Keith Mc Crea
Attorney At Law
SUTHERLAND, ASBILL & BRENNAN
1275 PENNSYLVANIA AVENUE, N.W.
WASHINGTON DC 20004-2415
(202) 383-0705
kmccrea@sablaw.com
For: California Manufacturers & Technology Association

James E. Scarff
Legal Division
RM. 5121
505 VAN NESS AVE
San Francisco CA 94102
(415) 703-1440
jes@cpuc.ca.gov

Christoper Witteman
THE GREENLINING INSTITUTE
785 MARKET STREET, 3RD FLOOR
SAN FRANCISCO CA 94103-2003
(415) 284-7202
chrisw@greenlining.org

Itzel Berrio
R. GNAIZDA
THE GREENLINING INSTITUTE
785 MARKET STREET, 3RD FLOOR
SAN FRANCISCO CA 94103-2003
(415) 284-7202
iberrio@greenlining.org
For: Greenlining and Latino Issues Forum

Carl C. Lower
THE POLARIS GROUP
717 LAW STREET
SAN DIEGO CA 92109-2436
(619) 969-7150
clower@earthlink.net

Marcel Hawiger
Attorney At Law
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, SUITE 350
SAN FRANCISCO CA 94102
(415) 929-8876
marcel@turn.org
For: The Utility Reform Network (TURN)

Robert Finkelstein
FREEDMAN@TURN.ORG
Attorney At Law
THE UTILITY REFORM NETWORK
711 VAN NESS AVE., SUITE 350
SAN FRANCISCO CA 94102
(415) 929-8876
bfinkelstein@turn.org
For: The Utility Reform Network (TURN)

Maury Kruth
Executive Director
TRANSMISSION AGENCY OF NORTHERN CALIF.
PO BOX 15129
SACRAMENTO CA 95851-0129
(916) 852-1673
maury_kruth@rmiinc.com
For: TRANSMISSION AGENCY OF NORTHERN CALIFORNIA

Joseph M. Karp
Attorney At Law
WHITE & CASE LLP
2 EMBARCADERO CENTER, SUITE 650
SAN FRANCISCO CA 94941
(415) 544-1103
jkarp@whitecase.com
For: California Cogeneration Council

ATTACHMENT 2

LIST OF ACRONYMS

ATTACHMENT 2
Page 1

LIST OF ACRONYMS

A.	Application
AB 970	Assembly Bill 970
ALJ	Administrative Law Judge
Border Generation	Border Generation Group
CAISO	California Independent System Operator
CPCN	Certificate of Public Convenience and Necessity
D.	Decision
Exh.	Exhibit
EMSS	Electric Market Simulation System
FERC	Federal Energy Regulatory Commission
GO	General Order
Henwood	Henwood Energy Services
Imperial Valley Project	Modifications to the Imperial Valley Substation transformer bank
"Joint Parties"	SDG&E, the Border Generation Group, and the Office of Ratepayer Advocates
kcmil	thousand circular mil
kV	kilovolt
LRPP	La Rosita Power Project
Miguel-Mission Project	Upgrades to transmission west of Miguel
MVA	megavolt-ampere
MW	Megawatt
ORA	Office of Ratepayer Advocates
PEA	Proponents Environmental Assessment

ATTACHMENT 2
Page 2

PG&E	Pacific Gas and Electric Company
PHC	prehearing conference
PJZ	Presidente Juarez
PTC	Permit to Construct
Pub. Util. Code	Public Utilities Code
RMR	reductions in reliability-must-run
RT	Reporter's Transcript
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
SWPL	Southwest Power Link
TDM	Termoelectrica De Mexicali
WSCC	Western System Coordinating Council

(END OF ATTACHMENT 2)

ATTACHMENT 3

ATTACHMENT 3:

SDG&E AND BORDER GENERATION PROPOSED JOINT MILESTONE SCHEDULE COORDINATING CONSTRUCTION OF THE MIGUEL-MISSION AND IMPERIAL VALLEY UPGRADES WITH CONSTRUCTION OF NEW GENERATION PROJECTS

A.GENERAL PRINCIPLES

The general principles that govern the milestones are as follows:

1. Paragraph 8 of the Joint Recommendation states:

> Based on the economic study presented in this proceeding, it appears that justification exists for construction of the transmission upgrades if a threshold level of new generation develops in the Border area. Once new generation in the Border area exceeds approximately 1350 MW, the annual energy cost savings to SDG&E ratepayers could exceed the annual cost of both the Miguel-Mission Upgrade and the IV Upgrade.

The milestone schedule is intended to ensure that, at each milestone point, new generation exceeding approximately 1350 MW develops as SDG&E proceeds with construction of the transmission upgrades.

2. The milestone schedule is not intended to be specific to individual generators. The objective, at each milestone point, is to achieve, or demonstrate progress in achieving, the milestones with any combination of generation that exceeds approximately 1350 MW.

3. SDG&E and the BGG agree that these milestones are an appropriate and reasonable approach under the facts and

circumstances in this case. The milestones set forth herein are not intended to establish a precedent, however, for the parties or for the Commission. SDG&E and the BGG recognize that FERC plans to issue a rule that will in the future govern how public utilities that own, operate, or control transmission facilities under the Federal Power Act will treat interconnections. See Standardizing Generator Interconnection Agreements and Procedures – Advance Notice of Proposed Rulemaking, Docket No. RM02-1-000 (issued October 25, 2001).

4. In order to ascertain whether substantial compliance has been achieved with respect to the milestones, a "Verification Committee," comprised of selected representatives from SDG&E and members of the BGG, will meet near the end of each calendar quarter, beginning in March 2002. Because the milestones do not reflect the entire universe of possible facts and circumstances that could affect the timeline, the Verification Committee will have the discretion to adjust the milestones as necessary.

5. The Verification Committee will determine, on a case-by-case basis, whether a missed milestone is significant enough to justify a delay of other milestones. The Verification Committee will consider whether reasonable adjustments to the milestones should be made in order to accommodate specific circumstances.

6. In order to verify substantial compliance with the milestones, the Verification Committee will accept documentation and sworn affidavits by responsible representatives, and will employ site visits. Parties will inform the Verification Committee immediately upon determining that a milestone will not be met, and explain why they cannot meet the milestone.

7. SDG&E and the BGG anticipate that SDG&E will not spend more than a total of $2 million on the upgrades until it receives a final order from FERC that addresses how SDG&E should treat the costs of the upgrades.[43] In the absence of a final FERC order by the time SDG&E has expended approximately $2 million, SDG&E will determine whether its milestones should be delayed, and SDG&E will advise the Verification Committee of its decision immediately.

8. SDG&E anticipates that, by the beginning of April of 2002, it will have spent around $2 million on the upgrades. This is when SDG&E will determine whether it should delay its milestones absent a final FERC order addressing how the costs of the upgrades should be treated for ratemaking purposes. After this point, SDG&E would face significant financial exposure for,

[43] SDG&E and the BGG agree that FERC has exclusive jurisdiction over the justness and reasonableness of SDG&E's transmission rates. See Transmission Access Policy Study Group, et al. v. FERC, 225 F.3d 667, 718 (D.C. Cir. 2000).

among other things, cancellation fees associated with materials on order.

9. SDG&E and the BGG anticipate that SDG&E will not begin constructing the Miguel-Mission upgrade until it receives an order from the Commission that authorizes it to do so under G.O. 131-D. If SDG&E does not receive an order from the Commission in time to commence construction under the milestone schedule, SDG&E will determine whether its milestones should be delayed, and SDG&E will advise the Verification Committee of its decision.

10. Once a generation project achieves the point in construction at which all of the Major Equipment (defined below) is mounted on the foundation on the project site, progress is deemed to be sufficient not to require additional milestones for the generation project.

B.

MILESTONE SCHEDULE

The specific milestones are as follows:

By The End Of January 2002

Generators (new generation exceeding approximately 1350 MW)

1. Engineering Procurement & Construction Contract (EPC) signed, or equivalent.
2. Major Equipment (combustion turbine, steam turbine, heat recovery steam generator (HRSG)) ordered.

3. Interconnection agreement signed or in advanced stage of negotiation.
4. All major US/Mexico licenses/approvals required for commencement of power plant site construction.
5. Gas pipeline transportation agreement executed.
6. Substantial plant construction and grading commenced.
7. Generation tie-line construction in progress, if applicable.

SDG&E

1. Finish joint interconnection/system upgrade study.
2. File petition for Declaratory Order for rolled-in rate recovery with FERC (target date 1/1/02 or sooner).
3. Order circuit breakers for IV Sub banks.
4. File advice letter for IV transformer upgrade, if applicable.

By The End Of March 2002

Generators (new generation exceeding approximately 1350 MW)

1. Combustion turbines delivered, or status report stating when delivery will occur.
2. Foundations for Major Equipment complete, or status report stating when the foundations will be complete.
3. Power plant switchyard construction commenced, if applicable.

4. All major U.S./Mexico licenses/approvals required for commencement of tie-line construction, if applicable.

SDG&E

1. ML-MS#2 environmental data collection complete.
2. File the relevant G.O. 131-D pleading for ML-MS #2.

By The End Of June 2002

Generators (new generation exceeding approximately 1350 MW)

1. Major Equipment delivered, or status report stating when delivery will occur.
2. Condensers, Distributed Control System (DCS) equipment ordered.
3. Substantial progress on power plant switchyard construction, if applicable.

SDG&E

1. Complete design of IV bank upgrade.
2. Long lead-time materials ordered for ML-MS#2.
3. Order transformers for IV upgrade.

By The End Of September 2002

Generators (new generation exceeding approximately 1350 MW)

1. Major Equipment on site.

SDG&E

1. Start construction for IV bank upgrades.
2. Start construction for ML-MS#2 (contingent on receipt of an order from the Commission that authorizes construction under G.O. 131-D).

By The End Of December 2002

Generators (new generation exceeding approximately 1350 MW)

1. Major Equipment mounted on foundation.
2. Condenser, DCS equipment on site.
3. Power plant switchyard complete, if applicable.

SDG&E

1. Complete engineering for ML-MS#2.
2. Receive IV transformer banks.
3. Complete design of ML-MS#2 project.

By The End of January 2003

Generators (new generation exceeding approximately 1350 MW)

1. Tie-line construction complete, if applicable.

By The End Of June 2003

Generators (new generation exceeding approximately 1350 MW)

1. Testing/start-up operations in process, or status report stating when these activities will occur.

SDG&E

1. Install and test first new transformer (May 2003).
2. Place first new transformer in service.

By The End Of September 2003

Generators

No further milestones.

SDG&E

1. Remove old transformer and install second new transformer (August 2003).

2. Relocate 69 kV and 138 kV lines.

By The End Of December 2003

Generators

No further milestones.

SDG&E

1. Place second new transformer in service.

By The End Of September 2004 (or sooner if reasonably practical)

Generators

No further milestones.

SDG&E

1. Install new 230 kV line.

2. Place ML-MS#2 in-service.

C.

CONCLUSION

In accordance with the Presiding Judge's direction to the parties, SDG&E and the BGG present the foregoing milestone schedule as an agreed upon approach to coordinate the construction of SDG&E's Miguel-Mission and Imperial Valley

Substation upgrades with the construction of a threshold level of new generation in the border area.

CERTIFICATE OF SERVICE

I hereby certify that I have served, this day, a copy of the foregoing **SAN DIEGO GAS & ELECTRIC COMPANY AND THE BORDER GENERATION GROUP'S JOINT MILESTONE SCHEDULE COORDINATING CONSTRUCTION OF THE MIGUEL-MISSION AND IMPERIAL VALLEY UPGRADES WITH CONSTRUCTION OF NEW GENERATION PROJECTS** on the service list for **I.00-11-001** by electronic mail, as well as mailing a properly addressed copy, by first-class mail with postage prepaid, to each party.

Executed on December 3, 2001, at San Diego, California.

Julie A. Stuart

ATTACHMENT 4

ATTACHMENT 4:

ADOPTED MILESTONE SCHEDULE COORDINATING CONSTRUCTION OF THE MIGUEL-MISSION AND IMPERIAL VALLEY UPGRADES WITH CONSTRUCTION OF NEW GENERATION PROJECTS IN THE CALIFORNIA-MEXICO BORDER REGION

D.GENERAL PRINCIPLES

The milestone schedule is intended to ensure that, at each milestone point, new generation exceeding approximately 1350 MWs and 2360 MWs develops in the California-Mexico border region as SDG&E proceeds with construction of the Miguel-Mission and Imperial Valley transmission upgrades, respectively.

1. The milestone schedule is not intended to be specific to individual generators. The objective, at each milestone point, is to achieve, or demonstrate progress in achieving, the milestones with any combination of generation that exceeds the generation thresholds.

2. These milestones are an appropriate and reasonable approach under the facts and circumstances in this case. The milestones set forth herein are not intended to establish a precedent, however, for the parties or for the Commission.

3. In order to ascertain whether substantial compliance has been achieved with respect to the milestones, a “Verification Committee,” comprised of selected representatives from SDG&E, members of the Border Generation Group and the Commission’s Energy Division, will meet near the end of each calendar quarter, beginning in March 2002. The Assigned Commissioner in

Investigation (I.) 01-11-001 shall select the Energy Division representative or representatives. Because the milestones do not reflect the entire universe of possible facts and circumstances that could affect the timeline, the Verification Committee will have the discretion to adjust the milestones as necessary. Disagreements among Committee members concerning these and other compliance issues shall be resolved by the Assigned Commissioner in I.00-11-001, or her designee.

4. The Verification Committee will determine, on a case-by-case basis, whether a missed milestone is significant enough to justify a delay of other milestones. The Verification Committee will consider whether reasonable adjustments to the milestones should be made in order to accommodate specific circumstances.

5. In order to verify substantial compliance with the milestones, the Verification Committee will accept documentation and sworn affidavits by responsible representatives, and will employ site visits. Parties will inform the Verification Committee immediately upon determining that a milestone will not be met, and explain why they cannot meet the milestone.

6. SDG&E will not spend more than a total of $2 million on the upgrades until it receives a final order from FERC that addresses how SDG&E should treat the costs of the upgrades. In the absence of a final FERC order by the time SDG&E has expended

approximately $2 million, SDG&E will determine whether its milestones should be delayed, and SDG&E will advise the Verification Committee of its decision immediately.

7. SDG&E anticipates that, by the beginning of April of 2002, it will have spent around $2 million on the upgrades. This is when SDG&E will determine whether it should delay its milestones absent a final FERC order addressing how the costs of the upgrades should be treated for ratemaking purposes. After this point, SDG&E would face significant financial exposure for, among other things, cancellation fees associated with materials on order.

8. SDG&E will not begin constructing the Miguel-Mission upgrade until it receives an order from the Commission that authorizes it to do so under G.O. 131-D. If SDG&E does not receive an order from the Commission in time to commence construction under the milestone schedule, SDG&E will determine whether its milestones should be delayed, and SDG&E will advise the Verification Committee of its decision.

9. Once a generation project achieves the point in construction at which all of the Major Equipment (defined below) is mounted on the foundation on the project site, progress is deemed to be sufficient not to require additional milestones for the generation project.

E.

MILESTONE SCHEDULE

The specific milestones are as follows:

By The End Of January 2002

Generators (new generation exceeding approximately 1350 MW)

1. Engineering Procurement & Construction Contract (EPC) signed, or equivalent.
2. Major Equipment (combustion turbine, steam turbine, heat recovery steam generator (HRSG)) ordered.
3. Interconnection agreement signed or in advanced stage of negotiation.
4. All major US/Mexico licenses/approvals required for commencement of power plant site construction.
5. Gas pipeline transportation agreement executed.
6. Substantial plant construction and grading commenced.
7. Generation tie-line construction in progress, if applicable.

SDG&E

1. Finish joint interconnection/system upgrade study.
2. File petition necessary FERC applications.
3. File advice letter for IV transformer upgrade, if applicable.

By The End Of March 2002

Generators (new generation exceeding approximately 1350 MW)

1. Combustion turbines delivered, or status report stating when delivery will occur.
2. Foundations for Major Equipment complete, or status report stating when the foundations will be complete.
3. Power plant switchyard construction commenced, if applicable.
4. All major U.S./Mexico licenses/approvals required for commencement of tie-line construction, if applicable.

SDG&E

1. ML-MS#2 environmental data collection complete.
2. File the relevant G.O. 131-D pleading for ML-MS #2.

By The End Of June 2002

Generators (new generation exceeding approximately 1350 MW for Miguel-Mission Project and 1660 MW for Imperial Valley Project)

1. Major Equipment delivered, or status report stating when delivery will occur.
2. Condensers, Distributed Control System (DCS) equipment ordered.
3. Substantial progress on power plant switchyard construction, if applicable.

SDG&E

1. Complete design of IV bank upgrade.
2. Long lead-time materials ordered for ML-MS#2.
3. Order circuit breakers and transformers for IV upgrade.

By The End Of September 2002

Generators (new generation exceeding approximately 1350 MW for Miguel Mission Project and 1660 MW for Imperial Valley Project)

1. Major Equipment on site.

SDG&E

1. Start construction for IV bank upgrades.
2. Start construction for ML-MS#2 (contingent on receipt of an order from the Commission that authorizes construction under G.O. 131-D).

By The End Of December 2002

Generators (new generation exceeding approximately 1350 MW for Miguel Mission Project and 1660 MW for Imperial Valley Project)

1. Major Equipment mounted on foundation.
2. Condenser, DCS equipment on site.
3. Power plant switchyard complete, if applicable.

SDG&E

1. Complete engineering for ML-MS#2.
2. Receive IV transformer banks.
3. Complete design of ML-MS#2 project.

By The End of January 2003

Generators (new generation exceeding approximately 1350 MW for Mission Miguel Project and 1660 MW for Imperial Valley Project)

1. Tie-line construction complete, if applicable.

By The End Of June 2003

Generators (new generation exceeding approximately 1350 MW for Mission Miguel Project and 1660 MW for Imperial Valley Project)

1. Testing/start-up operations in process, or status report stating when these activities will occur.

SDG&E

1. Install and test first new transformer (May 2003).
2. Place first new transformer in service.

By The End Of September 2003

Generators

No further milestones.

SDG&E

1. Remove old transformer and install second new transformer (August 2003).
2. Relocate 69 kV and 138 kV lines.

By The End Of December 2003

Generators

No further milestones.

SDG&E

1. Place second new transformer in service.

By The End Of September 2004 (or sooner if reasonably practical)

Generators

No further milestones.

SDG&E

1. Install new 230 kV line.
2. Place ML-MS#2 in-service.

CERTIFICATE OF SERVICE

I hereby certify that I have served, this day, a copy of the foregoing **SAN DIEGO GAS & ELECTRIC COMPANY AND THE BORDER GENERATION GROUP'S JOINT MILESTONE SCHEDULE COORDINATING CONSTRUCTION OF THE MIGUEL-MISSION AND IMPERIAL VALLEY UPGRADES WITH CONSTRUCTION OF NEW GENERATION PROJECTS** on the service list for **I.00-11-001** by electronic mail, as well as mailing a properly addressed copy, by first-class mail with postage prepaid, to each party.

Executed on December 3, 2001, at San Diego, California.

Julie A. Stuart