



CH2MHILL

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA
Tel 916-920-0300
Fax 916-920-8463

March 27, 2008

Christopher Meyer
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

DOCKET	
07-AFC-4	
DATE	MAR 27 2008
RECD.	MAR 28 2008

Subject: CA-ISO Interconnection Facilities Study and MMC Comment Letter
Chula Vista Energy Upgrade Project (07-AFC-4)

Dear Mr. Meyer:

Attached please find one original and 12 copies of the California Independent System Operator's Interconnection Facilities Study (IFAS) for the Chula Vista Energy Upgrade Project (CVEUP) (07-AFC-4). Also attached are one original and 12 copies of MMC Energy's comments on the IFAS.

The IFAS indicates that to reliably interconnect the CVEUP the project would be required to implement upgrades to certain relays and circuit breakers. The IFAS also indicates that the project would be required either to reductor and reinforce two segments of transmission line (portions of South Bay to Sweetwater and Otay to Otay Tap) or install Special Protection Schemes (SPSs) to mitigate potential line overloads, instead of the reductoring (pp. 16-17). MMC has discussed this matter with San Diego Gas and Electric (SDG&E) and the California Independent System Operator (CA-ISO) and has clarified with these agencies that both options (reductoring and SPS) are feasible. The MMC Energy comment letter included in this submittal indicates MMC's commitment to providing certain system upgrades, including SPS equipment to mitigate the potential transmission line overloads, instead of reductoring the two transmission line segments.

The system upgrades that SDG&E undertakes to ensure the reliable deliverability of electricity generated by the CVEUP would be permitted by the California Public Utilities Commission as lead agency under the California Environmental Quality Act (CEQA) at the time these improvements take place. It is the responsibility of the CEC Staff and MMC as Applicant, however, to consider the potential environmental impacts of the system upgrade program as indirect but reasonably foreseeable future effects of the CVEUP. The attached MMC Energy comment letter describes the system upgrades that MMC Energy has committed to providing. These upgrades include:

- Replacing circuit breakers MG641 and MG642 at Montgomery Substation

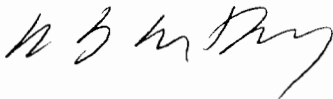
- Resetting relays at Otay Substation for TL6929
- Resetting line TL642B (South Bay to Montgomery Tap) to allow 200 MVA line capacity
- Installing an SPS for TL644 (South Bay to Sweetwater)
- Installing an SPS for TL649A (Otay to Otay Tap)
- Installing an SPS for TL642A

Because all of these actions will take place within the existing fence lines of existing substations and would not involve any reconductoring or other activities outside of the substation fence lines, MMC Energy believes that the environmental impacts of SDG&E implementing these upgrades will be negligible and less than significant. Therefore, additional environmental assessment of the potential effects of the upgrade program is not necessary for compliance with the CEQA and the Commission's regulations.

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

CH2M HILL



Douglas M. Davy, Ph.D.
AFC Project Manager

Attachment

cc: H. Scarborough
J. Luckhardt
S. Madams



MMC Energy, Inc.
26 Broadway, Suite 907, New York, NY 10004
www.mmcenergy.com

March 24, 2008

Via Electronic Mail

Rodney Winter
Judy Brown

Judy and Rodney,

MMC Energy, Inc. would like to inform both CAISO and SDG&E that it has carefully reviewed the Facilities Study for its Chula Vista Re-powering project and is interested in performing the following upgrades:

- 1) Replace TL641 and TL642 69kV circuit breakers (MG641 and MG642) at Montgomery substation
- 2) Reset TL6929 relays at Otay substation
- 3) Reset TL642B (South Bay – Montgomery Tap) to allow 200MVA line capacity
- 4) Install SPS at TL644 (Southbay – Sweetwater)
- 5) Install SPS at TL649A (Otay-Otay Tap)
- 6) Install SPS at TL642A

If you have any questions please contact Alex Sokoletsky at 212-785-5279 or Steve Blue at 916-817-3921.

Sincerely,

A handwritten signature in black ink, appearing to read "Denis Gagnon". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Denis Gagnon
CFO
MMC Energy Inc.

Interconnection Facilities Study

Generation Interconnection

MMC Chula Vista, LLC

MMC Chula Vista Expansion

Final Report



California ISO
Your Link to Power

February 25, 2008

Table of Contents

1. Executive Summary	3
2. Detailed Project Information and Point of Interconnection	7
3. Summary of System Impact Study Results and Mitigation Plan	10
4. Deliverability Assessment Study Results	11
5. Estimated Costs	12
5.1 Participating TO's Interconnection Facilities	13
5.2 Network Upgrades	16
6. Estimated Time to Construct	18
7. Facility Study Assumptions	21
8. Facilities Study Scope	22
8.1 Transmission Line Evaluation	22
8.2 Substation Evaluation	22
8.3 Land and Right-of-Way Evaluation	22
8.4 System Protection Evaluation	22
8.5 Industrial Development Bonds (specific to SDG&E)	23
9. Re-Study	24

List of Appendices

- Appendix A – Definitions
- Appendix B – Study Criteria
- Appendix C – Thermal Analysis Results
- Appendix D – Load and Resource Summary Table

1. Executive Summary

MMC Chula Vista, LLC, the Interconnection Customer (IC), proposes to remove an existing 44MW natural gas fired combustion turbine/generator and install two natural gas fired combustion turbine/generator sets. The new installation will have a total maximum net output to the CAISO controlled grid of 93MW. The proposed Commercial Operation Date (COD) of the MMC Chula Vista Expansion (Project) is June 1, 2009. The Participating Transmission Owner (PTO) is San Diego Gas & Electric Company (SDG&E). The proposed Point of Interconnection is SDG&E's 69kV transmission line TL6929 (Otay substation to Otay generation), located in Chula Vista, San Diego County, California. There is no alternative Point of Interconnection. The MMC Chula Vista Expansion Project occupies Queue Position #90 in the CAISO Controlled Grid Generation Queue (Queue).

The CAISO issued an Interconnection System Impact Study (ISIS) Report for this Project on March 21, 2007 which provided an analysis of the system impacts and necessary mitigation measures.

In accordance with FERC's Large Generation Interconnection Procedures (LGIP), the IC, CAISO, and PTO agreed that an Interconnection Facilities Study (IFAS) was required to determine the +/- 20 percent cost estimate, detailed work scope, and detailed schedule to construct the facilities necessary to interconnect the Project on the CAISO Controlled Grid. This IFAS was performed by the PTO under the direction of the CAISO. The IFAS determined cost estimates, work scope, and construction schedule for the Interconnection Facilities necessary to interconnect the Project to the CAISO Controlled Grid.

Due to the withdrawal of the project occupying Position #27 in the Queue, a restudy was performed, analyzing a number of system configuration scenarios. The re-study considered several scenarios, including the most conservative assumption of a delayed existing South Bay Power Plant retirement beyond 2010.

Because machine dynamics data remained unchanged between the ISIS and the IFAS, no transient or post-transient stability issues are anticipated with the revised Queue.

Based on the proposed operating date, Point of Interconnection, and the results of the restudy, the following Network Upgrades are recommended to safely and reliably interconnect the Project:

- A. Replace TL641 (Montgomery-South Bay) and TL642 (Montgomery-South Bay-Sweetwater) 69kV circuit breakers (MG641 and MG642) in Montgomery substation.
- B. TL6929 (Otay Generation-Otay) – Reset TL6929 relays to achieve a continuous line rating of 136MVA.
- C. TL642B (South Bay-Montgomery Tap) – Reset TL642 relays to achieve a continuous line rating of 200MVA.
- D. TL644 (South Bay-Sweetwater) - Reconductor approximately 3800' of single 1750kcmil AL cable with bundled 1750kcmil AL cable between South Bay and Sweetwater substations in order to achieve a continuous line rating of 200MVA.

Replace two (2) existing wood poles with steel cable poles to accommodate additional pole loading. Replace two (2) 69kV disconnect switches at South Bay substation.

- E. TL649A (Otay-Otay Tap) – Reconductor approximately 5330' of single overhead 4/0CU conductor with 636ACSS conductor between Otay substation and Otay tap to achieve a continuous line rating of 90MVA. Replace approximately twenty seven (27) wood poles with twenty three (23) Class H2 and four (4) anchor-bolted steel poles to accommodate additional pole loading. Replace Switch 649-3 to accommodate higher loading. Replace TL649 69kV circuit breaker and two (2) 69kV disconnect switches at Otay substation.
- F. Monitor TL642 (South Bay-Montgomery Tap-Sweetwater) and TL644 (South Bay-Sweet Water) loading conditions. Install a Special Protection Scheme (SPS) that sequentially trips MMC Chula Vista Expansion generating units when one of these lines is open and the other exhibits loading in excess of 205MVA. The SPS will trip generating units until the overloaded line returns to or under 205MVA. Utilize existing TL642 and TL644 monitoring equipment. Install new SPS panel at Otay substation.

Thermal analysis results of the restudy can be found in Appendix C. The cost and estimate of time to construct for the Interconnection Facilities are summarized in Table 1.1.

Table 1.1: +/-20% Estimated Cost and Estimated Time to Construct

Type of Upgrade	Location	Description	Estimated Cost x 1,000 ¹	Estimated Time To Construct ²
PTO's Interconnection Facilities	None	None	\$0	0 Months
Reliability Network Upgrades	Montgomery Substation	<ul style="list-style-type: none"> Replace TL641 and TL642 69kV circuit breakers (MG641 and MG642) at Montgomery substation 	\$399	6 Months
Delivery Network Upgrades	TL6929 Substation	<ul style="list-style-type: none"> Reset TL6929 relays at Otay substation to achieve a continuous line rating of 136MVA 	\$5	1 Month
	TL642B Substation	<ul style="list-style-type: none"> Reset TL642 relays to achieve a continuous line rating of 200MVA 	\$5	1 Month
	TL644 Transmission	<ul style="list-style-type: none"> Reconductor approximately 3800' of underground cable to achieve a continuous rating of 200MVA 	\$4,995	18 Months
	TL644 Substation	<ul style="list-style-type: none"> Replace two (2) 69kV disconnect switches at South Bay 	\$131	6 Months
	TL649A Transmission	<ul style="list-style-type: none"> Reconductor approximately 5330' of overhead conductor to achieve a continuous rating of 90MVA 	\$2,669	18 Months
	TL649A Substation	<ul style="list-style-type: none"> Replace TL649 69kV circuit breaker and two (2) 69kV disconnect switches at Otay 	\$216	6 Months
	Sweetwater and Otay Substations	<ul style="list-style-type: none"> Install Special Protection Scheme (SPS) that monitors TL642 and TL644 loading conditions and sequentially trips MMC Chula Vista Expansion generating units during adverse loading conditions until overloaded line returns to or under 205MVA 	\$100	6 Months
Total	Substation & Transmission		\$8,520	18 Months

The construction schedule estimate to design, procure, and construct the facilities typically begins after the signing of the Large Generator Interconnection Agreement (LGIA) and does not include the time required for environmental review and the permitting processes, if applicable. California Public Utilities Commission licensing will not be required by SDG&E to install the Reliability and some of the Delivery Network

¹ All costs estimates are +/-20% estimates in "as year spent" dollars. Taxes, landscaping, under grounding, walls, gates, driveways, CAISO metering, and environmental and licensing costs are not included. All Interconnection Facilities costs for ROW are assumed to be the responsibility of the Interconnection Customer. Network Upgrade costs exclude acquisition of new transmission Right-Of-Way (ROW) and substation land.

² Estimated time to construct includes time for design, equipment procurement, and construction. Excludes time for environmental review and permitting.

Upgrades (relay resettings and circuit breaker/switch replacement) equipment since all work is within the existing fence lines/right-of-ways and will not increase the high side voltage. CPUC licensing may be required for the remainder of the Delivery Network Upgrades (line reconductoring). This licensing may be minimized if the IC includes the PTO's scope of work in the IC's environmental review (CEQA). A finding of no significant unavoidable environmental impact during the IC's CEQA process will allow the PTO to file an Advice Letter with the CPUC. The alternative is for the PTO to file a permit to construct (PTC) with the CPUC which may take up to two (2) years for approval. Other federal, state, and local permits may be required prior to beginning construction.

To accommodate the commercial operation date of June 1, 2009, an expedited schedule is needed. SDG&E and the IC compiled a draft Engineering & Procurement (E&P) Agreement to begin the design and procurement phases for the Interconnection Facilities on September 17, 2007. As of January 4, 2008, the IC indicated that they would like to begin renegotiating a final E&P Agreement, which is now nearing finalization. Per Section 9 of the LGIP, an E&P Agreement may be utilized prior to executing an LGIA. The E&P Agreement authorizes the PTO to commence engineering and procurement of long lead-time items necessary for the interconnection.

2. Detailed Project Information and Point of Interconnection

The MMC Chula Vista Expansion Project is a proposed increase in existing generation capacity. An existing generating unit rated at 49.5MW unit will be removed and replaced with two (2) LM6000 natural gas fired combustion turbine/generator sets. The net output of these two units to the CAISO Controlled Grid will be 93MW. The proposed location of the project is in Chula Vista, San Diego County, California.

MMC Chula Vista, LLC proposes the following milestone dates:

- A. Proposed In-Service Date: April 1, 2009
- B. Proposed Trial Operation Date: May 1, 2009
- C. Proposed Commercial Operation Date: June 1, 2009

The proposed in-service and trial operation dates were modified by the IC in the draft E&P Agreement. The original dates submitted in the Interconnection Request were April 1, 2007, May 1, 2007, and June 1, 2007, respectively.

The requested Point of Interconnection is SDG&E's 69kV transmission line TL6929 (Otay substation to Otay generation). No alternative Point of Interconnection was identified.

A conceptual one-line diagram of the transmission system in the area of the proposed interconnection is shown in Figure 2.1. Figures 2.2, 2.3, and 2.4 show the transmission facilities in the vicinity and the project location.

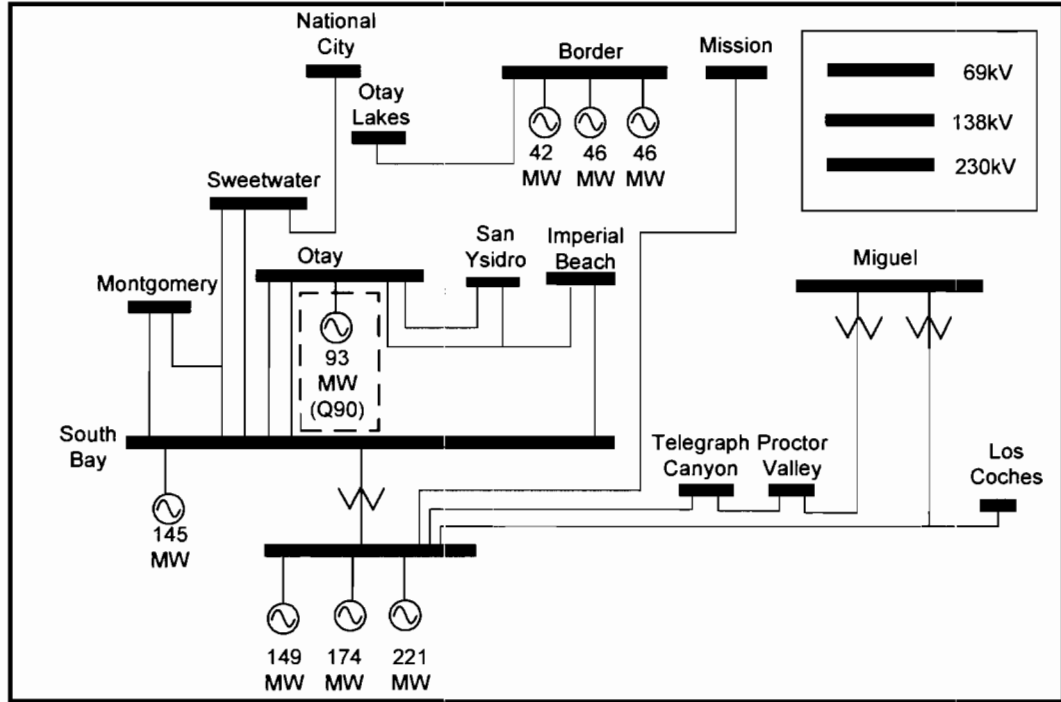


Figure 2.1: Conceptual One-line Diagram

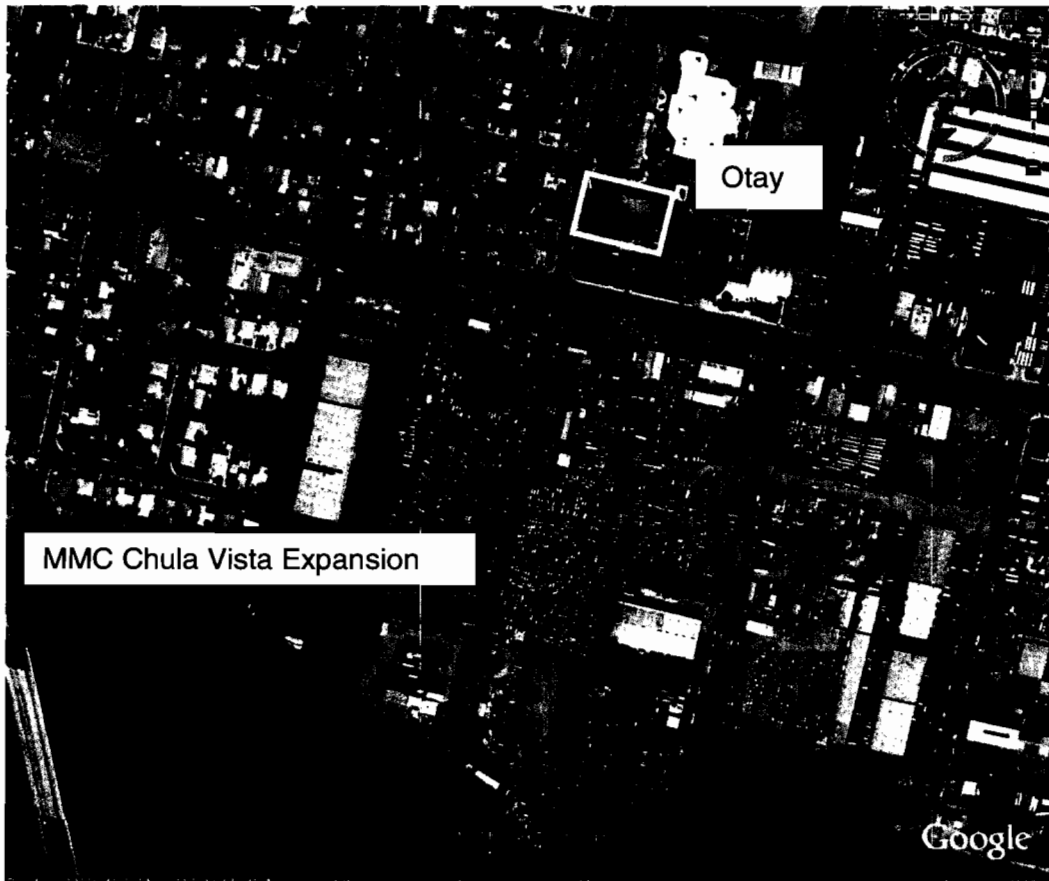


Figure 2.2: Project Vicinity Map

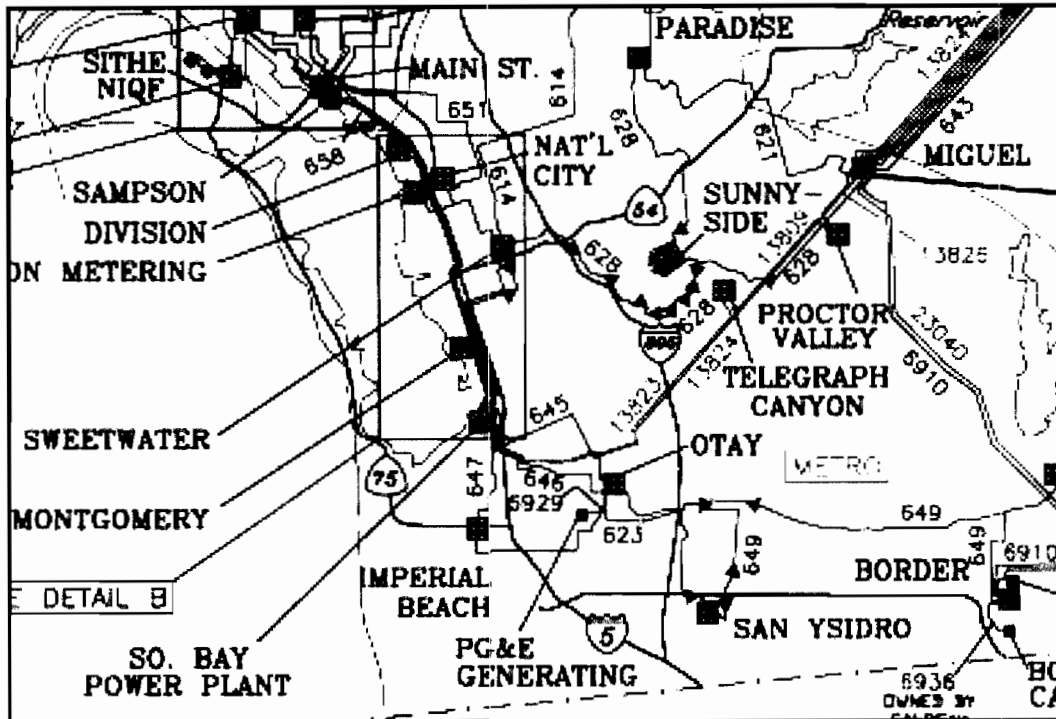


Figure 2.3: Project Vicinity Map with Labeled Facilities

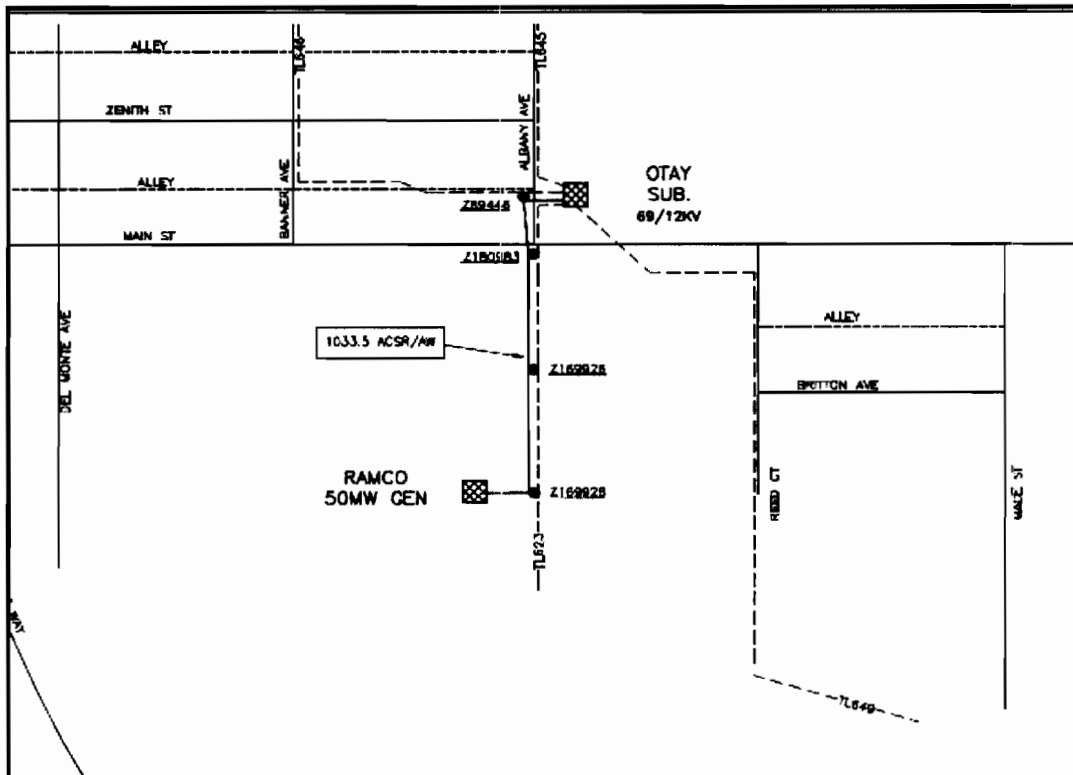


Figure 2.4: Labeled Tie Line Circuit Map Showing Existing 50MW Otay Generation

3. Summary of System Impact Study Results and Mitigation Plan

The Interconnection System Impact Study (ISIS) issued on June 7, 2007 concluded that the Project at full output would:

- A. Cause one (1) Category A (normal) overload:
 - a. TL6929 (Otay substation-Otay generation)
- B. Cause three (3) Category B overloads:
 - a. TL649A (Otay-Otay Lake Tap)
 - b. TL642B (Sweetwater-Montgomery Tap)
 - c. TL644 (South Bay-Sweetwater)
- C. Cause three (3) Category C overloads:
 - a. TL649A (Otay-Otay Lake Tap)
 - b. TL642B (Sweetwater-Montgomery Tap)
 - c. TL644 (South Bay-Sweetwater)
- D. Cause four (4) PTO transmission circuit breakers to exceed fault duty ratings.
- E. Cause no adverse transient performance impacts on the transmission system.
- F. Cause no impairment of the tax-exempt status of the interest on Local Furnishing Bonds.

Due to the withdrawal of the project occupying Position #27 in the Queue, a restudy was performed evaluating a number of Otay and South Bay bus configurations and Border generation dispatch scenarios. The restudy also incorporated several SDG&E transmission projects recently approved by the CAISO, including a new Miguel 230/138kV transformer, TL651 (National City-Wabash 69 kV) Main Street loop-in, and a second Division-Naval Station Metering 69kV line. Because machine dynamics data remained unchanged between the ISIS and the IFAS, no transient or post-transient stability issues are anticipated with the revised Queue.

The restudy criteria followed the same guidelines as ISIS study criteria, which can be found in Appendix B. Thermal results of the restudy identify the same Category A, B, and C overloads as originally identified in the ISIS. Thermal analysis results of the restudy can be found in Appendix C. A restudy of the short circuit analysis using updated system parameters and assumptions indicates that the four Otay breakers originally identified in the ISIS as being over duty are no longer in violation. Instead, two breakers in Montgomery substation (MG641 and MG642) were found to be overstressed.

4. Deliverability Assessment Study Results

A cluster Deliverability Assessment was performed by the CAISO during the ISIS. This assessment determined that the Project had zero deliverability to the CAISO Controlled Grid under peak load conditions. It was determined that the project could be made 100% deliverable if the following transmission line overloads were mitigated:

- A. TL6929 (Otay substation-Otay generation) – also identified in ISIS
- B. TL603D (National City-Sweetwater Tap)
- C. Future 69kV transmission line from Silvergate to National City, presently section of National City to Wabash 69kv transmission line (Main Street-National City)
- D. TL642B (Montgomery Tap-Sweetwater) – also identified in ISIS
- E. TL603A (Sweetwater-Sweetwater Tap)

Additional overloads identified during the Deliverability Assessment were the responsibility of higher queued projects.

The CAISO has since performed another cluster Deliverability Study because of the withdrawal of Generation Project #27 in the CAISO Generation Interconnection Queue and the development of several transmission projects in the SDG&E area. The Deliverability Study assumed the existing South Bay configuration but the South Bay Power Plant was not dispatched. The Chula Vista Project generation tie-line was assumed to be upgraded to accommodate the full output of the project. The updated results, released on January 14, 2008, identified no transmission constraints that the Project would be responsible for mitigating, **making MMC Chula Vista Expansion 100% deliverable**. The results of the Deliverability Study were different from this Interconnection Facilities Study due the less conservative assumption regarding South Bay generation retirement.

CAISO conducts the Deliverability Assessment in accordance with Sections 3.3.2 and 3.3.3 of the LGIP. For more information about Deliverability Assessment, please refer to <http://www.caiso.com/181c/181c902120c80.html>.

5. Estimated Costs

All costs provided are estimates based on necessary facilities identified in the Interconnection System Impact Study for a Commercial Operation Date of June 1, 2009. Charges for implementing the interconnection of the Project will be made based upon the actual costs incurred. Cost estimates developed within this study are considered to be +/- 20% and include the following assumptions:

- A. Project concepts are based on representations from the Interconnection Customer.
- B. Project concepts are based on mandatory reliability criteria from applicable reliability and regulatory authorities (NERC, WECC, and CAISO).
- C. Project concepts are based on sound engineering judgment.
- D. All costs are based on SDG&E construction methods and techniques.
- E. All costs are in "as year spent" dollars.
- F. All costs included in this report are valid for 90 days only.

Table 5.1 summarizes the cost of transmission reinforcements identified in this study.

Table 5.1: +/-20% Cost Estimate Summary³

Type of Upgrade	Location	Description	Estimated Cost x 1,000
PTO's Interconnection Facilities	None	None	\$0
Reliability Network Upgrades	Montgomery Substation	<ul style="list-style-type: none"> Replace TL641 and TL642 69kV circuit breakers (MG641 and MG642) at Montgomery substation 	\$399
Delivery Network Upgrades	TL6929 Substation	<ul style="list-style-type: none"> Reset TL6929 relays at Otay substation to achieve a continuous line rating of 136MVA 	\$5
	TL642B Substation	<ul style="list-style-type: none"> Reset TL642 relays to achieve a continuous line rating of 200MVA 	\$5
	TL644 Transmission	<ul style="list-style-type: none"> Reconductor approximately 3800' of underground cable to achieve a continuous rating of 200MVA 	\$4,995
	TL644 Substation	<ul style="list-style-type: none"> Replace two (2) 69kV disconnect switches at South Bay 	\$131
	TL649A Transmission	<ul style="list-style-type: none"> Reconductor approximately 5330' of overhead conductor to achieve a continuous rating of 90MVA 	\$2,669
	TL649A Substation	<ul style="list-style-type: none"> Replace TL649 69kV circuit breaker and two (2) 69kV disconnect switches at Otay 	\$216
	Sweetwater and Otay Substations	<ul style="list-style-type: none"> Install Special Protection Scheme (SPS) that monitors TL642 and TL644 loading conditions and sequentially trips MMC Chula Vista Expansion generating units during adverse loading conditions until overloaded line returns to or under 205MVA 	\$100
Total	Substation & Transmission		\$8,520

5.1 Participating TO's Interconnection Facilities

The cost estimate for the PTO's Interconnection Facilities includes any substation and transmission line facilities required to interconnect the Project. The estimate does not include any facilities constructed, owned, and operated by the IC.

³ All costs estimates are +/-20% estimates in "as year spent" dollars. Taxes, landscaping, under grounding, walls, gates, driveways, CAISO metering, and environmental and licensing costs are not included. All Interconnection Facilities costs for ROW are assumed to be the responsibility of the Interconnection Customer. Network Upgrade costs exclude acquisition of new transmission Right-Of-Way (ROW) and substation land.

The PTO's Interconnection Facilities are all the facilities and equipment owned, controlled, or operated by the CAISO/SDG&E from the Point of Interconnection to the Point of Change of Ownership (see Figure 5.1). The Point of Interconnection is SDG&E's 69kV transmission line TL6929, which currently terminates between the existing Otay generation facilities and Otay substation. The Point of Change of Ownership is at or near the fence of the existing Otay generation site.

No Interconnection Facilities are needed to interconnect the Project to the Otay 69kV bus as SDG&E's TL6929 is an existing gen-tie.

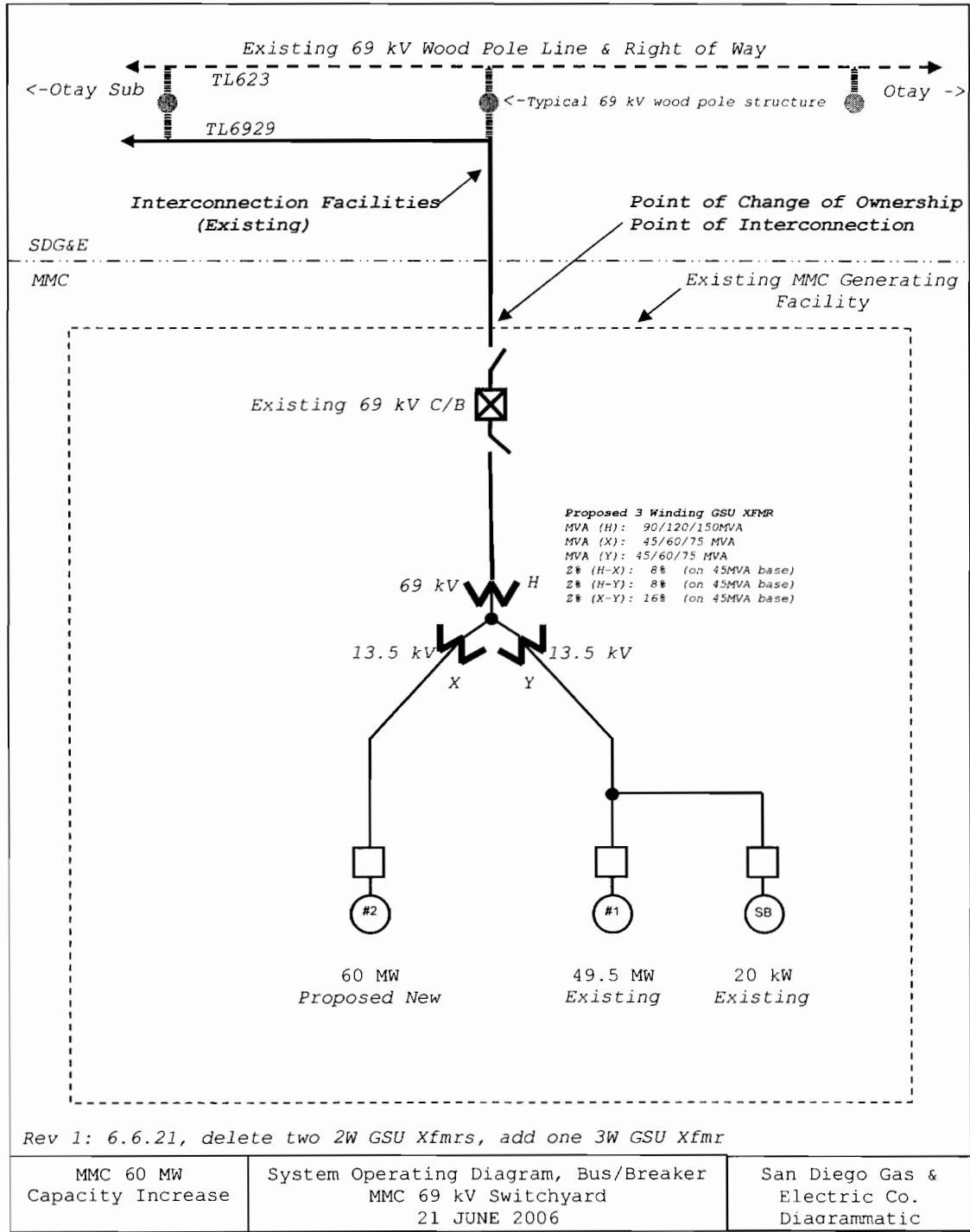


Figure 5.1: Interconnection Facilities

5.2 Network Upgrades

Due to the withdrawal of the project occupying Position #27 in the Queue, a restudy was performed, analyzing a number of system configuration scenarios. Based on the proposed operating date, Point of Interconnection, and the results of the restudy, the following Network Upgrades are needed to safely and reliably interconnect the Project:

- A. Replace TL641 and TL642 69kV circuit breakers (MG641 and MG642) in Montgomery substation.
- B. TL6929 (Otay Substation-Otay generation)– Reset TL6929 relays to achieve a continuous line rating of 136MVA.
- C. TL642B (Sweetwater-Montgomery Tap)– Reset TL642 relays to achieve a continuous line rating of 200MVA.
- D. TL644(South Bay-Sweetwater) - Reconductor approximately 3800' of single 1750kcmil AL cable with bundled 1750kcmil AL cable between South Bay and Sweetwater substations in order to achieve a continuous line rating of 200MVA. Replace two (2) existing wood poles with steel cable poles to accommodate additional pole loading. Replace two (2) 69kV disconnect switches.
- E. TL649A (Otay-Otay Lake Tap)– Reconductor approximately 5330' of single overhead 4/0CU conductor with 636ACSS conductor between Otay substation and Otay tap to achieve a continuous line rating of 90MVA. Replace approximately twenty seven (27) wood poles with twenty three (23) Class H2 and four (4) anchor-bolted steel poles to accommodate additional pole loading. Replace Switch 649-3 to accommodate higher loading. Replace TL649 69kV circuit breaker and two (2) 69kV disconnect switches.
- F. Monitor TL642 (South Bay-Montgomery Tap-Sweetwater) and TL644 (South Bay-Sweetwater) loading conditions. Install an SPS that sequentially trips MMC Chula Vista Expansion generating units when one of these lines is out of service and the other exhibits loading in excess of 205MVA. The SPS will trip generating units until the overloaded line returns to or under 205MVA. Utilize existing TL642 and TL644 monitoring equipment. Install new SPS panel at Otay substation.

The IC is obligated to advance funds for the construction of Reliability Network Upgrades in the amount of **\$399K**.

The IC is not obligated to advance funds in the amount of **\$8.121M** for the construction of Delivery Network Upgrades unless the IC elects to construct the Delivery Network Upgrades. However, in the event that the IC elects not to construct Delivery Network Upgrades, the Project's output will be curtailed under normal conditions and SPS's must be placed in service to mitigate the overloads identified as being caused by the addition of the Project under contingencies. The SPS's will monitor loading on the following lines and sequentially trip the Projects' units until the monitored lines' loadings return to or under the following levels:

- A. TL642B (South Bay-Montgomery Tap):170MVA

- B. TL644 (South Bay-Sweetwater): 136MVA
- C. TL649A (Otay-Otay Lake Tap): 50MVA

If the IC elects an SPS in place of any Delivery Network Upgrade and the Otay- Otay generation tie line is upgraded, the Project will still be considered 100% deliverable if the SPS meets "California ISO Planning Standards" Criteria ISO G1 through ISO G19. The Project will continue to be monitored by and subject to unit tripping by any elected SPS's until the PTO's Grid Operations determine that system conditions no longer warrant the SPS.

6. Estimated Time to Construct

The estimate for the length of time that SDG&E needs to design, procure, and construct and/or upgrade a generation project's Interconnection Facilities, Reliability Network Upgrades, and Delivery Network Upgrades is a +/-20% estimate of the total construction time. These estimates are dependent on many factors (when applicable), including but not limited to:

- A. Whether an exemption can be obtained from the California Public Utilities Commission's (CPUC's) G.O. 131-D Certificate of Public Convenience and Necessity (CPCN) process.
- B. Whether an exemption can be obtained from the CPUC's Permit to Construct (PTC) process.
- C. Whether the IC includes the full scope of the transmission and substation additions and upgrades in its application to the lead agency for the California Environmental Quality Act (CEQA) review.
- D. Whether the IC intends to fund the Delivery Network Upgrades.
- E. Whether the IC chooses to build its own Interconnection Facilities.

The outcome of these processes and/or IC project/business decisions could increase cost and/or construction duration. Absent an exemption, the process of obtaining the CPUC's approval could take one to two years, or even longer.

CPUC licensing will not be required by SDG&E to construct the Reliability Upgrades equipment since all work is within the existing fence lines/right-of-ways and will not increase the high side voltage. CPUC licensing may be required for the Delivery Network Upgrades. This licensing may be minimized if the IC includes the PTO's scope of work in the IC's environmental review (CEQA). A finding of no significant unavoidable environmental impact during the IC's CEQA process will allow the PTO to file an Advice Letter with the CPUC. The alternative is for the PTO to file a permit to construct (PTC) with the CPUC which may take up to 2 years for approval. However, other federal, state, and local permits may be required prior to beginning construction.

The estimated time to construct/upgrade the identified facilities summarized in Table 6.1 does not include the time needed for environmental review and permitting. The estimated time SDG&E needs to design, procure, and construct the facilities is listed in the table. The design phase does not typically start until successful completion of the Large Generator Interconnection Agreement (LGIA).

Table 6.1: +/-20% Estimated Time to Construct⁴

Type of Upgrade	Location	Description	Estimated Time To Construct
PTO's Interconnection Facilities	None	None	0 Months
Reliability Network Upgrades	Montgomery Substation	<ul style="list-style-type: none"> Replace TL641 and TL642 69kV circuit breakers (MG641 and MG642) at Montgomery substation 	6 Months
Delivery Network Upgrades	TL6929 Substation	<ul style="list-style-type: none"> Reset TL6929 relays at Otay substation to achieve a continuous line rating of 136MVA 	1 Month
	TL642B Substation	<ul style="list-style-type: none"> Reset TL642 relays to achieve a continuous line rating of 200MVA 	1 Month
	TL644 Transmission	<ul style="list-style-type: none"> Reconductor approximately 3800' of underground cable to achieve a continuous rating of 200MVA 	18 Months
	TL644 Substation	<ul style="list-style-type: none"> Replace two (2) 69kV disconnect switches at South Bay 	6 Months
	TL649A Transmission	<ul style="list-style-type: none"> Reconductor approximately 5330' of overhead conductor to achieve a continuous rating of 90MVA 	18 Months
	TL649A Substation	<ul style="list-style-type: none"> Replace TL649 69kV circuit breaker and two (2) 69kV disconnect switches at Otay 	6 Months
	Sweetwater and Otay Substations	<ul style="list-style-type: none"> Install Special Protection Scheme (SPS) that monitors TL642 and TL644 loading conditions and sequentially trips MMC Chula Vista Expansion generating units during adverse loading conditions until overloaded line returns to or under 205MVA 	6 Months
Total	Substation & Transmission		18 Months

The proposed in-service date of April 1, 2009 and commercial operation date of June 1, 2009 appear to be feasible if the IC includes the PTO's scope of work in the IC's environmental review and current E&P Agreement negotiations between the IC and PTO are completed immediately. However, depending upon the actual duration of these negotiations, a more feasible in-service date may need to be proposed upon execution of the E&P Agreement.

⁴ Estimated time to construct includes time for design, equipment procurement, and construction. Excludes time for environmental review and permitting.

Per Section 9 of the LGIP, an E&P Agreement may be utilized prior to executing an LGIA. The E&P Agreement authorizes the Participating TO to commence engineering and procurement of long lead-time items necessary for the interconnection. To accommodate the in-service date, SDG&E and the IC are finalizing an Engineering & Procurement (E&P) Agreement to begin the design and procurement phases for the Interconnection Facilities prior to executing an LGIA.

7. Facility Study Assumptions

Under the direction of the CAISO, the PTO provided the +/- 20 percent cost estimate, detailed work scope, and detailed schedule to construct the facilities necessary to interconnect the Project to the CAISO Controlled Grid using the following assumptions:

- A. The maximum net output to the grid is 93MW.
- B. The expected commercial operation date is June 1, 2009.
- C. MMC Chula Vista Expansion occupies Queue Position #90.
- D. The IC will engineer, procure, construct, own, and maintain its project facility.
- E. This study accounted for the planned generating facilities in PTO's service territory whose schedules are concurrent with or precede MMC Chula Vista Expansion's schedule.
- F. Due to the withdrawal of the project occupying Position #27 in the Queue, separate base cases were developed with the existing South Bay configuration and proposed 230/69kV South Bay substation.

8. Facilities Study Scope

This IFAS provides the +/- 20% cost estimates, detailed work scope, and detailed schedule to construct facilities for the PTO's Interconnection Facilities required to interconnect the Project to the CAISO grid.

The development of the cost estimates, work scope, and schedule to construct encompassed the following evaluations:

8.1 Transmission Line Evaluation

SDG&E's Transmission Engineering group evaluated the proposed interconnection for potential impacts on SDG&E-owned transmission facilities. The evaluation included, but was not limited to, the following:

- A. How best to connect the proposed generator in a safe, reliable, and cost-effective manner, while considering future system requirements and operational convenience.
- B. The scope of any modifications necessary to accommodate the proposed interconnection.

8.2 Substation Evaluation

SDG&E's Substation Engineering group evaluated the proposed interconnection for potential impacts on SDG&E-owned substation facilities. The evaluation included, but was not limited to, the following:

- A. How best to connect the proposed generator in a safe, reliable, and cost-effective manner, while considering future system requirements and operational convenience.
- B. The scope of any modifications necessary to accommodate the proposed interconnection.

8.3 Land and Right-of-Way Evaluation

SDG&E evaluated the scope of the proposed modifications or extensions to SDG&E-owned transmission and substation facilities to determine if any additional land should be acquired.

8.4 System Protection Evaluation

SDG&E's System Protection group evaluated the proposed interconnection for potential impacts on the transmission system. The evaluation included, but was not limited to, the following:

- A. Coordination with existing system protection philosophy and systems.
- B. Development of new System Protection Schemes (SPS), if applicable.
- C. Modification to existing SPS, if applicable.
- D. Communications requirements.

8.5 Industrial Development Bonds (specific to SDG&E)

The ISIS determined that this Project does not appear to cause impairment of the tax-exempt status of the interest on Local Furnishing Bonds. Assumptions remained unchanged, so this Project still does not appear to cause impairment of the tax-exempt status of the interest on Local Furnishing Bonds.

9. Re-Study

This IFAS will be performed according to the assumptions shown in the Section titled "Study Assumptions." In the event that these assumptions are changed, an updating study may be required to re-evaluate the Project's impact on CAISO's transmission grid. The IC would be responsible for paying for any such updating study. Some of the changes that might prompt an update study are:

- A. Change in interconnection date.
- B. Change in Interconnection Queue position.
- C. Change in Project's MW size beyond the provisions set forth in the LGIP.
- D. Change in interconnection plan.
- E. Change in interconnection plans of higher-queued projects which could affect the upgrades required for this project.

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF CALIFORNIA**

**Application for Certification for the
CHULA VISTA ENERGY
UPGRADE PROJECT**

Docket No. 07-AFC-4

**PROOF OF SERVICE
(Revised 01/03/08)**

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-07
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
doCKET@energy.state.ca.us

APPLICANT

Harry Scarborough
Vice President
MMC Energy Inc.
11002 Ainswick Drive
Bakersfield, CA 93311
hscarborough@mmcenergy.com

COUNSEL FOR APPLICANT

Jane Luckhardt, Esq.
Downey Brand Law Firm
555 Capitol Mall, 10th Floor
Sacramento, CA 95814
jluckhardt@downeybrand.com

APPLICANT'S CONSULTANTS

Douglas M. Davy, Ph.D.
CH2M HILL Project Manager
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833
ddavy@ch2m.com

INTERESTED AGENCIES

Larry Tobias
Ca. Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630
LTobias@caiso.com

APPLICANTS ENGINEER

Steven Blue
Project Manager
Worley Parsons
2330 E. Bidwell, Suite 150
Folsom, CA 95630
Steven.blue@worleyparsons.com

Electricity Oversight Board
770 L Street, Suite 1250
Sacramento, CA 95814
esaltmarsh@eob.ca.gov

INTERVENORS

*** California Unions for Reliable Energy
(CURE)**

**c/o Marc D. Joseph
Gloria Smith
Suma Peesapati
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
mdjoseph@adamsbroadwell.com
gsmith@adamsbroadwell.com
speesapati@adamsbroadwell.com**

*** City of Chula Vista, California
c/o Charles H. Pomeroy
Caren J. Dawson
McKenna, Long & Aldridge, LLP
444 South Flower Street
Los Angeles, CA 90071
cpomeroy@mckennalong.com
cdawson@mckennalong.com**

ENERGY COMMISSION

*** Environmental Health Coalition
Diane Takvorian & Leo Miras
401 Mile of Cars Way, Suite 310
National City, CA 91950
DianeT@environmentalhealth.org
LeoM@environmentalhealth.org**

Jackalyne Pfannenstiel, Chair
Presiding Committee Member
jpffannen@energy.state.ca.us

James D. Boyd, Vice Chair
Associate Committee Member
jboyd@energy.state.ca.us

Raoul Renaud
Hearing Officer
rrenaud@energy.state.ca.us

Chris Meyer
Project Manager
cmeyer@energy.state.ca.us

Kevin Bell
Staff Counsel
kbell@energy.state.ca.us

Public Adviser's Office
pao@energy.state.ca.us

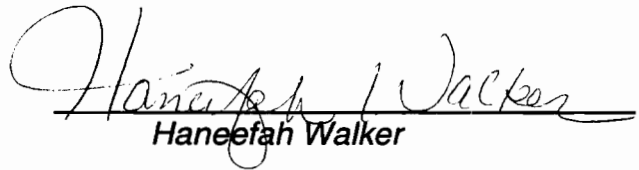
DECLARATION OF SERVICE

I, Haneefah Walker, declare that on March 28, 2008, I deposited the required copies of the attached CA-ISO Interconnection Facilities Study and MMC Comment Letter filed in support of the Chula Vista Energy Upgrade Project (07-AFC-4) in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. I declare under penalty of perjury that the foregoing is true and correct.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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


Haneefah Walker