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DATE: March 12, 2012

TO: Interested Parties

FROM: Christine Stora, Compliance Project Manager

SUBJECT: Marsh Landing Generating Station Project (08-AFC-3C)
Staff Analysis of Proposed Modifications for Project Design Refinements

On February 3, 2012, GenOn Marsh Landing, LLC, filed a petition with the California Energy Commission to amend the Energy Commission Decision for the Marsh Landing Generating Station Project. Staff prepared an analysis of this proposed change and is recommending approval of the amendment petition. A copy is enclosed for your information and review.

The Marsh Landing Generating Station Project is a 760-megawatt project that was certified by the Energy Commission on August 25, 2010. The project is located north of the City of Antioch, in Contra Costa County and is currently under construction.

The modifications proposed in the petition would allow for the following changes to be made:

- Two 8 million British thermal units per hour (MMbtu/hr) natural gas fired pre-heaters will replace the two 5 MMbtu/hr pre-heaters that were approved;
- The water treatment at the plant will include a single-pass reverse osmosis system and will be moved into a new 7,922 square foot building. The total height of that building will be 18 feet;
- Increase the raw water storage tank from 300,000 gallons to 600,000 gallons;
- Remove the planned 300,000-gallon service water storage tank;
- Remove the planned 200,000-gallon secondary evaporative cooler blend water storage tank;
- Add a 170,000-gallon reverse osmosis permeate storage tank;
- Reduce the size of the planned wastewater storage tank from 500,000 gallons to 200,000 gallons;
- Total water storage on site will be reduced from 1.3 million gallons provided by 4 tanks, to 0.97 million gallons provided by three tanks;

- The sewer line along Wilbur Avenue is now proposed to be a 15-inch-diameter pipe, instead of a 6-inch-diamter pipe as approved in the decision;
- The construction warehouse is now proposed to be a permanent structure rather than temporary, as approved in the decision;
- The arrangements of the interconnection at the switch yard would be modified to accommodate changes being made by Pacific Gas and Electric (PG&E). Pole locations would change, but pole heights will remain the same. A switch yard building is also being proposed as well;
- The ammonia system is proposed to have single wall piping instead of double wall piping for the section of piping between the storage tank and the ammonia injection skids. A slightly modified above-ground containment area and underground sump are proposed. The drain will be slightly smaller at 38-inches in diameter. The truck unloading area will have a slightly modified above-ground containment area and the drain will be slightly larger at 30-inches in diameter;
- The main access road alignment has been moved slightly south to avoid the covered parking, and the covered parking is now proposed to remain on site; and
- The tempering air fans will no longer be inside a building and will have silencer housing on the inlet ducts. Each unit will have two 2,000-horsepower single speed fans. Both fans will be on the west side of each unit.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and facility design and proposes revisions to existing conditions of certification for Air Quality **AQ-SC7** and Biological Resources **BIO-8.** The review process also included an evaluation of the consistency of the proposed changes to assure compliance with LORS and/or to reduce potential environmental impacts to a less than significant level. It is staff's opinion that, with the implementation the revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition and staff's analysis has been posted on the Energy Commission's webpage at www.energy.ca.gov/sitingcases/marshlanding/compliance/index.html.

The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the April 11, 2012, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below by April 10, 2012.

Christine Stora, Compliance Project Manager
California Energy Commission
1516 9th Street, MS-2000
Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail to cstora@energy.state.ca.us. If you have any questions, please contact me at (916) 654-4745.

For further information on how to participate in this proceeding, please contact the Energy Commission Public Adviser's Office, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at publicadviser@energy.state.ca.us. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Enclosure

MARSH LANDING GENERATING STATION PROJECT (08-AFC-3C)

Petition to Amend Commission Decision

EXECUTIVE SUMMARY

Christine Stora

INTRODUCTION

On February 3, 2012, GenOn Marsh Landing, LLC, filed a petition with the California Energy Commission to amend the Energy Commission Decision for the Marsh Landing Generating Station Project. Staff has completed its review of all materials received.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality, public health and safety, and facility design. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision (Decision), and if the project, as modified, will remain in compliance with applicable laws, ordinances, regulations, and standards (Title 20, Calif. Code of Regulations, section 1769).

Attached to this executive summary is the Energy Commission staff analyses for Air Quality and Biological Resources.

PROJECT LOCATION AND DESCRIPTION

The Marsh Landing Generating Station Project is a 760-megawatt project that was certified by the Energy Commission on August 25, 2010. The project is located north of the City of Antioch, in Contra Costa County and is currently under construction.

DESCRIPTION OF PROPOSED MODIFICATIONS

The modifications proposed in the petition would allow for the following changes to be made:

- Two 8 million British thermal units per hour (MMbtu/hr) natural gas fired pre-heaters will replace the two 5 MMbtu/hr pre-heaters that were approved;
- The water treatment at the plant will include a single-pass reverse osmosis system and will be moved into a new 7,922 square foot building. The total height of that building will be 18 feet;
- Increase the raw water storage tank from 300,000 gallons to 600,000 gallons;
- Remove the planned 300,000-gallon service water storage tank;
- Remove the planned 200,000-gallon secondary evaporative cooler blend water storage tank;
- Add a 170,000-gallon reverse osmosis permeate storage tank;

- Reduce the size of the planned wastewater storage tank from 500,000 gallons to 200,000 gallons;
- Total water storage on site will be reduced from 1.3 million gallons provided by 4 tanks, to 0.97 million gallons provided by three tanks;
- The sewer line along Wilbur Avenue is now proposed to be a 15-inch-diameter pipe, instead of a 6-inch-diamter pipe as approved in the decision;
- The construction warehouse is now proposed to be a permanent structure rather than temporary, as approved in the decision;
- The arrangements of the interconnection at the switch yard would be modified to accommodate changes being made by Pacific Gas and Electric (PG&E). Pole locations would change, but pole heights will remain the same. A switch yard building is also being proposed as well;
- The ammonia system is proposed to have single wall piping instead of double wall piping for the section of piping between the storage tank and the ammonia injection skids. A slightly modified above-ground containment area and underground sump are proposed. The drain will be slightly smaller at 38-inches in diameter. The truck unloading area will have a slightly modified above-ground containment area and the drain will be slightly larger at 30-inches in diameter;
- The main access road alignment has been moved slightly south to avoid the covered parking, and the covered parking is now proposed to remain on site; and
- The tempering air fans will no longer be inside a building and will have silencer housing on the inlet ducts. Each unit will have two 2,000-horsepower single speed fans. Both fans will be on the west side of each unit.

NECESSITY FOR THE PROPOSED MODIFICATIONS

The primary purpose for this amendment is to incorporate design refinements to the project that have been identified during additional design work that occurred after the Commission Decision was issued. This additional design work is typical after a project has been approved, and the changes are necessary to ensure that the Marsh Landing Generating Station implements the most effective and efficient design for construction and operation.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

Energy Commission technical staff reviewed the petition to amend for potential environmental effects and consistency with applicable laws, ordinances, regulations and standards (LORS). Staff has determined that Cultural Resources, Geological Hazards and Resources, Hazardous Materials Management, Facility Design, Land Use, Noise and Vibration, Paleontological Resources, Public Health, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission

System Engineering, Visual Resources, Waste Management, and Worker Safety and Fire Protection, are not affected or have no significant impact by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS.

The project design refinements include adjustments to the size and locations of covered and enclosed spaces at the Marsh Landing Generating Station Project. As a result, the total footprint for the four buildings/enclosures, which include the water treatment building, warehouse building, control/administration building and gas compressor has increased from the previously estimated 17,000 square feet to 22,347.5 square feet.

The Antioch Unified School District (AUSD) has a school development impact fee that is based on the square footage of covered and enclosed space. In accordance with Condition of Certification **SOCIO-1**, the project owner shall pay the one time statutory school development fee to the AUSD as required by Education Code Section 17620.

GenOn Marsh Landing, LLC, submitted payment of the one-time statutory school development fee to AUSD and the required documentation to the Energy Commission staff on February 4, 2011. To cover the larger footprint of the buildings/enclosure, on January 18, 2012, GenOn Marsh Landing, LLC, made an additional payment to AUSD as part of the building/enclosure modifications. Therefore condition of certification **SOCIO-1** has been satisfied.

Staff determined that the technical areas of Air Quality and Biological Resources would be affected by the proposed project changes, and conditions of certification **AQ-SC7** and **BIO-8** have been revised in order to assure compliance with LORS and/or to reduce potential environmental impacts to a less than significant level. The Staff Analyses for Air Quality and Biological Resources are provided after this section.

Executive Summary Table-1 provides a summary of the technical areas reviewed as part of this petition.

Executive Summary Table 1
Summary of Impacts to Each Technical Area

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Impact*	Process As Amendment	
Air Quality			X	**YES**
Biological Resources			X	**YES**
Cultural Resources		X		NO
Geological Hazards & Resources		X		NO
Hazardous Materials Management		X		NO
Facility Design		X		NO
Land Use		X		NO

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Impact*	Process As Amendment	
Noise and Vibration		X		NO
Paleontological Resources		X		NO
Public Health		X		NO
Socioeconomics		X		NO
Soil and Water Resources		X		NO
Traffic and Transportation		X		NO
Transmission Line Safety & Nuisance		X		NO
Transmission System Engineering		X		NO
Visual Resources		X		NO
Waste Management	X			N/A
Worker Safety and Fire Protection	X			N/A

*There is no possibility that the modifications may have a significant effect on the environment and the modifications will not result in a change or deletion of a condition adopted by the commission in the final decision or make changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards (LORS) (20 Cal. Code Regs., § 1769 (a)(2)).

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that with revised conditions of certification **AQ-SC7** and **BIO-8**, the following required findings mandated by Title 20, section 1769(a)(3) of the California Code of Regulations can be made and will recommend approval of the petition to the Energy Commission:

A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes;

B. The facility will remain in compliance with all applicable laws, ordinances, regulations and standards;

C. The changes will be beneficial to the project owner because it will ensure that the design of the Marsh Landing Generating Station Project will be optimized and that the plant will be capable of performing as intended;

D. There has been a substantial change in circumstances since the Energy Commission certification justifying the changes because the proposed design refinements are based on additional design work that occurred after the Commission Decision was issued.

MARSH LANDING GENERATING STATION (08-AFC-3C)

Air Quality Analysis of Request for Approval of Post-Certification Design Refinements

Nancy Fletcher

INTRODUCTION

On February 3, 2012, GenOn Marsh Landing, LLC (project owner), filed a petition (GMLP 2012) with the California Energy Commission requesting approval of post-certification design refinements to the Marsh Landing Generating Station project (MLGS). The MLGS is a 760 megawatt electricity generating project consisting of four simple cycle natural gas fired combustion turbine generators (CTGs). The California Energy Commission approved the MLGS in August 2010, and the project is currently under construction. The petition requests modifications to the design of the project's fuel gas pre-heater system, water supply and treatment processes, and additional project components. This analysis will address the proposed refinements that affect air quality.

The approved project design included two natural gas-fired pre-heaters, each with a heat input capacity of 5 million British thermal units per hour (MMBtu/hr). The petition proposes two natural gas fired pre-heaters each with heat inputs of 8 MMBtu/hr. The pre-heaters are exempt from the permitting requirements for the Bay Area Air Quality Management District (BAAQMD). However, they are not exempt from California Energy Commission authority and they will have to meet the applicable performance standards outlined in BAAQMD Regulation 9, Inorganic Gaseous Pollutants, Rule 7 Nitrogen Oxides and Carbon Monoxide from Industrial Institutional and Commercial Boilers, Steam Generators and Process Heaters (Regulation 9, Rule 7). In addition, the petition proposes to idle the pre-heaters when they are not operating at full load. The project owner proposed to surrender additional Emission Reduction Credits (ERCs) for volatile organic compounds (VOC), also known as precursor organic compounds (POC), and particulate matter less than 10 microns and less than 2.5 microns (PM10/2.5) to offset the incremental emission increase with the proposed change.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS COMPLIANCE

The project's proposed modifications are subject to all the laws, ordinances, regulations and standards (LORS) described in the Energy Commission Decision (Decision) (CEC 2010). The Decision identified BAAQMD Regulation 9, Rule 7 as applicable to the pre-heaters. At the time of this Decision, BAAQMD Regulation 9, Rule 7 requirements for a 5 MMBtu/hr pre-heater, included a nitrogen oxide (NOx) emission limit of 30 parts per million by volume (ppmv) dry at 3% oxygen (O_2) and a carbon monoxide (CO) limit of 400 ppmv dry at 3% O_2. However, the larger 8 MMBtu/hr units will be subject to a lower NOx emission limit of 15 ppmv dry at 3% O_2 and a CO limit of 400 ppmv dry at 3% O_2. These limits will become effective based on a compliance schedule outlined in Regulation 9, Rule 7 Section 308 (beginning January 1, 2013). In addition, per

Regulation 9, Rule 7 Section 404, the project owner will be required to register the pre-heaters with the BAAQMD.

The Conditions of Certification in the original Commission Decision ensure that the project will remain in compliance with all applicable LORS. The project, as proposed for modification herein, will continue to comply with all applicable LORS.

SETTING

The project setting has not changed from the original Revised Staff Assessment (RSA) (CEC 2010a). For convenience, staff includes **Air Quality Table 1**, which summarizes the area's attainment status for various applicable current state and federal air quality standards.

Air Quality Table 1
BAAQMD Attainment Status

Pollutant	Averaging Time	California Status	Federal Status
Ozone (O_3)	8 Hour	**Non-attainment**	**Non-attainment**
	1 Hour	**Non-attainment**	N/A
Carbon Monoxide (CO)	8 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
Nitrogen Dioxide (NOx)	Annual	N/A	Attainment
	1 Hour	Attainment	Unclassified
Sulfur Dioxide (SO_2)	Annual	N/A	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	Attainment
PM10	Annual	**Non-attainment**	N/A
	24 Hour	**Non-attainment**	Unclassified
PM2.5	Annual	**Non-attainment**	Attainment
	24 Hour	N/A	**Non-attainment**

Notes:
Unclassified means the area is treated as if it is in attainment.
N/A= no standard applies or not applicable.

ANALYSIS

PROJECT EMISSION PROFILE CHANGES

The proposed modifications are only applicable to emissions from the pre-heaters during operation. There are no proposed changes to parameters effecting emissions from construction or the operation of the four CTGs.

The proposed modifications result in slightly increased emissions of criteria pollutants and greenhouse gases (GHG). The criteria pollutant emissions from the project modifications, as well as the criteria pollutant emissions presented in the RSA, are summarized in **Air Quality Table 2.** As stated in the RSA and the Commission Decision, the MLGS exceeds the Emission Performance Standard established by SB 1368 for base load generation. However, as also concluded in the Commission Decision, the MLGS is not designed or intended for base load generation and is therefore not subject to the Emission Performance Standard. The project will still be required to comply with the mandatory GHG reporting requirement and any GHG reduction or trading requirement finalized by the Air Resources Board.

Air Quality Table 2
Marsh Landing Generating Station Annual Emissions (tons per year)

Source	NOx	VOC	$PM_{10/2.5}$	CO	SOx
2010 Commission Decision (as reflected in the RSA)[a]					
Four CTGs	78.57	14.21	31.54	138.57	4.94
Fuel gas Pre-heaters	0.26	0.02	0.03	0.30	0.02[b]
Total	**78.83**	**14.23**	**31.57**	**138.9**	**4.96**
2012 Proposed Revisions					
Four CTGs (no changes)[a]	78.57	14.21	31.54	138.57	4.94
Fuel gas Pre-heaters[c]	0.36	0.05	0.16	5.80	0.01[b]
Total	**78.93**	**14.26**	**31.70**	**144.37**	**4.95**
Increase	**0.10**	**0.03**	**0.13**	**5.50**	**-0.01**
% Increase	**0.12%**	**0.24%**	**0.40%**	**3.97%**	**NA**

[a]Source: CEC 2010a.
[b]The total annual SOx emissions for the pre-heaters presented in the RSA were calculated using a natural gas sulfur content of 1 gr/100 scf. The revised calculations use an annual sulfur content of 0.25 gr/100scf. This is consistent with the calculations for the CTGs and the statement on page 4.1-19 of the RSA and BAAQMD 2010. The previous annual SOx calculations for the pre-heaters in the RSA were miscalculated.
[c]Source: Staff Calculations.

ANALYSIS OF SPECIFIC CHANGES

The changes in emissions result from the increase in heat input rating and the proposed operation of the pre-heaters. The original proposal included two natural gas-fired pre-heaters, each with a heat input capacity of 5 MMBtu/hr, and a proposed operating schedule of 1,752 hours per year at full load and turned off at all other times. The proposed modification includes two natural gas-fired pre-heaters, each with a heat input capacity of 8 MMBtu/hr and a proposed operating schedule of 1,752 hours per year at full load and an additional 7,008 hours per year at idle mode. The prepared petition states the peak heat during idling mode is equivalent to 0.8 MMBtu/hr. The emissions from the proposed revisions have been re-calculated according to the following:

- NOx emissions controlled to 15 ppmv dry at 3% O_2 (BAAQMD Rule 9.7);
- CO emissions controlled to 400 ppmv dry at 3% O_2 (BAAQMD Rule 9.7);
- VOC emissions based on United Stated Environmental Protection Agency (U.S. EPA) emission factor database for similar size and category equipment. The factor retrieved and used for analysis is 0.0027 pound (lb)/MMBtu/hour (U.S. EPA WebFIRE SCC 3-10-004-04);
- Natural gas sulfur content annual average of 0.25 grains per 100 standard cubic feet (CEC 2010a); and
- PM10 emissions based on an emission factor of 0.008 lb/MMBtu/hr provided by the pre-heater vendor as stated in the petition (GMLP 2012).

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) MITIGATION

As documented in **Air Quality Table 1**, the BAAQMD is in non-attainment with the state and federal ambient air quality standards for O_3, PM10, and PM2.5. The California Energy Commission requires mitigation for the emissions of pollutants and/or their precursors that are in non-attainment with state and federal air quality standards or may result in any violation of any air quality standard. Precursors of O_3, PM10, and PM2.5 include VOC, SOx, and NOx. Therefore, the Energy Commission requires the mitigation of PM10, PM2.5, SOx, NOx, and VOC emissions in areas designated as non-attainment for O_3, PM10, and PM2.5 standards.

The California Energy Commission also reviewed the impacts of the CO emissions from the operation to determine if they would result in a violation of the applicable air quality standards. The RSA included a summary of the projected maximum operational impacts from the project. Results were included for routine operation, impacts during extreme meteorological conditions, and impacts from the project commissioning phase. The results from each modeling was presented in tables that included the modeled emissions from the project, the background levels of the pollutants, the total impact from the modeled emissions and the background levels, the limiting air quality standard and the percent of the total impact in respect to the limiting air quality standard. These tables were used to demonstrate CO emissions from the project would not result in a violation to any applicable air quality standard. The results are summarized in **Air Quality Table 3**.

Air Quality Table 3
CO Maximum Impacts (ug/m3)

Scenario	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	% of Standard
Routine	1 hour	466.0	4,686	5,152	23,000	22
	8 hour	187.9	2,194	2,382	10,000	24
Fumigation	1 hour	576.0	4,686	5,262	23,000	23
	8 hour	82.0	2,194	2,276	10,000	23
Commissioning	1 hour	3,053.0	4,686	7,739	23,000	34
	8 hour	1,248.0	2,194	3,442	10,000	34

Source: CEC 2010a.

The background concentrations of CO are higher than the modeled impacts of CO for the approved project. Due to the low amount of emissions from the proposed modifications, the projected increase in CO emissions are not expected to significantly impact the results from the modeling and will not result in any violation of any applicable CO air quality standard. Since the area is in attainment of the CO standard and the project would not cause the standards to be exceeded, offsets for CO will not be required.

The project owner proposed to mitigate air quality impacts through project design and the surrender of ERCs to offset operational emissions. The California Energy Commission required through Condition of Certification **AQ-SC7** that the project offset specified quantities of NOx, VOC, PM10/2.5, and SOx (see **Air Quality Table 4**). These requirements were based upon the total calculated emissions for the four CTGs and the pre-heaters at a 1.0 to 1.0 offset ratio. ERCs were not required for CO because the staff analysis demonstrated the CO emissions would not result in a violation of any applicable air quality standard, and the BAAQMD is currently in attainment with the CO standard. Offsets were required for SOx and NOx because, although it was determined the direct impact of SOx and NOx emissions would not contribute to a violation of the SO_2 or NOx standards, SOx and NOx emissions contribute to the formation of ozone, PM10, and PM2.5, and the BAAQMD is not in attainment with all the ambient air quality standards for PM10 and PM2.5.

The BAAQMD Final Determination of Compliance required offsets for NOx and VOC based off the calculated emissions for the four CTGs only. In addition, BAAQMD required the ERCs for NOx to be surrendered at a ratio of 1.15 to 1. The offsets provided by GenOn Marsh Landing, LLC, are documented in **Air Quality Table 4**.

For purposes of CEQA, the offsets already provided by the project owner do not fully mitigate the projected emission increases from the proposed amendment. Consistent with the findings outlined in the RSA and this analysis, the California Energy Commission staff recommend requiring additional mitigation for the projected emission increase, to mitigate these increases so they are less than significant for CEQA purposes. The project owner is proposing to surrender additional credits for VOC and PM10/2.5 to mitigate the incremental emission increase from the proposed amendment. Additional credits were not proposed for NOx or SOx because as demonstrated in **Air Quality Table 4**, the amount of ERCs already surrendered meet or exceed any additional emissions projected from the proposed amendment. The NOx emissions already surrendered met the BAAQMD offset requirement of 1.15 to 1.0 for NOx. The California Energy Commission CEQA mitigation requirement is calculated using a ratio of 1.0 to 1.0 for NOx. Therefore, no more NOx offsets are required. Also, the revised SOx emissions estimate results in lower SOx emissions, due to a revised assumption regarding the sulfur content in natural gas. Therefore, the project owner has already surrendered sufficient SOx ERCs for the proposed project. In order to ensure compliance with CEQA mitigation requirements, the California Energy Commission should revise Condition of Certification **AQ-SC7** to the Additional Mitigation Required values as listed in **Air Quality Table 4**.

Air Quality Table 4
Marsh Landing Generating Station Offsets (tons per year)

Source	NOx	VOC	$PM_{10/2.5}$	CO	SOx
CEQA Mitigation Recommended by Commission Staff - CTGs and Pre-heaters[a]	78.83	14.23	31.57	None	4.96
Offsets Required by BAAQMD - CTGs Only[a]	90.36	14.21	None	None	None
Offsets Surrendered[b]	90.36	14.23	31.57	None	4.96
Commission Staff Proposed Revised Total - CTGs and New Pre-heaters[c]	78.93	14.26	31.70	None	4.95
Additional Mitigation Required[c]	None	0.03	0.13	None	None

[a]Source: CEC 2010a.
[b]Source: GMLP 2012.
[c]Source: Staff Calculations.

CONCLUSIONS AND RECOMMENDATIONS

- The project, as amended, will continue to comply with all applicable BAAQMD regulations and will comply with BAAQMD Regulation 9, Rule 7 as applicable to the pre-heaters.

- The proposed modifications to the operation of the pre-heaters will result in increased emissions of pollutants and/or their precursors that are in non-attainment with state and federal ambient air quality standards.

- In order to ensure compliance with mitigation requirements, the California Energy Commission Staff recommend Condition of Certification **AQ-SC7** be revised to include additional offset requirements for the proposed emission increase from the revised operation of the pre-heaters.

AMENDED AND PROPOSED CONDITIONS OF CERTIFICATION

The following Air Quality Condition of Certification will need to be amended.

AQ-SC7 The project owner shall provide emission reductions in the form of offsets or emission reduction credits (ERCs) in the quantities of at least ~~78.83~~ **78.93** tons per year (tpy) NOx, ~~14.23~~ **14.26** tpy VOC, ~~31.57~~ **31.70** tpy PM10, and ~~4.96~~ **4.95** tpy SOx emissions. The project owner shall demonstrate that the reductions are provided in the form required by the Bay Area Air Quality Management District.

Verification: The project owner shall submit to the CPM records showing that the project's offset requirements have been met prior to initiating construction. If the CPM approves a substitution or modification to the list of ERCs, the CPM shall file a

statement of the approval with the project owner and the Energy Commission docket. The CPM shall maintain an updated list of approved ERCs for the project.

REFERENCES

CEC 2010 - California Energy Commission - Marsh Landing Generating Station Commission Decision (08-AFC-03). August, 2010.

CEC 2010a - California Energy Commission - Marsh Landing Generating Station Revised Staff Assessment (08-AFC-03). June, 2010.

BAAQMD 2010 - Bay Area Air Quality Management District Final Determination of Compliance – Marsh Landing Generating Station. June 2010.

GMLP 2012 - GenOn Marsh Landing, LLC, Petition for Approval of Project Design Refinements - Marsh Landing Generating Station (08-AFC-3C). Received February 3, 2012.

MARSH LANDING GENERATING STATION (08-AFC-3C)
Biological Resource Analysis of Request for Approval of Post-Certification Design Refinements
Rick York

INTRODUCTION

This petition requests to revise the design of the project's fuel gas pre-heater system and other design refinements to the Marsh Landing Generating Station Project. This analysis addresses the proposed refinements that affect **Biological Resources.**

ANALYSIS

The proposed project refinements addressed in the amendment petition include on-site refinements to the water treatment and storage system, installation of larger pre-heaters, construction of a new storage warehouse, changes to the PG&E switchyard interconnection, changes to the ammonia storage system, realignment of the main access road, and a proposal to relocate tempering fans to the outside of each unit. The only proposed design refinement that has implications to biological resources is the installation and operation of the new, larger pre-heaters which will result in slightly higher nitrogen deposition at the adjacent Antioch Dunes National Wildlife Refuge (ADNWR) which is habitat for the federally listed endangered Lange's metalmark butterfly. The increased nitrogen deposition will contribute to the cumulative impacts to the refuge that result from the increased nitrogen and resulting fertilization of a normally nitrogen-poor environment which promotes an increase in weeds and overall habitat degradation. The Energy Commission Decision estimated that the original Marsh Landing Generating Station project would contribute 0.0447 kilograms/hectare/years (kg/ha/yr), whereas the project refinements including the new, larger pre-heaters would result in slightly higher nitrogen deposition of 0.0469 kg/ha/yr at the ADNWR.

Applying the new nitrogen deposition amount to the following equation (new deposition rate/ambient nitrogen rate x current ADNWR operations budget), which was used for staff's original analysis, results in a slightly higher annual payment amount as the result of the anticipated installation of new, larger pre-heaters:

(0.0469 kg/ha/yr/6.4369 kg/ha/yr) x $385,000 = $2,805.00

Per the Commission's Decision and Condition of Certification **BIO-8**, at least this revised annual payment, adjusted annually for inflation, will be provided to the Friends of San Pablo Bay to assist in the overall management of the refuge and for the removal of weeds which currently threaten the Lange's metalmark butterfly and its habitat. In addition, the project owner also volunteered to make an additional annual $20,000 payment to the Friends of San Pablo Bay for the life of the project in addition to the annual payment required in the Commission

Decision. This total annual payment approach does not change as a result of the proposed project refinements.

CONCLUSION

The project owner's proposal to install larger pre-heaters will result in slightly higher nitrogen deposition amount at the Antioch Dunes National Wildlife Refuge and therefore result in the requirement that the project owner pay slightly more to the Friends of San Pablo Bay to assist in noxious weed management at the refuge. Only Condition of Certification **BIO-8** needs to be amended as part of this amendment analysis.

AMENDED CONDITION OF CERTIFICATION

The following Biological Resources condition of certification must be modified to reflect a slight increase in nitrogen deposition at the Antioch Dunes National Wildlife Refuge and the need to pay slightly more than the amount that what was identified in the Commission Decision. The required condition of certification changes are shown in ~~strikethrough~~ and **bold underline**.

BIO-8 The project owner shall provide an annual payment to Friends of San Pablo Bay to assist in noxious weed management at the Antioch Dunes National Wildlife Refuge. The first annual payment shall be at least equal to ~~$2,693.00~~**$2,805.00**.

Each subsequent annual payment as calculated above shall be adjusted for inflation in accordance with the Employment Cost Index – West or its successor, as reported by the U.S. Department of Labor's Bureau of Labor Statistics. Payment shall be made annually for the duration of project operation. The project owner has voluntarily offered to contribute additional annual funding for weed management efforts at the Antioch Dunes National Wildlife Refuge in an amount equal to $20,000 per year and has agreed to include that additional payment as a requirement in this condition of certification. The additional annual payment shall be made at the same time as the annual payment specified above and shall be made for the duration of project operation, but shall not be adjusted for inflation.

Verification: No later than 30 days following the start of project operation, the project owner shall provide written verification to the CPM, USFWS, and CDFG that the first-annual payment was made to the Friends of San Pablo Bay in accordance with this condition of certification. The project owner shall provide evidence that it has specified that its annual payment to Friends of San Pablo Bay can be used only to assist in noxious weed management at the Antioch Dunes National Wildlife Refuge.