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June 16, 2010

VIA MESSENGER

DOCKET
08-AFC-3
DATE JUN 16 2010
RECD. JUN 16 2010

Docket Unit
Attn: Docket No. 08-AFC-3
California Energy Commission
1516 Ninth Street, MS 4
Sacramento, CA 95814

RE: Marsh Landing Generating Station Application for Certification, Docket 08-AFC-3

Enclosed is Mirant Marsh Landing, LLC's Written Testimony, Witness Declarations and Witness Qualifications ("Testimony"). The enclosed version contains original signatures on the Witness Declarations. Mirant Marsh Landing also hereby delivers one hard copy of the full set of Exhibits referenced in the Testimony. A CD containing electronic copies of the Exhibits was sent to the Docket Unit via Federal Express yesterday and should have arrived this morning.

Mirant Marsh Landing is providing a copy of the Testimony to each party on the official service list for this proceeding, as specified in the attached Proof of Service. Mirant Marsh Landing also is providing a copy of the Testimony to Robert Sarvey. Mr. Sarvey submitted a late-filed petition to intervene in this proceeding on June 4, 2010. Mirant Marsh Landing opposes Mr. Sarvey's late-filed petition as explained in detail in Applicant's Opposition to the Late-Filed Petition to Intervene of Robert Sarvey filed on June 11, 2010. Mirant Marsh Landing is providing a copy of the Testimony to Mr. Sarvey as a courtesy only, and in light of the fact that the Committee has not yet ruled on his late-filed petition.

Thank you for your assistance. Please contact me if you have any questions.

Respectfully submitted,

Lisa A. Cottle
Winston & Strawn LLP
Attorneys for Mirant Marsh Landing, LLC

Cc: Proof of Service List for Docket 08-AFC-3

SF:284338.1

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

Application for Certification for the Mirant Marsh Landing Generating Station Project	Docket No. 08-AFC-3

DECLARATION OF SERVICE

I, Lisa A. Cottle, declare that on June 16, 2010, I served and filed ***Mirant Marsh Landing, LLC's Written Testimony, Witness Declarations and Witness Qualifications***. The original document filed with the Docket Unit is accompanied by a copy of the most recent Proof of Service list, located at the web page for this project at **http://www.energy.ca.gov/sitingcases/marshlanding/index.html**. The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

- For service to all other parties: electronically to all email addresses on the Proof of Service list; and by messenger to parties at the California Energy Commission; and by depositing in the United States mail at San Francisco, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list to all other parties **NOT** marked as "email preferred."

AND

- For filing with the Energy Commission: Sent an original paper copy by messenger and one electronic copy by email, to the address below:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-3
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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

Lisa A. Cottle

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE MARSH LANDING *GENERATING STATION*

Docket No. 08-AFC-3

PROOF OF SERVICE
(Revised 4/19/2010)

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

Application for Certification for the Mirant Marsh Landing Generating Station Project	Docket No. 08-AFC-3

MIRANT MARSH LANDING, LLC'S WRITTEN TESTIMONY, WITNESS DECLARATIONS AND WITNESS QUALIFICATIONS

June 16, 2010

Lisa A. Cottle
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Attorneys for Mirant Marsh Landing, LLC

Table of Contents

Page

Table of Contents

Page

Table of Contents

Page

EXECUTIVE SUMMARY

I. Introduction

A. Name: Jonathan Sacks

B. Qualifications:

Jonathan Sacks- Mr. Sacks is a Director of Business Development and Transactions at Mirant Corporation and the Project Director for the Marsh Landing Generating Station project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 1.0, pp. 1-1 through 1-11 (Exhibit 1(a)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 1.0, pp. 1-1 through 1-11 (Exhibit 7(a)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 1.0, pp. 1-1 through 1-3 (Exhibit 20(a)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 1-1 through 1-8 (Exhibit 39(a)).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Revised Staff Assessment

I have reviewed the Executive Summary of the Revised Staff Assessment issued on June 10, 2010. It accurately describes the Marsh Landing Generating Station project. There are no Conditions of Certification associated with the Executive Summary.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS—EXECUTIVE SUMMARY**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

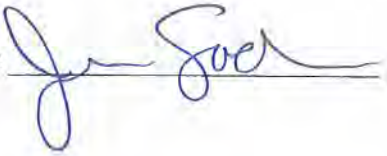
3. I helped supervise the preparation of the attached testimony on Executive Summary for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

PROJECT DESCRIPTION

I. Introduction

A. Names: Jonathan Sacks and Anne Connell

B. Qualifications:

Jonathan Sacks- Mr. Sacks is a Director of Business Development and Transactions at Mirant Corporation and the Project Director for the Marsh Landing Generating Station project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

Anne Connell- Ms. Connell is the Project Manager for the Marsh Landing Generating Station project. Ms. Connell is an experienced project manager and engineer specializing in water quality and hydrology. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1 – Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Sections 2.0 through 6.0 and Appendix U (Exhibits 1(b)-(f) and 1(dd)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Sections 2.0 through 6.0 and Appendix U (Exhibits 7(b)-(f) and 7(dd)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.0, pp. 2-1 through 2-5 (Exhibit 20(b)).
- Exhibit 35- Mirant Marsh Landing, LLC's Letter to Committee Members Regarding Contractual Deadlines for the Marsh Landing Generating Station, dated March 25, 2010, and docketed March 25, 2010.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 3-1 through 3-4 and associated Attachments (Exhibits 39(b) and 39(x)(1)-(4)).

- Exhibit 102- Letter from Contra Costa Health Services (D. Nixon) to CEC (M. Monasmith) re Comments on Marsh Landing Generating Station Application for Certification, dated July 2, 2008, Docketed July 2, 2008.
- Exhibit 104- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) Conceptually Supporting the Proposed Marsh Landing Generating Station Power Plant, and Notifying the Adoption of A Resolution Authorizing an Annexation Agreement with Mirant and Another Resolution to Enter into a Project Agreement with MLGS, dated November 30, 2009, and docketed November 30, 2009.
- Exhibit 107- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) re Comments Regarding Staff Assessment, dated May 25, 2010, and docketed May 25, 2010.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Project Description

PROJECT OVERVIEW AND DESIGN SELECTION

On May 30, 2008, Mirant Marsh Landing, LLC (Mirant Marsh Landing) filed an Application for Certification (AFC) with the California Energy Commission (Commission), seeking approval to construct and operate the Marsh Landing Generating Station (MLGS) (Docket 08-AFC-3). On September 16, 2009, Mirant Marsh Landing filed an amendment to its AFC to reflect refinements to the project's design. As described in the amendment, the MLGS will be a nominal 760-megawatt (MW) peaking facility consisting of four simple cycle natural gas-fired combustion turbines. The project will be constructed, owned, and operated by Mirant Marsh Landing (an indirect, wholly owned subsidiary of Mirant Corporation).

The currently proposed four simple-cycle unit configuration is the project that was selected as a winning project by Pacific Gas and Electric Company (PG&E) in its 2008 All Source Long-Term Request for Offers (LTRFO). PG&E announced the selection of the MLGS as a winning project in its LTRFO on September 30, 2009. PG&E is now seeking approval from the California Public Utilities Commission (CPUC) for a long-term power purchase agreement that provides for PG&E to purchase the output of the MLGS. CPUC approval of the power purchase agreement is anticipated in July 2010.

PG&E issued its LTRFO on April 1, 2008 "to obtain new dispatchable, operationally flexible resources through a solicitation of interest from project owners/developers." (PG&E LTRFO, p. 1.) PG&E stated that it would consider a number of different resource types, namely "new renewable generation, new distributed generation, existing or new qualifying facilities, repowering an existing facility, and new conventional generation technologies and all fuel types, including technologies capable of running on multiple fuels." (Id.) PG&E issued its LTRFO in accordance with the CPUC's Decision 07-12-052, which authorized PG&E to acquire between 800 and 1,200 MW of new resources (later increased to 1,112 MW to 1,512 MW to reflect

previously contracted projects that were cancelled), with a preference for dispatchable and operationally flexible resources with on-line dates no later than March 2015. PG&E has stated that it received 48 offers with 74 variations from 21 separate participants, totaling nearly 13,000 MW, and that each offer was thoroughly evaluated.

The current MLGS configuration represents one of the projects that PG&E found to be the best fit for its need at the best relative cost. In its filings at the CPUC, PGE has stated that "combustion turbines are designed for fast start, and limited use, with typical capacity factors of about 5%," and that "the fast start capability is intended to meet the increased sudden ramp changes anticipated with higher levels of intermittent renewable generation."

MLGS is ideally suited to meet PG&E's identified needs for dispatchable and operationally flexible resources. The MLGS will be capable of operating at a maximum capacity factor of 20 percent, which is significantly higher than the typical 5 percent capacity factor for combustion turbines that PG&E cites in its CPUC filing. Each of the four MLGS turbines will be capable of starting up and reaching full load in approximately 12 minutes and the MLGS will be capable of reaching 80 percent of full load in only 10 minutes. With this fast start and rapid ramping capability, MLGS will be able to provide approximately 600 MW of non-spinning reserves to the California Independent System Operator (CAISO). The CAISO requires non-spinning reserves to integrate and backup intermittent renewable generation, among other purposes. MLGS also will have very low minimum operating times, which means that it can be started and ramped up quickly as renewable deliveries decline, operated for short periods of time, and then shut down to accommodate increased renewable generation as it becomes available. This allows MLGS to be operated surgically to supply energy only when and for the time period needed. With these capabilities, the MLGS can be operated to maximize the system's use of renewable generation, which will help reduce system wide greenhouse gas emissions (GHG) emissions.

PROJECT LOCATION

The MLGS project site is located in unincorporated Contra Costa County, California, approximately 1/10 mile from the current City of Antioch limits. The City of Antioch intends to annex the project site and adjacent land in 2010. The general location of the project site is shown on Figure 1-1.

The MLGS project site is adjacent to the site of the existing Contra Costa Power Plant (CCPP), an older facility owned and operated by Mirant Delta, LLC (Mirant Delta) (also an indirect wholly owned subsidiary of Mirant Corporation). Mirant Delta has announced that it will retire the existing units at the CCPP (subject to regulatory approval) after the end of the day on April 30, 2013. Mirant Delta has submitted an application to the BAAQMD to amend the air permit for the CCPP to include the conditional shut-down requirement for CCPP Units 6 and 7. (Exhibit 39(x)(2)(iv).) The proposed MLGS will be an independent, stand-alone facility from the CCPP.

As shown on Figure 1-2, the MLGS project site will occupy approximately 27 acres on the western portion of what is currently the CCPP project site, generally within the footprint of the area occupied by five #6 fuel oil tanks and an area to the east of the location of the tanks. Mirant Delta is currently cleaning and removing the tanks and this work is expected to be completed prior to conveyance of the project site to Mirant Marsh Landing. The approximately 27 acre MLGS parcel will be created by subdividing the existing single parcel that constitutes the site of

the CCPP. Mirant Delta has filed an application for subdivision with Contra Costa County and that process is pending. Mirant Delta will convey the project site to Mirant Marsh Landing, either via lease or sale, depending on when the subdivision process is complete.

The MLGS site is bordered on the east and south by the CCPP site and the PG&E switchyard, on the west by a vacant industrial property, and on the north by the San Joaquin River. The nearest residential neighborhood is approximately 2,000 feet southwest of the site boundary. PG&E's Gateway Generating Station (GGS) is located immediately east of the CCPP site.

PROJECT OBJECTIVES

Mirant Marsh Landing has identified several basic objectives for the development of an electric generating station at the proposed site. These objectives include:

- Installing new quick start and intra-day ramping capability within a local reliability area to meet the electricity system's peak electricity needs and potentially displace less efficient and less flexible natural gas-fired resources.
- Backing up and supporting integration of intermittent renewable resources that are being constructed to advance the State's Renewable Portfolio Standard (RPS) and GHG reduction goals.
- Utilizing a brownfield site adjacent to an existing power plant site to construct new generating capacity without the need to disturb a greenfield site or construct significant new lateral facilities.

PROJECT CONSTRUCTION

Construction and startup of the MLGS is expected to begin in late 2010 and to take approximately 27 months. Commercial operation is planned for Summer 2013.

Construction of the MLGS is estimated to cost approximately $550 million dollars. The construction work-force will peak at approximately 272 workers in the 22nd month of construction and average approximately 120 workers over the construction period.

The former owner of the site, PG&E, is working with the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) to achieve regulatory closure for the project site. As such, supplemental investigations are ongoing to delineate the extent of constituents of concern that were identified in previous investigations to support a potential remedial plan for the project site, as necessary. All DTSC-ordered remedial work at the project site will be completed prior to the commencement of soil excavation or grading in those affected areas.

Approximately 14 acres within the existing CCPP site (but outside the MLGS project site) will be used for construction laydown, offices and parking (See Figure 1-2). Primary access to the project site during construction will be from State Route (SR) 4 and SR 160 via Wilbur Avenue. Existing entrances and access roads within the CCPP will be used.

FACILITY DESCRIPTION

The MLGS will consist of new natural-gas–fired generation facilities and ancillary systems. Figure 1-3 depicts the existing site and vicinity. A visual simulation of the site after construction

of the MLGS is shown on Figure 1-4. Major elements of the MLGS are shown on Figure 1-5 and summarized below:

- Four simple cycle units consisting of four Siemens 5000F natural-gas–fired combustion turbine generators (CTGs) equipped with ultra low NOX combustors and inlet air evaporative cooler;
- Four approximately 165 foot-tall stacks each discharging the exhaust from one CTG and equipped with continuous emissions monitoring systems;
- Natural gas compressors;
- Two fuel gas/dew point heaters;
- One 20,000 gallon aqueous ammonia storage tank, associated ammonia unloading station, in-plant distribution piping, and ammonia vaporizer;
- Water treatment system building, trailers and associated water storage tanks;
- A control building for housing the MLGS plant distributed control systems and electrical equipment and warehouse for storage of equipment; and
- An underground fire loop that will be fed from the existing CCPP fire system.

The MLGS project also includes:

- New well system in the southern portion of the CCPP site and pipeline to provide brackish groundwater for process water needs, if feasible;
- Connection to the existing potable water line on the CCPP property;
- Wastewater pipeline to convey process and sanitary wastewater to the City of Antioch's sewer main on Wilbur Avenue;
- Connection via a new gas line to PG&E's existing natural gas transmission line, located approximately 2,100 feet east of the MLGS metering station; and
- Two single circuit 230 kilovolt (kV) transmission lines from the new generators to the PG&E switchyard that is adjacent to the project site.

PROJECT OPERATIONS

The MLGS consists of four Siemens 5000F combustion turbine units operating in simple-cycle mode. The MLGS will be a nominal 760 MW facility (at 75 degrees Fahrenheit [°F] temperature and 54 percent relative humidity). The MLGS is designed to provide peaking power and will operate at a maximum 20 percent annual capacity factor. The MLGS will be capable of producing 719 MW during peak July conditions (103.9 °F temperature and 31 percent relative humidity). The actual output of the MLGS will vary in response to ambient weather conditions. The overall annual availability of the MLGS as measured by equivalent availability factor (EAF) is expected to be approximately 94 to 98 percent.

An ultra low NO_X combustor system will be used to control the NO_X concentration exiting each CTG. As an additional post-combustion NO_X control system, a selective catalytic reduction (SCR) system will be installed downstream of the gas turbine to further reduce the NO_X emissions. The SCR system will inject ammonia into the exhaust gas stream upstream of a

catalyst bed to reduce the NO_X to inert nitrogen and water. Dilution air fans will temper flue gas temperatures to meet SCR catalyst temperature requirements. An oxidation catalyst system will also be incorporated into the air quality control system to control emissions of carbon monoxide and volatile organic compounds.

The project will employ approximately 16 full-time employees once operational.

WATER SUPPLY

Process water requirements for evaporative cooler makeup, service water and combustion turbine washes are expected to be a maximum of 50 acre-feet per year (AFY). The MLGS will not include a steam cycle or utilize water for purposes of rejecting waste heat produced during power plant processes to the atmosphere. This avoids the need for the large water supply required by wet-cooled power generation projects. In addition, the MLGS will be a peaking plant that will have a maximum annual capacity factor of 20 percent.

Mirant Marsh Landing has proposed two potential sources of water for process uses. One source will be brackish groundwater supplied by two wells located within the existing CCPP site. Each well will be designed to provide full demand for 100 percent redundancy. A new 6-inch diameter 2,200-foot long pipeline will be constructed from the wells to the MLGS raw water storage tank generally along an existing CCPP access road. The groundwater is considered brackish and will undergo treatment (filtration, ion exchange) for use at the MLGS.

As an alternative primary water supply, the City of Antioch has offered to supply water to the MLGS for all project needs, including process uses. The City of Antioch has stated that it has adequate supplies of water to serve the MLGS need for 50 AFY of process water. The City of Antioch and Mirant Marsh Landing have asked that the use of City of Antioch water be approved as an alternative, primary source of water that could be utilized for all project purposes in lieu of onsite groundwater.

The small amount of potable water needed for domestic and sanitary water will be supplied by the City of Antioch via a connection to an existing water line on the CCPP property. The MLGS will not withdraw process water from the San Joaquin River or discharge process water to the San Joaquin River.

WASTEWATER

Project wastewater will be stored onsite as necessary prior to discharge to the City of Antioch sewer line. The existing sewer line is installed along Wilbur Avenue. Project wastewater will be conveyed to this sewer line via a new 6-inch diameter, 3,000-foot long pipeline. Approximately 500 feet of the pipeline will be along Wilbur Avenue. Sanitary wastewater will be combined with the process wastewater and discharged to the sewer line. Ultimate discharge of the process and sanitary wastewaters will be to the Delta Diablo Sanitation District (DDSD) wastewater system.

FUEL SUPPLY

The MLGS CTGs will burn pipeline quality natural gas delivered by PG&E via PG&E's interstate natural gas transmission Line 400, which runs along the eastern boundary of the GGS property. Natural gas will be provided to the MLGS via a new 12-inch diameter gas pipeline that will be approximately 2,100 feet long. The new pipeline will connect to PG&E's Line 400 and

be routed across the CCPP and GGS properties. A new gas metering station for the MLGS will be located within the CCPP project site. The 12-inch-diameter gas pipeline extension from Line 400 to the MLGS gas metering station, and the gas metering station, will be owned, constructed, and maintained by PG&E in its capacity as the local gas utility company. The natural gas pipeline downstream of the metering station, the natural gas compression station, and the natural gas conditioning station will be owned, constructed, and maintained by Mirant Marsh Landing.

ELECTRIC TRANSMISSION

The MLGS project site is located adjacent to PG&E's switchyard. The four CTGs will generate power at 16.5 kilovolts (kV). The voltage at each generator will be stepped up by a dedicated step-up transformer to 230 kV. The four transformers will connect to two single-circuit 230 kV transmission lines that will intertie directly into the adjacent PG&E switchyard to deliver the project's electrical output to the transmission grid. The proposed lines will be supported on six steel pole structures that will be 100 feet tall and will utilize standard low-corona aluminum, steel-reinforced cables. The transmission line interconnections will be approximately 900 feet in total length.

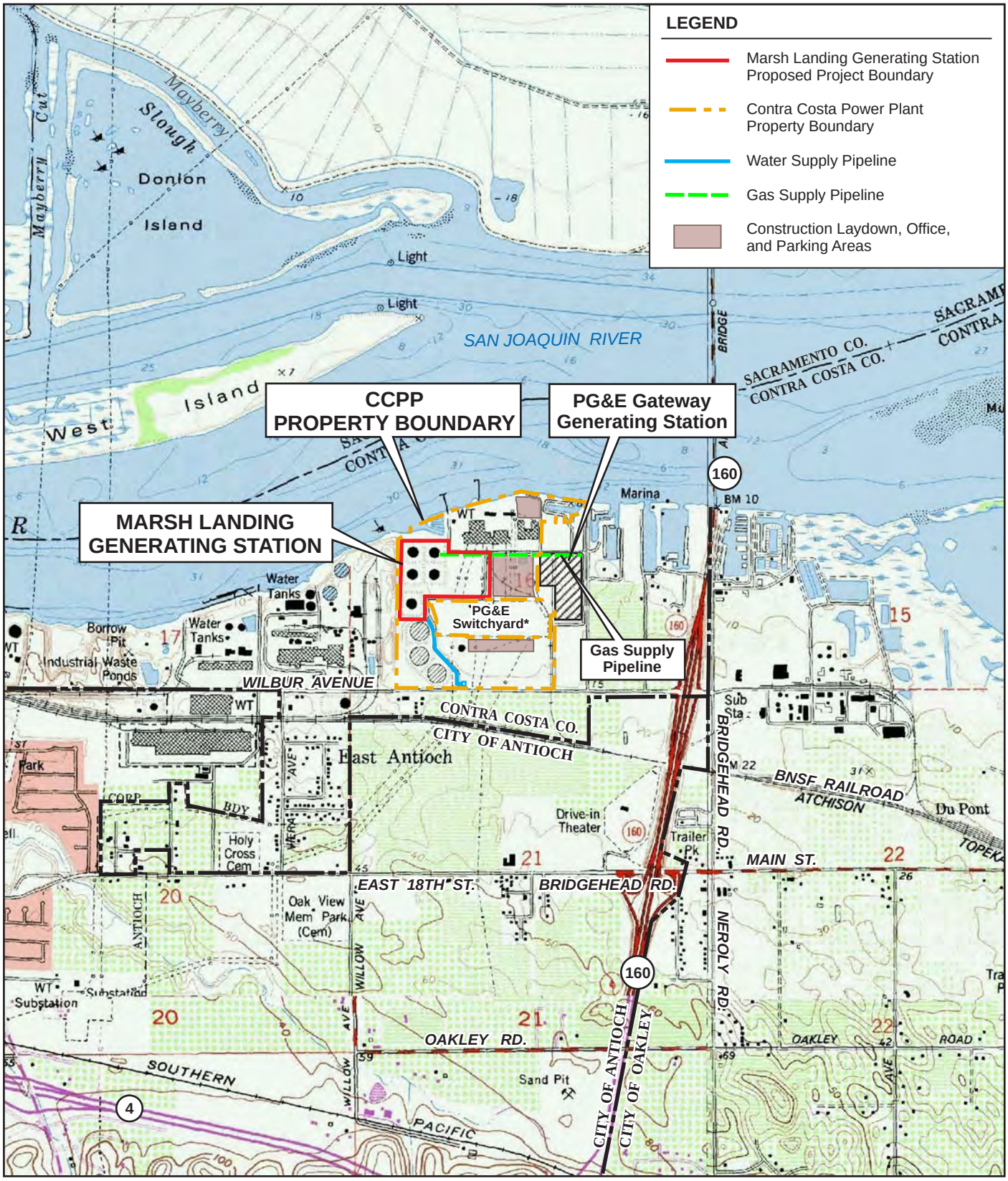
The owner of the CCPP, Mirant Delta, has entered into an agreement with PG&E to retire the remaining units at the CCPP after the end of the day on April 30, 2013, subject to regulatory approval. The MLGS will utilize the capacity on the transmission system that is currently utilized by the CCPP. This is reflected in the Revised Large Generator Interconnection Process Request filed by Mirant Marsh Landing in September 2009. (Exhibit 28.) By taking over the transmission system capacity currently utilized by CCPP, the MLGS only requires a net capacity of 100 MW on the electric transmission system.

The California Independent System Operator (CAISO) is preparing the Phase II Interconnection Study for the MLGS project, which will be performed based on the six projects remaining in the so-called Transition Cluster, which includes the MLGS. As noted above, with the retirement of the remaining CCPP units, the net increase in capacity associated with the MLGS will be only 100 MW. As such, the MLGS net increase in capacity is only 8.6 percent of the total 1,159 MW of new capacity being analyzed in the Transition Cluster. The Phase II Interconnection Study is expected to be available in July 2010.

III. Revised Staff Assessment

We have reviewed the Project Description in the Revised Staff Assessment issued on June 10, 2010. It accurately describes the MLGS project. There are no Conditions of Certification associated with the Project Description.

Project Description Attachments:
Figure 1-1
Figure 1-2
Figure 1-3
Figure 1-4
Figure 1-5



Source:
USGS Topographic Maps, 7.5 Minute Series:
Antioch North, California, 1978
Antioch South, California, 1980
Jersey Island, California, 1978
Brentwood, California, 1978

* The PG&E Switchyard and PG&E Gateway Project are not part of the Mirant Property.

0 2,000 4,000
Scale in Feet
1:24,000

N

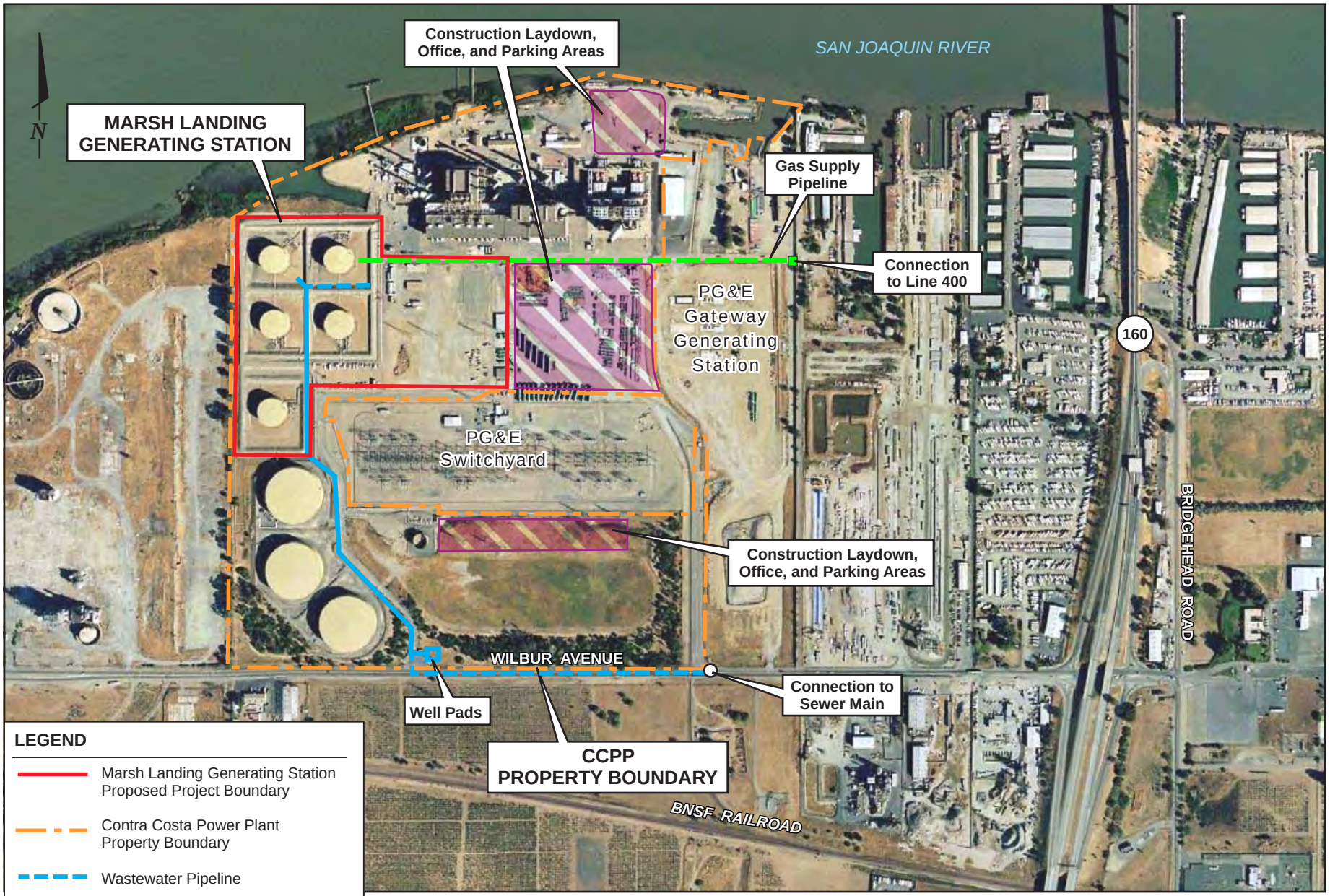
PROJECT LOCATION MAP

Marsh Landing Generating Station
June 2010 Mirant Marsh Landing, LLC
28067344 Contra Costa County, California

URS

FIGURE 1-1

6/01/10 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\Evidentiary Hearing\Fig 1-1_proj loc map.ai



Source of Aerial:
Google Earth 2006

0 500 1,000
Approximate Scale in Feet

SITE PLAN

Marsh Landing Generating Station
Mirant Marsh Landing, LLC
Contra Costa County, California

June 2010
28067344

URS

FIGURE 1-2

6/01/10 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\Evidentiary Hearing\Fig 1-2_site plan.ai

VIEW OF EXISTING CCPP FACILITY AND GATEWAY GENERATING STATION

Marsh Landing Generating Station
June 2010 — Mirant Marsh Landing, LLC
28067344 — Contra Costa County, California

URS

FIGURE 1-3

6/01/10 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\Evidentiary Hearing\Fig 1-3_Existing CCPP.ai

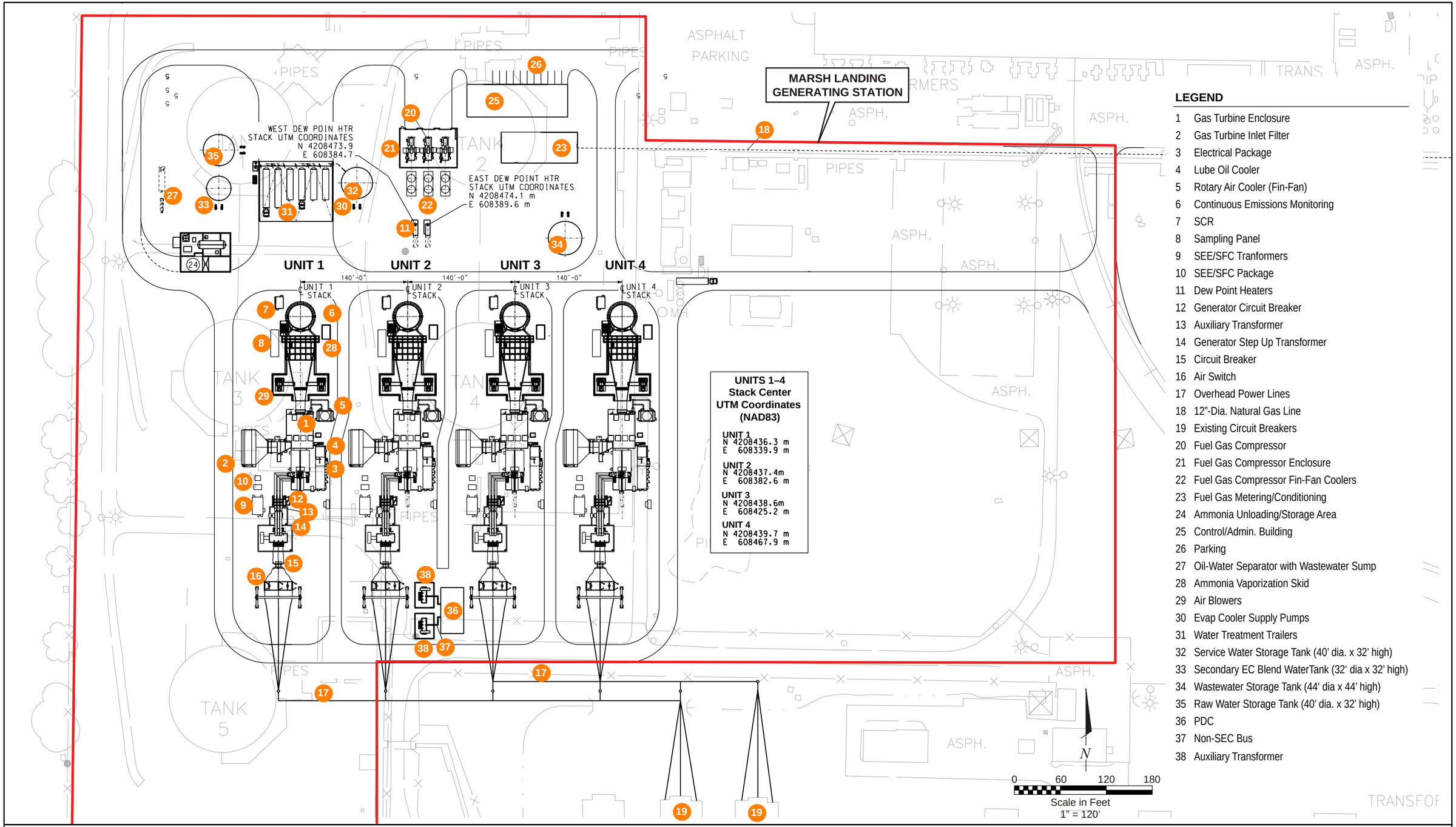
SIMULATION WITH PROPOSED PROJECT

Marsh Landing Generating Station
June 2010 — Mirant Marsh Landing, LLC
28067344 — Contra Costa County, California

URS

FIGURE 1-4

6/01/10 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\Evidentiary Hearing\Fig 1-4_sim proposed proj.ai



LEGEND

1 Gas Turbine Enclosure
2 Gas Turbine Inlet Filter
3 Electrical Package
4 Lube Oil Cooler
5 Rotary Air Cooler (Fin-Fan)
6 Continuous Emissions Monitoring
7 SCR
8 Sampling Panel
9 SEE/SFC Tranformers
10 SEE/SFC Package
11 Dew Point Heaters
12 Generator Circuit Breaker
13 Auxiliary Transformer
14 Generator Step Up Transformer
15 Circuit Breaker
16 Air Switch
17 Overhead Power Lines
18 12"-Dia. Natural Gas Line
19 Existing Circuit Breakers
20 Fuel Gas Compressor
21 Fuel Gas Compressor Enclosure
22 Fuel Gas Compressor Fin-Fan Coolers
23 Fuel Gas Metering/Conditioning
24 Ammonia Unloading/Storage Area
25 Control/Admin. Building
26 Parking
27 Oil-Water Separator with Wastewater Sump
28 Ammonia Vaporization Skid
29 Air Blowers
30 Evap Cooler Supply Pumps
31 Water Treatment Trailers
32 Service Water Storage Tank (40' dia. x 32' high)
33 Secondary EC Blend WaterTank (32' dia x 32' high)
34 Wastewater Storage Tank (44' dia x 44' high)
35 Raw Water Storage Tank (40' dia. x 32' high)
36 PDC
37 Non-SEC Bus
38 Auxiliary Transformer

Source:
CH2MHill Lockwood Greene; General Arrangement Marsh Landing Generating Station,
Siemens Simple Cycle SGT6-5000F Equipment Layout;
Drawing No: MR-GA-ML-01-26 (Rev. H, 08/27/09)

GENERAL PLOT PLAN

Marsh Landing Generating Station
June 2010 — Mirant Marsh Landing, LLC
28067344 — Contra Costa County, California

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FIGURE 1-5

6/02/10 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\Evidentiary Hearing\Fig 1-5_plotplan_H.ai

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS—PROJECT DESCRIPTION**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

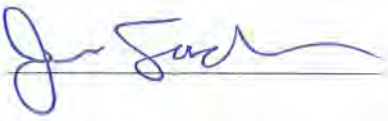
3. I supervised the preparation of the attached testimony on Project Description for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL—PROJECT DESCRIPTION**

I, Anne Connell, declare as follows:

1. I am presently employed by URS as the AFC Project Manager.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Project Description for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10

Signed: Anne C. Connell

At: San Francisco, CA

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

I. Introduction

A. Names: John Lague and Jonathan Sacks

B. Qualifications:

John Lague- Mr. Lague serves as the lead air quality consultant in support of the Application for Certification to the California Energy Commission and the air quality permit application to the Bay Area Air Quality Management District for the Marsh Landing Generating Station. Throughout his career, Mr. Lague has been primarily involved in permitting and compliance work for industrial and public facilities in the US and abroad. The principal elements of most permitting and compliance efforts have typically included: development of permitting strategies consistent with client objectives and regulatory constraints, negotiations with responsible regulatory agencies, participation in project design to identify opportunities to minimize pollutant emissions, preparation of permit applications and supporting technical materials, operation of pre-construction and post- permit monitoring and compliance programs, and presentation of expert witness testimony at hearings, workshops, legal proceedings and public information meetings. Since 1997, he has completed numerous projects to quantify greenhouse gas emissions from power generation and petroleum industry facilities. A more detailed description of the qualifications of Mr. Lague is provided in Appendix A.

Jonathan Sacks – Mr. Sacks is sponsoring the testimony regarding ammonia slip, and the testimony explaining that the Marsh Landing Generating Station will be an independent, stand alone facility that is separate from the existing Contra Costa Power Plant. Mr. Sacks is the Director of Business Development and Transactions at Mirant Corporation and the Project Director for the MLGS project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.1, pp. 7.1-1 through 7.1-75 and Appendix J (Exhibits 1(g)(1) and 1(s)(1)-(3)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed

September 18, 2008, Section 7.1, pp. 7.1-1 through 7.1-75 and Appendix J (Exhibits 7(g)(1) and 7(s)(1)-(5)).

- Exhibit 8- Mirant Marsh Landing, LLC's Notice Re Request for Additional Time to Respond to Staff Data Requests Set 1 (Nos. 1– 54), dated December 02, 2008, and docketed December 02, 2008, Response 8 (Exhibit 8(a)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 1-9, pp. 1-1 through 9-5; Appendix A (Exhibits 9(a), 9(k)(1)-(3)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.1, pp. 3-1 through 3-10; Appendices J3 and O2 (Exhibits 20(c)(1), 20(f), 20(g)).
- Exhibit 30- Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 70 - 98), dated February 2010, and docketed February 11, 2010, Responses 70-76, pp. 70-1 through 76-1 (Exhibit 30(a)).
- Exhibit 37- Mirant Marsh Landing, LLC's Comments on Preliminary Determination of Compliance for the Marsh Landing Generating Station, dated April 29, 2010, and docketed April 29, 2010.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.1-1 through 4.1-83 and associated Attachments (Exhibits 39(c), 39(x)(1) and 39(x)(2)(i)-(iv)).
- Exhibit 40- Mirant Marsh Landing, LLC's Responses to Public Comments Received Regarding Preliminary Determination of Compliance for the Marsh Landing Generating Station, docketed June 4, 2010.
- Exhibit 100- Letter from the Bay Area Air Quality Management District (B. Lusher) to URS (M. Strehlow), Assigning an Application Number to Marsh Landing Generating Station and Confirming the Completeness of Application, dated June 30, 2008, and docketed June 30, 2008.
- Exhibit 106- Bay Area Air Quality Management District Preliminary Determination of Compliance, dated March 2010, and docketed March 24, 2010.
- Exhibit 107- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) re Comments Regarding Staff Assessment, dated May 25, 2010, and docketed May 25, 2010.
- Exhibit 108- Letter from United States Environmental Protection Agency (G. Rios) to the BAAQMD (B. Bateman) Confirming that Marsh Landing Generating Station and Contra Costa Power Plant Should be Treated as Separate Facilities For Purposes of PSD Permitting, dated June 7, 2010.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing), Energy Commission Staff (Staff), and the Bay Area Air Quality Management District (BAAQMD) concludes that the Marsh Landing Generating Station (MLGS) will not have a significant adverse impact on air quality and will comply with all applicable federal, state and BAAQMD air quality laws, ordinances, regulations, and standards. The applicant will provide offsets as required by Staff and BAAQMD. These offsets are local as they were generated primarily by facilities located immediately adjacent to the MLGS site.

As presented in the Preliminary Determination of Compliance (PDOC) for the MLGS (Exhibit 106), the BAAQMD conducted an extensive analysis of Best Available Control Technology (BACT) for the MLGS, consistent with BAAQMD rules. The BAAQMD concluded that the MLGS will meet applicable BACT limits for all pollutants. Staff also concluded that the MLGS will comply with New Source Review and BACT requirements. (Revised Staff Assessment, p. 4.1-1.) During the public comment period on the PDOC, questions were raised regarding the designation of 9.0 pounds pr hour as the limit for the project's emissions of PM-10. The BAAQMD clearly explained that the emissions limit of 9.0 pounds per hour for PM-10 would be more stringent than any other PM emissions limitation achieved in practice by any other similar gas fired simple-cycle combustion turbine. (See Exhibit 106, p. 40.)

The MLGS is not required to obtain a federal Prevention of Significant Deterioration (PSD) permit because the MLGS is not a "major source" as defined by 40 Code of Federal Regulations (CFR) 52.21(b)(1)(i)(a), or a "major modification" of a major source. Because the MLGS will be a minor source, the federal Non-Attainment New Source Review requirements of 40 CFR 51 Appendix S also do not apply.

The BAAQMD and Staff agree with this determination, as reflected in the PDOC and the Revised Staff Assessment. Based on consideration of a number of source-specific factors and relevant guidance and precedent of the U.S. Environmental Protection Agency (U.S. EPA), the MLGS is being permitted by the BAAQMD as a new facility separate from the existing Contra Costa Power Plant (CCPP). The MLGS will be located on a site that will be adjacent to the site of the existing CCPP, which is owned and operated by Mirant Delta, LLC (Mirant Delta). Mirant Marsh Landing and Mirant Delta are owned, directly and indirectly, respectively, by Mirant Americas, Inc., and then by the ultimate parent company, Mirant Corporation. However, Mirant Marsh Landing and Mirant Delta each have independent finances, independent contractual obligations, and independent operations. CCPP and MLGS will at all times be operated separately from each other. MLGS will have its own natural gas supply line and metering station, its own electrical interconnection, its own control room, its own water supply

and wastewater discharge connection, and its own independent contractual arrangements covering the sale of its power output.

As a new stationary source that is separate from the CCPP, the MLGS is subject to the default 250-ton-per-year (tpy) PSD major source threshold because it consists of four gas-fired simple cycle gas turbines without an accompanying steam cycle, and therefore is not a "fossil-fuel–fired steam electric plant." MLGS emissions will not exceed 250 tpy of any regulated air pollutant and will be less than 100 tpy during commercial operation. Therefore, MLGS will not be a "major source" as defined by 40 CFR 52.21(b)(1)(i)(a), and does not require a PSD permit. Consistent with the PSD analysis, MLGS also will not be a major source under Appendix S because its emissions of particulate matter less than or equal to 2.5 microns in diameter (PM2.5) will be under 100 tpy. Therefore, MLGS will not require a permit pursuant to Appendix S. This conclusion applies regardless of MLGS' major source status for other nonattainment pollutants.

Mirant Marsh Landing provided detailed support for this determination in a November 2009 White Paper on PSD/New Source Review Applicability that is accessible on the BAAQMD's website at http://www.baaqmd.gov/~/media/0C526206853B46CB83B47846FBBBC3DA.ashx. Additional support appears in Mirant Marsh Landing's response to Staff Data Request 70 (Exhibit 30(a)) and its responses to comments on the PDOC (Exhibit 40). The U.S. EPA has confirmed that it is reasonable to treat the MLGS and the nearby CCPP as separate facilities for purposes of PSD permitting. (Exhibit 108.) The U.S. EPA provided this determination after reviewing comments on the PDOC. (Id.)

III. Updated Construction Emissions

The AFC included an estimate of construction emissions associated with the MLGS. The September 2009 amendment to the AFC (AFC Amendment) stated that the changes to the project's design (as reflected in that amendment) will not result in an increase in the area of disturbance, change the location of construction equipment, or increase the expected amount or duration of construction equipment usage that was originally proposed in the AFC. In fact, the amount and usage of construction equipment will be less than originally proposed. Therefore, while the construction emissions calculated and modeled in the AFC Section 7.1.2 characterized the potential air quality impacts during construction for the modified project, these impacts were overestimated.

In response to a request from Staff at the May 4, 2010 workshop, Mirant Marsh Landing updated the project's estimated construction emissions for NOx to reflect: (1) changes in construction equipment and duration as presented in the AFC Amendment; and (2) implementation of Tier III emission factors for all off-road diesel combustion engines over 50 horsepower (HP), as required by a Condition of Certification in the draft Staff Assessment (and also included in the Revised Staff Assessment).

Changes to the MLGS as presented in the AFC Amendment include:

- Revised number of construction staff laborers (average passenger vehicle miles and emissions reduced by 30 percent annually compared to AFC analysis) per AFC Amendment Revised Tables 2.7-1a and b;

- Revised construction equipment list (equipment inventory reduced by 43 percent compared to AFC analysis) per AFC Amendment Revised Table 2.7-3;
- The size of the cranes' horsepower increased and there is no longer a M2250 500 HP Crawler Crane proposed;
- A 250 HP Well Drilling Rig was added; and
- The overall construction period was changed to 27 months instead of 33 months.

The revised estimated emissions for NO_2 during construction are summarized in Table 1 and as follows:

- NOx emissions were reduced by 49 percent for the worst month (from 3.69 tons to 1.89 tons).
- For a 22-day work month, the daily maximum NOx emissions for the worst day were reduced by 49 percent (from 335.45 lb to 163.64 lb).
- NOx emissions were reduced by 51 percent for the worst year (from 28.65 tons to 14.51 tons).

Table 1: Estimated Maximum NOx Construction Emissions

	AFC Table 7.1-10 NO2 Emissions (tons)	Revised NO2 Emissions (tons)
Month	3.69	1.89
Annual	28.7	14.51

Staff references these reductions in the Revised Staff Assessment and concludes that "the revised estimates show that construction-phase emissions of NOx and NO_2 impacts may be conservatively over-stated here by as much as a factor of two when compared with the estimates presented in the AFC." Staff finds that "because the new federal one-hour NO_2 standard depends on multi-year averaging of impacts and backgrounds, and because the predicted NO_2 impacts from short-term construction emissions would be lower than those conservatively shown here, Staff expects no new violation of the federal one-hour NO2 standard." (Revised Staff Assessment, p. 4.1-24.)

IV. Ammonia Slip

In the PDOC, the BAAQMD imposed a requirement that ammonia emission concentrations at each exhaust point (*i.e.*, ammonia slip) not exceed 10 ppmv, on a dry basis, corrected to 15% O2, averaged over any rolling 3-hour period. This requirement reflects the ammonia slip limit that the MLGS will be able to achieve and is supported by contractor and vendor guarantees for this technology. The requirement is incorporated into the Revised Staff Assessment as BAAQMD's proposed Condition of Certification AQ-17(e).

In its April 26, 2010 Staff Assessment (Staff Assessment), Staff initially proposed an additional Condition of Certification specifying that the project's selective catalytic reduction (SCR)

system catalyst shall be replaced, repaired, or otherwise reconditioned within 12 months if the ammonia slip exceeds 5 ppmvd @ 15% O2 over a 24-hour rolling average. Staff stated that this additional condition was intended to limit the project's ammonia slip emissions "to the extent feasible," and referenced ammonia slip limits described in a 1999 ARB document and imposed as a condition for the Orange Grove Energy Project (08-AFC-04, Final Commission Decision, April 2009). (See Staff Assessment, page 4.1-27.)

Mirant Marsh Landing explained that there is no evidence that an ammonia slip limit of 5 ppmvd has been demonstrated for frame-type turbines operating in simple cycle like those to be utilized at the MLGS. The 1999 ARB documents cited in the Staff Assessment contain vendor claims that applied to combined-cycle facilities. Those claims were not accompanied by any evidence that the 5 ppmvd limit has been achieved for frame-type turbines operating in simple cycle, or by enforceable guarantees for any specific project. Mirant Marsh Landing also confirmed that the vendor letters regarding ammonia slip that were included in the 1999 ARB report were written with respect to combined-cycle applications, as demonstrated by a May 4, 2010 letter from Peerless Manufacturing Company that was provided with Mirant Marsh Landing's comments on the Staff Assessment (Exhibit 39(x)(iii)) and the references to combined cycle facilities, technologies and equipment in the other vendor letters attached to the 1999 ARB report. The ammonia slip limit imposed on the Orange Grove Energy Project also is not applicable to MLGS because it was imposed for aero-derivative turbines. Technical differences between these two technologies, particularly their relative exhaust temperatures and exhaust flow volumes, create different challenges for reducing ammonia slip limits while simultaneously meeting very stringent limits on NOx emissions.

In its PDOC, the BAAQMD concluded that ammonia emissions from MLGS will be significantly below the health risk factors based on an ammonia slip of 10 ppmvd. The ammonia emissions used by BAAQMD in its assessment of the increased health risk to the public resulting from the project assumed a worst-case ammonia emission concentration of 10 ppmvd @15% O2 from the simple-cycle gas turbines SCR systems. The results of the health risk assessment presented in the PDOC found a maximum increased cancer risk of 0.03 in one million for the maximally exposed individual near the facility, which is considered less than significant because it is less than the 1.0 in one million significance threshold. The highest chronic non-cancer hazard index for the project is 0.003 and the highest acute non-cancer hazard index for the project is 0.3. These non-cancer risks also are less than significant because they are less than the 1.0 threshold.

Attempting to reduce ammonia slip from 10 ppmvd to 5 ppmvd would require significant additional capital and operational costs, as well as substantial (and at this time unquantified) additional vendor costs to provide the necessary system guarantees to achieve a 5 ppmvd limit. Capital cost increases are primarily associated with upgrading the catalyst and the ammonia distribution system. For operational costs, reducing the amount of allowable slip would require a larger volume of catalyst and more frequent catalyst replacement. Based on discussions with vendors, the MLGS would likely require one or two additional catalyst changes over the life of the project (*i.e.*, from approximately six catalyst replacements to seven or eight changes over 30 years of operation). The lower ammonia slip level would likely reduce the volume of ammonia required each year for SCR operation such that the annual cost for ammonia would decrease by an estimated $20,000. The total estimated incremental capital and incremental operational cost

of a 5 ppmvd ammonia slip limit as opposed to a 10 ppmvd ammonia slip limit would be on the order of $40,000 to $95,000 per ton of ammonia reduction (net present value at a discount rate of 10% and assuming a 30-year project life with 0 to 2 additional catalyst changes). As discussed further below, there also would be substantial additional and as yet unquantified guarantee/risk dollars to the EPC contractor and selected SCR vendor.

Ammonia is not regulated as a criteria pollutant subject to the same BACT requirements that criteria pollutants such as NOx and carbon monoxide are, and therefore the BAAQMD has not established standard cost effectiveness thresholds for reduction of ammonia emissions. For order-of-magnitude comparison purposes, the BACT cost effectiveness threshold for NOx is $24,000 per ton. The estimated costs for the reduction in ammonia slip to a 5 ppmvd level for the MLGS would be substantially greater than the thresholds for any of the criteria pollutants. This demonstrates that a 5 ppmvd limit is not justified for the MLGS project.

This additional $40,000 to $95,000 per ton cost also does not capture the incremental risk and associated risk premium costs that the project would incur to attempt to meet a 5 ppmvd ammonia slip limit. The EPC contractor and its SCR vendors are not currently able to guarantee that the MLGS will meet the 5 ppmvd limit, as explained in the letter from Kiewit that is provided in Exhibit 39(x)(iii). Any such guarantee (which is not available at this time) would necessitate a substantial (and currently unquantified) price increase to the current EPC contract. That price increase would further increase the dollar-per-ton costs above, likely by a very substantial amount.

Costs aside, because a guarantee is not currently available, imposing a limit of 5 ppmvd would significantly impair project viability. If the project cannot obtain a sufficient guarantee for the limit from its EPC contractor, then imposing the limit in a permit condition would dramatically impair, and likely preclude, project financing, which would terminate the project. Even if the project could survive with this limit, it is important to note that the additional required catalyst to support a 5 ppmv ammonia slip limit would increase unit back pressure, which would decrease the output and increase the unit heat rate. This would directly increase greenhouse gas (GHG) emissions by the units and decrease the available energy to serve load. These additional impacts further increase the dollar-per-ton costs of compliance indicated above and further demonstrate that any marginal benefit associated with the reduction of ammonia slip is not justified.

For these reasons, Staff removed the proposed condition regarding an ammonia slip limit of 5 ppmvd, and it does not appear in the Revised Staff Assessment. Staff explains “based on the information gathered during review of this case and consistent with most other simple-cycle power plants reviewed by the Energy Commission, Staff recommends that the project be required to achieve 10 ppmvd ammonia slip, which is reflected in the Bay Area Air Quality Management District’s determination of compliance.” (Revised Staff Assessment, p. 4.1-27.)

Mirant Marsh Landing has agreed, however, to the language in Condition of Certification AQ-17(e), which specifies that the Air Pollution Control Officer (APCO) may require the installation on one exhaust point of a continuous emissions monitor (CEM) if the APCO determines that a commercially available CEM has been proven to be accurate and reliable and that an adequate Quality Assurance/ Quality Control protocol for the CEM has been established.

This condition also will be included in the BAAQMD's Final Determination of Compliance (FDOC).

V. Greenhouse Gas Emissions

The MLGS will help reduce electricity system-wide GHG emissions because it can be operated to maximize the system's use of renewable generation and it will displace less efficient aging power plants that currently are used to ensure local reliability. The benefits that the MLGS provides related to GHG emissions are described in the Revised Staff Assessment.

The MLGS offers unique operating characteristics that are ideally suited for integrating renewable generation such as wind and solar energy into California's energy supply. Increased reliance on renewable generation is the cornerstone of California's plan for reducing GHG emissions to the levels required by AB 32. To achieve those reductions while ensuring the reliable operation of the electric system, the State will require new flexible sources of electric capacity that can start up quickly and rapidly increase energy output as deliveries of intermittent renewable energy decline, and then rapidly decrease energy output as deliveries of intermittent renewable energy increase. The MLGS is ideally suited to provide these services. Each of the four MLGS turbines will be capable of starting up and reaching full load in approximately 12 minutes. The MLGS also will be capable of reaching 80 percent of its full load in 10 minutes (with the remainder to follow in the next 2 minutes).

With this fast start and rapid ramping capability, MLGS will be able to provide approximately 600 MW of non-spinning reserves to the CAISO, which is an ancillary service that is needed to integrate and backup intermittent renewable generation, among other purposes. MLGS also will have very short minimum operating times, which means that it can be started, operated for short periods of time, and then shut down to accommodate increased renewable generation resources as they become available. The units also have short minimum down times which means that they can be quickly re-started after a shut down as necessary. The capabilities allow the MLGS to be operated surgically to supply energy only when and in the increments needed. The MLGS thus can be operated to maximize the system's use of renewable generation resources, which will help reduce system-wide GHG emissions.

Because MLGS is designed to operate for peaking and renewable integration purposes, it is intended to operate at a low annual capacity factor, which causes its total annual GHG emissions to be lower than facilities that are designed to be baseload or intermediate energy resources. Due to its operating capabilities and expected use, the MLGS will have an annual capacity factor of no more than 20 percent. This means that the project's maximum annual GHG emissions will be no more than the 741,540 metric tons per year. This is 38 percent less than the project's total annual GHG emissions when it was proposed as a combined cycle facility, as shown in the original AFC in Table 7.1-20. (Exhibit 1(g)(1).)

Staff's analysis in the Revised Staff Assessment also concludes that MLGS will help reduce GHG emissions on a system-wide basis by displacing less efficient aging power plants that currently are used to ensure local reliability. The Revised Staff Analysis explains that the MLGS will be more efficient than these aging units and is likely to displace them, causing the aging

units to operate less and eventually retire. Staff concluded that this will contribute to an overall reduction of GHG emissions. (Revised Staff Assessment, p. 4.1-73.)

The Revised Staff Assessment also recognizes that operating MLGS instead of an aging plant can further reduce GHG emissions because, as explained above, MLGS has very fast start times and very short minimum operating times. (Id.) Aging steam boiler-type plants take much longer to start (typically 12 to 24 hours) and once started they typically must operate for at least 8 hours before shutting down. As a result, if an aging unit is needed to supply energy during a four hour period, it would need to operate for at least 20 hours total when start up and minimum operating times are considered. The unit obviously would have GHG emissions during that entire period. In contrast, MLGS could be used to supply energy during the same four hour period and would only need to operate for four hours, plus its ten to 12 minute start up time. Operating the MLGS in lieu of the aging units therefore will result in lower total GHG emissions to provide the same reliability service. This benefit results from the operating flexibility afforded by the MLGS, not solely from its relative efficiency.

VI. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Air Quality and Greenhouse Gas Emissions sections of the Revised Staff Assessment issued on June 10, 2010. The Air Quality section recommends the adoption of forty Conditions of Certification to comply with air quality permitting requirements that are expected to be included in the FDOC. These are identified as Conditions of Certification AQ-1 through AQ-40, of which AQ-1 through AQ-10 apply during the commissioning period and AQ-11 to AQ-40 apply after the commissioning period has ended. Staff also recommends the adoption of an additional nine Conditions of Certification that are identified as AQ-SC-1 through AQ-SC-9. Mirant Marsh Landing has no objections to any of these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JOHN LAGUE—AIR QUALITY AND GREENHOUSE GAS EMISSIONS**

I, John Lague, declare as follows:

1. I am presently employed by URS Corporation as a Senior Air Quality Consultant.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Air Quality and Greenhouse Gas Emissions for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 11, 2010

Signed: _____

At: San Diego, California

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS-AIR QUALITY AND GREENHOUSE GAS EMISSIONS**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Air Quality and Greenhouse Gas Emissions for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

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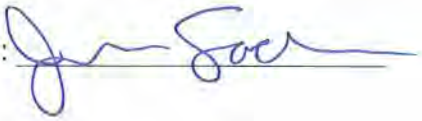
I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

BIOLOGICAL RESOURCES

I. Introduction

A. Names: Bill Martin, Katherine Caldwell, and Julie A. Mitchell

B. Qualifications:

Bill Martin- Mr. Martin is a biologist with over 20 years of experience in preparation of permit applications and environmental documents pursuant to the requirements of CEQA and NEPA. He has acted as principal author and managed multidisciplinary teams on environmental documents for both large and small projects. A more detailed description of the qualifications of Mr. Martin is provided in Appendix A.

Katherine Caldwell- Ms. Caldwell is a lead biologist working on permitting matters for the Marsh Landing Generating Station. She conducted animal and plant surveys of the power plant and surrounding areas, assessed vegetation communities, and authored the biology section of the Application for Certification. Ms. Caldwell is a biologist specializing in ecosystem ecology with specific applications to habitat evaluation, mitigation site development, and environmental permitting. At URS, she has written numerous environmental assessments and conducted both plant and animal surveys. She has been responsible for both writing permits and managing permitting compliance. As an on-site consultant for the California Department of Transportation, she has managed numerous large and small tasks and is responsible for scoping, budgeting, and managing road repair projects throughout the Bay Area. A more detailed description of the qualifications of Ms. Caldwell is provided in Appendix A.

Julie A. Mitchell- Ms. Mitchell is responsible for the nitrogen deposition analyses performed for the Marsh Landing Generating Station. She has worked in the air quality consulting field since 1994. Ms. Mitchell is responsible for technical oversight of air quality work which includes permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, and air quality and meteorological monitoring, primarily for industrial facilities in the US and abroad. Her technical specialties include operation and assessment of air dispersion models for air quality and health risk impact assessments, evaluation of greenhouse gas emissions, meteorological data analysis, and computer programming to process data or modify air dispersion models. A more detailed description of the qualifications of Ms. Mitchell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.2, pp. 7.2-1 through 7.2-54 and Appendix K (Exhibits 1(g)(2), 1(t)(1)-(3)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.2, 7.2-1 through 7.2-54 and Appendix K (Exhibits 7(g)(2), 7(t)(1)-(4)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 51-54, pp. 51-1 through 54-1 (Exhibit 9(j)).
- Exhibit 11- Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009, and docketed February 12, 2009, Responses 4 and 5, pp. 4-1 through 5-1 (Exhibit 11(c)).
- Exhibit 17- Mirant Marsh Landing, LLC's Request for Additional Time to Respond to Staff Data Requests Set 2 (Nos. 60 - 69) for the Marsh Landing Generating Station (Docket No. 08-AFC-3), dated May 14, 2009, and docketed May 14, 2009.
- Exhibit 18- Mirant Marsh Landing, LLC's Responses to Data Request Set 2 (Nos. 60 - 69), dated May 2009, and docketed May 21, 2009, Responses 60-63. 5/21/2009, pp. 60-63-1 through 60-63-2 (Exhibit 18(a)).
- Exhibit 19- Mirant Marsh Landing, LLC's Responses to Data Requests Set 2 (Nos. 60 - 63), dated June 2009, and docketed June 25, 2009, Responses 60-63, p. 60-1 through 63-1 (Exhibit 19(a)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.2, p. 3-31 (Exhibit 20(c)(2)).
- Exhibit 31- Mirant Marsh Landing, LLC's Responses to Data Request Set 3b: (Nos. 99 - 101), dated February 2010, and docketed February 23, 2010, Reponses 99-101, pp. 99-1 through 101-5 (Exhibit 31(a)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.2-1 through 4.2-32 and associated Attachments (Exhibits 39(d), 39(x)(1) and 39(x)(3)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station (MLGS) will not have a significant adverse impact on biological resources and will comply with all applicable laws, ordinances, regulations, and standards.

III. Nitrogen Deposition

In response to Energy Commission Staff (Staff) Data Requests 60-63 and 99-101 (Exhibits 19, 31), Mirant Marsh Landing provided calculations of the MLGS project's expected nitrogen deposition rates at the Antioch Dunes National Wildlife Refuge (ADNWR), located approximately 0.75 mile west of the MLGS project site. Following the May 4, 2010 workshop on the April 26, 2010 Staff Assessment (Staff Assessment), Mirant Marsh Landing recalculated the project's nitrogen deposition at the ADNWR. In Mirant Marsh Landing's previous response to Data Request 99, nitrogen deposition from MLGS at the ADNWR was estimated to be approximately 0.03 to 0.04 kg/ha/yr. Due to adjusted maximum annual NO_2 from revised startup emissions, the estimated nitrogen deposition from MLGS at the ADNWR has increased slightly to approximately 0.0307 to 0.0447 kg/ha/yr.

In the Revised Staff Assessment, Staff concludes that nitrogen deposition rates from the MLGS are likely to exacerbate the growth of noxious weeds at the ADNWR. Staff concludes that this effect could have an indirect effect on endangered plant and animal species at the ADNWR and therefore constitutes a significant impact. (See Revised Staff Assessment at 4.2-1, 4.2-16.)

We do not agree that nitrogen deposition from the MLGS will have a significant adverse impact on endangered species at ADNWR. Our analysis shows that the MLGS nitrogen deposition rates at ADNWR are extremely small (between 0.03 and 0.045 kg/ha/yr). A significant portion of these already minimal amounts will be mitigated by the offsets that Mirant Marsh Landing will surrender for the MLGS. Mirant Marsh Landing will provide NOx offsets (not just POCs) at a BAAQMD-mandated ratio of 1.15:1.0. These NOx offsets are local as they were generated primarily by facilities located immediately adjacent to the MLGS site. Any remaining nitrogen deposition will be mitigated by the scheduled retirement of CCPP units 6 and 7, which is not taken into account in Staff's analysis. For these reasons, the MLGS will not have a significant adverse impact on species at the ADNWR and no additional mitigation is needed.

We agree with Staff's conclusion that any small contribution to cumulative nitrogen deposition that may be associated with the MLGS emissions will not result in "harm" to or "take" of any federally-listed species for purposes of the federal Endangered Species Act (ESA), and that the MLGS will comply with the federal ESA. (Revised Staff Assessment, p. 4.2-18 through 4.2-19.) We also agree with Staff's conclusion that any small contribution to cumulative nitrogen deposition that may be associated with the MLGS emissions will not result in "take" of any state-listed species for purposes of the California Endangered Species Act (CESA), and that the MLGS will comply with CESA. (Id.)

Although we do not believe additional mitigation is necessary to mitigate project impacts, Mirant Marsh Landing has agreed voluntarily to make an annual contribution to support weed mitigation

efforts at ADNWR. This requirement is reflected in Staff's proposed Condition of Certification BIO- 8 in the Revised Staff Assessment. Mirant Marsh Landing has no objection to this Condition of Certification as it is currently written in the Revised Staff Assessment. The Revised Staff Assessment suggests that Staff may present a supplemental proposal at a later time. Mirant Marsh Landing would object to future changes that increase the annual payment specified in Condition of Certification BIO-8.

IV. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Biological Resources section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of eight Conditions of Certification that are identified as BIO-1 through BIO-8. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF BILL MARTIN—BIOLOGICAL RESOURCES**

I, Bill Martin, declare as follows:

1. I am presently employed by URS as a Project Biologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Biological Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10 Signed: Bill M

At: Oakland, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF KATHERINE CALDWELL— BIOLOGICAL RESOURCES**

I, Katherine Caldwell, declare as follows:

1. I am presently employed by URS as a Senior Biologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Biological Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10

Signed: 

At: Oakland, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JULIE A. MITCHELL—BIOLOGICAL RESOURCES**

I, Julie A. Mitchell, declare as follows:

1. I am presently employed by URS Corporation as an Air Quality Scientist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the nitrogen deposition analyses referenced in the testimony, and helped prepare the attached testimony on Biological Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: Jun 10/10 Signed: _____

At: San Diego, CA

CULTURAL RESOURCES

I. Introduction

A. Names: Mark Hale and Rebecca Meta Bunse

B. Qualifications:

Mark Hale- Mr. Hale is the senior project archeologist for the Marsh Landing Generating Station. He is responsible for directing and supervising cultural resources studies in northern California, other western states, and Pacific territories. Duties include report preparation, analysis, field supervision, construction monitoring, and proposal preparation. A more detailed description of the qualifications of Mr. Hale is provided in Appendix A.

Rebecca Meta Bunse- Ms. Bunse's experience at JRP encompasses many elements of cultural resources management and general historical research areas including: California Environmental Quality Act (CEQA) compliance technical reports, cultural resource management, land use, toxics, and water resource issues, as well as litigation and expert witness testimony. Her twenty years of experience includes various cultural resources management projects, extensive field recordation of historic properties throughout the state of California and other western states. A more detailed description of the qualifications of Ms. Bunse is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.3, pp. 7.3-1 through 7.3-24 and Appendix L (Exhibits 1(g)(3), 1(u)(1)-(3)).
- Exhibit 3- Mirant Marsh Landing, LLC's Request for Confidential Designation of Confidential Cultural Resources Reports Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 5, 2008, and docketed June 5, 2008 (references cultural resources report that was submitted under confidentiality protection and is not reproduced in the applicant's public exhibits).
- Exhibit 5- California Energy Commission's Grant of Confidential Designation of Confidential Cultural Resources Reports Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 27, 2008, and docketed June 27, 2008.
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.3, pp. 7.3-1 through 7.3-24 and Appendix L (Exhibits 7(g)(3), 7(u)(1)-(4)).

- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 10-13, pp. 10-1 through 13-1 (Exhibit 9(b)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.3, p. 3-31 (Exhibit 20(c)(3)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.3-1 through 4.3-32 (Exhibit 39(e)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will not have a significant adverse impact on cultural resources and will comply with all applicable laws, ordinances, regulations, and standards.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Cultural Resources section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of eight Conditions of Certification that are identified as CUL-1 through CUL-8. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF MARK HALE— CULTURAL RESOURCES**

I, Mark Hale, declare as follows:

1. I am presently employed by URS as a Project Archaeologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Cultural Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 06-09-10 Signed: _____

At: SAN FRANCISCO, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF REBECCA META BUNSE— CULTURAL RESOURCES**

I, Rebecca Meta Bunse, declare as follows:

1. I am presently employed by JRP Historical Consulting, LLC as a Partner.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Cultural Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 10, 2010

Signed: Rebecca M Bunse

At: Davis, CA

HAZARDOUS MATERIALS

I. Introduction

A. Name: John Lague

B. Qualifications:

John Lague- Mr. Lague serves as the lead air quality consultant in support of the Application for Certification to the California Energy Commission and the air quality permit application to the Bay Area Air Quality Management District for the Marsh Landing Generating Station. Throughout his career, Mr. Lague has been primarily involved in permitting and compliance work for industrial and public facilities in the US and abroad. The principal elements of most permitting and compliance efforts have typically included: development of permitting strategies consistent with client objectives and regulatory constraints, negotiations with responsible regulatory agencies, participation in project design to identify opportunities to minimize pollutant emissions, preparation of permit applications and supporting technical materials, operation of pre-construction and post- permit monitoring and compliance programs, and presentation of expert witness testimony at hearings, workshops, legal proceedings and public information meetings. Since 1997, he has completed numerous projects to quantify greenhouse gas emissions from power generation and petroleum industry facilities. A more detailed description of the qualifications of Mr. Lague is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.12, pp. 7.12-1 through 7.12-44 and Appendix Q (Exhibits 1(g)(12), 1(z)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.12, pp. 7.12-1 through 7.12-44 and Appendix Q (Exhibits 7(g)(12), 7(z)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Response 14 and 15, pp. 14-1 through 15-1 (Exhibit 9(c)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.12, p. 3-61 (Exhibit 20(c)(12)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.4-1 through 4.4-41 (Exhibit 39(f)).

- Exhibit 102- Letter from Contract Costa Health Services (D. Nixon) to CEC (M. Monasmith) re Comments on Marsh Landing Generating Station Application for Certification, dated July 2, 2008, Docketed July 2, 2008.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station (MLGS) will not present a significant impact to public health and will comply with all applicable laws, ordinances, regulations, and standards.

The MLGS will use aqueous ammonia (19%) to control oxides of nitrogen (NOx) emissions through selective catalytic reduction. The ammonia will be stored in one-20,000 gallon tank. Based on the information and analysis contained in the referenced Exhibits, the project's accident prevention and mitigation measures will reduce the risk associated with the transport, use and storage of hazardous materials.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Hazardous Materials section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of eight Conditions of Certification that are identified as HAZ-1 through HAZ-8. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JOHN LAGUE— HAZARDOUS MATERIALS**

I, John Lague, declare as follows:

1. I am presently employed by URS as a Senior Air Quality Consultant.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Hazardous Materials for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 11, 2010

Signed: John Lague

At: San Diego, California

LAND USE

I. Introduction

A. Names: Julie Bixby and Anne Connell

B. Qualifications:

Julie Bixby- Ms. Bixby is the Deputy Project Manager/Senior Environmental Planner for the Marsh Landing Generating Station. As Deputy Project Manager, she supported the preparation of an Application for Certification for MLGS, coordinated the technical team, and reviewed technical documents. Ms. Bixby has more than 10 years of professional experience in the environmental field, primarily managing projects in natural resource management, local planning and regulatory analysis. She has functioned as the project manager, assistant project manager, technical lead, and author of environmental documents prepared to meet the requirements of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), as well as the California Energy Commission Power Plant Siting Regulations. She has authored and contributed to a variety of technical documents, environmental impact documents, press releases, outreach materials and guidance documents including design and implementation of community outreach programs and public outreach efforts. She has designed and implemented local general plans as well as state and federal environmental policies and programs. A more detailed description of the qualifications of Ms. Bixby is provided in Appendix A.

Anne Connell- Ms. Connell is the Project Manager for the Marsh Landing Generating Station. Ms. Connell is an experienced project manager and engineer specializing in water quality and hydrology. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both NEPA and CEQA. A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.4, pp. 7.4-1 through 7.4-23 and Appendix M (Exhibits 1(g)(4), 1(v)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.4, pp. 7.4-1 through 7.4-23 and Appendix M (Exhibits 7(g)(4), 7(v)).

- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 16-22, pp. 16-1 through 22-1 and Appendix B (Exhibits 9(d), 9(l)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.4, p. 3-31 (Exhibit 20(c)(4)).
- Exhibit 33- Mirant Marsh Landing, LLC's Report of Conversation re Clarification of Land Use, Subdivision between URS (A. Connell) and Aspen Environmental Group (N. Vahidi), dated March 09, 2010, and docketed March 09, 2010.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.5-1 through 4.5-20 (Exhibit 39(g)).
- Exhibit 101- Letter from City of Antioch (V. Carniglia) to CEC (M. Monasmith) re Preliminary Review of Marsh Landing Generating Station Application for Certification, dated July 2, 2008, and docketed July 2, 2008.
- Exhibit 104- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) Conceptually Supporting the Proposed Marsh Landing Generating Station Power Plant, and Notifying the Adoption of A Resolution Authorizing an Annexation Agreement with Mirant and Another Resolution to Enter into a Project Agreement with MLGS, dated November 30, 2009, and docketed November 30, 2009.
- Exhibit 107- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) re Comments Regarding Staff Assessment, dated May 25, 2010, and docketed May 25, 2010.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by the Mirant Marsh Landing, LLC and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station (MLGS) will be consistent with all applicable laws, ordinances, regulations, and standards pertaining to state and local land use planning, and will be compatible with existing permitted uses and the pattern of development in the project area.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Land Use section of the Revised Staff Assessment issued on June 10, 2010. It does not require any specific land use conditions because the land use impacts of the MLGS are less than significant. We agree with this conclusion.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JULIE BIXBY—LAND USE**

I, Julie Bixby, declare as follows:

1. I am presently employed by URS as the Deputy Project Manager/Senior Environmental Planner.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Land Use for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL—LAND USE**

I, Anne Connell, declare as follows:

1. I am presently employed by URS as the AFC Project Manager.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Land Use for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10

Signed: Anne C. Connell

At: San Francisco, CA

NOISE AND VIBRATION

I. Introduction

A. Name: Ronald E. Reeves

B. Qualifications:

Ronald E. Reeves- Mr. Reeves has over nineteen years of combined transportation and industrial noise control experience. Included in this experience are numerous airport, power generation facility, and transportation-related community noise exposure studies including the development of noise exposure contours utilizing the Federal Aviation Administration's (FAA) Integrated Noise Model, the U.S. Air Force's NOISEMAP aircraft noise modeling software, Federal Highway Administration's Traffic Noise Model and CADNA/A® modeling software. Mr. Reeves has managed all facets of these studies including the design and conduct of noise measurement surveys, operational data analysis, spatial data analysis, aircraft ground maintenance run-up analysis, airspace implications on community noise exposure, design of aircraft noise mitigation measures and computer model validation. A more detailed description of the qualifications of Mr. Reeves is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.5, pp. 7.5-1 through 7.5-24 and Appendix N (Exhibits 1(g)(5), 1(w)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.5, pp. 7.5-1 through 7.5-24 and Appendix N (Exhibits 7(g)(5), 7(w)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Response 52 (Exhibit 9(j)).
- Exhibit 11- Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009, and docketed February 12, 2009, Response 4 (Exhibit 11(c)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.5, pp. 3-31 through 3-33 (Exhibit 20(c)(5)).

- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.6-1 through 4.6-25 (Exhibit 39(h)).
- Exhibit 104- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) Conceptually Supporting the Proposed Marsh Landing Generating Station Power Plant, and Notifying the Adoption of A Resolution Authorizing an Annexation Agreement with Mirant and Another Resolution to Enter into a Project Agreement with MLGS, dated November 30, 2009, and docketed November 30, 2009.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards and would produce no significant adverse noise impacts within the affected area that will not be adequately mitigated.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Noise and Vibration section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of six Conditions of Certification that are identified as NOISE-1 through NOISE-6. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF RONALD E. REEVES— NOISE AND VIBRATION**

I, Ronald. E. Reeves, declare as follows:

1. I am presently employed by URS as Senior Project Scientist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Noise and Vibration for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10 Signed: Ronald E. Reeves

At: Santa Ana, CA

PUBLIC HEALTH

I. Introduction

A. Name: Julie A. Mitchell

B. Qualifications:

Julie A. Mitchell- Ms. Mitchell has worked in the air quality consulting field since 1994. Ms. Mitchell is responsible for technical oversight of air quality work which includes permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, and air quality and meteorological monitoring, primarily for industrial facilities in the US and abroad. Her technical specialties include operation and assessment of air dispersion models for air quality and health risk impact assessments, evaluation of greenhouse gas emissions, meteorological data analysis, and computer programming to process data or modify air dispersion models. A more detailed description of the qualifications of Ms. Mitchell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.6, pp. 7.6-1 through 7.6-20 and Appendix O (Exhibits 1(g)(6), 1(x)(1)-(2)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.6, pp. 7.6-1 through 7.6-20 and Appendix O (Exhibits 7(g)(6), 7(x)(1)-(2)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.6, pp. 3-34 through 3-40 (Exhibit 20(c)(6)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.7-1 through 4.7-14 (Exhibit 39(i)).
- Exhibit 40- Mirant Marsh Landing, LLC's Responses to Public Comments Received Regarding Preliminary Determination of Compliance for the Marsh Landing Generating Station, docketed June 4, 2010.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Assessment of Potential Impacts

The analysis presented in the referenced Exhibits established that heath risk values associated with the Marsh Landing Generating Station (MLGS) are significantly below their respective levels of significance as established by Energy Commission Staff (Staff) and the Bay Area Air Quality Management District (BAAQMD). Because the potential impacts would be at insignificant levels, there would be no environmental justice issues resulting from the MLGS project.

Although the BAAQMD's rules do not require an environmental justice analysis, and the BAAQMD is not subject to Executive Order 12898 or Government Code Section 65040.12, the BAAQMD conducted an environmental justice analysis that was presented in Section 9.5 of the Preliminary Determination of Compliance for the MLGS (PDOC). BAAQMD concluded that:

> The emissions from the proposed project will not cause or contribute to any significant public health impacts in the community. As described in detail above, the District has undertaken a detailed review of the potential public health impacts of the emissions authorized under the proposed permitting action, and has found that they will involve no significant public health risks….The District does not anticipate an adverse impact on any community due to air emissions from the Marsh Landing [project] and therefore there is no disparate adverse impact on any Environmental Justice community located near the facility.

Staff also conducted a thorough environmental justice analysis, as documented in the Revised Staff Assessment and supported by Exhibit 1, Sections 7.6 and 7.8, and Exhibit 20, Section 3.6. Both the Revised Staff Assessment and the PDOC include detailed analyses of direct, indirect and cumulative impacts of criteria pollutants and pollutants that could be characterized as potential human carcinogens, or associated with other types of adverse health affects. The cumulative impacts analysis for criteria pollutants considered a wide range of existing and proposed development projects in the vicinity of the MLGS.

Both the BAAQMD's and Staff's analyses determined that the potential direct, indirect and cumulative impacts from the MLGS would be well below the significance criteria for pollutants that could cause public health risks, as follows:

- Cancer Risk – MLGS risk would be 0.03 in one million; the threshold of significance is 1.0 in one million;
- Chronic Non-Cancer Hazard Index – MLGS risk would be 0.003; the threshold is 1.0; and
- Acute Non-Cancer Hazard Index – MLGS risk would be 0.3; the threshold is 1.0.

Because there is no significant minority population in the project area that could be disproportionately affected and project impacts would be well below significance thresholds for public health impacts, the MLGS would not result in disproportionately high adverse affects on

environmental justice populations. These considerations have been adequately assessed by the BAAQMD in the issuance of the PDOC and by Staff in the Revised Staff Assessment.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Public Health section of the Revised Staff Assessment issued on June 10, 2010. It does not require any specific public health conditions beyond those proposed by Mirant Marsh Landing because the health impacts of the proposed MLGS are less than significant. I agree with this conclusion.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JULIE A. MITCHELL— PUBLIC HEALTH**

I, Julie A. Mitchell, declare as follows:

1. I am presently employed by URS as an Air Quality Scientist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

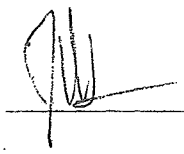
3. I helped prepare the attached testimony on Public Health for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: Jun 10/10

Signed: 

At: San Diego, CA

SOCIOECONOMIC RESOURCES

I. Introduction

A. Name: Marvin Feldman and Anne Connell

B. Qualifications:

Marvin Feldman- Mr. Feldman has been the Principal of Resource Decisions since 1988. Mr. Feldman supervised preparation of socioeconomic section of the Application for Certification for Marsh Landing Generating Station. A more detailed description of the qualifications of Mr. Feldman is provided in Appendix A.

Anne Connell- Ms. Connell is the Project Manager for the Marsh Landing Generating Station. Ms. Connell is an experienced project manager and engineer specializing in water quality and hydrology. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.8, pp. 7.8-1 through 7.8-38 (Exhibit 1(g)(8)).
- Exhibit 2- Mirant Marsh Landing, LLC's Confirmation of the Type of Employees Employed During Operations, dated June 05, 2008, and docketed June 05, 2008.
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.8, pp. 7.8-1 through 7.8-38 (Exhibit 7(g)(8)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 23-26 (Exhibit 9(e)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.8, p. 3-41 (Exhibit 20(c)(8)).
- Exhibit 21- Mirant Marsh Landing, LLC's Additional Socioeconomics Information for the Marsh Landing Generating Station Application for

Certification Amendment, dated September 21, 2009, and docketed September 21, 2009.

- Exhibit 23- Mirant Marsh Landing, LLC's Clarification Regarding September 17, 2009 Application for Certification Supplement Socioeconomics Section, dated September 28, 2009, and docketed September 28, 2009.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.8-1 through 4.8-15 (Exhibit 39(j)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Analysis of Potential Impacts

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will not cause any significant adverse socioeconomic impacts.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Socioeconomic Resources section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of one Condition of Certification identified as SOCIO-1. Mirant Marsh Landing has no objection to this Condition of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	DOCKET NO. 08-AFC-03
Application for Certification for the Marsh Landing Generating Station	DECLARATION OF MARVIN FELDMAN— SOCIOECONOMIC RESOURCES

I, Marvin Feldman, declare as follows:

1. I am presently a Principal of Resource Decisions.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

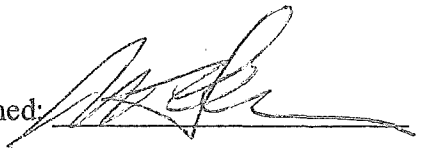
3. I supervised preparation of the attached testimony on Socioeconomic Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/10

Signed: 

At: Captain Cook, HI

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL— SOCIOECONOMIC RESOURCES**

I, Anne Connell, declare as follows:

1. I am presently employed by URS as the AFC Project Manager.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I supervised preparation of the attached testimony on Socioeconomic Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/10 Signed: Anne C. Connell

At: San Francisco, CA

SOIL AND WATER RESOURCES

I. Introduction

A. Names: Anne Connell, Jack Wittman, Rhett Moore, and Chuck Hicklin

B. Qualifications:

Anne Connell- Ms. Connell is the Project Manager and technical lead for water resources for the Marsh Landing Generating Station. Ms. Connell is an experienced project manager and engineer specializing in water quality and hydrology. She is a professional civil engineer in California specializing in hydrology and water resources. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

Jack Wittman- Dr. Wittman is sponsoring the report provided as Appendix I to the September 2009 Amendment to the Application for Certification (Exhibit 20(e)), and the associated workshop presentation (Exhibit 25) and responses to Staff Data Requests (Exhibits 30(b), Responses 85 through 87). Dr. Wittman is a nationally recognized groundwater scientist and watershed hydrologist. For the past 25 years, Dr. Wittman has been applying hydrologic data and models to scientific and public policy problems. His research has focused on using hydrologic models to protect community drinking water supplies. Dr. Wittman has helped hundreds of community water supply systems evaluate and protect their source of supply. He has published many research reports, technical guidance documents and journal articles and has advised Federal, State, Tribal, and local governments, as well as the largest water utilities in the world. He has been asked to consult with utility regulators and managers to explain risks of contamination. Dr. Wittman is registered as a Certified Ground Water Professional (CGWP) by the National Groundwater Association (NGWA) and has been appointed by the Indiana governor to the State Water Shortage Task Force. He is on the ASTM Committee D18 on Soil and Rock, NGWA's certification committee, the AWWA Research Foundation technical review committee, and is a member of the American Water Works Association's Water Utility Council. A more detailed description of the qualifications of Dr. Wittman is provided in Appendix A.

Rhett Moore- Mr. Moore is sponsoring the report provided as Appendix I to the September 2009 Amendment to the Application for Certification (Exhibit 20(e)), and the associated workshop presentation (Exhibit 25) and responses to Staff Data Requests (Exhibits 30(b), Responses 85 through 87). Mr. Moore is a professional hydrologist with 20 years of experience in hydrologic investigations for resource assessments, water-supply development and planning, and wellfield design and

optimization. He has planned and managed large and small-scale hydrologic field monitoring investigations, installed monitoring networks, and collected thousands of water-quality samples. He has validated and managed large water-quality datasets for RCRA programs and assessed the quality of receiving waters for NPDES purposes. He is also a licensed water-well driller and has used that expertise in groundwater resource assessments. He applies analytical and numerical models with his field expertise to solve groundwater and surface water problems. He has used groundwater flow models for projects involving water-supply management and development and surface water models for TMDL development. He has also performed aquifer tests, supervised well installations, and collected and evaluated hydrologic data from operating well fields to assess system performance. A more detailed description of the qualifications of Mr. Moore is provided in Appendix A.

Chuck Hicklin- Mr. Hicklin is a Project Manager in the Operations Department at Mirant Corporation and the Project Manager for the Marsh Landing Generating Station. He helped to prepare responses to Staff Data Requests on water resources (Exhibits 30(b)). Mr. Hicklin is a registered professional Mechanical Engineer in the State of California, and he has extensive experience in project management and engineering for a wide variety of power plant projects. A more detailed description of the qualifications of Mr. Hicklin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Sections 6.0, 7.9 and 7.14, pp. 6-1 through 6-3; 7.9-1 through 7.9-10; 7.14-1 through 7.14.26 and Appendices F, G, and I (Exhibits 1(f), 1(g)(9), 1(g)(14), 1(o), 1(p), 1(r)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Sections 6.0, 7.9 and 7.14, pp. 6-1 through 6-3; 7.9-1 through 7.9-10; 7.14-1 through 7.14.26 and Appendices F, G, and I (Exhibits 7(f), 7(g)(9), 7(g)(14), 7(o), 7(p), 7(r)).
- Exhibit 8- Mirant Marsh Landing, LLC's Notice Re Request for Additional Time to Respond to Staff Data Requests Set 1 (Nos. 1– 54), dated December 02, 2008, and docketed December 02, 2008, Response 31 (Exhibit 8(b)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 27-36, pp. 27-1 through 36-1; Appendix C (Exhibits 9(f), 9(m)).
- Exhibit 11- Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009, and docketed February 12, 2009, Response 1, p. 1-1 through 1-12 and Appendix A (Exhibits 11(a), 11(e)(1)-(3)).

- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Sections 2.2, 3.9 and 3.14; pp. 2-3 through 2-5; 3-42; 3-69 through 3-73; Appendix I (Exhibits 20(b), 20(c)(9), 20(c)(14), 20(e)).
- Exhibit 25- Marsh Landing Generating Station Aquifer Characterization and Groundwater Modeling (Presentation from Issues Resolution Workshop) by Rhett Moore and Jack Wittman, dated October 14, 2009, and docketed October 14, 2009.
- Exhibit 30- Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 70 - 98), dated February 2010, and docketed February 11, 2010, Responses 77-93, pp. 77-1 through 93-1 (Exhibit 30(b)).
- Exhibit 32- Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 82 and 83), dated February 2010, and docketed February 23, 2010, Responses 82 and 83, pp. 82-1 through 83-2, Appendices A, B and C (Exhibits 32(a)-(d)) .
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.9-1 through 4.9-29 (Exhibits 39(k), 39(x)(4)).
- Exhibit 101- Letter from City of Antioch (V. Carniglia) to CEC (M. Monasmith) re Preliminary Review of Marsh Landing Generating Station Application for Certification, dated July 2, 2008, and docketed July 2, 2008.
- Exhibit 104- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) Conceptually Supporting the Proposed Marsh Landing Generating Station Power Plant, and Notifying the Adoption of A Resolution Authorizing an Annexation Agreement with Mirant and Another Resolution to Enter into a Project Agreement with MLGS, dated November 30, 2009, and docketed November 30, 2009.
- Exhibit 105- Letter from the City of Antioch (R. Bernal) to Mirant Marsh Landing, LLC (J. Chillemi) re Use of Potable Water and Discharge of Process Wastewater from the Project, dated February 17, 2010, and docketed February 17, 2010.
- Exhibit 107- Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) re Comments Regarding Staff Assessment, dated May 25, 2010, and docketed May 25, 2010.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station (MLGS) will comply with all applicable laws, ordinances, regulations, and standards (LORS) and will not result in any significant adverse impacts to soil or water resources.

In the Soil and Water Resources section of the Revised Staff Assessment, Energy Commission Staff (Staff) states that it was not able to fully assess all potential impacts to soil and water resources due to the unknown extent of contaminated soil and possibly contaminated groundwater. In the same paragraph, however, Staff references the Waste Management analysis in the Revised Staff Assessment, and states "please see Waste Management section of this RSA and Waste-10 for additional information." (Revised Staff Assessment, p. 4.9-1.) In the Waste Management section of the Revised Staff Assessment, Staff confirms that the MLGS will comply with all applicable LORS and that all potential impacts will be adequately mitigated, explaining that:

> In regards to the existing soil and groundwater contamination on the site, staff issued a number of data requests that were satisfactorily completed by the applicant. The data was included in two reports issued by the applicant in January and February 2010. The former owner of the site, PG&E, is working with the Department of Toxic Substance Control to achieve regulatory closure for the project site. As such, additional investigations are ongoing to delineate the extent of constituents of concern that were identified in previous investigations to support a potential remedial plan for the site, as necessary. Staff proposes to include Condition of Certification WASTE-10, which requires all DTSC-ordered remedial work at the project site to be completed prior to the commencement of soil excavation or grading in those affected areas. This condition, along with staff's other proposed Conditions of Certification for Waste Management, ensures that the project complies with applicable LORS and also ensures that workers and the off-site public will be adequately protected during project construction. (Revised Staff Assessment, p. 4-13.1.)

Staff's analysis in the Waste Management section of the Revised Staff Assessment, and the inclusion of Condition of Certification WASTE-10, demonstrates that the MLGS will comply with all applicable LORS for both Soil and Water Resources and Waste Management.

III. Use of Water Supplied by the City of Antioch

DESCRIPTION OF PROJECT WATER USE FOR PROCESS NEEDS

The MLGS will be a natural gas-fired power plant with a nominal capacity rating of 760 MW. The MLGS will be a peaking facility consisting of four Siemens 5000F natural gas-fired combustion turbine generators (CTGs) operating in simple cycle mode. The MLGS will not

include a steam cycle and it will not utilize water for steam condensation purposes or as part of any process that uses water to reject power plant process heat or waste heat to the atmosphere.

In its original AFC, Mirant Marsh Landing proposed to construct a project consisting of two Siemens 5000F CTGs operating in simple cycle mode and two Siemens 5000F turbines operating in combined cycle mode in a configuration known as the Siemens Flex Plant 10 (FP10). Each of the proposed FP10 units included a steam cycle with a heat recovery steam generator (HRSG) that used an air-cooled heat exchanger (a form of dry cooling technology) as its heat rejection system.

The originally proposed project would have used approximately 736 acre-feet per year (AFY) of water for process water needs, excluding potable water use for personnel use (e.g., drinking water, showers, eye-wash stations and sanitary facilities). Most of this amount was required in the two FP10 units' steam cycle for power augmentation steam and HRSG blowdown, with other ancillary and miscellaneous uses (including the inlet air evaporative cooling system for all four CTGs) comprising the balance. The four CTGs of the MLGS as originally proposed, including the two CTGs operating in simple cycle mode, were each designed to utilize an inlet air evaporative cooling system. In that process, water is introduced into the ambient air at the turbine inlet. The water decreases the temperature of the ambient air (increasing its density) as it is drawn through the turbine, which enhances the turbine's power output and efficiency by increasing the mass flow through the turbine.

The September 2009 amendment to the AFC (AFC Amendment) reflects a change in the project design from two FP10s and two CTGs operating in simple cycle mode to four CTGs operating in simple cycle mode. This change in the project's design means that the project no longer includes the two HRSGs and the associated steam cycle. The original project would have had an average annual capacity factor of approximately 40 to 50 percent for the combined cycle units and 10 percent for the simple cycle units, whereas the entire project as amended will have a maximum annual capacity factor of 20 percent. Eliminating the steam cycle and reducing the annual operation significantly reduced the total quantity of water required for operation of the MLGS from 736 AFY to a maximum of 50 AFY. With the changes reflected in the AFC Amendment, the MLGS no longer uses water for the steam cycle (which has been eliminated from the project design) and only uses water for evaporative cooler makeup, service water, and water for combustion turbine washes.

In the AFC Amendment, Mirant Marsh Landing proposed to use brackish groundwater from two new wells to supply process water needs. The AFC Amendment included a water balance table showing that the MLGS would use no more than 50 AFY of brackish groundwater for the process uses specified above.

On November 30, 2009, the City of Antioch (City) submitted its comments on the AFC Amendment. The City stated that it would be willing and able to supply water to the MLGS for all purposes, including process needs. The City stated:

> In addition, the City of Antioch is able to supply water to the project as an alternative, primary source of water that could be utilized for all project purposes in lieu of onsite groundwater. The

> applicant's recent amendment to the AFC reflects project design changes that have reduced the project's water use to a maximum of 50 acre feet per year (AFY). The use of City of Antioch water as a primary source should be evaluated in the Staff Assessment as well as the provision of emergency water and sewer collection. (Exhibit 104.)

Mirant Marsh Landing subsequently addressed the City's offer in its responses to Staff's data requests and requested approval for the use of City-supplied water as an alternative, primary water supply for all project uses. In its response to Data Request 88, Mirant Marsh Landing explained:

> The City of Antioch (City) has stated that it will supply water to the project as an alternative, primary source of water that could be used for all project purposes in lieu of onsite groundwater. The water would be supplied through the potable water connection that is already contemplated in the AFC. The change to the project design that is reflected in the amendment reduces the project's water use to a maximum of 50 acre-feet per year (AFY). This relatively small maximum annual requirement could be supplied with City water without any adverse impacts to City water supplies or other users of City water. The source of City-supplied water is surface water of the Sacramento-San Joaquin Delta. As reported in the City's Urban Water Management Plan Update Report (City of Antioch, 2006), the City provides water service to approximately 100,000 customers whose collective water requirements amount to 7.1 billion gallons per year. With a maximum requirement of only 50 AFY, the MLGS would comprise less than 0.5 percent of the total annual water consumption by City users. Supplying the MLGS with City water would have a negligible increase in the City's total water service demand and would not result in any significant depletion or degradation of local water supplies. (Exhibit 30.)

Mirant Delta, LLC (Mirant Delta) also has conditionally agreed to shut down and retire the Contra Costa Power Plant (CCPP) at around the same time that the MLGS is scheduled to commence operations. The CCPP historically has used City water for various purposes, including for process water demands such as boiler makeup water and service water. While there are no limits on the CCPP's use of water, actual quantities of potable water used by CCPP 6 and 7 are:

2006	6,582,045 gallons (20 acre feet)
2007	6,494,940 gallons (20 acre feet)
2008	11,089,350 gallons (34 acre feet)
2009	10,029,450 (30.75 acre ft)

2010 (through 5/6/2010)	1,877,880 (5.75 acre ft)

This shows that the CCPP's actual total annual water use for process uses only (not including potable and sanitary uses) ranged from 20 AFY to 34 AFY during the years 2006 through 2009, or an average of approximately 26 AFY over those four years. When Mirant Delta retires the remaining units at CCPP, this use of City water for process purposes will be eliminated. Eliminating the CCPP's use of between 20 and 34 AFY of City water for process purposes will offset a substantial portion of the MLGS use of up to 50 AFY of City water. This further demonstrates that the MLGS use of City water as its primary source of process water will not create a significant impact.

To provide additional mitigation for any potential impacts on City water supplies, Mirant Marsh Landing has agreed to accept a Condition of Certification that requires Mirant Marsh Landing to fund specified water conservation measures if the MLGS uses City water as its primary source of process water. This Condition of Certification is included in the Revised Staff Assessment as SOIL & WATER-6.

MLGS USE OF CITY WATER IS CONSISTENT WITH STATE POLICY

Use by the MLGS of no more than 50 AFY of City water to meet its process needs complies with state policy on the use of fresh water for power plant cooling. The Commission's 2003 Integrated Energy Policy Report (IEPR) specifies that the Commission "will approve the use of fresh water for cooling purposes by power plants which it licenses only where alternative water supply sources and alternative cooling technologies are shown to be 'environmentally undesirable' or 'economically unsound.'" This policy is based on State Water Resources Control Board (Board) Resolution 75-58, which similarly states that "use of fresh inland waters for power plant cooling will be approved by the Board only when it is demonstrated that the use of other water supply sources or other methods of cooling would be environmentally undesirable or economically unsound."

The Commission policy and the Board policy on which it is based were designed to address the use of fresh water in power plant cooling processes that utilize substantial volumes of water to remove heat created by the electric generation process. The 2003 IEPR states that "because power plants have the potential to use substantial amounts of water for evaporative cooling, the Energy Commission has the responsibility to apply state water policy to minimize the use of fresh water, promote alternative cooling technologies, and minimize or avoid degradation of the quality of the state's water resources." The power plant technologies that utilize "substantial amounts of water for evaporative cooling" are those that use water in a steam cycle to condense steam back into water so it can be reused in the steam boiler. This technology is used in combined cycle power plants that utilize wet cooling towers as their heat rejection system. A wet cooling system evaporates large volumes of water to reject process-created heat as part of the condensation process. The 2003 IEPR recognizes this by noting that combined cycle power plants can reduce their use of fresh water for evaporative cooling purposes either by installing dry cooled systems or by using recycled water in their wet cooled systems, which are both means of rejecting power plant process generated heat.

Board Resolution 75-58 also focuses on the use of fresh water for evaporative cooling and defines "evaporative cooling facilities" as "evaporative towers, cooling ponds, or cooling canals, which utilize evaporation as a means of wasting rejected heat to the atmosphere." This is another reference to the cooling system utilized in combined cycle power plants to reject power plant process generated heat. The MLGS does not include any of these types of facilities.

The MLGS complies with the Commission and Board water policies because it will not use any water for the purpose of rejecting power plant process or waste heat to the atmosphere. As explained above, the MLGS does not have a steam turbine or the associated steam cycle, and therefore will not use water in a wet cooling system that condenses steam back into water. The MLGS will not otherwise use any water as a means of rejecting waste heat produced by power plant processes to the atmosphere.

The MLGS will use a small amount of water to reduce the temperature of the ambient air as it enters the CTGs to improve CTG power output and efficiency. However, this use complies with state water policy because it reflects a project design that minimizes the use of water. Other power plant technologies and designs use water in larger volumes than MLGS requires. As referenced above, a combined cycle facility using wet cooling towers will use large volumes of water to reject process heat and facilitate the condensation process. Some simple cycle plant designs also use water in larger volumes than MLGS, particularly those that use intercooler technology (such as the LMS 100) with wet cooling towers. The MLGS will use a smaller amount of water as compared with these alternative technologies, particularly when water use is evaluated as a function of total AFY of water required for each MW of total MLGS power plant capacity. In this respect, even if MLGS uses its maximum 50 AFY of water, it will use only 0.06 AFY of water for each MW of power plant capacity. This demonstrates that the MLGS use of water to cool ambient air reflects a project design that minimizes the use of water and complies with state water policy.

Compliance with state water policy is further demonstrated by Mirant's agreement to fund a water conservation program (WCP) that will help encourage conservation of City water supplies. This requirement is reflected in the Revised Staff Assessment as Condition of Certification SOIL & WATER-6. Staff agrees with these determinations, as reflected in the Soil and Water Resources section of the Revised Staff Assessment.

IV. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Soil and Water Resources section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of six Conditions of Certification identified as SOIL & WATER-1 through SOIL & WATER-6. Mirant Marsh Landing has no objection to the basic requirements reflected in these Conditions of Certification, but does have one requested language change to Condition of Certification SOIL & WATER-6, and one correction to the verification for Condition of Certification SOIL & WATER-4, as specified below.

Proposed Change to Condition of Certification SOIL & WATER-6:

In its analysis of potential impacts and compliance with LORS, Staff concludes that the project's use of a limited volume of fresh water supplied by the City of Antioch for process uses will not

result in any significant adverse environmental impacts and complies with Commission and Board water policies, consistent with the discussion provided in the testimony above. (See Revised Staff Assessment, pp. 4.9-19 through 4.9-20 ("the use of City water for MLGS process water needs would not create a significant impact on water supplies," and 4.9-23 through 4.9-24 ("the project does not use water for cooling purposes because it utilizes a project design that minimizes the use of water" and "the MLGS is proposing technologies that reduce water consumption which are consistent with state policies designed to conserve fresh water supplies").) Staff therefore concludes that the use of City of Antioch water as an alternative primary source of process water should be approved, and specifies that "prior to using City water as its primary supply of process water, the project owner would be required to submit documentation to the CPM explaining the selection of City water as the primary source, which may be based on technical feasibility and/or project economics." (Id., p. 4.9-19.)

The language in Condition of Certification SOIL & WATER-6 is not fully consistent with Staff's conclusions because it suggests that the project's use of City of Antioch water may not comply with Commission and Board policies absent a showing that the use of brackish groundwater is "environmentally undesirable" or "economically unsound." These statements should be modified to be consistent with Staff's analysis in the Revised Staff Assessment and with the testimony provided above, by making the following changes to SOIL & WATER-6 (changes shown in strikethrough and underlined text):

> SOIL & WATER-6: Prior to the use of groundwater or potable water for operation of the MLGS, the project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the volume of groundwater and potable water supplied to the MLGS. The metering devices shall be operational for the life of the project. An annual summary of daily water use by the MLGS, differentiating between groundwater, potable water, and recycled water (if applicable) shall be submitted to the CPM in the annual compliance report. Process water use shall not exceed 50 AFY from any source. Water supplied to MLGS shall be used for evaporative cooler makeup, service water, and water for combustion turbine washes and meet the following condition:
>
> The primary MLGS water source shall be brackish groundwater. Once annually, the project owner shall sample groundwater quality at both pumping wells. The project owner shall treat plant wastewater (effluent) to meet Delta Diablo Sanitation District's (DDSD's) discharge requirements or implement zero liquid discharge technologies to manage the plant's process wastewater. Laboratory test results from the groundwater quality sample and the effluent sample, shall be submitted to the CPM in the annual compliance report.
>
> Prior to installing a connection to the City of Antioch water supply system for an alternative source, the project owner shall provide

evidence to the CPM that City has agreed to supply emergency backup water to the project in sufficient quantities to meet the project's needs at a flow rate comparable with the flow rate provided by one on-site well. For the purpose of this condition, the term emergency shall mean the operation and/or emergency issues that arise with the two proposed wells or with mobile water filtration and ion exchange trailers, or the permanent water treatment plant. The City's supply must provide access to a quantity sufficient to meet MLGS demand due to Acts of God, natural disaster and other circumstances beyond the control of the project owner and it is necessary for the MLGS to continue to operate at peaking load capacity. Any connection to a water supply line shall be properly metered throughout the period of time of the emergency.

The project owner may provide evidence to the CPM that the water source described above is not feasible. **Such evidence may be based on technical feasibility and/or project economics.** ~~The use of brackish groundwater and ZLD technologies are consistent with the State Water Resources Control Board's Policy 75-58 and Energy Commission water policy. The project owner may provide evidence to the CPM that the use and disposal of brackish groundwater is "environmentally undesirable" or "economically unsound" and therefore not feasible for MLGS.~~ The project owner, at the recommendation of the CPM, shall identify a primary alternative water supply as described herein:

The primary alternative MLGS water source shall be City of Antioch fresh water supply. No more than 50 acre-feet of fresh water shall be supplied annually. The project owner shall pay a fee equal to no more than $1,000 per acre-foot of City of Antioch water consumed annually (potable water for personnel consumption, eyewash stations, showers, and sanitary needs not included) to City of Antioch's water conservation program to implement new water conservation measures. The water conservation program may change with CPM approval. A payment of $15,000 shall be made to the City to offset fresh water used for construction and initiate the water conservation program. Water conservation fees are not required for use of recycled water during construction or operation. The project owner shall maintain the facilities necessary to obtain brackish groundwater as a back up water supply. Brackish groundwater or recycled water (when feasible) may be used to supplement the fresh water sources.

Correction to Verification for Condition of Certification SOIL & WATER-4:

Staff's proposed Condition of Certification SOIL & WATER-4 requires the project owner to comply with the requirements of General NPDES Permit for Discharges of storm water associated with industrial activity, and requires the project owner to develop and implement a Storm Water Pollution Prevention Plan (Industrial SWPPP) for the operation of the MLGS that has been approved by the Compliance Project Manager (CPM). This accurately reflects requirements applicable to the MLGS. Mirant Marsh Landing will prepare an Industrial SWPPP for the MLGS in accordance with the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ), as stated in the Revised Staff Assessment at p. 4.9-15.

However, the verification for Condition of Certification SOIL & WATER-4 incorrectly references the Contra Costa Clean Water Program's municipal stormwater permit (cited as San Francisco Bay Regional Water Quality Control Board (RWQCB) Order No. R2-2003-0022), instead of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ). In addition, the reference to San Francisco RWQCB is incorrect as the MLGS falls within the jurisdiction of the Central Valley RWQCB. The verification for SOIL & WATER4 therefore should be modified as follows (changes shown in strikethrough and underlined text):

> **Verification:** Prior to commercial operation, the project owner shall submit to the CPM a copy of the industrial SWPPP prepared in accordance with ~~San Francisco Bay RWQCB Order No. R2-2003-0022~~ **General NPDES Permit for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ)**. The project owner shall submit copies to the CPM of all correspondence between the project owner and the ~~San Francisco Bay~~ **Central Valley** RWQCB regarding the Industrial SWPPP within 10 days of its receipt or submittal. This information shall include a copy of the Notice of Intent for compliance with the General NPDES permit for operation of the MLGS.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL— SOIL AND WATER RESOURCES**

I, Anne Connell, declare as follows:

1. I am presently employed by URS as the AFC Project Manager.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Soil and Water Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10

Signed: Anne C. Connell

At: San Francisco CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JACK WITTMAN—SOIL AND WATER RESOURCES**

I, Jack Wittman, declare as follows:

1. I am presently the National Director of Geosciences for Layne Christensen Company.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the report referenced in the attached testimony and helped prepare the rest of the attached testimony on Soil and Water Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6-14-10

Signed: Jack Wittman

At: 9:55 AM EDT
in Bloomington, IN

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF RHETT MOORE— SOIL AND WATER RESOURCES**

I, Rhett Moore, declare as follows:

1. I am presently employed by Layne Christensen Company as the Senior Hydrologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the report referenced in the attached testimony and helped prepare the rest of the attached testimony on Soil and Water Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/14/10

Signed: Rhett Moore

At: 0905 EST
in Bloomington, IN

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF CHUCK HICKLIN— SOIL AND WATER RESOURCES**

I, Chuck Hicklin, declare as follows:

1. I am presently employed by Mirant Corporation as the Project Manager, Operations Department, and I serve as the Project Manager for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Soil and Water Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010 Signed: Chuck Hicklin

At: San Francisco, CA

TRAFFIC AND TRANSPORTATION

I. Introduction

A. Name: Nayan Amin

B. Qualifications:

Nayan Amin- Mr. Amin was responsible for the traffic analysis and preparation of the Traffic and Transportation section of the Application for Certification for the Marsh Landing Generating Station. Mr. Amin has over 20 years of both public and private sector experience in the areas of transportation planning, traffic impact studies, transportation management plans, construction scheduling, construction area signs, signing and striping, traffic signal coordination, traffic operations, transit priority, traffic signal systems, freeway and arterial management studies, and intelligent transportation systems planning. A more detailed description of the qualifications of Mr. Amin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.10, pp. 7.10-1 through 7.10-25 and Appendix P (Exhibits 1(g)(10), 1(y)(1)-(7)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.10, pp. 7.10-1 through 7.10-25 and Appendix P (Exhibits 7(g)(10), 7(y)(1)-(7)).
- Exhibit 13- Mirant Marsh Landing, LLC's Letter from URS (A. Connell) to CEC (J. Adams) Re Accident Rate, dated February 23, 2009.
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.10, p. 3-42 (Exhibit 20(c)(10)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.10-1 through 4.10-14 ((Exhibit 39(l)).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Standards and Regulations

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards related to traffic and transportation and will not result in any significant adverse impact on local or regional roads and highways.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Traffic and Transportation section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of two Condition of Certification identified as TRANS-1 through TRANS-2. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF NAYAN AMIN— TRAFFIC AND TRANSPORTATION**

I, Nayan Amin, declare as follows:

1. I am presently employed by URS as a Traffic Analysis & Simulations.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Traffic and Transportation for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/14/2010

Signed: N Amin

At: San Jose, CA

TRANSMISSION LINE SAFETY AND NUISANCE

I. Introduction

A. Name: Tylen Larson and Peter Mackin

B. Qualifications:

Tylen Larson- Mr. Larson has worked in the electric utility industry since 1992 - specializing in both transmission system planning & operations engineering. He possesses extensive experience and a strong working knowledge of the analytic tools that support the system performance evaluation and capital planning processes used by electric utilities. In recent years as an Operations Engineering Manager at the California ISO, he has also mentored and coached other engineers in power engineering analysis. Mr. Larson joined Utility System Efficiencies, Inc. (USE) in July of 2005. A more detailed description of the qualifications of Mr. Larson is provided in Appendix A.

Peter Mackin- Mr. Mackin has over 28 years of power system planning and computer application development experience. In April of 2006, Mr. Mackin joined Utility System Efficiencies, Inc. (USE) as Vice President, Reliability Services and Principal Electrical Power Systems Analyst. A more detailed description of the qualifications of Mr. Mackin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Sections 4.0, pp. 4-1 through 4-6 and Appendix D (Exhibits 1(d), 1(m)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 4.1, pp. 4-1 through 4-6 and Appendix D (Exhibits 7(d), 7(m)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.1, pp. 2-1 through 2-3 (Exhibit 20(b)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.11-1 through 4.11-12 (Exhibit 39(m)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards related to transmission line safety and will not result in any significant adverse impacts in areas of transmission line safety and nuisance.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Transmission Line Safety and Nuisance section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of five Conditions of Certification identified as TLSN-1 through TLSN-5. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF TYLEN LARSON—TRANSMISSION LINE SAFETY AND NUISANCE**

I, Tylen Larson, declare as follows:

1. I am presently employed by USE as a Senior Power Systems Engineer.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Transmission Line Safety and Nuisance for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6-12-2010

Signed: 

At: 9:00 a.m. H. T.
in Maui, HI

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF PETER MACKIN—TRANSMISSION LINE SAFETY AND NUISANCE**

I, Peter Mackin, declare as follows:

1. I am presently employed by USE as a Vice President, Reliability Services & Principal Electrical Power Systems Analyst.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Transmission Line Safety and Nuisance for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/14/2010 Signed: R. Peter Mackin

At: Granite Bay, CA

VISUAL RESOURCES

I. Introduction

A. Names: Richard Stuhan and David Lawrence

B. Qualifications:

Richard Stuhan- Mr. Stuhan provided visual resource inventory and impact analysis in support of the Application for Certification for the Marsh Landing Generating Station. He was also responsible for documenting existing conditions, evaluating potential impacts, and coordinating photographic simulation production for the Visual Resources section of the AFC. Mr. Stuhan has 12 years of professional experience with private, municipal, and state agencies performing resource analysis and project management. He has performed various coordination and management tasks creating environmental compliance documentation at the local, state, and national levels. He has extensive project experience in visual impact modeling and view-shed analysis on both a local and regional scale in support of power generation permitting, electrical transmission line siting, and resource planning. He has performed visual resource studies in support of Environmental Impact Studies as well as other state or local regulations and policies including the states of California and Arizona. Additionally, Mr. Stuhan is a certified GIS professional with a broad background in GIS database development, analysis, and mapping. Prior to joining URS Mr. Stuhan worked for the City of Phoenix Water Department, and Northern Arizona University. A more detailed description of the qualifications of Mr. Stuhan is provided in Appendix A.

David Lawrence- Mr. Lawrence developed visual simulations that were submitted in connection with the Visual Resources section of the Application for Certification (Exhibits 1, 7). Mr. Lawrence has 16 years of experience using visual technologies to assist in the development, analysis, management, and communication of information. He is proficient in visual communication technologies, including photographic simulation, animation, three-dimensional (3D) modeling, computer-aided drafting (CAD), geographic information systems (GIS), video production, interactive multimedia, website development, audio recording, and database-driven application development. The visual simulations and multimedia products he has prepared on behalf of Fortune 500 companies and international corporations have been presented to federal, state, and local agencies throughout the western United States, Alaska, Mexico, and Canada. He has developed simulations in support of National Environmental Policy Act (NEPA) compliance documents, as well as projects utilizing the Bureau of Land Management's Visual Resource Management (VRM) system and the U.S. Forest Service's Visual Management System (VMS). He is experienced in working with the California Energy Commission relating to visual environmental compliance

policy. A more detailed description of the qualifications of Mr. Lawrence is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.11, pp. 7.11-1 through 7.11-39 (Exhibit 1(g)(11)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.11, pp. 7.11-1 through 7.11-39 (Exhibit 7(g)(11)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.11, pp. 3-42 through 3-60 (Exhibit 20(c)(11)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.12-1 through 4.12-32 (Exhibit 39(n)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards related to aesthetics or preservation and protection of sensitive visual resources.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Visual Resources section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of three Conditions of Certification identified as VIS-1 through VIS-3. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF RICHARD STUHAN-VISUAL RESOURCES**

I, Richard Stuhan, declare as follows:

1. I am presently employed by URS as a Visual Resources Lead.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

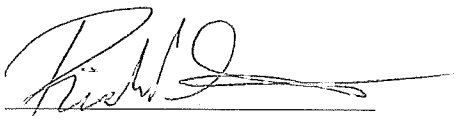
3. I helped prepare the attached testimony on Visual Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/2010

Signed: 

At: Phoenix, Az

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF DAVID LAWRENCE- VISUAL RESOURCES**

I, David Lawrence, declare as follows:

1. I am presently employed by URS as a Visual Simulation/Multimedia Specialist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Visual Resources for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/10

Signed: 

At: Phoenix AZ

WASTE MANAGEMENT

I. Introduction

A. Name: Erik Skov

B. Qualifications:

Erik Skov- Mr. Skov managed the data collection and preparation of the Waste Management section of the Application for Certification for the Marsh Landing Generating Station. Mr. Skov has more than 21 years of experience providing due diligence and hazardous waste management services, including subsurface investigations involving extensive soil and groundwater sampling, monitoring well design and installation, aquifer testing, data interpretation, reporting, and remedial action plan preparation and implementation. Additionally, he also provides support for California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) projects and CEQA equivalent AFC projects in the areas of hazardous materials, geology, and soils as well as participating in engineering geology studies, including siting investigations for hospitals, municipal landfills, and natural gas pipelines; and provides data input for slope stability investigations. A more detailed description of Mr. Skov's qualifications is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.13, pp. 7.13-1 through 7.13-18 and Appendix R (Exhibits 1(g)(13), 1(aa)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and II, dated September 15, 2008, and docketed September 18, 2008, Section 7.13, pp. 7.13-1 through 7.13-18 and Appendix R (Exhibits 7(g)(13), 7(aa)).
- Exhibit 8- Mirant Marsh Landing, LLC's Notice Re Request for Additional Time to Respond to Staff Data Requests Set 1 (Nos. 1– 54), dated December 02, 2008, and docketed December 02, 2008, Responses 48-49 (Exhibit 8(d)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Responses 46-49, pp. 46-1 through 49-1 (Exhibit 9(h)).
- Exhibit 10- Mirant Marsh Landing, LLC's Response to Staff's Issues Identification Report, dated December 15, 2008, and docketed December 15, 2008.
- Exhibit 11- Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009,

and docketed February 12, 2009, Responses 2 and 3, pp. 2-1 through 3-2 and Appendix B (Exhibits 11(b), 11(f)(1)).

- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.13, p. 3-69 (Exhibit 20(c)(13)).
- Exhibit 24- Marsh Landing Generating Station Letter from PG&E (D. Harnish) to Mirant (J. Sacks) re: Response to CEC Data Requests regarding Pre-Closing Remediation Conditions and Pre-Sale Contamination Condition, Mirant Marsh Landing Generating Station, Antioch, CA, dated October 13, 2009, and docketed October 13, 2009
- Exhibit 26- Marsh Landing Generating Station Work Plan for Soil & Groundwater Sampling and Focused Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated November 20, 2009, and docketed November 20, 2009.
- Exhibit 27- Mirant Marsh Landing, LLC's Clarification Regarding the Storage of Black Liquor, dated November 20, 2009.
- Exhibit 29- Marsh Landing Generating Station Focused Site Investigation Report and Human Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated January 15, 2010, and docketed January 15, 2010.
- Exhibit 30- Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 70 - 98), dated February 2010, and docketed February 11, 2010, Responses 94-98, pp. 94-1 through 98-1 (Exhibit 30(c)).
- Exhibit 34- Marsh Landing Generating Station Facility Investigation and Risk Assessment Work Plan prepared for PG&E by AMEC Geomatrix, dated March 17, 2010, and docketed March 17, 2010.
- Exhibit 36- Marsh Landing Generating Station Addendum to Facility Investigation and Risk Assessment Work Plan prepared for PG&E by AMEC Geomatrix, dated April 08, 2010, and docketed April 08, 2010.
- Exhibit 38- Marsh Landing Generating Station Work Plan Documents prepared for PG&E by AMEC Geomatrix dated May 2010, and docketed May 17, 2010.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.13-1 through 4.13-25 (Exhibit 39(o)).
- Exhibit 41- Marsh Landing Generating Station Investigation Report and Updated Human Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated June 15, 2010.
- Exhibit 103- Letter from the Department of Toxic Substances Control (J. Naito) to the CEC (M. Monasmith) Requesting to be Included on the Distribution List, dated March 02, 2009, and docketed March 02, 2009.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station (MLGS) will comply with all applicable laws, ordinances, regulations, and standards related to waste management and will not result in any significant adverse impacts that will not be adequately mitigated.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Waste Management section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of ten Conditions of Certification identified as WASTE-1 through WASTE-10. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ERIK SKOV-WASTE MANAGEMENT**

I, Erik Skov, declare as follows:

1. I am presently employed by URS as a Waste Management/Geologic Hazards and Resource task leader.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Waste Management for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/2010

Signed: Erik Skov

At: San Francisco, CA

WORKER SAFETY

I. Introduction

A. Name: Lisa Griggs

B. Qualifications:

Lisa Griggs- Ms. Griggs prepared the Worker Health and Safety section for the Application for Certification for the Marsh Landing Generating Station. Ms. Griggs has extensive experience in safety and environmental compliance assistance and auditing for a large variety of clients. Projects include environmental and safety program development, due diligence assessments, development of SPCC and SWPPP plans, ergonomic evaluations, environmental and safety compliance auditing, computer based training development, environmental and safety training, industrial hygiene services, job hazard analysis, environmental and safety project planning, support and oversight activities in many different settings. A more detailed description of the qualifications of Ms. Griggs is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 7.7, pp. 7.7-1 through 7.7-37 (Exhibit 1(g)(7)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 7.7, pp. 7.7-1 through 7.7-37 (Exhibit 7(g)(7)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Response 50, p. 50-1 (Exhibit 9(i)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.7, p. 3-41 (Exhibit 20(c)(7)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 4.14-1 through 4.14-17 (Exhibit 39(p)).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards related to worker safety.

III. Revised Staff Assessment and Proposed Licensing Conditions

I have reviewed the Worker Safety section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of five Conditions of Certification identified as WORKER SAFETY-1 through WORKER SAFETY-5. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF LISA GRIGGS-WORKER SAFETY**

I, Lisa Griggs, declare as follows:

1. I am presently employed by URS as a Senior Environmental Scientist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Worker Safety for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/14/10

Signed: Lisa Griggs

At: Guthrie OK

FACILITY DESIGN

I. Introduction

A. Names: Jonathan Sacks and Chuck Hicklin

B. Qualifications:

Jonathan Sacks is a Director of Business Development and Transactions at Mirant Corporation and the Project Director for the Marsh Landing Generating Station project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

Chuck Hicklin- Mr. Hicklin is a Project Manager in the Operations Department at Mirant Corporation and the Project Manager for the Marsh Landing Generating Station. Mr. Hicklin is a registered professional Mechanical Engineer in the State of California, and he has extensive experience in project management and engineering for a wide variety of power plant projects. A more detailed description of the qualifications of Mr. Hicklin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Sections 2.0 and 3.0; pp. 2-1 though 2-77; 3-1 through 3-2 and Appendices A through E and T (Exhibits 1(b), 1(c), 1(j)-(n), 1(cc)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, section 2.0 and 3.0; pp. 2-1 through 2-77, 3-1 through 3-2 and Appendices A through E and T (Exhibits 7(b), 7(c), 7(j)-(n), 7(cc)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.0, pp. 2-1 though 2-5 (Exhibit 20(b)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 5.1-1 through 5.1-20 (Exhibit 39(q)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Facility Design section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of twenty Conditions of Certification identified as GEN-1 through GEN-8, CIVIL-1 through CIVIL-4, STRUC-1 through STRUC-4, MECH-1 through MECH-3, and ELEC-1. Mirant Marsh Landing, LLC has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS-FACILITY DESIGN**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

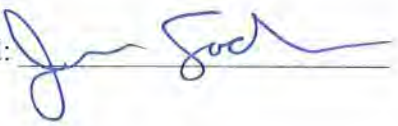
3. I helped prepare the attached testimony on Facility Design for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF CHUCK HICKLIN-FACILITY DESIGN**

I, Chuck Hicklin, declare as follows:

1. I am presently employed by Mirant Corporation as the Project Manager, Operations Department, and I serve as the Project Manager for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Facility Design for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010 Signed: Chuck Hicklin

At: San Francisco, CA

GEOLOGY AND PALEONTOLOGY

I. Introduction

A. Names: Raymond Rice and Joe Stewart

B. Qualifications:

Raymond Rice- Mr. Rice was responsible for soils, geology and seismicity portion of the Application for Certification for Marsh Landing Generating Station. Mr. Rice has more than 40 years of experience on engineering geology projects and geologic hazard evaluations involving siting studies; landslide investigations, including design and construction of corrective measures; fault hazard assessments; natural and cut slope stability; and construction considerations ranging from construction material availability and suitability to ease of excavation. His experience includes geologic hazards and soils analysis for Applications for Certification for several power plants in northern California. He has also worked on highways, tunnels, dams, high-rise structures, nuclear power plants, and other major engineering projects, including use of geophysical and remote sensing techniques. A more detailed description of the qualifications of Mr. Rice is provided in Appendix A.

Joe Stewart – Mr. Stewart directed paleontological resource assessment for the Marsh Landing Generating Station. Mr. Stewart is a vertebrate paleontologist with over 30 years of experience in paleontology and 24 years of experience in the geology and paleontology of California, particularly in Merced, Fresno, Kern, Santa Barbara, Los Angeles, Orange, Riverside, Imperial, and San Diego counties. Joe has been involved in the permitting or construction of six power plants. He directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project, and is managing the paleontological aspects of permitting for the Gateway West transmission line project in Idaho and Wyoming. He has worked with BLM staff in California, Nevada, Idaho, and Wyoming, and holds permits in those states. His publications include 30 peer-reviewed articles in books and journals. His research specialties are fossil fishes and Pleistocene vertebrate faunas. A more detailed description of the qualifications of Mr. Stewart is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Sections 7.15 and 7.16, pp. 7.15-1 through 7.15- 17; 7.16-1 through 7.16-13 and Appendix S (Exhibits 1(g)(15)-(16), 1(bb)).

- Exhibit 4- Mirant Marsh Landing, LLC's Request for Confidential Designation of Confidential Paleontological Resources Technical Report Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 5, 2008, and docketed June 5, 2008.
- Exhibit 6- California Energy Commission's Grant of Confidential Designation of Confidential Paleontological Report Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 27, 2008, and docketed June 27, 2008.
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Sections 7.15 and 7.16, pp. 7.15-1 through 7.15-17; 7.16-1 through 7.16-13 and Appendix S (Exhibits 7(g)(15), 7(g)(16), 7(bb)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 3.15 and 3.16, p. 3-74 (Exhibits 20(c)(15), 20(c)(16)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 5.2-1 through 5.2-27 (Exhibit 39(r)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that the Marsh Landing Generating Station will comply with all applicable laws, ordinances, regulations, and standards related to geological and paleontological resources, and will not result in any significant adverse impacts to such resources.

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Geology and Paleontology section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of eight Conditions of Certification that are identified as GEO-1 and PAL-1 through PAL-7. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF RAYMOND RICE-GEOLOGY AND PALEONTOLOGY**

I, Raymond Rice, declare as follows:

1. I am presently employed by URS as a Senior Geologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Geology and Paleontology for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/11/10

Signed: Raymond Rice

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JOE STEWART-GEOLOGY AND PALEONTOLOGY**

I, Joe Stewart, declare as follows:

1. I am presently employed by URS as a Principle Paleontologist.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Geology and Paleontology for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 11 June 2010

Signed: Joe D. Stewart

At: Pasadena, CA

POWER PLANT EFFICIENCY

I. Introduction

A. Names: Jonathan Sacks and Chuck Hicklin

B. Qualifications:

Jonathan Sacks- Mr. Sacks is a Director of Business Development and Transactions at Mirant Corporation and the Project Director for the Marsh Landing Generating Station project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

Chuck Hicklin- Mr. Hicklin is a Project Manager in the Operations Department at Mirant Corporation and the Project Manager for the Marsh Landing Generating Station. Mr. Hicklin is a registered professional Mechanical Engineer in the State of California, and he has extensive experience in project management and engineering for a wide variety of power plant projects. A more detailed description of the qualifications of Mr. Hicklin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 2.0, pp. 2-1 through 2-77 (Exhibit 1(b)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 2.1, pp. 2-1 through 2-77 (Exhibit 7(b)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.1, pp. 2-1 through 2-3 (Exhibit 20(b)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 5.3-1 through 5.3-6 (Exhibit 39(s)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Revised Staff Assessment and Proposed Licensing Conditions

In the Power Plant Efficiency section of the Revised Staff Assessment for the Marsh Landing Generating Station (MLGS), Energy Commission Staff (Staff) concludes that the MLGS presents no significant adverse impacts to energy supplies or resources. Staff therefore does not propose any conditions of certification in this topic area. We agree with these conclusions.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS-POWER PLANT EFFICIENCY**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

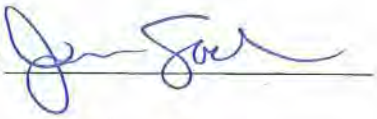
3. I helped prepare the attached testimony on Power Plant Efficiency for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF CHUCK HICKLIN-POWER PLANT EFFICIENCY**

I, Chuck Hicklin, declare as follows:

1. I am presently employed by Mirant Corporation as the Project Manager, Operations Department, and I serve as the Project Manager for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Power Plant Efficiency for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010 Signed: Chuck Hicklin

At: San Francisco, CA

POWER PLANT RELIABILITY

I. Introduction

A. Names: Jonathan Sacks and Chuck Hicklin

B. Qualifications:

Jonathan Sacks- Mr. Sacks is a Director of Business Development and Transactions at Mirant Corporation and the Project Director for the Marsh Landing Generating Station project. Mr. Sacks is a holder of the Chartered Financial Analyst designation and he has extensive experience in project development, finance, and merger and acquisition transactions involving power plant projects. A more detailed description of the qualifications of Mr. Sacks is provided in Appendix A.

Chuck Hicklin- Mr. Hicklin is a Project Manager in the Operations Department at Mirant Corporation and the Project Manager for the Marsh Landing Generating Station. Mr. Hicklin is a registered professional Mechanical Engineer in the State of California, and he has extensive experience in project management and engineering for a wide variety of power plant projects. A more detailed description of the qualifications of Mr. Hicklin is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 2.1, pp. 2-1 through 2-77 (Exhibit 1(b)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 2.1, pp. 2-1 through 2-77 (Exhibit 7(b)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.1, pp. 2-1 through 2-77 (Exhibit 20(b)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 5.4-1 through 5.4-7 (Exhibit 39(t)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Revised Staff Assessment and Proposed Licensing Conditions

In the Power Plant Reliability section of the Revised Staff Assessment for the Marsh Landing Generating Station (MLGS), Energy Commission Staff (Staff) concludes that the MLGS will be built and operated in a manner consistent with industry norms for reliable operation, and will provide an adequate level of reliability. Staff therefore does not propose any conditions of certification in this topic area. We agree with these conclusions.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF JONATHAN SACKS-POWER PLANT RELIABILITY**

I, Jonathan Sacks, declare as follows:

1. I am presently employed by Mirant Corporation as Director, Business Development and Transactions and I serve as the Project Director for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Power Plant Reliability for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010

Signed: 

At: San Francisco, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF CHUCK HICKLIN- POWER PLANT RELIABILITY**

I, Chuck Hicklin, declare as follows:

1. I am presently employed by Mirant Corporation as the Project Manager, Operations Department, and I serve as the Project Manager for the Marsh Landing Generating Station project.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Power Plant Reliability for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto..

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 14, 2010 Signed: Chuck Hicklin

At: San Francisco, CA

TRANSMISSION SYSTEM ENGINEERING

I. Introduction

A. Name: Tylen Larson, Peter Mackin, Anne Connell

B. Qualifications:

Tylen Larson- Mr. Larson has worked in the electric utility industry since 1992 - specializing in both transmission system planning & operations engineering. He possesses extensive experience and a strong working knowledge of the analytic tools that support the system performance evaluation and capital planning processes used by electric utilities. In recent years as an Operations Engineering Manager at the California ISO, he has also mentored and coached other engineers in power engineering analysis. Mr. Larson joined Utility System Efficiencies, Inc. (USE) in July of 2005. A more detailed description of the qualifications of Mr. Larson is provided in Appendix A.

Peter Mackin- Mr. Mackin has over 28 years of power system planning and computer application development experience. In April of 2006, Mr. Mackin joined Utility System Efficiencies, Inc. (USE) as Vice President, Reliability Services and Principal Electrical Power Systems Analyst. A more detailed description of the qualifications of Mr. Mackin is provided in Appendix A.

Anne Connell- Ms. Connell is sponsoring the report in Exhibit 9, Appendix D, which provides the environmental analysis for potential reconductoring projects identified in the applicant's System Impact Study before the applicant submitted its amended interconnection request. Ms. Connell is the Project Manager for the Marsh Landing Generating Station. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 4.0, pp. 4-1 through 4-6 and Appendix H (Exhibits 1(d), 1(q)(1)-(2)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 4.0, pp. 4-1 through 4-6 and Appendix H (Exhibits 7(d), 7(q)(1)-(3)).

- Exhibit 8- Mirant Marsh Landing, LLC's Notice Re Request for Additional Time to Respond to Staff Data Requests Set 1 (Nos. 1– 54), dated December 02, 2008, and docketed December 02, 2008, Response 37-45 (Exhibit 8(c)).
- Exhibit 9- Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008, Response 37-45 and Appendix D (Exhibits 9(g), 9(n)).
- Exhibit 10- Mirant Marsh Landing, LLC's Response to Staff's Issues Identification Report, dated December 15, 2008, and docketed December 15, 2008.
- Exhibit 11- Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009, and docketed February 12, 2009, Response 6, pp. 6-1 through 6-2 (Exhibit 11(d)).
- Exhibit 12- Mirant Marsh Landing, LLC's Responses to Data Requests 41 and 44: Updated Impact Study, dated February 2009, and docketed February 18, 2009, Responses 41 and 44, pp. 41-1 though 44-1 and Appendix A (Exhibits 12(a), 12(b)).
- Exhibit 14- Mirant Marsh Landing, LLC's Responses to Data Request 43: Updated System Impact Study - (Appendix 10), dated March 2009, and docketed March 05, 2009, Response 43 and Appendix 10 (Exhibits 14(a), 14(b)).
- Exhibit 15- Mirant Marsh Landing, LLC's Updated System Impact Study - Appendix 11 Results of 3 Phase Fault Duty Analysis, dated March 09, 2009, and docketed March 10, 2009.
- Exhibit 16- Mirant Marsh Landing, LLC's Updated System Impact Study - Appendix 10 A - Switching Files (*.swt) Used for Transient Stability Analysis, dated April 2009, and docketed April 28, 2009.
- Exhibit 17- Mirant Marsh Landing, LLC's Request for Additional Time to Respond to Staff Data Requests Set 2 (Nos. 60 - 69) for the Marsh Landing Generating Station (Docket No. 08-AFC-3), dated May 14, 2009, and docketed May 14, 2009.
- Exhibit 18- Mirant Marsh Landing, LLC's Responses to Data Request Set 2 (Nos. 60 - 69), dated May 2009, and docketed May 21, 2009, Responses 64-69, pp. 64-1 through 69-1 (Exhibit 18(b)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 2.1, pp. 2-1 through 2-3 (Exhibit 20(b)).
- Exhibit 22- CAISO Transition Cluster Group 1 Phase I Interconnection Study Reports (Marsh Landing Generating Station Combined Cycle Units and Simple Cycle Units), dated September 24, 2009, and docketed September 24, 2009.

- Exhibit 28- Mirant Marsh Landing, LLC's Revised LGIP Interconnection Request Submitted to CAISO on September 21st for the Currently Proposed MLGS Consisting of Four Simple Cycle Units, dated November 24, 2009, and docketed November 24, 2009.
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 5.5-1 through 5.5-20 (Exhibit 39(u)).

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Compliance with Laws, Ordinances, Regulations and Standards

The analysis completed by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and reflected in the Exhibits referenced above demonstrates that interconnection of the Marsh Landing Generating Station (MLGS) with the electricity transmission system will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to transmission system engineering. In the Revised Staff Assessment, Energy Commission Staff (Staff) confirms this assessment, and concludes that the interconnection facilities proposed for the MLGS, which consist of two 230-kV overhead generator transmission tie-lines and associated interconnection equipment that will connect with the existing Pacific Gas and Electric Company (PG&E) switchyard adjacent to the MLGS site, are adequate and in accordance with industry standards and good utility practices, and are acceptable to Staff in accordance with engineering LORS. (Revised Staff Assessment, p. 5.5-1.)

The MLGS will connect with the electricity transmission network owned by PG&E and operated by the California Independent System Operator (CAISO). Mirant Marsh Landing has applied for interconnection for the MLGS under the CAISO's Large Generator Interconnection Process (LGIP Process). In the CAISO's reformed LGIP Process, the CAISO is processing interconnection requests together in clusters or groups. The MLGS project is part of the Bay Area Transition Cluster (Group 1), which initially included twelve projects. The CAISO prepared a Phase I Interconnection Study and associated report that evaluated the addition of all Group 1 projects collectively (Phase I Study) and the resultant need for transmission network upgrades (see Exhibit 22). The CAISO's Phase I study considered the impacts of 4,707 MW of new generation in the Group 1 MLGS cluster, which included 1,087 MW of new capacity for MLGS.

Conditions have changed significantly since the Phase I Study was prepared. As a result, the Phase I Study reflects outdated information and does not accurately predict the potential impacts associated with the MLGS. After the Phase I Study was prepared, Mirant Marsh Landing modified the project design for the MLGS (reducing its total capacity) and revised its interconnection request to utilize transmission capacity currently assigned to the existing Contra Costa Power Plant (CCPP) owned by Mirant Delta, LLC (Mirant Delta). The CCPP units are

scheduled to retire after the end of the day on April 30, 2013, whereas the MLGS is scheduled to commence commercial operation in Summer 2013. These factors allowed Mirant Marsh Landing to amend its interconnection request to reduce the net increase in transmission network capacity required by MLGS to only 100 MW. This is a significant decrease from the original MLGS interconnection request, which asked the CAISO to consider the addition of 1,087 MW of new capacity. A number of Group 1 projects also have dropped out of the interconnection queue, further reducing the amount of new capacity to be added by the Group 1 projects collectively. Instead of 4,707 MW of new capacity as considered in the Phase I Study, the Group 1 projects now include only 1,159 MW of new capacity. The reliability impacts of 1,159 MW are expected to be smaller than the impacts of 4,707 MW.

The CAISO is now in the process of preparing a Phase II Interconnection Study for the Group 1 projects that was originally scheduled for release in October 2010, but that now may be released earlier, in July 2010. Once the Phase II Interconnection Study is complete, MLGS will progress through the LGIP Process and will not be allowed to interconnect with the CAISO transmission system without an executed Large Generator Interconnection Agreement (LGIA). In its capacity as the operator of the transmission system, the CAISO will not approve the MLGS interconnection or execute the LGIA until it has determined that the MLGS will comply with all applicable LORS in the area of transmission system engineering and that all potential impacts to the transmission system are adequately mitigated such that interconnection of the MLGS complies with all applicable reliability standards. The LGIA Process and the requirement for an executed LGIA thus ensures that interconnection of the MLGS will comply with all applicable reliability standards and transmission system engineering LORS.

Conformance with applicable transmission system engineering and reliability LORS is further assured by Staff's proposed Condition of Certification TSE-5, which requires the submittal of the Phase II Interconnection Study and the executed LGIA prior to the start of construction of the transmission facilities, and requires the project owner to ensure that the design, construction, and operation of the proposed transmission facilities conform to all applicable LORS.

Mirant Marsh Landing also commissioned its own System Impact Studies for the MLGS. To evaluate project-specific impacts, Mirant Marsh Landing submitted a System Impact Study on September 18, 2008 (Exhibit 7(q)(3)), and an Updated System Impact Study on February 18, 2009 (Exhibit 12). Mirant Marsh Landing consulted with Staff prior to conducting the study, and included specific projects in the analysis as directed by Staff for an estimated 2,778 MW of capacity. Mirant Marsh Landing also submitted several responses to Staff's questions regarding the project-specific System Impact Study (Exhibits 14, 15, 16, 9(n)).

III. Revised Staff Assessment and Proposed Licensing Conditions

We have reviewed the Transmission System Engineering section of the Revised Staff Assessment issued on June 10, 2010. It recommends the adoption of seven Conditions of Certification that are identified as TSE-1 through TSE-7. Mirant Marsh Landing has no objection to these Conditions of Certification.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF TYLEN LARSON—TRANSMISSION SYSTEM ENGINEERING**

I, Tylen Larson, declare as follows:

1. I am presently employed by USE as a Senior Power Systems Engineer.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Transmission System Engineering for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6-12-2010

Signed: 

At: 9:00 a.m. H.T.
in Maui, HI

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF PETER MACKIN—TRANSMISSION SYSTEM ENGINEERING**

I, Peter Mackin, declare as follows:

6. I am presently employed by USE as a Vice President, Reliability Services & Principal Electrical Power Systems Analyst.

7. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

8. I helped prepare the attached testimony on Transmission System Engineering for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

9. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

10. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/14/2010 Signed: R Peter Mackin

At: Granite Bay, CA

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL—TRANSMISSION SYSTEM ENGINEERING**

I, Anne Connell, declare as follows:

6. I am presently employed by URS as the AFC Project Manager.

7. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

8. I helped prepare the attached testimony on Transmission System Engineering for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

9. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

10. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10 Signed: Anne C. Connell

At: San Francisco, CA

ALTERNATIVES

I. Introduction

A. Name: Anne Connell

B. Qualifications:

Anne Connell- Ms. Connell is the Project Manager for the Marsh Landing Generating Station. Ms. Connell is an experienced project manager and engineer specializing in water quality and hydrology. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). A more detailed description of the qualifications of Ms. Connell is provided in Appendix A.

C. Prior Filings: In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:

- Exhibit 1- Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008, Section 8.0, pp. 8-1 through 8-10 (Exhibit 1(h)).
- Exhibit 7- Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008, Section 8.0, pp. 8-1 through 8-10 (Exhibit 7(h)).
- Exhibit 20- Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009, Section 1.0, pp. 1-1 through 1-3 (Exhibit 20(b)).
- Exhibit 39- Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010, pp. 6-1 through 6-13 (Exhibit 39(v)).

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Revised Staff Assessment and Conclusions and Recommendations.

In the Alternatives section of the Revised Staff Assessment for the Marsh Landing Generating Station (MLGS), Energy Commission Staff (Staff) notes that the MLGS will not result in any significant adverse impacts and that an analysis of alternative sites is not required by the Warren-Alquist Act. Staff nevertheless conducted an analysis of alternative sites and concluded that the alternative sites either have disadvantages, or offer no advantages, over the proposed MLGS site.

Staff also considered alternative technologies including renewable technologies, but concluded that they would not achieve project objectives and have operational constraints that limit their effectiveness in the project area. Staff also concluded that alternative configurations would be less dispatchable and less operationally flexible than the MLGS. Staff therefore does not recommend any alternative over the MLGS as proposed. I agree with these conclusions.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 08-AFC-03**
Application for Certification for the Marsh Landing Generating Station	**DECLARATION OF ANNE CONNELL—ALTERNATIVES**

I, Anne Connell, declare as follows:

1. I am presently employed by URS as the AFC Project Manager.

2. A copy of my professional qualifications and experience is included with the attached testimony and in Appendix A, and is incorporated by reference in this Declaration.

3. I helped prepare the attached testimony on Alternatives for the Marsh Landing Generating Station (California Energy Commission Docket Number 08-AFC-03).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to the issue(s) that it addresses.

5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6/10/10

Signed: Anne C. Connell

At: San Francisco, CA

APPENDIX A
WITNESS QUALIFICATIONS

Nayan Amin, T.E.

Traffic Analysis & Simulations

Overview

Mr. Amin has over 20 years of both public and private sector experience in the areas of transportation planning, traffic impact studies, transportation management plans, construction scheduling, construction area signs, signing and striping, traffic signal coordination, traffic operations, transit priority, traffic signal systems, freeway and arterial management studies, and intelligent transportation systems planning.,

Areas of Expertise

Traffic Signal Design
Traffic Operations
Transportation Planning
Intelligent Transportation System Planning
Design and Construction Oversight
Freeway and Arterial Management
Traffic Signal Systems
Signal Coordination
Signing and Striping
Traffic Control

Years of Experience

With URS: 6 Years
With Other Firms: 14 Years

Education

M.S./Civil Engineer/1998/San Jose State University
B.S./Civil Engineer/1990/Saurashtra University, India

Registration/Certification

2004/Professional Traffic Engineer/CA/TE2290

Project Specific Experience

Task Leader, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Responsible for the traffic analysis and preparation of the Traffic and Transportation section of the Application for Certification for the Marsh Landing Generating Station.

Task Leader, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Responsible for the traffic analysis and preparation of the Traffic and Transportation section of the Application for Certification for the Willow Pass Generating Station.

Task Leader, Southbound I-680 Smart Lane Project, Alameda County, California: Responsible for conducting traffic operational analysis for the first HOV/HOT Lane project in the State of California. The project converts the existing 22 kilometers southbound Interstate 680 HOV lane into a combined HOV/HOT lane from the State Route 84 interchange in the north to the Route 237 interchange in the south. The project included developing new traffic striping details for egress and ingress access points to the combined HOV/HOT lane, striping plans, signing plans, electronic tolling collection plans, design exception fact sheets, and transportation management plan. The project traffic operational analysis addressed existing, Year 2010 and Year 2025 conditions to analyze conversion of the existing HOV lane into a HOV/HOT Lane. Traffic operational analysis was completed utilizing VISSIM software. The operational analysis involved determination of acceleration and deceleration length between the HOV/HOT lane and mixed flow lanes, ingress and egress points and forecasting of future volumes.

Task Leader, Interstate 580 Eastbound Express Lanes Project, Alameda County, California: Responsible for conducting traffic operational analysis to evaluate the feasibility of the Express Lane, and preparation of Project Study Report/Project Report. The project proposes to convert the eastbound Interstate 580 HOV lane into a combined HOV/HOT lane from Interstate 680 in the west to Greenville Road interchange in the east. The project involved collection and review of the existing data, traffic analysis using micro-simulation model,

refinement of the study alternatives and preparation of a combined Project Study Report/Project Report, pivoting and balancing travel forecast data, traffic operational analysis, environmental clearance and PS&E. The project traffic operational analysis addressed existing, Year 2015 and Year 2030 conditions to analyze conversion of the existing HOV lane into a HOV/HOT Lane. Traffic operational analysis was completed utilizing VISSIM software.

Deputy Project Manager and Task Leader, Interstate 580 West Bound Express Lane Traffic and Revenue Study, Alameda, California: Responsible for the West Bound I-580 Express Lane Project Traffic and Revenue Study. The project converts the proposed West Bound HOV Lane to a HOT Lane and extends from Greenville to approximately Foot Hill Boulevard. The work includes identification of alternative project configurations (both operationally and physically) that will satisfy project goals. At a minimum, two HOV/HOT scenarios will be tested; the first would assume that all HOV 2s would travel for free and tolling SOVs, while the other would assume that only HOV 3+ would travel for free and tolling SOVs and HOV 2s. Evaluation of the proposed HOT lane requires modeling of traffic volumes, tolls and toll revenues associated with implementation and operation of the HOT lanes is also included.

Deputy Project Manager, I-580 Smart Corridor Project, Pleasanton, California: Managed and developed the deployment plan, PS&E for fiber optic communications, CCTV cameras, video detection camera, signal system upgrade, and traffic operations centers. He also provided construction oversight for the project.

Project Engineer, Various Traffic Signal Design, Various Locations, California: Designed several traffic signal projects for numerous jurisdictions throughout northern California. Activities involved preparing PS&E for traffic signal modifications, installation of new traffic signals and signal interconnect. Performed field investigations, project development and design modifications for traffic channelization and signage.

Task Leader, Route 4 HOV Widening Project, Contra Costa County, CA: Responsible for preparation of plans, specifications and estimates for signs for a HOV widening project in Contra Costa County. The project included freeway widening and reconstruction to widen to accommodate HOV lane as well as BART extension in the median of the freeway. Also responsible for preparation of traffic handling plans, transportation management plan, construction area signs, and detour plans

Julie Bixby

Senior Environmental Planner

Areas of Expertise

Local and State Environmental Planning
Natural Resources Management
Project Management
Strategic Planning
Policy Analysis

Years of Experience

With URS: 3 Years
With Other Firms: 8 Years

Education

MEERM/Earth and Environmental Resources Management/2001/ University of South Carolina
BS/Environmental Science/1996/State University of New York, Fredonia

Overview

Julie Bixby has more than 10 years of professional experience in the environmental field, primarily managing projects in natural resource management, local planning and regulatory analysis. She has functioned as the project manager, assistant project manager, technical lead, and author of environmental documents prepared to meet the requirements of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), as well as the California Energy Commission (CEC) Power Plant Siting Regulations. She has authored and contributed to a variety of technical documents, environmental impact documents, press releases, outreach materials and guidance documents including design and implementation of community outreach programs and public outreach efforts. She has designed and implemented local general plans as well as state and federal environmental policies and programs.

Project Specific Experience

Deputy Project Manager/Senior Environmental Planner, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: As Deputy Project Manager, supported the preparation of an Application for Certification for a new power generating facility near Antioch, CA. Coordinated the technical team, reviewed technical documents. Wrote the land use and soils analysis for the AFC and coordinated responses to California Energy Commission (CEC) and Bay Area Air Quality Management District (BAAQMD) requests for further information and analysis.

Senior Environmental Planner, Willow Pass Generating Station, Pittsburg, CA; Mirant Willow Pass, LLC: Assisting the project team, supported the preparation of an Application for Certification for a new power generating facility in Pittsburg, CA. Coordinated the technical team, reviewed technical documents.

Environmental Analyst, Offshore Natural Gas Drilling Analysis, State of Virginia. Functioned as staff to a legislative committee evaluating the potential of offshore natural gas drilling on the Outer Continental Shelf, offshore Virginia. This included an assessment of the potential natural gas resources, the anticipated impacts to coastal resources and coastal economies from exploration, drilling and production activities and a summary of the regulatory authorities that existed in the state to review such activities. The committee was charged with using this information to determine whether the state should lobby the federal government for exclusion from the offshore drilling moratorium.

Project Manager and Task Lead, Mirant On-call Environmental Services, San Francisco and Contra Costa Counties CA, Mirant Corporation:. Coordinated tasks for Mirant to update operations procedures and manuals for their facilities in California. Work included revisions to

emergency response and environmental management procedures and operations manauals.

Task Manager, Rehabilitation of Existing San Joaquin Pipelines San Francisco, CA, San Francisco Public Utilities Commission (SFPUC): Coordinated the project team on the environmental review process and preparation of environmental documentation for the Rehabilitation of the Existing San Joaquin Pipeline, which includes ongoing maintenance and repair activities along the 47.5 mile pipeline system. Work included preparation of six technical memorandums supporting the environmental analysis. Responsible for the scoping, budgeting, billing, reviewing technical sections and reports and preparation of CEQA documentation.

Senior Environmental Planner, San Joaquin Pipeline System Project Environmental Analysis Services, San Francisco, CA, San Francisco Public Utilities Commission (SFPUC): Working with the project team on the environmental review process and preparation of environmental documentation for the San Joaquin Pipeline System Project, which includes construction of a 11.5 miles of new pipeline and several supporting facilities to ensure the long-term reliability, operational flexibility, and redundancy of the City's water transmission system. Responsible for the preparation of the Project Variant Chapter, Alternatives Chapter and Energy Resources Section of the Environmental Impact Report, coordinating the project with the Water Supply Improvement Program EIR, and reviewing technical sections and reports.

Deputy Project Manager, Berkeley/Albany Ferry Terminal Study, Berkeley, CA, Water Emergency Transportation Authority (WETA): Working with WETA to prepare the responses to public comments on the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and the Final EIS/EIR. The Final EIS/EIR identifies the locally preferred alternative and updates the impact analysis based on completion of additional design. Coordinated with Bay Conservation and Development Commission (BCDC) to ensure project consistency with the Bay Plan.

REBECCA META BUNSE
Partner, JRP Historical Consulting, LLC

Ms. Bunse's experience at JRP encompasses many elements of cultural resources management and general historical research areas including: CEQA compliance technical reports, cultural resource management, land use, toxics, and water resource issues, as well as litigation and expert witness testimony. As a Partner with JRP she has served as a consulting historian, primary investigator, and staff manager, as well as continuing work in general research. Her twenty years of experience includes various cultural resources management projects, extensive field recordation of historic properties throughout the state of California and other western states. She has worked local, state, and federal government staff on various projects and has authored and contributed to numerous technical reports and compliance documents such as historic survey reports for both Section 106 of NEPA and CEQA compliance, as well as local ordinances. This work includes findings of effect, mitigation agreements, and HABS/HAER documentation. Based on her level of education and experience, Ms. Bunse qualifies as both an historian and architectural historian under the United States Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61).

Ms. Bunse joined JRP in 1990 after completing her BA in Women's Studies and Italian at the University of California, Davis. While at JRP, she earned her MA in History with an emphasis in Public History from California State University, Sacramento. She served eight years on the City of Woodland Historic Preservation Commission. Ms. Bunse is Vice President of the California Council for the Promotion of History (CCPH), Chairperson of the CCPH Mini-Grants Committee, and is registered professional historian (#566) with that organization. In addition, Ms. Bunse is a member of the Phi Alpha Theta, History Honor Society, Society of Architectural Historians, and the California Preservation Foundation.

Relevant Experience

Van Ness Trolley Poles, Inventory and Evaluation of municipal trolley poles as part of Van Ness Bus Rapid Transit Project. Prepared for San Francisco County Transportation Authority, under contract to Parsons, Inc. 2009–In Progress.

Van Ness Bus Rapid Transit Project, Historic Resources Inventory and Evaluation, Finding of Effect, and Memorandum of Agreement. Resources include historic district, historic infrastructure, and commercial buildings. Prepared for San Francisco County Transportation Authority, under contract to Parsons, Inc. 2008–In Progress.

Yerba Buena Island Ramp Improvement Project: Historical Resources Evaluation Report, Finding of Effect Report, and Memorandum of Agreement. Prepared for San Francisco County Transportation Authority, with DMJM-Harris / AECom. 2008–2010.

SF Transit Center, Land Use Histories of six proposed development sites, San Francisco, California. Prepared for the City of San Francisco, under contract to Far Western Anthropological Research Group. 2008–2010.

San Francisco General Hospital Land Use History. Prepared with URS Corporation for the City and County of San Francisco. 2008–2009.

Port of Redwood City Ferry Terminal Project. Initial Findings Memorandum – Historic Architectural Resources. Prepared with Circlepoint, for Water Emergenty Transit Authority. 2008.

Marsh Landing Generating Station Project, including inventory, evaluation and impacts analysis, Contra Costa County, California. Prepared with URS Corp for Mirant Marsh Landing, LLC, 2007-2010.

Willow Pass Generating Station Project, Inventory and evaluation of historic resources, Pittsburg, California. Prepared with URS for Mirant Willow Pass, LLC. 2007-2008.

Historic Resources Inventory and Evaluation Report, San Francisco Water System Improvement Program, San Andreas Pipeline #3 Project, Daly City and San Francisco, California. Prepared for Tetra Tech. 2007–2009.

Existing Settings, Inventory and Evaluation of Historic Resources, Bekeley-Albany Ferry Project. Prepared for Water Transit Authority, under subcontract to URS Corporation. 2007–2008.

Caltrain Electrification Program, inventory and evaluation update for 52 miles of railroad alignment and railroad-related structures between San Francisco and Gilroy. Prepared with Parsons for Caltrain Joint Power Board, under contract to Parsons. 2007–2008.

Golden Gate Bridge Barrier Project, Section 106 and CEQA compliance documents for historic properties. Prepared for the Golden Gate Bridge Highway and Transit District, under contract to DMJM Harris. 2006–2009.

Section 106 Compliance Documentation, Doyle Drive - South Access to the Golden Gate Bridge Project. Prepared for Parsons Brinckerhoff. 2006–2008.

Trans Bay Cable Project, Historical Resources Study, Contra Costa County and San Francisco County, California. Prepared for URS Corporation. 2005–2007.

Finding of Effect and Memorandum of Agreement, Transbay Terminal/Caltrain Downtown Extension/Redevelopment Project, San Francisco County, California. Prepared for Parsons Transportation Group. 2003–2004.

Finding of Effect, Caltrain San Francisco Tunnel Rehabilitation Project. Prepared with Far Western Anthropological Research Group for Peninsula Corridor Joint Powers Board. 2003.

Finding of Effect Addendum, Caltrain Electrification Project, San Francisco, San Mateo, and Santa Clara Counties, California. Prepared for Parsons Transportation Group and Peninsula Corridor Joint Powers Authority. 2003.

Historic Architectural Survey Report and Finding of Effect, Caltrain Extension to Transbay Terminal Joint Development Project, San Francisco, San Mateo and Santa Clara Counties, California. Prepared for DeLeuw Cather Inc. 2001–2002.

Inventory and Evaluation of Historic Resources, Caltrain Electrification Project, San Francisco to Gilroy (MP 0.0 to 77.4), San Francisco, San Mateo and Santa Clara Counties, California. Prepared for Parsons Transportation Group. 2000–2002.

Historic Architectural Survey Report and Finding of Effect for the Doyle Drive Replacement Project, San Francisco, California. Prepared for Parsons Brinckerhoff. 1999–2005.

Brief Business History of California Furniture Manufacturing Company, San Francisco, California. Prepared for California Furniture Manufacturing Company. 1993.

Katherine Caldwell

Senior Biologist

Areas of Expertise

Vegetation Ecology
Permit Compliance
Restoration and Mitigation Planning

Years of Experience

With URS: 3 Years
With Other Firms: 0 Years

Chronology

08/07 – Present: URS Corporation, Biologist, Oakland, CA
08/05 – 08/07: NCSU, Research Assistant, Raleigh, NC
05/04 – 08/04: Shenandoah National Park, Technician (Botany), Virginia

Education

MS/Natural Resources/2007/North Carolina State University
BS/Ecology/2005/Rice University
BA/Environmental Science and Engineering/2005/Rice University

Registration/Certification

2009/Certified Associate Ecologist/ Ecological Society of America
2008/40-hour HAZWOPER
2007/Certificate of Training in Wetlands Delineation/NC

Overview

Ms. Caldwell is a biologist specializing in ecosystem ecology with specific applications to habitat evaluation, mitigation site development, and environmental permitting. At URS, she has written numerous environmental assessments and conducted both plant and animal surveys. She has been responsible for both writing permits and managing permitting compliance. As an on-site consultant for the California Department of Transportation, she has managed numerous large and small tasks and is responsible for scoping, budgeting, and managing road repair projects throughout the Bay Area.

Project Specific Experience

Biologist, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: As lead biologist, conducted animal and plant surveys of the power plant and surrounding areas, assessed vegetation communities, and authored the biology section of the Application for Certification.

Biologist, Willow Pass Generating Station Pittsburg, California, Mirant Willow Pass, LLC: Conducted animal and plant surveys of the power plant and surrounding area. Identified, assessed, and mapped trees on the plant property for visual assessment and assisted in preparing the biology section of the Application for Certification and the 401 and 404 permit applications.

Biologist, Tracy Solar Project, Tracy, California, GWF Energy: Botanist for rare-plant study and community classification study to be included in an Application for Certification for a solar generation project.

Senior Biologist, Powerline Upgrade for Calaveras Dam Project, Alameda County, California, San Francisco Public Utilities Commission (SFPUC): Lead biologist for biological evaluation of pipeline upgrade for Calaveras Dam Project. Assessed scope of work and impacts compared to draft Environmental Impact Report, and made recommendations for resource avoidance.

Biologist, San Antonio Pipeline Relocation, Livermore, California, Chevron: Biological monitoring of trenching and horizontal directional drilling construction activities for pipeline relocation. Compiled weekly monitoring reports and was responsible for maintaining a database of compliance with state and federal permits.

Biologist, Friant Dam Feasibility Study of Upgrade Options, Friant, California, Friant Power Authority: Reviewed and summarized environmental assessment of biological impacts surrounding various dam upgrade options.

Katherine Caldwell

Biologist, Endangered Species Act (ESA) Consultations on Federal Emergency Management Agency (FEMA) Disaster Projects, Multiple Counties, California, FEMA: Site inspections and ESA-compliance reporting regarding FEMA applications for funding post-flooding events. Prepared informal and formal consultation letters/assessments to USFWS and NMFS regarding species concerns.

Biologist, Endangered Species Act (ESA) Consultations on Federal Emergency Management Agency (FEMA) Hazard Mitigation Projects, Hillsborough and Nevada City, California, FEMA: Lead biologist for site inspections and ESA compliance reporting regarding FEMA applications for two fuel-reduction program applications. Work included evaluating previous studies, field assessment, and agency consultation.

Biologist, California Department of Transportation (Caltrans): Served as an in-house Caltrans biologist on 21 active projects under a URS on-call environmental contract. Presently, not in-house, but managing about 15 active projects: monitoring project progress and biology needs, reviewing submitted environmental documents and permit applications, preparing permits and other environmental documents, and preparing scopes and budgets for work by other URS staff assisting on projects.

Biologist, Habitat Restoration Project at Calaveras Dam, Alameda County, California, San Francisco Public Utilities Commission (SFPUC): Coordinated budget preparation with a dozen staff members, numerous tasks, and three contracts. Monitored weekly technical studies (hydrology, geotechnical, soils, and biology) and integrated data into technical memo. Assisted in vegetation planting plan design and mitigation and monitoring reports.

Anne Connell, P.E.

Project Manager/Project Civil Engineer

Areas of Expertise

Project Management
Hydrology/Hydraulics
Water Quality
Flood Plains and Drainage
Storm Water Permitting

Years of Experience

With URS: 29 Years

Education

M.S./Civil Engineering, Hydrology/1980/Stanford University
B.Sc./Hydrology/1979/McGill University

Registration/Certification

2005/URS Project Manager Certification
1982/Civil Engineer/ California/No. C34494

Overview

Anne Connell is an experienced project manager and engineer specializing in water quality and hydrology. With more than 29 years of experience, she has overseen a wide range of projects, including power plants, site development, airports, and hazardous waste sites. She has been responsible for environmental impact evaluations under both NEPA and CEQA, peer review of hydrologic analyses, permit applications, determination of design storms and floods, the collection and analysis of hydrologic and hydrogeologic data, and assessment of remedial alternatives. She has served as the project manager on several multi-discipline projects involving coordination with team members, subcontractors, clients and regulatory agencies.

Project Specific Experience

Project Manager, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC. Project Manager responsible for coordination of work activities for the preparation of an Application for Certification for the proposed 760 megawatt generation facility. The natural gas facility would include four simple cycle units. The plant would use brackish groundwater from onsite wells and dry cooling technology. In addition, prepared the water resources section of the application. The application is currently in the California Energy Commission's review process.

Senior Project Engineer , Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC. Responsible for preparing the water resources section of the Application for Certification for the proposed 500 megawatt generation facility. The plant would use recycled water provided by the local sanitation district and dry cooling technology. This project is currently in the California Energy Commission's review process.

Senior Project Engineer , Hydrogen Energy California, Kern County, California, Hydrogen Energy International, LLC. Responsible for preparing the water resources section of the Application for Certification for the proposed integrated gasification combined cycle power generation facility. The plant would use brackish groundwater for process water needs.Plant wastewater would be recycled within the gasification and power plant systems. Zero liquid discharge technology would be used for process and plant wastewater streams. This project is currently in the California Energy Commission's review process.

Project Manager, San Gabriel Generating Station, Rancho Cucamonga, California, San Gabriel Power Generation, LLC: Managed preparation of the Application for Certification for the proposed 656 megawatt combined-cycle natural gas power plant in San Bernardino

County. The plant would use recycled water and dry cooling technology. In addition, was responsible for preparing the water resources section of the application.

Senior Project Engineer, CPV Sentinel Energy Project, Riverside County, California, CPV Sentinel, LLC: Evaluated environmental setting, impacts and mitigation with respect to water resource related issues and preparation of the section on water resources for an Application for Certification under the California Energy Commission's licensing process for large power plants. Managed a detailed groundwater modeling program and groundwater test well program. The proposed 800 megawatt simple cycle plant would utilize a zero liquid discharge wastewater system.

Senior Project Engineer, Water Resources, Colusa Generating Station Project, Colusa, California, E&L Westcoast, LLC: Evaluated environmental setting, impacts and mitigation with respect to water resources and prepared the section on water resources for an Application for Certification under the California Energy Commission's fast-track licensing process for large power plants. The proposed 660-megawatt combined cycle plant would utilize an air cooled condenser to reduce consumptive water use and a zero-liquid discharge wastewater system.

Senior Project Engineer, El Centro Generating Station Project, El Centro, California, Imperial Irrigation District: Prepared the water resources section for a Small Power Plant Exemption (SPPE) Application for the construction and operation of the ECGS Unit 3 Repower Project. This project would increase the Unit 3 generating capacity by 84 MW. Also assisted with the preparation of a U.S. Environmental Protection Agency Underground Injection Control permit application to install new deep injection wells at the plant to be used for injection and disposal of the plant's wastewater.

Senior Project Engineer, Potrero Power Plant, San Francisco, California, Mirant Corporation: Provided technical support related to hydrologic issues in preparation for expansion of the power plant. Evaluated potential impacts and prepared responses to comments related to hydrologic and water quality issues. Responded to requests from the California Energy Commission and other interested groups for additional information and clarification regarding hydrologic and water quality issues. Also updated and prepared the draft Storm Water Pollution Prevention Plan, the Erosion and Sedimentation Control Plan, and the Spill Prevention Control and Countermeasure Plan.

Senior Project Engineer, Contra Costa Power Plant Unit 8, Contra Costa County, California, Mirant Corporation: Provided technical support related to hydrologic issues in preparation for expansion of the power plant. Evaluated potential impacts and prepared responses to comments related to hydrologic and water quality issues. Responded to requests from the California Energy Commission and other interested groups for additional information and clarification regarding hydrologic and water quality issues.

Marvin Feldman, Ph.D.

Resource Decisions
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San Francisco CA 94114
415-282-5330
e-mail: <mfeldman@resourcedecisions.net>

EXPERTISE

Water Resource Economics
Energy Economics
Socioeconomics
Recreation Economics
Environmental Economics
Decision Analysis

ACADEMIC BACKGROUND

BS Geology, 1965, City College of New York
MS Water Resource Management, 1970 U. of Wisconsin
MS Agricultural Economics, 1978, U. of Wisconsin.
Ph.D. Natural Resources Economics, 1979, U. of Wisconsin
Dissertation: "Portfolio Multiattribute Utility Analysis: An Application to The Wisconsin Energy Conservation Plan

EMPLOYMENT HISTORY

1988 to Present: Principal, **Resource Decisions**

1987-1988: Associate, Manager of Economics, **Dames & Moore**
- o Managed firm-wide Policy & Economics Group
- o Line management and sales responsibility

1984-86 Senior Economist, **Dames & Moore,** San Francisco

1980-83 Project Economist, **Dames & Moore**, San Francisco

1976-79 Assistant. Editor **Land Economics** Journal (Part time)

1973-75 Research Associate, **Washington State University**:
o Supervised major study of conjunctive use of groundwater and surface water
o Developed economic model of deep well irrigated agriculture
o Engineering economic simulation of irrigation well investments.

1970-72 Hydrologist (GS-9) **National Park Service:**
o Supervised water resource studies of National Parks
o Coordinated development of agency-wide water quality standards program.

1967-69 High School Earth Science Teacher

1966-67 **Columbia University:** Research Assistant in Geophysics:
o Arctic geophysical and hydrologic surveys

Energy Project Socioeconomics

Marsh Landing Generating Station AFC (under contract to URS): Supervised preparation

of socioeconomic sections of an AFC for a generation station expansion.

Willow Pass Generating Station AFC (under contract to URS): Supervised preparation of socioeconomic sections of an AFC for a generation station expansion.

Texas Gas Company (under contract to URS): Socioeconomic analysis of the impacts of a natural gas pipeline through Arkansas and Mississippi. Preparation of a FERC Resource Report 5 (Socioeconomics).

Fayetteville Express LLC (under contract to URS): Socioeconomic analysis of the impacts of a natural gas pipeline through Arkansas and Mississippi. Preparation of a FERC Resource Report 5 (Socioeconomics).

Exxon-Mobil (under contract to URS): Principal Investigator for Socioeconomics: Prepared analysis and documentation on the socioeconomic impacts of an offshore LNG receiving terminal, an onshore terminal, a graving dock, onshore and offshore pipelines, and onshore storage facilities proposed for the U.S. Gulf Coast

Chevron Mexico (under contract to URS): Principal Investigator for Socioeconomics: Prepared socioeconomic analysis and documentation to support environmental approvals for a major offshore LNG facility in Baja California.

TriCor Energy Services LLC (under contract to URS): Socioeconomic impact analysis and preparation of FERC Resource Report 5 (Socioeconomics) for a natural gas storage project in Kern County CA.

California PUC: Self Generation Incentive Program evaluation. Conducted interviews with renewable and distributed generation manufacturers and third-party developers to determine effectiveness of program. Development of survey instrument and evaluation program.

California Energy Commission: In support of the Renewables Program, conducted a survey of manufacturers of renewable electric generation equipment. Also conducted a survey of renewable generation end-users. Assisted in the consumer education program support.

California Energy Commission: Developed a method for measuring the risk mitigation effects of increasing fuel and technology diversity through renewable generation. Applied this method to California's historic electricity system data to develop policy recommendations for fuel diversity. Phase 2 of this project applied the risk mitigation methodology to projection for California's restructured electricity system.

Lisa Griggs CIH

Senior Environmental Scientist

Areas of Expertise

- Industrial Hygiene
- Environmental Regulatory Compliance
- Environmental Permitting
- Safety and Environmental Compliance Audits
- Due Diligence Assessments
- Safety program development
- Project Safety Plans
- Environmental Health & Safety Training·

PROFESSIONAL REGISTRATIONS

American Board of Industrial Hygiene

CP 9199

Years of Experience

With URS: 11 Years
With Other Firms: 9 Years

Education

B.S. Biological Science / Major Environmental Biology, Minor Chemistry / San Jose State University

Overview

Ms. Griggs has extensive experience in safety and environmental compliance assistance and auditing for a large variety of clients. Projects include environmental and safety program development, due diligence assessments, development of SPCC and SWPPP plans, ergonomic evaluations, environmental and safety compliance auditing, computer based training development, environmental and safety training, industrial hygiene services, job hazard analysis, environmental and safety project planning, support and oversight activities in many different settings.

Project Specific Experience

URS Environmental Health and Safety Specialist: Serves as Team Leader, Technical Lead Auditor and Audit Team Member for both safety and environmental audits. These audits have been conducted in a variety of settings including paper mills, resin plants, aerospace, pharmaceutical research and development, theme parks, heavy manufacturing and semiconductor manufacturing. Audits are broad in scope, covering virtually all safety topics and all environmental media. Audits typically include review of site operations, employee interviews, program manager interviews, written program review and review of records such as training records, inspection records, accident reports, OSHA records, agency correspondence, medical clearance, shipping documents, industrial hygiene monitoring. Clients include the National Park Service, General Electric, Stanford Linear Accelerator, United States Air Force, NASA, Georgia Pacific, International Paper, Graphic Packaging, TK Holdings, Elan Pharmaceuticals, Rockwell Collins, and United Technologies. Audits have been conducted in California, Nevada, Arizona, Washington, Oregon, Alaska, Ohio, Indiana, Colorado, Oklahoma, Texas, Mississippi, Arkansas, Georgia, Michigan, North Carolina and South Carolina.

Task Leader, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Prepared the Worker Health and Safety section for the Application for Certification in support of construction and operation for the Marsh Landing Generating Station.

Task Leader, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Wrote the Worker Health and Safety section for the Application for Certification for the Willow Pass Generating Station.

Health and Safety Manager, Chevron Texaco Richmond Refinery, Richmond, California, ChevronTexaco: Served as the Health and Safety Manager for URS environmental remediation projects. Duties include development of Health and Safety Plans for field projects, act as

liaison with client Safety representatives, perform internal safety audits, track training and manage drug testing program for URS project personnel.

Health and Safety Manager, Stanford Linear Accelerator Safety Department, Palo Alto, California: Duties included accident investigation, performing Area Hazard Analyses, performing ergonomic assessments, setting up an onsite ladder inspection program, writing a Blood Borne Pathogens Program and providing safety assistance to operations as needed. Worked with SLAC staff and URS IT programmer to develop a database to track safety and environmental incidents. Wrote the Hazard Control Chapter for SLAC EHS Manual.

Specialized Training

July 2009 PMS Auditing
June 2009 301 Process Safety Management
March 2009 501 Trainer Course OSH Oil and Gas
March 2009 NFPA 70E Update
December 2009/ 8-hour refresher 29 CFR 1910.120(HAZWOPER)
June 2005/ DOT -IATA
May 2003/ OSHA 501 Trainer Course in OSH General Industry
August 2001/ OSHA hour Supervisor
November 2000/ Incident Command System 200 California State Fire Marshal
July 1997/ Building Design for Hazardous Materials, University of California, Berkeley
August 1996/ Hazardous Material Technician Seaside Fire, Mission Trails ROP
June 1996/ Fire Instructor 1A, Mission College/State Fire Marshal FSTEP
October 1996/ Fire Prevention 1A/1B, State Fire Marshal FSTEP

Mark R. Hale

Project Archaeologist

Areas of Expertise

Cultural Resources
Archaeology

Years of Experience

With URS: 20

Education

Completed coursework, examinations, and research towards M.A. in Cultural Resources Management, Sonoma State University.
B.A./Anthropology/1983/ University of California, Berkeley

Registration / Certification

OSHA Hazardous Waste Operations (40-Hour), Ecologics Training Institute.
OSHA Hazardous Waste Operations Supervisor (8-Hour), Dames & Moore.
Introduction to Federal Projects and Historic Preservation Law, The Advisory Council on Historic Preservation.

Overview

Responsible for directing and supervising cultural resources studies in northern California, other western states, and Pacific territories. Duties include report preparation, analysis, field supervision, construction monitoring, and proposal preparation.

Project Specific Experience

Senior Project Archaeologist, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Directed cultural resource inventory, authored technical report, and authored cultural resources section within environmental compliance document under CEC guidelines.

Senior Project Archaeologist, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Directed cultural resource inventory, authored technical report, and authored cultural resources section within environmental compliance document under CEC guidelines.

Senior Project Archaeologist, Hydrogen Energy California Project, Bakersfield, California, Hydrogen Energy International, LLC: Directed cultural resource inventory, authored technical report, and authored cultural resources section within environmental compliance document under CEC guidelines.

Project Archaeologist, Pine Tree Canyon Wind Energy Project, Kern County, California, Los Angeles Department of Water and Power: Archaeological inventory and evaluation of a wind energy project in the Tehachapi Range, California.

Project Archaeologist, Cotterel Wind Energy Project, Idaho, Windland Corporation: Archaeological inventory of a wind energy project in the Cotterel Mountains, Idaho.

Project Archaeologist, Vista del Sol LNG Terminal and Pipeline, FERC Section 3 and 7c Applications (Confidential Client): Prepared Archaeological Study in support of the EIS and FERC application for LNG terminal on the Gulf Coast.

Project Archaeologist, Salton Sea Unit 6 Project, Imperial County, California.: Archaeological inventory of proposed geothermal energy facilities in the Colorado Desert, southern California.

Project Archaeologist, Bighorn Power Generation Project, Clark County, Nevada, Reliant Energy: Archaeological inventory, evaluation, and data recovery for a proposed energy generation facility and transmission line in southern Nevada.

Project Archaeologist, Meadow Valley Generation Project, Lincoln and Clark counties, Nevada, PG&E National Energy Group:

Mark R. Hale

Archaeological inventory and evaluation for a proposed energy generation facility and transmission line in southern Nevada.

Project Archaeologist, Colusa Power Plant Application for Certification, Colusa County, California, Reliant Energy: Completed record search, conducted archaeological survey, and authored technical section for environmental document proposed power plant in Colusa County, California.

Project Archaeologist, Goldendale Power Plant Project: Completed record search, conducted archaeological survey, and co-authored technical section for environmental document for proposed power plant within the City of Goldendale, Washington.

Project Archaeologist, Potrero Power Plant Application for Certification. San Francisco, California, Mirant Corporation: Completed record search, conducted archaeological survey, and authored technical section for environmental document in preparation of power plant expansion, San Francisco, California.

Project Archaeologist, Contra Costa Power Plant Application for Certification, Contra Costa County, California, Mirant Corporation: Completed record search, conducted archaeological survey, and authored technical section for environmental document in preparation of power plant expansion.

Chuck Hicklin, P.E.

Project Manager

Areas of Expertise

Project Management
Mechanical Engineering

Years of Experience

With Mirant: 10 Years
With Other Firms: Over 25 Years

Education

B.Sc. / Mechanical Engineering / 1972 / University of California, Berkeley
Engineering and Management Program / 1990 / University of California, Los Angeles

Registration/Certification

1975 / Mechanical Engineer / California / No. M016733
1996 / American Society of Mechanical Engineers / Member

Overview

Chuck Hicklin is an experienced Project Manager and Mechanical Engineer specializing in engineering and construction of power plants. With over 35 years of experience, he has been involved in a wide range of power projects, including fossil fuel power plant new construction and design retrofits, geothermal power plant new construction, and nuclear power plant design. He has served as Project Manager on many multi-discipline projects involving coordination with team members, suppliers, contractors and regulatory agencies.

Project Specific Experience

Project Manager, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC. Responsible for engineering, procurement, construction and startup for the proposed 760 MW generation facility. In addition, responsible for technical support for the Application for Certification of the facility. The project would consist of four fast start simple cycle combustion turbines located in Contra Costa County, California, and would utilize brackish groundwater from onsite wells for plant makeup. The project is currently in the California Energy Commission certification process.

Project Manager, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC. Responsible for engineering and construction support for the Application for Certification of the proposed 550 MW generation facility. The project would consist of two 1-on-1 fast start combined cycle power plants located in Pittsburg, California. The plants would utilize recycled water provided by the local sanitation district and dry cooling technology. The project is currently in the California Energy Commission certification process.

Project Director, Contra Costa Unit 8, Contra Costa County, California, Mirant Delta, LLC. Directed engineering, procurement and construction for a 530 MW (nominal) 2-on-1 combined cycle power plant

located in Contra Costa County, California. Completed 75% of engineering, received all major equipment, and completed 45% of Civil foundation and underground construction prior to suspending work in 2002. Pacific Gas & Electric Company acquired the project in 2006 and renamed it Gateway Generating Station.

Project Manager, Nitrogen Oxide Reduction Program, Contra Costa and San Francisco Counties, California, Mirant California, LLC. Managed nitrogen oxide (NOx) reduction program for Mirant-owned fossil fuel power plants located in the San Francisco Bay Area. Program consisted of nine boiler combustion tuning, low NOx burner installation and selective catalytic reduction (SCR) installation projects. Achieved compliance with Bay Area Air Quality Management District Regulation 9, Rule 11 – Nitrogen Oxides and Carbon Monoxide from Electric Power Generating Steam Boilers.

Senior Mechanical Engineer, The Geysers Geothermal Power Plant, Sonoma and Lake Counties, California, Pacific Gas & Electric Company. Responsible for engineering, construction and permitting support for five proposed geothermal power plants located in Sonoma and Lake Counties, California. Worked closely with the utility's major geothermal steam supplier to evaluate options to manage the limited geothermal resource.

John S. Lague

Senior Air Quality Consultant

Areas of Expertise

Air Quality Permitting/Compliance
Greenhouse Gas Studies
Applied Research and Policy Development
International Consulting
Meteorological Analysis
Air Quality Impact and Health Risk Assessment
Air Quality and Meteorological Measurements

Years of Experience

With URS: 15 Years
With Other Firms: 25 Years

Education

M.S., Meteorology, Massachusetts Institute of Technology, 1973
B.S. Physical Sciences, University of California at Davis, 1970

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Overview

Throughout his career, Mr. Lague has been primarily involved in permitting and compliance work for industrial and public facilities in the US and abroad. The principal elements of most permitting and compliance efforts have typically included: development of permitting strategies consistent with client objectives and regulatory constraints, negotiations with responsible regulatory agencies, participation in project design to identify opportunities to minimize pollutant emissions, preparation of permit applications and supporting technical materials, operation of pre-construction and post- permit monitoring and compliance programs, and presentation of expert witness testimony at hearings, workshops, legal proceedings and public information meetings. Since 1997, he has completed numerous projects to quantify greenhouse gas emissions from power generation and petroleum industry facilities. Representative examples of experience related to power plant permitting are presented below.

Project Specific Experience

Air Quality Specialist, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Serving as the lead air quality consultant in support of an Application for Certification to the California Energy Commission (CEC) and the air quality permit application to the Bay Area Air Quality Management District for the Marsh Landing Pass Generating Station, a new 760 MW generating station in Contra Costa County, California. Also responsible for the Hazardous Materials Handling analyses in support of the Application for Certification.

Air Quality Specialist, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the Bay Area Air Quality Management District for the Willow Pass Generating Station, a new 500 MW generating station in Pittsburg, California.

Air Quality Specialist, Panoche Energy Center, Fresno County, California, EIF: Prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Panoche Energy Center, a new 400 MW peaking generating station near Firebaugh, California.

Air Quality Specialist, Bullard Energy Center, Fresno, California, EIF: Prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the San Joaquin

Valley Air Pollution Control District for the Bullard Energy Center, a new 200 MW peaking generating station in Fresno, California.

Air Quality Specialist, Starwood Midway Project, Fresno County, California, Starwood Energy: Prepared the Air Quality, Public Health and Hazardous Materials Handling analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Starwood Midway Project, a new 120 MW peaking generating station near Firebaugh, California.

Air Quality Specialist, Spinnaker Hybrid Project, Coalinga, California, Spinnaker Energy: Conducted senior review and contributed to permit strategy development for a proposed 106 MW hybrid power generation (solar and biomass combustion) near Coalinga, California. The air quality permit for the project was submitted to the San Joaquin Valley Air Pollution Control District.

Air Quality Specialist, Huntington Beach Generating Station, Huntington Beach, California, AES: Managed development of a permitting plan to evaluate possible additions and repowering projects at the Huntington Beach Generating Station. Topics addressed in the plan included a listing of key permitting issues and applicable permits for different project options, assessment of emissions offset requirements for each project design and an assessment of the implications of each option with respect to California Energy Commission licensing requirements.

Air Quality Specialist, San Gabriel Generating Station, Rancho Cucamonga, California, Reliant Energy: Prepared Air Quality and Public Health sections analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the Permit to Construct/Permit to Operate application to the South Coast Air Quality Management District for the San Gabriel Generating Station, a 650 combined cycle addition to the existing Etiwanda Generating Station in Rancho Cucamonga, California.

Air Quality Specialist, City of Anaheim Peaking Power Plant, Anaheim, California, City of Anaheim: For the City of Anaheim and the Southern California Public Power Authority, prepared the Air Quality and Public Health Sections for an Application for Certification to the California Energy Commission and Permit to Construct/Permit to Operate application to South Coast Air Quality Management District in support of a 200 MW peaking power plant (4 x GE LM6000 CTG) in Anaheim California.

Air Quality Specialist, Agua Mansa Power Plant, Colton, California, City of Colton: For the City of Colton and the Southern California Public Power Authority, currently providing air quality technical studies in support of a Mitigated Negative Declaration and preparation of a Permit to Construct/Permit to Operate application to South Coast Air Quality Management District for an expansion of the Agua Mansa Power Plant. Project would entail conversion of an existing simple cycle GE LM6000 CGT to combined cycle with a steam turbine to boost power production.

John S. Lague

Air Quality Specialist, Sentinel Energy Project, Riverside County, California, CPV Sentinel: Managed preparation of the Air Quality and Public Health sections for an Applications for Certification to the California Energy Commission (CEC) and Permit to Construct/Permit to Operate application to South Coast Air Quality Management District in support of the Sentinel Energy Project, an 815 MW (8 x GE LMS100 CTG) peaker project near Palm Springs California.

Air Quality Specialist, InterGen Plants, Riverside County, California, InterGen North America: Prepared Air Quality and Public Health Sections for two Applications for Certification to the California Energy Commission (CEC) and managed air quality permitting activities (South Coast Air Quality Management District) associated with two new generating facilities proposed by InterGen North America near Palm Springs, California. These projects included a 135 MW peaking plant based on simple cycle General Electric LM6000 turbines and a second facility comprising three GE Frame 7AF turbines, first in simple cycle mode to provide 456 MW of short-term power, and later in combined cycle mode with duct burning to provide nearly 900 MW.

Air Quality Specialist, Carrizo Solar Energy Farm, San Luis Obispo County, California: Managed preparation of Air Quality and Public Health sections of an Applications for Certification to the California Energy Commission (CEC) and Authority to Construct/Permit to Operate application to San Luis Obispo Air Pollution Control District.

Air Quality Specialist, Niland Generating Station, Niland, California, Imperial Irrigation District: Prepared Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California Energy Commission (CEC) and prepared the air quality permit application to the Imperial County Air Pollution Control District for a new 90 MW peaking generating station in Niland, California.

Air Quality Specialist, El Centro Generating Station Unit 3 Repower, El Centro, California, Imperial Irrigation District: Prepared Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California Energy Commission (CEC) and prepared the air quality permit application to the Imperial County Air Pollution Control District for the Unit 3 Repower project at the El Centro Generating Station.

Air Quality Specialist, Colusa Centro Generating Station, Colusa County, California, CPV Colusa: Managed preparation of the Hazardous Materials Handling section of the Application for Certification for the Colusa Generating Station, a 600 MW combined cycle gas turbine power plant.

Air Quality Specialist, Huntington Beach Generating Station, Huntington Beach, California, AES: Managed the Air Quality and Public Health aspects of licensing and permitting (California Energy Commission and South Coast Air Quality Management District) for the refurbishment of previously retired Units 3 and 4 of the Huntington Beach Generating Station.

Tylen C. Larson
Senior Power Systems Engineer

Academic Background

- B.S. Electrical & Electronic Engineering, with an emphasis in Power Systems Engineering, Washington State University, Pullman, WA 1992

Professional Experience

Ty Larson has worked in the electric utility industry since 1992 - specializing in both transmission system planning & operations engineering. He possesses extensive experience and a strong working knowledge of the analytic tools that support the system performance evaluation and capital planning processes used by electric utilities. In recent years as an Operations Engineering Manager at the California ISO, he has also mentored and coached other engineers in power engineering analysis. Mr. Larson joined Utility System Efficiencies, Inc. (USE) in July of 2005. His employment resume spans over several sectors of the electric utility industry, including PG&E and the CAISO.

While employed as a PG&E Transmission Planning Engineer, Mr. Larson assumed a local-system transmission-planning role for the North Coast Area. This included technical assessments of new transmission and generation interconnections.

In addition to local system transmission planning responsibilities later as Northern/Central Area Operations Engineer, Mr. Larson provided PG&E Switching Center Operations and other support personnel with transmission system contingency analysis and technical support concerning operation of the Northern and Central PG&E system. Additionally, Mr. Larson evaluated system operations and made recommendations to PG&E Area Operation Coordinators by researching and analyzing operating problems and recommending solutions. This involved working closely with Grid Maintenance & Construction, Transmission Planning, and other PG&E Departments to incorporate operating concerns, identified by System Operations, into the future design of the PG&E transmission system.

As a Market Applications Engineer, Mr. Larson participated in CAISO Start-Up. This involved working with the design of the DC Power-Flow Models used in SA Congestion Management software module. Additionally, Mr. Larson contributed in many aspects of Market development and Market software (SI/SA) testing through startup, which involved all ODR runs through to 10 day consecutive run. Mr. Larson drafted and developed Market Operating Procedures; Real Time Intra-Zonal Congestion Management M-401, Real-Time Inter Zonal Congestion Management Quick Reference for South West Power Link M-407 QR-1.

Later as a Grid Resource Coordinator, Mr. Larson manned all three Market Operations real-time desks (Day Ahead, Hour Ahead, and Beep). Mr. Larson endured some of the very first Interchange ramps and developed Cal-ISO Ramp strategy with Generation Dispatchers and other key personnel. This resulted in the “Ramp-Me” excel spread sheet that eased interchange ramps..

As a Senior Operations Engineer with the CAISO, Mr. Larson was responsible for Bay Area & San Francisco Area Operations. This entailed the development, review and revision of operating

procedures (T-126, T-133, G-233), and the engineering evaluation of system clearances and outages. Mr. Larson also provided reports of extensive reviews of Real-Time Operations to upper management, which resulted in forging good working relationships with scheduling coordinators and transmission owners. Additionally, Mr. Larson mentored and trained many new Operations Engineers, and provided OSAT Training "Summer Seminars" on San Francisco Bay Area Operations and Intra-Zonal Congestion.

Soon after in the capacity of Lead Operations Engineer with the CAISO, Mr. Larson continued to train upcoming engineers. Mr. Larson trained and directed three entry level engineers through the entire Planning Study process. These actions result in a technical road map determining San Francisco Load Serving Capability under a variety of scenarios. The CAISO's written position summarizing requirements for Hunters Point 4 shut down were derived from the (San Francisco Peninsula Load Serving Capability) report.

Later as Manager of CAISO Northern Area Operations Engineering, Mr. Larson provided overall management guidance, direction and counsel to eight full time Operations Engineers. This included: performance planning sessions with employees, workload, evaluations and adjustments, conducting department meetings, providing clear direction on issue resolution, developing performance improvement plans.

As Senior Power Engineer at USE Consulting, Mr. Larson has aided a significant number of developers through all aspects of project interconnections throughout WECC, provided transmission cost ranking help for Utilities administering new generation requests or RFPs and he has completed Simultaneous Transmission Import Limit (SIL) studies for various Utilities with in WECC.

Mr. Larson obtained his Bachelors of Science degree in Electrical & Electronic Engineering with a Utility Power Engineering specialization from Washington State University, Pullman. References from any of Mr. Larson's past employers may be made available upon request.

Notable Project Work
Initiated and managed through to completion $140M in Summer 2001 Bay Area Transmission Upgrades: 500/230-kV transformer bank #6, Tesla-Newark 230-kV #2 transmission line, Newark-Ravenswood-San Mateo looped 230-kV circuit, and the Martin shunt capacitors (150 MVArs).

Santa Rosa Transmission Reinforcement Project: Visualized, designed, and followed project through to completion. The result is a robust local 230-kV transmission system, which can meet n-1 contingency criteria.

Lakeville-Fulton 115-kV Transmission Upgrade Project: Studied and designed upgrades to solve both thermal and voltage problems associated with the aging 115-kV transmission system. Provided continued engineering support to see project through to implementation.

North Geysers 115-kV Transmission System Upgrade Project: Studied and designed a PG&E geothermal generation re-connection scheme that solved the local system projected low voltage problems.

David Lawrence

Visual Simulation/Multimedia Specialist

Areas of Expertise

Photographic Simulations
Visual Analysis and Simulations
3D Modeling
Animation
Video Production
Audio Recording/Production
Interactive Multimedia Production
Action Script Programming
Construction Design Drafting
Geographic Information Systems

Years of Experience

With URS: 14 Years
With Other Firms: 2 Years

Education

1994-1996/Course work: Drafting Design, Music Business, Production/Mesa Community College, Arizona

Overview

Mr. Lawrence has 16 years of experience using visual technologies to assist in the development, analysis, management, and communication of information. He is proficient in visual communication technologies, including photographic simulation, animation, three-dimensional (3D) modeling, computer-aided drafting (CAD), geographic information systems (GIS), video production, interactive multimedia, website development, audio recording, and database-driven application development. The visual simulations and multimedia products he has prepared on behalf of Fortune 500 companies and international corporations have been presented to federal, state, and local agencies throughout the western United States, Alaska, Mexico, and Canada. He has developed simulations in support of National Environmental Policy Act (NEPA) compliance documents, as well as projects utilizing the Bureau of Land Management's Visual Resource Management (VRM) system and the U.S. Forest Service's Visual Management System (VMS). He is experienced in working with the California Energy Commission relating to visual environmental compliance policy.

Project-Specific Experience

Visual Simulation Lead, Marsh Landing Generating Facility, Contra Costa County, California: Developed visual simulations that were submitted to the California Energy Commission as part of the Visual Resources section of the Application for Certification.

Visual Simulation Lead, Willow Pass Generating Facility, Contra Costa County, California: Developed visual simulations that were submitted to the California Energy Commission as part of the Visual Resources section of the Application for Certification.

Visual Simulation Lead, Certificate of Environmental Compatibility, Starwood Solar I, Maricopa County, Arizona: URS is assisting Starwood Energy Group with environmental studies to support an application for a CEC for a concentrated solar generating facility. Mr. Lawrence is responsible for developing visual simulations for inclusion in a draft CEC document for submittal to the Arizona Corporation Commission.

Visual Simulation Lead, Certificate of Environmental Compatibility (CEC) for a 240-Megawatt Solar Thermal Electric Power Generation Project, Yuma County, Arizona, Confidential Client, 2008: Developed visual simulations for inclusion in a draft CEC document for submittal to the Arizona Corporation Commission. Also assisted in producing a public involvement video on DVD that will be provided to elected officials and various local planning agencies with information regarding the scope, need, and purpose of the project.

Visual Simulation Lead, Gateway West Transmission Project Environmental Impact Statement (EIS), Bureau of Land Management (BLM) (3rd Party), Wyoming and Idaho, TetraTech: Conducted a comprehensive visual resource inventory and impact analysis utilizing BLM VRM system in the evaluation of potential impacts from the construction and operation of nearly 1,200 miles of extremely high voltage (500kV) electrical transmission line. Responsibilities included field data collection and production of photographic simulations on multi-state, multi-agency project.

Visual Simulation Lead, TS-5 to TS-9 500/230-Kilovolt (kV) Transmission Line Siting Project and CEC, Northwest Maricopa County, Arizona, Arizona Public Service, 2008: Developed visual simulations in support of an environmental assessment and a CEC application for a 500kV transmission line. Also assisted in producing three DVDs that provided elected officials and various local planning agencies with information regarding the scope, need, and purpose of the project. The third DVD included a virtual over flight of the route alternatives that was used in a testimony to a committee of the Arizona Corporation Commission.

Application Developer, Detroit River International Crossing, Windsor-Essex Parkway Essex County, Ontario, Canada, Ontario Ministry of Transportation, 2009: Provided programming in development of an online interactive map of the project that included photographic simulations and animations. For more information, visit the project's website at www.weparkway.ca.

Visual Simulation Lead, LNG Terminal and Regasification Facility, Coronado Islands, Baja California, Chevron Global Gas, 2003: Each of the platform's 683 lights were modeled using manufacturer(s) values to generate simulations that accurately represented photometric light levels. Simulations were generated from views on the nearby Coronado Islands and from the Baja Peninsula 12.8 km away.

Visual Simulation Lead, San Gabriel Generating Station, Rancho Cucamonga , California, 2008: Developed data-adequate visual simulations that were submitted to the California Energy Commission.

Visual Simulation Lead, Yucca Mountain Rail Environmental Impact Statement, Nevada, United States Department of Energy, 2007: Responsible for visual simulation development in support of the visual resource lead in the preparation of an environmental impact statement.

Visual Simulation Lead, Sithe Desert Rock Energy Environmental Impact Statement, Four Corners, New Mexico, Bureau of Indian Affairs (BIA), 2007: Responsible for visual simulation and visual field photography for the development of an environmental impact statement supporting a 1,500-megawatt, coal-fired power plant in the Four Corners area of New Mexico. The BIA has assumed the role of lead federal agency with cooperating agencies that include the Office of Surface Mining, U.S. Army Corps of Engineers, Environmental Protection Agency (Region 9), and U.S. Fish and Wildlife Service.

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R. Peter Mackin

Vice President, Reliability Services & Principal Electrical Power Systems Analyst

ACADEMIC BACKGROUND

M.S., Electrical Engineering, Montana State University, 1982
B.S., Civil Engineering, Montana State University, 1981

PROFESSIONAL EXPERIENCE

Peter Mackin has over 28 years of power system planning and computer application development experience and has been involved in WSCC/WECC planning and operating activities since 1985. In April of 2006, Mr. Mackin joined Utility System Efficiencies, Inc. (USE) as Vice President, Reliability Services and Principal Electrical Power Systems Analyst. At USE, among other duties, Mr. Mackin has directed and performed system studies to meet the requirements of the WECC Project Rating Review Process.

While employed at Navigant Consulting, Mr. Mackin performed several transmission and resource integration studies for the Alberta Electric System Operator (AESO) as well as generation interconnection studies and transmission feasibility analyses for other clients. Mr. Mackin was a member of the NERC Version 0 and Phase III/IV Standards drafting teams. In addition, Mr. Mackin provided expert witness testimony at FERC in Docket no. ER01-1639-006.

While employed by the California ISO (Cal-ISO), Mr. Mackin performed or reviewed system planning studies for Reliability Must Run generation requirements, new generator interconnection studies, as well as Participating Transmission Owner annual Transmission Assessments. In addition, Mr. Mackin helped develop the Cal-ISO's New Facility Interconnection Policy and Long-Term Grid Planning Policy. Mr. Mackin has provided expert witness testimony regarding six new generation projects before the California Energy Commission.

While employed by Pacific Gas and Electric Co. (PG&E), Mr. Mackin was the lead transmission planning engineer performing transient stability simulations for the 500-kV California – Oregon Transmission Project. In addition, Mr. Mackin performed, supervised or reviewed studies to determine simultaneous import capabilities into California from the Pacific Northwest and the Desert Southwest. For two years, he served as chairman of the work group that undertook these studies comprised of utilities from California, the Northwest, and the Southwest.

Utility System Efficiencies, Inc. 2006-Present

- **California ISO CSRTP Studies. 2006.** Assisted the California ISO with the CAISO South Regional Transmission Planning (CSRTP) studies. These studies were performed to determine the reliability benefits of three major proposed transmission and generation projects in southern California. The projects assessed were the SDG&E Sunrise Powerlink 500 kV transmission line, the LEAPS pumped storage and 500 kV transmission project, and the Tehachapi wind resource area 230 and 500 kV transmission reinforcements.

- **Eastern Plains Transmission Project (EPTP). 2006.** Supervised system studies for Tri-State Generation and Transmission Association for their proposed EPTP and its associated new generation resources. These studies were performed to determine the appropriate project line configuration and series compensation levels for EPTP.

- **MATL WECC Three Phase Rating Process. 2006-2007.** Led the WECC Project Review Group and performed and supervised the WECC Phase 2 rating studies for the Montana Alberta Tie Ltd. (MATL) project. The MATL project is a proposed 230 kV tie line between Lethbridge, Alberta and Great Falls, Montana. This project has a bidirectional rating of 300 MW. The MATL project achieved WECC Phase 3 status in August, 2007.

- **APS SIL Study. 2006-2007.** Supervised studies performed for APS to establish the Simultaneous Import Limits for APS. These studies were performed in accordance with established FERC guidelines as part of a FERC market power filing.

- **Interconnection Application Assistance. 2007-2010.** Provided assistance developing data for interconnection applications for various generator developers (solar, wind and conventional thermal) in California and Nevada. The data developed included models for both steady state and dynamic simulations.

- **Islanding Studies. 2007.** Performed studies to determine appropriate operating limits for either the Burbank system or the combined Burbank and Glendale systems to minimize loss of load and to speed load restoration under various scenarios in which the Burbank or Burbank and Glendale systems become islanded from the rest of the WECC. As part of this analysis, developed a detailed dynamic load model representation for the Burbank and Glendale power systems. Also, developed a reduced equivalent of the WECC system to reduce the time needed to perform the dynamic simulations for this study.

- **High Plains Express. 2007.** Lead the feasibility study effort for the High Plains Express (HPX) project. The HPX project is a proposed 500 kV transmission project extending from Wyoming to Arizona. HPX is being designed to enable the delivery of renewable resources in Wyoming, Colorado, and New Mexico to load centers in Colorado, New Mexico and Arizona.

- **NorthWestern Energy MSTI Project. 2007- Present.** Is currently assisting NWE with the WECC Regional Planning Process and the WECC Project Rating Review Process for the Mountain States Transmission Intertie (MSTI). MSTI is a proposed 500 kV line from western Montana to south central Idaho that is being proposed to provide an outlet for new generation proposed in Montana.

- **Eastshore Energy Center. 2007.** Assisted Tierra Energy, the project developer, in the subject areas of transmission system engineering and local system effects (a.k.a., system benefits) for the Eastshore Energy Center license application before the California Energy Commission.

- **SWIP North Phase 2 Studies. 2009 - Present.** Is currently leading the study effort to establish an Accepted Rating for the SWIP North project, a 500 kV transmission line between Twin Falls, ID and Robinson Summit, NV (near Ely).

- **Wind Integration Studies. 2009 - Present.** Is currently leading a study for a confidential client to analyze the frequency response and the impacts on reserve requirements of large amounts of new wind generation on the WECC, ERCOT, and Eastern interconnections.

- **NCPA and Glendale Water and Power (GWP). 2009.** Led studies for NCPA and GWP to determine if either utility had any Critical Assets. These studies were used as a basis for determining if either utility had any Critical Cyber Assets under NERC Standard CIP-002-1.

Navigant Consulting, Inc. 2001-2006

- **California Power Authority. 2001.** Reviewed or supervised the review of the transmission system impact of 60 proposed projects submitted to the California Power Authority. This review was designed to discover any potential fatal flaws in the transmission interconnection

for each project. This information along with input from other critical subject areas was used to rank the viability of each project.

- **Open Access Tariff Review. 2001.** Reviewed the Open Access Tariff (OAT) of SaskPower to determine compliance with FERC Order 888 and the NERC Available Transmission Capacity (ATC) calculation methodology.

- **Alberta 500 kV System Studies. 2001-2002.** Was the lead technical manager on a project to evaluate 500 kV transmission alternatives for the Alberta Transmission Administrator. This project included steady state, post-transient, and transient simulations to determine power system performance under various scenarios. The objective of this project was to develop preferred alternatives for three different generation development scenarios in the Province of Alberta. Additional analysis performed for these studies included EMF and SSR calculations and EMTP simulations.

- **Independent Consultant's Report for the California Department of Water Resources. 2001-2002.** Revised all major WECC transmission path limitations for input into the production simulation models used to by NCI help evaluate the power purchase contracts signed by CDWR on behalf of the people of the State of California.

- **Other Generation Projects (NCI). 2001-2002.** Reviewed studies and other information to provide clients with feasibility analysis regarding transmission interconnection for various potential generation projects. Also developed dynamic models for some projects to be able to model transient behavior of the new generation project. These potential generation projects ranged in size from 35 MW to over 600 MW.

- **Transmission Project Feasibility Analysis. 2001-2002.** Performed a feasibility analysis for a confidential client to determine the viability of a potential merchant transmission project. Reviewed the transmission studies and supervised the production simulation studies that were used to evaluate the economic potential of the project.

- **Silicon Valley Power Pico Project. 2002.** Was the project manager for the system studies being performed on behalf of Silicon Valley Power to determine the impacts of the Pico Project on the transmission systems of PG&E and Silicon Valley Power. The Pico Project is a 150 MW combined cycle power plant that is located in the City of Santa Clara, California.

- **NERC Facility Ratings Standard Authorization Request Drafting Team. 2003.** Was a member of the team that drafted the Standard Authorization Request (SAR) for NERC Standards FAC-008 to FAC-013 (Determine Facility Ratings, System Operating Limits, and Transfer Capability). This SAR was used as the basis for the new NERC Standards that were recently approved.

- **Alberta Transmission Development – Strategy and Conceptual Studies. 2003.** Was the project manager on a project to evaluate various transmission and generation development scenarios for the Alberta Electric System Operator (AESO). This project determined the transmission reinforcements needed to reliably serve Alberta load under various generation development and power export scenarios. The capital and O&M costs of the needed transmission reinforcements and the market price of the generation were combined in a financial model to determine the NPV for each scenario. These scenarios were then used to show the benefits to Alberta ratepayers of having adequate transmission available to accommodate a generation development near the low cost fuel supply sources.

- **Edmonton – Calgary Transmission Needs Assessment. 2003-2004.** Supervised and performed system planning studies in support of the Alberta Electric System Operator's (AESO) Edmonton-Calgary 500 kV Transmission Development Need Application to the Alberta Energy and Utilities Board. These studies involved powerflow and dynamic simulations of the Alberta electric system to help determine the short-term and long-term

reinforcements needed to reliably and economically serve Alberta load while simultaneously minimizing the amount of congestion on the transmission system.

- **NERC Version 0 Standards Drafting Team. 2004.** Was a member of the team that revised the North American Electric Reliability Council's (NERC) Planning Standards and Operating Practices to create the Version "0" set of NERC Reliability Standards. The Planning Standards and Operating Policies were modified so that they contained only requirements that are needed to maintain power system reliability. These new Reliability Standards will form the foundation of any reliability requirements that might be mandated via federal legislation.

- **Reliability Must Run (RMR) Generation Expert Witness Testimony. 2004-2005.** Provided expert witness testimony for the Western Area Power Administration (WAPA) in FERC Docket ER01-1639-006. Supervised a series of RMR studies that demonstrated the reliability benefits provided to the system by generation units controlled by WAPA. Quantified these RMR benefits using a methodology similar to that used by the ISO to determine the RMR contract payments for RMR generation. All parties to this case agreed to a settlement after the hearing but prior to the issuance of the ALJ's decision.

- **NERC Phase III/IV Standards Drafting Team. 2005.** Was vice chairman of the NERC Phase III/IV Standards Drafting Team. This team is responsible for revising the NERC Phase III/IV Standards to be clear and enforceable, while incorporating the concerns of the industry as reflected in comments that were received on all postings of these standards.

- **Montana Alberta Tie Ltd (MATL). 2005-2006.** Lead the first phase of the WECC Project Rating Review process as well as the WECC Regional Planning Project Review process for the MATL project. Successfully obtained WECC Phase 2 status for this project. The MATL project is a proposed 230 kV tie line between Lethbridge Alberta and Great Falls Montana. This project is has a bidirectional rating of 300 MW.

California ISO Grid Planning 1997-2001

- **1998 Reliability Must Run Study. 1997-1998.** Performed all analyses to determine the minimum generation requirements for the Humboldt, North Valley, Sacramento, Sierra, North Bay and North Coast divisions of Pacific Gas and Electric Co. This work involved steady state powerflow, voltage stability and transient stability analyses. The results of these studies were used by the California ISO Board of Governors to determine the RMR requirements for the ISO control area and to designate generators that would become RMR units for each year. In addition, evaluated proposals for Local Area Reliability Services (LARS) that could serve as alternatives to RMR contracts for maintaining system reliability. These alternatives were evaluated based on, among other criteria, effectiveness, cost, environmental impact, safety, and impact on markets.

- **Alturas Project. 1997-1998.** Represented the ISO on the WSCC review group reviewing the system studies for the Alturas Transmission Project. The Alturas Transmission Project is a 345-kV transmission line that runs from Hilltop substation in northern California to Valley Road Substation west of Reno, NV. As the ISO representative, had significant input into ISO policy regarding the Alturas Transmission Project and its effects on other transfer paths in the WSCC.

- **Transmission Expansion Plans. 1998-2000.** Responsible for reviewing transmission studies and recommended transmission expansion plans for various areas of the ISO controlled grid. For the 1999 Transmission Expansion Plan, reviewed studies and recommended transmission expansion plans for PG&E's North Valley, Sacramento, Sierra, Stockton, Stanislaus, Yosemite, Fresno, and Kern divisions. For the 2000 Transmission Expansion Plan, reviewed studies and recommended transmission expansion plans for PG&E's Humboldt, North Valley, Sacramento, Sierra, Stockton, and Stanislaus divisions.

- **Los Medanos Energy Center (a. k. a., Pittsburg District Energy Facility). 1998-2001.** The Los Medanos Energy Center is a 555 MW combined cycle generator project currently operating in Pittsburg, California. Was responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject area of Transmission System Engineering. Also worked with PG&E and Calpine to develop operating procedures to allow the full output of the plant to be available to serve load following system condition changes that were not studied in the system impact and facility studies.

- **Delta Energy Center. 1998-2001.** The Delta Energy Center is an 880 MW combined cycle generator project located in Pittsburg, California. Was responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject area of Transmission System Engineering. Also worked with PG&E and Calpine to develop additional mitigation plans to allow the full output of the plant to be available to serve load following system condition changes that were not studied in the system impact and facility studies.

- **Three Mountain Power Project. 1998-2001.** The Three Mountain Power Project is a proposed 500 MW combined cycle generator project located in Burney, California. Was responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject area of Transmission System Engineering. Also assisted in negotiations between TANC, PG&E, and TMPP, regarding the issues of congestion management, curtailment priorities, and Existing Transmission Contracts.

- **Computer Model Development. 1999.** Developed an "EPCL" model for the GE PSDS program to simulate the fast governor response of the Humboldt Bay Power Plant to system line faults or system under-frequency events. This model was required to correctly model the power system in PG&E's Humboldt Division, and use of this model allows for more accurate unit commitment in the area.

- **Moss Landing Power Plant Project. 1999-2000.** The Moss Landing Power Plant Project is a 1060 MW combined cycle generator project currently operating east of Moss Landing, California. Was responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject area of Transmission System Engineering.

- **Metcalf Energy Center. 1999-2001.** The Metcalf Energy Center is a 600 MW combined cycle generator project in southern San Jose, California. Responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject areas of Alternatives, Transmission System Engineering and Local System Effects. The Local System Effects testimony was based on studies performed by Mr. Mackin (with assistance from CEC Staff) to determine the local and regional electrical benefits that would result from the construction and operation of the Metcalf Energy Center.

- **Policy Development. 1999-2001.** One of the primary developers of the California ISO's New Generation Interconnection Policy and the ISO's Long-Term Grid Planning Policy. In addition to developing the policies, had significant input in to the development of the Tariff language implementing both policies. Both policies were developed through a comprehensive stakeholder process involving representatives from generators, transmission owners, loads, and regulators.

- **El Segundo Modernization Project. 2000-2001.** The El Segundo Modernization Project is a 280 MW (net increase) combined cycle generator project planned to be located at the site of the existing El Segundo Generating Station located in the city of El Segundo, California. Was responsible for reviewing all system impact and facility studies associated with this project to make sure that the project would meet all applicable local and regional reliability criteria. In addition, provided expert witness testimony before the California Energy Commission in the subject area of Transmission System Engineering.

- **Other Generation Projects. 2000-2001.** While at the ISO, was responsible for reviewing all studies for each individual generation project to ensure that the project was in compliance with local and regional reliability criteria. During 2000 and 2001, was responsible for 36 different generation projects (six of these are listed above). In addition to reviewing studies, was also responsible for tracking internal ISO processes to make sure that when each of these generators was ready to synchronize to the ISO controlled grid, all internal ISO requirements had been met.

- **August 10 Validation Study and System Model Development. 2000-2001.** Was one of six task force members that developed "interim" modeling recommendations for WSCC operating transfer capability studies. The task force investigated various model parameters (e. g, induction motor models, motor inertia, multi-terminal DC, gas turbine, steam and hydro governors among others) before developing a recommendation that all operating study cases should model induction motors for approximately 20% of the system load. This recommendation was then benchmarked against a well-documented system disturbance, the August 10, 1996 collapse of the WSCC system. The task force is currently investigating additional load modeling parameters, and is working on developing a long-term load modeling recommendation for the WSCC system.

Pacific Gas and Electric Co. 1983-1997

- **Computer Model Development. 1985-1995.** Helped develop a revised Static VAr Compensator model for the WSCC transient stability program. This revised model incorporated a non-windup limiter on the firing angle control of the SVC. Also helped develop the "MaxFlow" program. This program is a DC powerflow model that uses linear programming techniques to determine the maximum flow on any particular system element for any possible combination of a defined list of system inputs. This model is especially useful in determining the system impact of transmission contracts that allow any load to be served from any generation source.

- **California – Oregon Transmission Project. 1985-1993.** Was the lead transmission planning engineer for PG&E performing transient stability simulations for the 500-kV California – Oregon Transmission Project. The California – Oregon Transmission Project is a 340-mile, 500-kV transmission line between Oregon and California. This project was placed in service in March of 1993.

- **California Simultaneous Import Studies. 1991-1994.** Performed, supervised or reviewed operating studies to determine simultaneous import capabilities into California from the Pacific Northwest and the Desert Southwest. For two years, served as chairman of the work group that undertook these studies. The study work group was comprised engineers from utilities in California, the Northwest, the Rocky Mountain region, and the Southwest.

- **Transmission Oriented Production Simulation**. **1993-1994.** Lead PG&E representative on the WSCC Transmission Oriented Production Simulation Program Development Task Force. This task force developed a recommendation to WSCC management regarding program requirement to accurately model transmission system constraints in a production simulation program. In addition, this task force evaluated products on the market or under development to develop a recommendation to WSCC management regarding program

packages that could potentially meet the requirements developed in the first recommendation.

- **Area Planning. 1995-1997.** Responsible for all Area Transmission planning activities for PG&E's North Valley Division. This work included forecasting division transmission loads, basecase development, contingency analysis, problem identification, solution development, and recommendation to Management on the appropriate projects to maintain system reliability.

- **Simultaneous Transfer Limit Studies. 1997.** Served as a PG&E representative on Operating Capability Study Group (OCSG), a work group of utility engineers that was formed following the major WSCC system disturbances on July 2, July 3, and August 10, 1996. The OCSG developed modeling and study methodologies to ensure that simultaneous transfer limits determined from the studies would be conservative and not result in system collapse if a major disturbance were to occur while operating at the determined limits.

Power Systems Analysis Tools

- General Electric PSLF/PSDS - 12 *Years*
- WSCC Interactive Power Flow System (IPS) and WSCC Stability - *12 Years*
- Power Technologies, Inc. PSS/E - *2 Years*

Professional Associations and Committee Memberships

- WECC Disturbance Monitoring Work Group, Chair, 2004 – 2007
- WECC Disturbance Monitoring Work Group, Member, 2004 – Present
- WECC Planning Coordination Committee, Member, 2004 - Present
- WECC/WSCC Technical Studies Subcommittee, Member, 2001 - 2005
- WSCC Modeling and Validation Work Group, Member, 1997 – 2001
- Sacramento Area Transmission Planning Group, Member, 1998 – 2001
- Sacramento Valley Study Group, Member, January 1999 – 2001
- Operating Capability Study Group (OCSG), Member, 1997
- Operating Studies Subcommittee (OSS), Member, 1994 –1997, 2001 - 2006
- WSCC Transmission Oriented Production Simulation Program T.F., Member, 1993–1994
- WSCC PAST Technical Studies Work Group, Chairman, 1991-1992
- WSCC PAST Subcommittee, Member, 1991-1992
- WSCC PAST Study Methodology Review Work Group, Member, 1991-1994
- WSCC Program Work Group, Member, 1985-1990
- IEEE Power Engineering Society, Senior Member

Publications and Presentations

"AN INTERIM DYNAMIC INDUCTION MOTOR MODEL FOR STABILITY STUDIES IN THE WECC" L. Pereira, D. Kosterev, P. Mackin, D. Davies, J. Undrill, and W. Zhu, IEEE Transactions on Power Systems, pgs 1108-1115, November 2002

"Grid Planning and Generator Interconnection In California", P. Mackin, EUCI Congestion Management Conference, Denver, CO; June 22-23, 2000

"Power System Stability Controls in a Restructured Industry – The California ISO Perspective", P. Mackin, IEEE/PES 1998 Summer Power Meeting, San Diego, CA; July 13-17, 1998

"SUBTRANSMISSION REDUCTION FOR VOLTAGE INSTABILITY ANALYSIS"; J. McCalley, J. Dorsey, J. Luini, P. Mackin, G. Molina; IEEE/PES 1992 Winter Power Meeting; New York, NY; January 26-30, 1992

William H. Martin

Project Biologist

Areas of Expertise

Environmental Permitting
NEPA/CEQA Compliance
Project Management
Marine Biology

Years of Experience

With URS: 23 Years
With Other Firms: 1 Years

Education

BS/Biological Oceanography/
1983/Humboldt State University

Overview

Mr. Martin has over 20 years of technical and project management experience on a wide variety of projects and is experienced in the preparation of environmental documents pursuant to the requirements of CEQA and NEPA. He has also conducted environmental permitting on numerous projects. He has acted as principal author and managed multidisciplinary teams on environmental documents for both large and small projects.

Mr. Martin is well versed in federal, state, and local environmental laws and regulations and works frequently with agency personnel from the U.S. Army Corps of Engineers, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, NOAA Fisheries, and the Regional Water Quality Control Boards. His experience includes preparation of permit applications and/or compliance with Section 404 (wetlands) and 401 (water quality) of the Federal Clean Water Act, San Francisco Bay Conservation and Development Commission Permitting, California Fish and Game Stream Alteration Agreements, and Federal and State Endangered Species Act compliance.

Project Specific Experience

Biologist, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Managed preparation and performed senior review of the biology section of the Application for Certification for the proposed Marsh Landing Generating Station.

Biological Resources Task Manager, Trans Bay Cable Project, Contra Costa and San Francisco Counties, CA, Babcock and Brown: Proposed project would install a DC electrical cable in the San Francisco Bay floor from Pittsburg, CA to San Francisco, CA. Conducted biological impact analysis and prepared EIR sections for this project. Key issues were the impacts of installation and maintenance of the cable, as well as potential effects of electromagnetic field (EMF) and heat generation to fish and benthic organisms from cable operation. Attended public meetings to address public concerns about the project.

Environmental Permitting Manger, Bay Division Tunnel (Bay division pipeline) Geotechnical Investigations, South San Francisco Bay Area, CA, San Francisco Public Utilities Commission (SFPUC): Obtained environmental permits for geotechnical drilling and seismic surveys in San Francisco Bay. Permits obtained included US Army Corps of Engineers Section 404; Section 401 Water Quality Certification from the Regional Water Board; State Lands Commission entry permits; Marine Mammal Incidental Harassment Authorization (IHA) from NOAA fisheries (for seismic surveys). Conducted biological analysis and prepared biological assessment and mitigation measures for work in sensitive areas.

William H. Martin

Project Manager. Environmental Permitting for the Dumbarton Bridge Seismic Upgrade Project, Caltrans District 4 and Bay Area Toll Authority (BATA). Alameda and San Mateo Counties, CA. Managing biological studies and preparation of environmental permits for seismic retrofit of the Dumbarton Bridge (State Route 84 in Alameda and San Mateo Counties). The project includes preparing biological assessments to obtain biological opinions from US Fish and Wildlife Service and the National Marine Fisheries Service, a natural environment study, wetland delineation, an Incidental Harassment Authorization (IHA) for pile driving noise impacts to marine mammals, and permits from several additional agencies. Successfully obtained all permits, including Section 404, 401, BCDC, and the IHA well ahead of the Caltrans "Ready-to-List" date.

Project Manager, CEQA Compliance and Environmental Permitting, Topock Water Intake Project, PG&E: Managed preparation of an Initial Study and CEQA checklist as well as all environmental permit applications (404, 401, 1602, State lands Commission and Havasu National Wildlife Refuge) for a new water intake system on the Colorado River. Prepared cultural resources report and biological assessment. Conducted informal consultation with USFWS.

Project Manager, Uvas Creek Bridge Replacement Project, Santa Clara County, CA, Caltrans District 4: Managed biological studies and preparation of environmental permits (Section 404 and 1602) for replacement of the Uvas Creek Bridge on State Route 152 in Santa Clara County. The project included preparation of conceptual and comprehensive mitigation plans for listed species and sensitive habitat restoration and enhancement. Managing construction monitoring, including relocation of listed fish species in Uvas Creek.

Project Manager, Pigeon Pass (SR 84) Improvements Project, Alameda County, CA, Caltrans District 4: Managing $1.2 million construction monitoring and mitigation planning project. Project consists of daily mitigation monitoring and environmental awareness training of construction workers pursuant to the Biological Opinion for the project to protect species including California tiger salamander, red-legged frog and San Joaquin kit fox. Project also includes identifying and developing off-site mitigation for riparian habitat as well as designing on-site mitigation for wetland impacts.

Project Manager, State Route 222 – Russian River Bridge Replacement Project, Mendocino County, CA, Caltrans District 1: Managed preparation of an Initial Study/Mitigated Negative Declaration for replacement of the State Route 222 Bridge over the Russian River in Mendocino County, CA. Issues included listed fish species and impacts from removal of riparian vegetation, in-water pile driving, and diversion of the Russian river, as well as traffic and construction staging. Also conducted environmental permitting for the project.

Julie A. Mitchell

Air Quality Scientist

Areas of Expertise

Air Quality Impact
Health Risk Assessment
Air Quality Modeling
Visibility Modeling
Greenhouse Gas Studies
Meteorological Analysis
Hazardous Materials Risk Analysis
Computer Programming

Years of Experience

With URS: 11 Years
With Other Firms: 6 Years

Education

BSc/Atmospheric Sciences/ University of British Columbia/ 1994

BSc/Mathematics and Computer Science/McGill University/ 1993

Overview

Ms. Mitchell has worked in the air quality consulting field since 1994. Ms. Mitchell is responsible for technical oversight of air quality work which includes permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, and air quality and meteorological monitoring, primarily for industrial facilities in the US and abroad. Her technical specialties include operation and assessment of air dispersion models for air quality and health risk impact assessments, evaluation of greenhouse gas emissions, meteorological data analysis, and computer programming to process data or modify air dispersion models.

Project Specific Experience

Air Quality Impact and Health Risk Assessment Studies:

- Analyzed the air quality, public health and hazardous materials impacts from the addition of the Marsh Landing and Willow Pass Generating Stations at the Contra Costa and Pittsburg Power Plants, respectively, for AFC and ATC applications. The air quality analysis examined the impacts from criteria pollutants against the NAAQS, CAAQS, BAAQMD and EPA standards. Health risk impacts were analyzed using the HARP model. Greenhouse gas emissions were calculated using the CCAR protocols. The offsite consequence analysis of the aqueous ammonia was conducted using SCREEN3 with EPA and CalARP impact estimations. Deposition impact to nearby sensitive species were examined.

- Air Quality and Public Health Technical Manager. Hydrogen Energy California (HECA) Project, an Integrated Gasification Combined Cycle (IGCC) 250 MW power plant near Bakersfield, California. HECA plans to gasify petcoke and/or coal to create hydrogen gas to power a combined cycle combustion turbine. 90% of the project CO_2 will be sequestered in a nearby oil field. AFC, ATC and PSD applications were prepared for CEC, SJVAPCD and EPA, respectively. The applications provided estimations of criteria pollutants, toxic air pollutants and greenhouse gases. Local criteria impacts were assessed using the AERMOD model and air toxics with AERMOD/HARP. Class I impacts were analyzed using CALPUFF. Visible plume modeling for CEC was conducted with the SACTI model for cooling towers and CSVP for the CTG/HRSG.

- Air quality and public health technical manager for the San Joaquin Solar 1 & 2 Hybrid Project near Coalinga, California. The project consists of two collocated plants, each sized for a nominal 53.4 MW net of solar generation, complemented by 40 MW net of biomass-generated production, fueled with agricultural wood waste and municipal green wastes. Prepared the public health and air quality

sections of the Application for Certification for the California Energy Commission and the Air Permit Application for the SJVAPCD. The air quality analysis examined the impacts from criteria pollutants against the NAAQS, CAAQS, and SJVAPCD standards. Health risk impacts were analyzed using the HARP model. Short-term effects from constructing the power plant were also analyzed. Greenhouse gas emissions were calculated using EMFAC, OFFROAD and CCAR protocols for both operational and construction phases.

- Air quality and public health technical manager for the Sentinel Energy Project (850 MW peaker plant) near Palm Desert, California. Prepared the public health and air quality sections of the Application for Certification for the California Energy Commission. The air quality analysis examined the impacts from criteria pollutants against the NAAQS, CAAQS, and SCAQMD standards. The near field visibility was analyzed using VISCREEN and PLUVUE II. Health risk impacts were analyzed using the HARP model. Short-term effects from constructing the power plant were also analyzed. Greenhouse gas emissions were calculated using the CCAR protocols.

- Public health technical lead. Evaluated the air quality and air toxics health risk impacts from re-powering the Unit 3 boiler with a new turbine/HRSG with new pollution controls for the El Centro Generating Station for a Small Power Plant Exemption Application for the California Energy Commission and Imperial County Air Pollution Control District. The application involved operational and construction air quality impact analyses using ISCST3, Class I regional haze, deposition and criteria pollutant analyses using CALPUFF, and air toxics health risk assessment using HARP. The potential impacts from an accidental release of anhydrous ammonia were evaluated with the dense gas model SLAB.

Hazardous Materials Risk Analysis

- To assess the risk from hazardous materials associated with the expansion of the Contra Costa Power Plant operated by Mirant Corporation in Contra Costa County California, URS conducted an offsite consequence analysis for the Hazardous Materials Handling section for the Application For Certification to the California Energy Commission for a new 500 MW combined cycle generating unit. The OCA was also used in developing a Program 1 Risk Management Plan for compliance with CalARP to address aqueous ammonia unloading, storage and handling facilities associated with the proposed new unit, as well as SCR retrofits on three existing utility boiler units. A statistical transportation analysis was also conducted to determine the potential risk of an accident associated with trucks transporting aqueous ammonia to the plant. Additionally, a plume visibility analysis from the turbine stacks with the CSVP model and an analysis of the health risks due to the ammonia slip associated with the SCR on the turbines were performed.

Resume of Rhett Moore, PH

Senior Hydrologist

As Senior Hydrologist, Rhett is the project manager for all large, complex groundwater projects.

Professional Experience:

Layne Christensen Co.	Senior Hydrologist	(2008-Present)
WHPA	Principal Hydrologist	(2000-2008)
U.S. Geological Survey	Water Quality Specialist	(1997-2000)
U.S. Geological Survey	Hydrologist	(1993-1997)
Oak Ridge National Lab	Research Intern	(1991-1992)

Representative Projects

Wellfield Analysis, HDR Engineering — Assessed performance of new wells in the Lewis and Clark Wellfield, located along the Missouri River in South Dakota. The project included oversight and analysis of performance tests of three angle wells and two vertical wells. The test results were analyzed and incorporated into a groundwater flow model used to evaluate the combined effects of pumping all of the wells. We evaluated the potential impacts of pumping and advised the client where to invest in the future to maximize yield.

Aquifer Characterization and Water Supply Investigation: City of Charlestown, Indiana
Project manager for aquifer characterization study of a wellfield located on the Ohio River. The study was performed in order to evaluate potential operational scenarios for improving water quality. The study included exploratory drilling, an aquifer test to characterize water quality and quantify aquifer properties, and groundwater flow modeling.

Aquifer Characterization and Wellfield Design: Pine Bluff, Arkansas
Project manager for a site investigation and RBF well field design. This included field investigations of the aquifer characteristics, regional and local groundwater modeling, and well design for six radial collector wells. In addition, the industrial client hired WHPA to predict water-quality parameters, especially temperature, iron, and manganese, and assess the difference between the RBF water quality and the Sparta Aquifer water that is currently used by the industrial facility.

Education
- M.S., Envrionmental Science, Indiana University - Bloomington
- B.S., Engineering Scientist and Machanics, University of Tennessee - Knoxville

Professional Licenses
- Professional Hydrologist American Institute of Hydrology No. 08-HG-1820
- Indiana Water Well Driller # 1507

Professional Affiliations
- Indiana Water Resources Association
- American Water Works Association

Areas of Specialized Competence

Surface Water and Groundwater Monitoring

Groundwater/Surface Water Interaction

Water-Quality Sampling and Analysis

Groundwater Flow Modeling

Aquifer Testing and Characterization

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Ronald E. Reeves

Senior Project Scientist

Areas of Expertise

Airport Environmental Studies

Industrial Noise Assessments

FAR Part 150 Noise Land Use Compatibility Studies

Aircraft Noise Abatement Procedures Development and Evaluation

Highway Noise Assessments

Construction Noise Assessments

Years of Experience

URS: Four Years

Over 15 Years Noise Control Experience With Other Firms

U.S. Marine Corps
Tactical Pilot Combat Qualified in F-4S/RF-4B Aircraft (Eight Years)

Education

B.S. Information Systems 1982
Western Carolina University

Designated Naval Aviator 1985
U.S. Naval Air Training Command

Registration / Certification

Institute of Noise Control Engineering-Member

Licensed Commercial Pilot
Airplane, Single and Multi-Engine
Instrument Rating

Overview

Mr. Reeves has over nineteen years of combined transportation and industrial noise control experience. Included in this experience are numerous airport, power generation facility, and transportation-related community noise exposure studies including the development of noise exposure contours utilizing the Federal Aviation Administration's (FAA) Integrated Noise Model, the U.S. Air Force's NOISEMAP aircraft noise modeling software, Federal Highway Administration's Traffic Noise Model and CADNA/A® modeling software. Mr. Reeves has managed all facets of these studies including the design and conduct of noise measurement surveys, operational data analysis, spatial data analysis, aircraft ground maintenance run-up analysis, airspace implications on community noise exposure, design of aircraft noise mitigation measures and computer model validation.

Representative Project Experience:

Task Manager, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Responsible for the preparation of the noise analysis and Noise Section of the Marsh Landing Generating Station Application for Certification. The facility is a 760-MW natural gas fired plant consisting of four simple cycle Siemens 5000F units and associated auxiliary systems.

Task Manager, Quantification of Environmental Impacts Associated With Retrofit of Closed-Cycle Condenser Cooling to Power Plants with Open Cycle Operation, Electric Power Research Institute (EPRI): This project involved the analysis of environmental impacts associated with the introduction of cooling towers at facilities currently operated using open cycle cooling technologies. The study encompassed a mix of fourteen coal fired, natural gas fired, and nuclear facilities throughout the U.S. Potential noise impacts from cooling system conversion on humans and wildlife habitats were evaluated. The project was conducted in order to provide input to the US EPA during their development of a revised "Phase II Rule" to address Section 316(b) of the Clean Water Act.

Task Manager, San Gabriel Generating Station, Rancho Cucamonga, California, Reliant Energy: Noise Task Manager for the preparation of the San Gabriel Generating Station Application for Certification. The facility is a natural gas fired combined cycle plant with a nominal power output of 615 megawatts consisting of two Siemens 5000F combustion turbine generators, two supplemental fuel heat

recovery steam generators, and one steam turbine generator. The change in the noise environment at sensitive receptor locations was assessed using CADNA/A® noise analysis software

Task Manager, Sentinel Generating Station, Desert Hot Springs, California, Competitive Power Ventures: Noise Task Manager for the preparation of the Sentinel Generating Station Application for Certification. The facility is a natural gas fired simple cycle plant with a nominal power output of 800 megawatts consisting of eight General Electric LMS-100 combustion turbine generators and ancillary equipment.

Task Manager, Colusa Generating Station, Colusa County, California, E & L Westcoast LLC: Noise Task Manager for the preparation of the Colusa Generating Station Application for Certification. The facility is a natural gas fired plant consisting of two GE 7FA class (PG7241) combustion turbine generators, two triple-pressure heat recovery steam generators, and one reheat condensing steam turbine equipped with an induction pressure stage. The facility is designed for a nominal power output of 660 megawatts.

Task Manager, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Noise Task Manager for the preparation of the Willow Pass Generating Station Application for Certification. The facility is a natural gas fired plant consisting of two combined cycle Siemens Flex Plant 10 units, heat recovery steam generators (HRSGs), two steam generator turbines, air-cooled heat exchangers, and associated auxiliary systems. The facility was required to meet exacting acoustic specifications as the power generation units were located within 750 feet of an established residential area. Innovative acoustic mitigation measures were employed to meet California Energy Commission requirements and to minimize community noise impacts.

Task Manager, Watson Generating Station, Carson, California, British Petroleum: Noise Task Manager for the preparation of the Watson Generating Station Application for Certification. The project involved adding generating capacity to an existing facility in order to meet the energy needs of a co-located petroleum refinery. Detailed modeling of a complex acoustical environment was required.

Raymond Rice, P.G., C.E.G.

Senior Geologist

Areas of Expertise

Engineering Geology
Geologic Hazard Assessment
Contamination Assessment
Environmental Impact Analysis

Years of Experience

With URS: 43 Years
With Other Firms: 0 Years

Education

M.A./Geology/1967/Rice University
A.B./Geology/1964/Lafayette College
B.S./Civil Engineering/1964/
Lafayette College

Registration/Certification

1970/Professional Geologist/
California/No. 2039
1970/Certified Engineering
Geologist/California/No. 631

Overview

Mr. Rice has more than 40 years of experience on engineering geology projects and geologic hazard evaluations involving siting studies; landslide investigations, including design and construction of corrective measures; fault hazard assessments; natural and cut slope stability; and construction considerations ranging from construction material availability and suitability to ease of excavation. His experience includes geologic hazards and soils analysis for Applications for Certification for three power plants in northern California. He has also worked on highways, tunnels, dams, high-rise structures, nuclear power plants, and other major engineering projects, including use of geophysical and remote sensing techniques.

Project Specific Experience

Task Manager, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Responsible for soils, geology and seismicity portion of the Application for Certification for the proposed 760-megawatt generation facility. The natural gas facility would include four simple-cycle units. The plant would use brackish groundwater from onsite wells and dry cooling technology. The application is currently in the California Energy Commission's review process.

Task Manager, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Responsible for preparing the soils, geology and seismicity section of the Application for Certification for the proposed 500-megawatt generation facility. The plant would use recycled water from the local sanitation district and dry-cooling technology. This project is currently in the California Energy Commission's review process.

Task Manager, Contra Costa Power Plant Unit 8, Contra Costa County, California, Mirant Corporation: Aided in preparation for an Application for Certification for a 530 megawatt natural-gas–fired combined cycle power plant located on the site of an existing power plant. The project included two combustion generators, one steam turbine generator, and two heat recovery steam generators equipped with selective catalytic reduction; a wet cooling tower; and other ancillary facilities. Oversaw preparation of the geologic hazards and resources chapter for the Application for Certification.

Task Manager, Potrero Power Plant Unit 7 Project, San Francisco, California, Mirant Corporation: The project entailed the preparation of an Application for Certification for a 540 MW natural-gas–fired combined-cycle power plant located in the central waterfront area adjacent to San Francisco Bay on the site of an existing power plant. The site will house several generators, including two combustion turbines, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction. The design of the Unit 7 power plant features

once through cooling using water from the Bay. Project responsibilities included preparation of the geologic and soils-related aspects of the environmental document. The major issue was soil and groundwater contamination from previous onsite industrial activities. Included testimony before the California Energy Commission. The application was eventually withdrawn.

Principal Investigator, Colusa Power Plant, Colusa County, California, Reliant Energy: Reliant Energy proposed to construct a nominal 500 megawatt combined cycle gas-fired power plant in rural Colusa County. Project responsibilities included the preparation of the soils, geology, geologic hazards, and groundwater sections of the Application for Certification.

Technical Reviewer, Hydrogen Energy California (HECA), Kern County, California: Reviewed regional and local geology of the Elk Hills Oil Field along with proposed carbon sequestration methodology being proposed by applicant.

Task Manager, San Gabriel Generating Station, Rancho Cucamonga, California, San Gabriel Power Generation, LLC: Managed the data collection and preparation of the geologic hazard and resources section of the Application for Certification for an approximate 650 megawatt gas-fired combined-cycle generation facility in San Bernardino County.

Task Manager, CPV Sentinel Energy Project, Riverside County, California, CPV Sentinel, LLC: Managed the data collection and preparation of the geologic hazard and resources section of the Application for Certification.

Jonathan A. Sacks, CFA

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EXPERIENCE

MIRANT CORPORATION, Atlanta, GA

Senior Director, Business Development and Transactions, 2008-Present
Director, Business Development and Transactions, 2006-2008
Director, Business Operations—Mid-continent, Texas, and Southeast, 2004- 2006
Manager, Business Operations—Texas and Southeast, 2003- 2004

Direct all Mirant business development activities in Western region. Responsible for strategic, permitting, contracting, financing, regulatory, and development activities. Led process to maximize California development strategy and now implementing recommended strategy upon approval by executive management. Identified technology and supplier decisions to maximize value and respond to customer needs. Negotiated all energy off-take, development, and supply contracts. Managed business opportunities and operations of multiple power plant sites, conducted and updated regular asset valuations, identified business expansion opportunities to increase asset values, managed contractual relationships with all vendors and customers, developed and implemented output marketing strategy, coordinated risk management and compliance strategies, and regularly presented updates and recommendations to senior management to enhance asset values.

- Directing efforts to permit, finance, and construct over 1,300MW of new natural gas-fired generation with a total capital budget in excess of $1.1B negotiating off-take agreement, equipment supply contract and EPC contract. Also responsible for leading projects through all government approval processes.
- Managed divestiture process of multiple power plant sites netting proceeds in excess of $1.6B. Managed financial valuations, coordinated bid solicitation and due diligence efforts, negotiated definitive documentation, presented deal terms to senior management and managed all transition efforts to buyers.
- Negotiated long-term agreements for the output of 2 power plants working closely with technical and legal groups to ensure proper documentation of terms and conditions. Conducted all financial analysis of contract terms to quantify annual cash flow, net income, and return ratios. Modeled downside risk from liquidated damage provisions and performance guarantees to ensure profitability metrics were achieved.
- Facilitated all aspects of an undeveloped power plant site sale from broker selection and marketing strategy to pricing and buyer negotiations—ultimately contracting at a price in excess of list price and 50% higher than local comparable sales.
- Manage lender relationship of a $150MM project financing including overseeing timely completion of contractual requirements and updating agent bank on asset issues and performance. Successfully executed financing restructuring allowing $10MM dividend while lowering interest rate and extending maturity date.
- Initiated and negotiated a 7-year tax abatement generating tax savings of $1.25MM at a facility in Texas.
- Solicited bids from alternate energy suppliers reducing electric supply costs by 60%, saving $200K/year.
- Nominated for and completed high potential employee Leadership Development Program.

Investment Evaluation Manager, 2001-2003

Co-managed a team of 8 analysts and directed capital investment and asset disposition processes establishing investment criteria based on risk-adjusted returns and investment volatility while streamlining corporate investment to core subsidiaries. Served as the commercial representative and financial liaison to project directors and external financial advisors for multiple strategic transactions.

- Led disposition of Mirant's ownership of Western Power Distribution, a British electric distribution company for $1.3B. Negotiated transaction price and purchase agreements with buyer and presented valuation and sale recommendation to senior management.
- Managed divestiture process for 2 power plant sites. Prepared electronic data rooms and facilitated all aspects of bidder interaction. Prepared management presentation detailing bids received, economic analysis, sale accounting and tax impacts, strategic evaluation, and comparison to internal asset valuation. With project director, negotiated all aspects of purchase contracts with short-listed bidders identifying major outstanding deal issues and proposing potential compromise positions while evaluating relative economic trade-offs.

- Reviewed proposals for investments in natural gas exploration and production (E&P) providing investment recommendations to senior management.
- Developed and implemented capital budgeting guidelines and hurdle rates incorporating risk adjusted returns, volatility, and standardized return measures and proforma presentation facilitating vertical and horizontal ratio analysis.

Project Finance Manager, South Region, 2001

Responsible for executing valuations and recommendations for business development activities in Southeastern US. With the project director, conducted all aspects of acquisition analysis and corporate integration. Managed operational, technical, and financial integration of acquired assets into Mirant corporate structure while supporting accounting, financial planning, tax, market analysis, and human resources efforts.

- Negotiated all transaction documents and managed due diligence efforts related to acquisition of two power plants for $530MM. Managed due diligence process of acquisition including document review and proforma development. Presented acquisition analysis to senior management identifying value drivers, value-added opportunities, and major valuation assumptions. Negotiated purchase documents and managed corporate integration with financial planning, tax, operations, and asset management groups.
- Valued acquisitions of 2 medium-sized independent power producers and provided qualitative analysis of strategic benefits, potential operating and financial synergies, and market positioning. Recommended against each acquisition based on overlapping geographic markets and lack of strategic fit into corporate portfolio.
- Prepared financial and strategic evaluations of vertical and horizontal value chain expansion strategies into industries such as coal mining, desalination, and liquefied natural gas (LNG).
- Performed market assessments of Southeastern electric markets to identify target regions.

SOUTHERN COMPANY, Atlanta, GA

Staff Financial Analyst, Wholesale Generation & Greenfield Projects, 1999-2001

Served as lead financial analyst on 15,000 MW of wholesale electric generation projects providing financial forecasts, hurdle rates, economic performance benchmarks, and ensured modeling accuracy of all proposals.

- Developed project proformas for over 3,000 MW of new generation built in Southeastern US.
- Performed cost of capital/capital structure studies for unregulated generation business.
- Valued and identified strategic value of joint venture proposals in shallow-water natural gas E&P business, coal gasification, and petroleum coke.
- Taught finance classes to non-financial managers.

Senior Financial Analyst, Energy Solutions business, 1998-1999

- Executed multiple takeovers of security companies for PowerCall business unit.
- Conducted strategic/financial business reviews of underperforming business units and recommended corrective courses of action to management.
- Created business plans and financial forecasts for unregulated services and new product initiatives such as distributed generation, customer service, payment protection, competitive metering, and surge protection.

EDUCATION

MBA, GOIZUETA BUSINESS SCHOOL–EMORY UNIVERSITY; ATLANTA, GA, 1998
BBA, FINANCE, THE UNIVERSITY OF TEXAS AT AUSTIN, 1995
BA, ECONOMICS, THE UNIVERSITY OF TEXAS AT AUSTIN, 1995

ADDITIONAL DATA

Holder of Chartered Financial Analyst (CFA) designation

Erik Skov, P.G. C.H.G.

Waste Management/Geologic Hazards and Resources

Areas of Expertise

- Site Characterization and Remediation
- Engineering Geology
- Remedial Action Plan Preparation
- Remedial Investigations at State Superfund Sites
- Subsurface Soil/Groundwater Investigations
- CEQA/NEPA Support
- Due Diligence/Auditing

Years of Experience

- With URS: 21 Years
- With Other Firms: 0 Years

Education

- B.A./Geology/1988/Humboldt State University

Registration/Certification

- California/Registered Geologist/No. 7470
- California State Certified Hydrogeologist/No. HG 892

Specialized Training

- 40-Hour Hazardous Waste Operations Training
- 8-Hour Annual Review
- 8-Hour Supervisors Training Course
- First Aid/CPR

Overview

Erik Skov has more than 21 years of experience providing due diligence and hazardous waste management services, including subsurface investigations involving extensive soil and groundwater sampling, monitoring well design and installation, aquifer testing, data interpretation, reporting, and remedial action plan preparation and implementation. Additionally, he also provides support for CEQA and NEPA projects and CEQA equivalent AFC projects in the areas of hazardous materials, geology, and soils as well as participating in engineering geology studies, including siting investigations for hospitals, municipal landfills, and natural gas pipelines; and provides data input for slope stability investigations.

Project-Specific Experience

Task Leader, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC. Managed the data collection and preparation of the Waste Management section of the Application for Certification for a new gas-fired generation facility in Contra Costa County, California. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC. Managed the data collection and preparation of the Waste Management section of the Application for Certification for a new gas-fired generation facility in Contra Costa County, California. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, San Gabriel Generating Station, Rancho Cucamonga, California, Reliant Energy. Managed the data collection and preparation of the Waste Handling section of the Application for Certification for an approximate 650 megawatt gas-fired combined-cycle generation facility in San Bernardino County. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordinances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Colusa Power Plant, Colusa County, California, Reliant Energy. Managed the data collection and preparation of the Waste Handling section of the Application for Certification for a 500 megawatt gas-fired combined-cycle generation facility in Colusa County. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Colusa Generating Station, Colusa County, California, Competitive Power Ventures (CPV). Managed the data collection and preparation of the Waste Handling section of the Application for Certification for a 660 megawatt gas-fired combined-cycle generation facility in Colusa County. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Sentinel Energy Project, Riverside County, California, Competitive Power Ventures (CPV). Managed the data collection and preparation of the Waste Handling section of the Application for Certification for a 850 megawatt gas-fired simple cycle generation facility in Riverside County, California. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Technical Support, Potrero Power Plant, San Francisco, California, Mirant Corporation. Provided technical support for topics such as waste management, hazardous materials generation and handling, site investigation, and compliance with regulatory standards for a 540 megawatt natural gas-fired combined-cycle plant.

Joe Stewart, Ph.D.

Principle Paleontologist

Areas of Expertise

Paleontology

Years of Experience

Total: 34 Years
With URS: 3 Years
With Other Firms: 5 Years

Education

PhD/Systematics & Ecology/ 1984/University of Kansas
MA/Systematics & Ecology/ 1979/University of Kansas
BA/Biology/ 1974/University of Kansas

Registration/Certification

Certified Paleontologist/Orange and Riverside Counties, California
Society of Vertebrate Paleontolgy

Overview

Joe Stewart is a vertebrate paleontologist with over 30 years of experience in paleontology and 24 years of experience in the geology and paleontology of California, particularly in Merced, Fresno, Kern, Santa Barbara, Los Angeles, Orange, Riverside, Imperial, and San Diego counties. Joe has been involved in the permitting or construction of six power plants. He directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project, and is managing the paleontological aspects of permitting for the Gateway West transmission line project in Idaho and Wyoming. He has worked with BLM staff in California, Nevada, Idaho, and Wyoming, and holds permits in those states. His publications include 30 peer-reviewed articles in books and journals. His research specialties are fossil fishes and Pleistocene vertebrate faunas.

Project Specific Experience

Project Paleontologist, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Directed paleontological resource assessment for proposed 760-MW gas turbine power plant. Conducted pedestrian survey for paleontological resources and literature search, and wrote the paleontological resource section of the Application for Certification.

Project Paleontologist, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Performed paleontological pedestrian survey of project area in Contra Costa County and wrote the paleontological resource section of the Application for Certification.

Project Paleontologist, Calico Solar Project, San Bernardino County, California, Calico Solar, LLC: Directed paleontological resource assessment of 18,000 acres of federal land and wrote the Application For Certification paleontological resource section.

Project Paleontologist, Hybrid Solar Energy project, Fresno County, California: Directed paleontological resource assessment of one square mile of private land and wrote the Application for Certification paleontological resource section.

Project Paleontologist, Imperial Valley Solar Energy Project, Imperial County, California, Imperial Valley Solar, LLC: Participated in paleontological resource assessment of 45,000 acres of federal land. Participated in pedestrian survey for paleontological resources and literature search, assisted BLM in recovery of significant fossils discovered, and edited the Application for Certification paleontological resource section.

Project Paleontologist, Niland Gas Turbine Plant Phase III Project Construction, Niland, California, Imperial Irrigation District:

Joe Steward, Ph.D.

Supervised paleontological resource monitoring and recovery program during construction. Wrote final report on paleontological resources.

Project Paleontologist, Carrizo Energy Solar Farm, San Luis Obispo County, California, Ausra CA II, LLC: Participated in paleontological pedestrian survey of project area and edited the paleontology section of the Application for Certification.

Project Paleontologist, Starwood Power Project, Fresno County, California, Starwood Power-Midway, LLC: Performed records search for and prepared technical document for project area. Supervised paleontological resource monitoring and mitigation and wrote final report.

Project Paleontologist, BNSF Cajon Main Third Track Summit to Keenbrook Permitting: Participated in the writing, editing, and production of the Paleontologic Resources Monitoring and Mitigation Plan and the Paleontological Resource Assessment.

Project Paleontologist, Path 15 500-kV Power Transmission Line Between Los Banos and Gates Substations: Supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for 80-mile power line.

Richard Stuhan

Visual Resources Lead

Overview

Mr. Stuhan has 12 years of professional experience with private, municipal, and state agencies performing resource analysis and project management. He has performed various coordination and management tasks creating environmental compliance documentation at the local, state, and national levels. He has extensive project experience in visual impact modeling and view-shed analysis on both a local and regional scale in support of power generation permitting, electrical transmission line siting, and resource planning. He has performed visual resource studies in support of Environmental Impact Studies as well as other state or local regulations and policies including the states of California and Arizona. Additionally, Mr. Stuhan is a certified GIS professional with a broad background in GIS database development, analysis, and mapping. Prior to joining URS Mr. Stuhan worked for the City of Phoenix Water Department, and Northern Arizona University.

Areas of Expertise

Project Management

Visual Impact Analysis

Environmental Compliance Documentation

Facility Siting

Electrical Infrastructure Siting

GIS Data Management

Overlay Analysis

Years of Experience

With URS: 11 Years
With Other Firms: 1 Year

Education

Bureau of Land Management Visual Resource Management Training

BS/Applied Geography/Geographic Information Management/Remote Sensing/1998/Northern Arizona University, Flagstaff

Registration/Certification

GISP

Certified Project Manager

Project Specific Experience

Visual Resource Lead, Marsh Landing Generating Station, Contra Costa County, California, Mirant Marsh Landing, LLC: Provided visual resource inventory and impact analysis in support of the California Energy Commission permitting process for the 760-MW gas-fired power plant. Responsible for documenting existing conditions, evaluating potential impacts, and coordinating photographic simulation production for the Visual Resources section of the Application for Certification.

Assistant Project Manager, Visual Resource Specialist, TS-5 to TS-9 500/230kV Transmission Line Siting Project and Certificate of Environmental Compliance, Northwest Maricopa County, Arizona, Arizona Public Service (APS): URS provided APS with a siting study and state permitting of a double-circuit 500/230kV transmission line in northwest Maricopa County by conducting environmental studies and coordinating public participation activities, including a agency and public meetings. The environmental services included an evaluation of potential impacts to land use, visual resources, biological resources, and cultural resources, with sufficient detail to provide supporting documentation for future permitting efforts. Mr. Stuhan is serving as assistant project manager as well as technical coordination and visual resource specialist.

Assistant Project Manager, Visual Resource Specialist, Quartzsite Solar Energy Project EIS, La Paz County, Arizona, SolarReserve, 2010-Present: Responsible for leading resource tasks, managing project financials, and project reporting. Responsible for QA/QC on analysis sections of the DEIS document. The proposed 100MW solar "Power Tower" project would be located on BLM land in the Yuma Field Office north of Quartzsite, Arizona.

Richard Stuhan

Visual Resource Lead, Willow Pass Generating Station, Pittsburg, California, Mirant Willow Pass, LLC: Provided visual resource inventory and impact analysis in support of California Energy Commission permitting process for a gas-fired power plant. Responsible for documenting existing conditions, evaluating potential impacts, and coordinating production of photographic simulations for the Visual Resources section of the Application for Certification.

Visual Resource Specialist, Sentinel Energy Project, Riverside County, California, CPV Sentinel, LLC: Provided visual resource inventory and impact analysis in support of California Energy Commission permitting process for a gas-fired power plant. Responsible for documenting existing conditions, evaluating potential impacts, and coordinating production of photographic simulations for the Visual Resources section of the Application for Certification.

Visual Resource Lead, Searchlight Wind Energy Project, Searchlight, Nevada, Duke Energy, 2009-Present: Responsible for leading the data collection and analysis of impacts for visual resources. Prepared the visual resource analysis sections of the DEIS document.

Visual Resource Lead, Gateway West Transmission Project Environmental Impact Statement (EIS), Bureau of Land Management (BLM) (3rd Party), Wyoming and Idaho, TetraTech: Conducted a comprehensive visual resource inventory and impact analysis utilizing BLM VRM system in the evaluation of potential impacts from the construction and operation of nearly 1,200 miles of extremely high voltage (500kV) electrical transmission line. Responsibilities include documenting existing condition, evaluation of potential impacts, and coordinating production of photographic simulations on multi-state, multi-agency project.

Visual Resource Lead, Mohave County Wind Energy Project, Mohave County, Arizona, BP Wind Energy, 2009-Present: Responsible for leading the data collection, field inventory, and analysis of impacts for visual resources. Prepared the visual resource analysis section of the DEIS document.

Visual Resource Lead, Desert Rock Energy EIS, Bureau of Indian Affairs (BIA) (3rd party), Four Corners, New Mexico, Sithe Global Energy: Responsible for the visual resources development of an EIS supporting a 1500mw coal-fired power plant in the Four Corners area of New Mexico utilizing the Bureau of Land Management VRM system. The proposed power plant would be situated entirely on the Navajo Nation. The BIA has assumed the lead Federal agency role with cooperating agencies including Office of Surface Mining (OSM), U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (Region 9), and U.S. Fish and Wildlife Service (USFWS).

Resume of Jack Wittman, PhD, CGWP, PH

National Director of Layne Hydro

As National Director of Layne Hydro, Jack Wittman oversees all Layne Hydro staff and provides buisness development for the group.

Professional Experience:

Layne Christensen Co.	Layne Hydro National Director	(2008-Present)
WHPA	President	(1994-2008)
Center for Urban Policy	Senior Research Sceintist	(1995-1998)
Indiana University	Research Hydrologist	(1990-1995)
Self-emplyed	Consulting Hydrologist	(1988-1990)

Representative Projects

Hydrogeological and Groundwater Flow Modeling for Abengoa Solar Energy Project: Harper (Dry) Lake, California

Oversaw the project to ensure technical excellence and regulatory compliance. Discussed the results and their implications with the regulatory body and outside technical reviewers of the groudnwater flow modeling. Helped project team develop strategies for regulatory compliance.

Supra-Regional Groundwater Modeling to Assess the Impacts of Climate Change on Regional Bedrock Aquifers in the Midwest

Used analytic element groundwater modeling technique, coupled with a set of one and two-dimensional numerical models, to investigate how long-term reductions in regional recharge could affect stream flow and groundwater availability in the regional Silurian-Devonian limestone bedrock aquifer in Indiana and Ohio and the overlying unconsolidated aquifers.

Assessment of the Impact of Irrigated Agriculture on Shallow Aquifer Groundwater Quality: Toppenish Creek Basin, Washington

Developed sampling plan, collected over 500 samples from home-owner wells, considered the effects of crop type, irrigation depth, soil type and well depth on the measured water quality at any location.

Education

- Ph.D., Environmental Science, SPEA, Indiana University
- M.S., Watershed Science, Utah State University
- B.S., Environmental Studies, Utah State University

Professional Affiliations:

- American Water Works Association, Indiana Section and Water Utility Council
- National Ground Water Association, Certification Committee
- American Society of Testing Materials

Professional Licenses

- Certified Ground Water Professional, National Ground Water Association No. 3015475
- Professional Hydrologist American Institute of Hydrology No. 08-HG-1818

Areas of Specialized Competence

Groundwater Flow Modeling

Groundwater Quality

Aquifer Yield Investigation

Water Supply Protection and Planning

Regulatory Compliance

Layne Christensen Company

320 W 8th St
Suite 201
Bloomington, IN 47401
812.333.9399

www.laynehydro.com

APPENDIX B
TENTATIVE EXHIBIT LIST
AS OF JUNE 16, 2010

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814 - 1-800-822-6228 – WWW.ENERGY.CA.GOV

DOCKET NUMBER: 08-AFC-03 **DATED AS OF: JUNE 16, 2010**

PROJECT NAME: MIRANT MARSH LANDING, LLC- APPLICATION FOR CERTIFICATION FOR THE MARSH LANDING GENERATING STATION

TENTATIVE EXHIBIT LIST AS OF JUNE 16, 2010

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
APPLICANT'S EXHIBITS						
1	Marsh Landing Generating Station Application for Certification, dated May 2008, and docketed May 30, 2008 (a) 1.0 - Executive Summary (b) 2.0 - Project Description (c) 3.0 - Facility Closure (d) 4.0 - Transmission Facilities (e) 5.0 - Natural Gas Supply (f) 6.0 - Water Supply (g) 7.0 - Environmental Information (1) 7.1- Air Quality (2) 7.2- Biological Resources (3) 7.3- Cultural Resources (4) 7.4- Land Use and Agriculture (5) 7.5- Noise (6) 7.6- Public Health (7) 7.7- Worker Safety and Health (8) 7.8- Socioeconomics (9) 7.9- Soils (10) 7.10- Traffic And Transportation (11) 7.11- Visual Resources (12) 7.12- Hazardous Materials Handling (13) 7.13- Waste Management (14) 7.14- Water Resources					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	(15) 7.15- Geologic Hazards and Resources (16) 7.16- Paleontological Resources (h) 8.0 - Alternatives (i) 9.0 - List of Contributors (j) Appendix A - Civil Engineering Design Criteria (k) Appendix B - Structural Engineering Design Criteria (l) Appendix C - Mechanical Engineering Design Criteria (m) Appendix D - Electrical Engineering Design Criteria (n) Appendix E - Chemical Engineering Design Criteria (o) Appendix F - Preliminary Drainage Calculations (p) Appendix G - Draft Stormwater Pollution Prevention Plan for Construction (q) Appendix H - Transmission Interconnection Requests (1) Appendix H1 - LGIP Interconnection Request, March 7, 2008- Combined Cycle Units (2) Appendix H2 - LGIP Interconnection Request, March 11, 2008 - Simple Cycle Units (r) Appendix I - Water Supply and Wastewater (Will Serve Letter with DDSD) (s) Appendix J - Air Quality Data and Modeling Protocol (1) Appendix J1 - MLGS Air Modeling Protocol (2) Appendix J2 - Agency Comments on Air Modeling Protocol (3) Appendix J3 - Air Quality Modeling Calculations (t) Appendix K - Biological Resources (1) Appendix K1 - Federal Endangered and Threatened Species in Antioch North (2) Appendix K2 - CNPS Special-Status Species in Antioch North (3) Appendix K3 - CNDDB Occurrences within 10 Miles (u) Appendix L - Cultural Resources Technical Reports (1) Appendix L1 - Archaeological Reconnaissance, Marsh Landing Generating Station, Contra Costa County, California (submitted separately under the rules of Confidentiality and not reproduced here) (2) Appendix L2 - Historical Resources Inventory and Evaluation Report MLGS (3) Appendix L3 - Cultural Resources Record Search (submitted separately under the rules of confidentiality and not reproduced here) (v) Appendix M - Assessor's Parcel Numbers/Ownership Information					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	(w) Appendix N - Equipment Sound Power Levels (x) Appendix O - Public Health Data (1) Appendix O1 - Sensitive Receptors within 3 Miles and Nearby Residents (2) Appendix O2 - Toxic Air Contaminant Emission Calculations (y) Appendix P- Traffic Analyses (1) Appendix P1 - Existing Traffic Volumes (2) Appendix P2 - Existing Conditions - Level of Service Analysis (3) Appendix P3 - Accident Data (4) Appendix P4 - Near-Term Conditions - Level of Service Analysis (5) Appendix P5 - Near-Term Plus Project Conditions - Level of Service Analysis (6) Appendix P6 - Projected Future Conditions - Level of Service Analysis (7) Appendix P7 - Projected Future Plus Project Conditions - Level of Service Analysis (z) Appendix Q - Hazardous Materials Handling - Summary of Model Results (aa) Appendix R - Phase I Environmental Site Assessment (bb) Appendix S - Paleontological Resources Technical Report (submitted separately under the rules of confidentiality and not reproduced here) (cc) Appendix T - Leadership in Energy and Environmental Design (LEED) Preliminary Score Sheet (dd) Appendix U - City of Antioch Letter of Support					
2	Mirant Marsh Landing, LLC's Confirmation of the Type of Employees Employed During Operations, dated June 05, 2008, and docketed June 05, 2008					
3	Mirant Marsh Landing, LLC's Request for Confidential Designation of Confidential Cultural Resources Reports Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 5, 2008, and docketed June 5, 2008 (references cultural resources report that was submitted under confidentiality protection and is not reproduced in the Applicant's public exhibits)					
4	Mirant Marsh Landing, LLC's Request for Confidential Designation of Confidential Paleontological Resources Technical Report Provided in Connection with the Marsh Landing Generating Station Application for					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	Certification, dated June 5, 2008, and docketed June 5, 2008 (references paleontological report that was submitted under confidentiality protection and is not reproduced in the Applicant's public exhibits)					
5	California Energy Commission's Grant of Confidential Designation of Confidential Cultural Resources Reports Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 27, 2008, and docketed June 27, 2008					
6	California Energy Commission's Grant of Confidential Designation of Confidential Paleontological Report Provided in Connection with the Marsh Landing Generating Station Application for Certification, dated June 27, 2008, and docketed June 27, 2008					
7	Marsh Landing Generating Station Application for Certification Supplement Volumes 1 and 2, dated September 15, 2008, and docketed September 18, 2008 (a) 1.0 - Executive Summary (b) 2.0 - Project Description (c) 3.0 - Facility Closure (d) 4.0 - Transmission Facilities (e) 5.0 - Natural Gas Supply (f) 6.0 - Water Supply (g) 7.0 - Environmental Information (1) 7.1- Air Quality (2) 7.2- Biological Resources (3) 7.3- Cultural Resources (4) 7.4- Land Use and Agriculture (5) 7.5- Noise (6) 7.6- Public Health (7) 7.7- Worker Safety and Health (8) 7.8- Socioeconomics (9) 7.9- Soils (10) 7.10-- Traffic And Transportation (11) 7.11- Visual Resources (12) 7.12- Hazardous Materials Handling (13) 7.13- Waste Management (14) 7.14- Water Resources (15) 7.15- Geologic Hazards and Resources					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	(16) 7.16- Paleontological Resources (h) 8.0 - Alternatives (i) 9.0 - List of Contributors (j) Appendix A - Civil Engineering Design Criteria (k) Appendix B - Structural Engineering Design Criteria (l) Appendix C - Mechanical Engineering Design Criteria (m) Appendix D - Electrical Engineering Design Criteria (n) Appendix E - Chemical Engineering Design Criteria (o) Appendix F - Preliminary Drainage Calculations (p) Appendix G - Draft Stormwater Pollution Prevention Plan for Construction (q) Appendix H - Transmission Interconnection (1) Appendix H1 - LGIP Interconnection Request, March 7, 2008 - Combined Cycle Units (2) Appendix H2 - LGIP Interconnection Request, March 11, 2008 - Simple Cycle Units (3) Appendix H3 - System Impact Study (r) Appendix I - Water Supply and Wastewater (Will Serve Letter with DDSD) (s) Appendix J - Air Quality Data and Modeling Protocol (1) Appendix J1 - MLGS Air Modeling Protocol (2) Appendix J2 - Agency Comments on Air Modeling Protocol (3) Appendix J3 - Air Quality Modeling Calculations (4) Appendix J4 - Windroses and Frequency Distributions (5) Appendix J5 - Bay Area Air Quality Management District Letter of Completeness (t) Appendix K - Biological Resources (1) Appendix K1 - Federal Endangered and Threatened Species in Antioch North (2) Appendix K2 - CNPS Special-Status Species in Antioch North (3) Appendix K3 - CNDDB Occurrences within 10 Miles (4) Appendix K4 - Agency Communication (u) Appendix L - Cultural Resources Technical Reports (1) Appendix L1 - Archaeological Reconnaissance, Marsh Landing Generating Station, Contra Costa County, California (submitted separately under the rules of confidentiality and not reproduced here) (2) Appendix L2 - Historical Resources Inventory and Evaluation Report MLGS (3) Appendix L3 - Cultural Resources Record Search					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	(submitted separately under the rules of confidentiality and not reproduced here) (4) Appendix L4 - Archaeologist Qualifications (v) Appendix M - Assessor's Parcel Numbers/Ownership Information (w) Appendix N - Equipment Sound Power Levels (x) Appendix O - Public Health Data (1) Appendix O1 - Sensitive Receptors within 3 Miles and Nearby Residents (2) Appendix O2 - Toxic Air Contaminant Emission Calculations (y) Appendix P - Traffic Analyses (1) Appendix P1 - Existing Traffic Volumes (2) Appendix P2 - Existing Conditions - Level of Service Analysis (3) Appendix P3 - Accident Data (4) Appendix P4 - Near-Term Conditions - Level of Service Analysis (5) Appendix P5 - Near-Term Plus Project Conditions - Level of Service Analysis (6) Appendix P6 - Projected Future Conditions - Level of Service Analysis (7) Appendix P7 - Projected Future Plus Project Conditions - Level of Service Analysis (z) Appendix Q - Hazardous Materials Handling - Summary of Model Results (aa)Appendix R - Phase I Environmental Site Assessment (bb) Appendix S - Paleontological Resources Technical Report (submitted separately under the rules of confidentiality and not reproduced here) (cc) Appendix T - Leadership in Energy and Environmental Design (LEED) Preliminary Score Sheet (dd) Appendix U - City of Antioch Letter of Support					
8	Mirant Marsh Landing, LLC's Notice Re Request for Additional Time to Respond to Staff Data Requests Set 1 (Nos. 1– 54), dated December 02, 2008, and docketed December 02, 2008 (a) Response 8 (Air Quality) (b) Response 31 (Soil and Water Resources) (c) Responses 37- 45 (Transmission System Engineering) (d) Responses 48 and 49 (Waste Management)					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
9	Mirant Marsh Landing, LLC's Responses to Data Request Set 1 (Nos. 1 - 54), dated December 12, 2008, and docketed December 12, 2008 (a) Responses 1 – 9 (Air Quality) (b) Responses 10 – 13 (Cultural Resources) (c) Responses 14 and 15 (Hazardous Materials Management) (d) Responses 16 – 22 (Land Use) (e) Responses 23 – 26 (Socioeconomics) (f) Responses 27 – 36 (Soil and Water Resources) (g) Responses 37 – 45 (Transmission System Engineering) (h) Responses 46 – 49 (Waste Management) (i) Response 50 (Worker Safety and Fire Protection) (j) Responses 51 – 54 (Biological Resources) (k) Appendix A (Air Quality) (1) Appendix A-1 (Construction Emissions) (2) Appendix A-2 (Operational Emissions) (3) Appendix A-3 (Estimated Emissions Data From Siemens) (l) Appendix B (Land Use) (1) Appendix B-1 (Subdivision Application Information) (m) Appendix C (Soil and Water) (1) Appendix C-1 (Storm Water Control Plan) (n) Appendix D (Transmission) (1) Appendix D-1 (Reconductoring Project Preliminary Environmental Analysis)					
10	Mirant Marsh Landing, LLC's Response to Staff's Issues Identification Report, dated December 15, 2008, and docketed December 15, 2008					
11	Mirant Marsh Landing, LLC's Responses to the December 18th 2008 Data Response and Issues Resolution Workshop, dated February 2009, and docketed February 12, 2009 (a) Response 1 (Soil and Water Resources) (b) Responses 2 and 3 (Waste Management) (c) Responses 4 and 5 (Biological Resources) (d) Response 6 (Transmission System Engineering) (e) Appendix A (Soil and Water) (1) Appendix A-1 (Vendor Information) (2) Appendix A-2 (Case Studies, Articles, and Other Publications) (3) Appendix A-3 (Soil and Water- Related Agency Documents)					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	(f) Appendix B (Waste Management) (1) Appendix B-1 (Phase I Environmental Site Assessment for Water and Gas Supply Linears)					
12	Mirant Marsh Landing, LLC's Responses to Data Requests 41 and 44: Updated Impact Study, dated February 2009, and docketed February 18, 2009 (a) Responses 41 and 44 (Transmission System Engineering) (b) Appendix A (Updated System Impact Study)					
13	Mirant Marsh Landing, LLC's Letter from URS (A. Connell) to CEC (J. Adams) Re Accident Rate, dated February 23, 2009					
14	Mirant Marsh Landing, LLC's Responses to Data Request 43: Updated System Impact Study - (Appendix 10), dated March 2009, and docketed March 05, 2009 (a) Response 43 (Transmission System Engineering) (b) Appendix A (Updated System Impact Study Appendix 10, Transient Stability Analyses)					
15	Mirant Marsh Landing, LLC's Updated System Impact Study - Appendix 11 Results of 3 Phase Fault Duty Analysis, dated March 09, 2009, and docketed March 10, 2009					
16	Mirant Marsh Landing, LLC's Updated System Impact Study - Appendix 10 A - Switching Files (*.swt) Used for Transient Stability Analysis , dated April 2009, and docketed April 28, 2009					
17	Mirant Marsh Landing, LLC's Request for Additional Time to Respond to Staff Data Requests Set 2 (Nos. 60 - 69) for the Marsh Landing Generating Station (Docket No. 08-AFC-3), dated May 14, 2009, and docketed May 14, 2009					
18	Mirant Marsh Landing, LLC's Responses to Data Request Set 2 (Nos. 60 - 69), dated May 2009, and docketed May 21, 2009 (a) Responses 60 – 63 (Biological Resources) (b) Responses 64 -69 (Transmission System Engineering)					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
19	Mirant Marsh Landing, LLC's Responses to Data Requests Set 2 (Nos. 60 - 63), dated June 2009, and docketed June 25, 2009 (a) Responses 60 – 63 (Biological Resources)					
20	Marsh Landing Generating Station Application for Certification Amendment, dated September 2009, and docketed September 15, 2009 (a) 1.0 - Introduction (b) 2.0 - Project Description Modifications (c) 3.0 - Environmental Consequences (1) 3.1- Air Quality (2) 3.2- Biological Resources (3) 3.3- Cultural Resources (4) 3.4- Land Use (5) 3.5- Noise (6) 3.6- Public Health (7) 3.7- Worker Safety and Health (8) 3.8- Socioeconomics (9) 3.9- Soils (10) 3.10- Traffic And Transportation (11) 3.11- Visual Resources (12) 3.12- Hazardous Materials (13) 3.13- Waste Management (14) 3.14- Water Resources (15) 3.15- Geologic Hazards and Resources (16) 3.16- Paleontological Resources (d) 4.0 - References (e) Revised/New Appendix I - Aquifer Characterization and Groundwater Model Report (f) Revised Appendix J3 - Air Quality Modeling Calculations (g) Revised Appendix O2 - Toxic Air Contaminant Emission Calculations					
21	Mirant Marsh Landing, LLC's Additional Socioeconomics Information for the Marsh Landing Generating Station Application for Certification Amendment, dated September 21, 2009, and docketed September 21, 2009					
22	CAISO Transition Cluster Group 1 Phase I Interconnection Study Reports (Marsh Landing Generating Station Combined Cycle Units and					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
	Simple Cycle Units), dated September 24, 2009, and docketed September 24, 2009					
23	Mirant Marsh Landing, LLC's Clarification Regarding September 17, 2009 Application for Certification Supplement Socioeconomics Section, dated September 28, 2009, and docketed September 28, 2009					
24	Marsh Landing Generating Station Letter from PG&E (D. Harnish) to Mirant (J. Sacks) re: Response to CEC Data Requests regarding Pre-Closing Remediation Conditions and Pre-Sale Contamination Condition, Mirant Marsh Landing Generating Station, Antioch, CA, dated October 13, 2009, and docketed October 13, 2009					
25	Marsh Landing Generating Station Aquifer Characterization and Groundwater Modeling (Presentation from Issues Resolution Workshop) by Rhett Moore and Jack Wittman, dated October 14, 2009, and docketed October 14, 2009					
26	Marsh Landing Generating Station Work Plan for Soil & Groundwater Sampling and Focused Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated November 20, 2009, and docketed November 20, 2009					
27	Mirant Marsh Landing, LLC's Clarification Regarding the Storage of Black Liquor, dated November 20, 2009.					
28	Mirant Marsh Landing, LLC's Revised LGIP Interconnection Request Submitted to CAISO on September 21st for the Currently Proposed MLGS Consisting of Four Simple Cycle Units, dated November 24, 2009, and docketed November 24, 2009					
29	Marsh Landing Generating Station Focused Site Investigation Report and Human Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated January 15, 2010, and docketed January 15, 2010					
30	Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 70 - 98), dated February 2010, and docketed February 11, 2010 (a) Responses 70 – 76 (Air Quality) (b) Responses 77 – 93 (Water Resources) (c) Responses 94 – 98 (Waste Management)					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
31	Mirant Marsh Landing, LLC's Responses to Data Request Set 3b: (Nos. 99 - 101), dated February 2010, and docketed February 23, 2010 (a) Responses 99 – 101 (Biological Resources)					
32	Mirant Marsh Landing, LLC's Responses to Data Request Set 3: (Nos. 82 and 83), dated February 2010, and docketed February 23, 2010 (a) Responses 82 and 83 (Water Resources) (b) Appendix A (Revised Draft Construction Stormwater Pollution Prevention Plan) (c) Appendix B (Revised Draft Stormwater Control Plan) (d) Appendix C (Draft Drainage, Erosion, and Sediment Control Plan)					
33	Mirant Marsh Landing, LLC's Report of Conversation re Clarification of Land Use, Subdivision between URS (A. Connell) and Aspen Environmental Group (N. Vahidi), dated March 09, 2010, and docketed March 09, 2010					
34	Marsh Landing Generating Station Facility Investigation and Risk Assessment Work Plan prepared for PG&E by AMEC Geomatrix, dated March 17, 2010, and docketed March 17, 2010					
35	Mirant Marsh Landing, LLC's Letter to Committee Members Regarding Contractual Deadlines for the Marsh Landing Generating Station, dated March 25, 2010, and docketed March 25, 2010					
36	Marsh Landing Generating Station Addendum to Facility Investigation and Risk Assessment Work Plan prepared for PG&E by AMEC Geomatrix, dated April 08, 2010, and docketed April 08, 2010					
37	Mirant Marsh Landing, LLC's Comments on Preliminary Determination of Compliance for the Marsh Landing Generating Station, dated April 29, 2010, and docketed April 29, 2010					
38	Marsh Landing Generating Station Work Plan Documents prepared for PG&E by AMEC Geomatrix dated May 2010, and docketed May 17, 2010					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
39	Mirant Marsh Landing, LLC's Comments on the Staff Assessment, dated May 2010, and docketed May 24, 2010 (a) Executive Summary (b) Project Description (c) Air Quality And Greenhouse Gas Emissions (d) Biological Resources (e) Cultural Resources (f) Hazardous Materials (g) Land Use (h) Noise And Vibration (i) Public Health (j) Socioeconomic Resources (k) Soil And Water Resources (l) Traffic And Transportation (m) Transmission Line Safety And Nuisance (n) Visual Resources (o) Waste Management (p) Worker Safety (q) Facility Design (r) Geology And Paleontology (s) Power Plant Efficiency (t) Power Plant Reliability (u) Transmission System Engineering (v) Alternatives (w) General Conditions (x) Attachments (1) Applicant's Preliminary Comments on the Staff Assessment (2) Additional Information Related to Air Quality (i) Clarification on Cumulative Analysis (ii) Revised NO2 Emissions during Construction (iii) Information on Ammonia Slip (iv) Copy of Mirant Delta's May 11, 2010 Air Permit Amendment Request (3) Revised Calculation for Nitrogen Deposition (4) Additional Water Information					
40	Mirant Marsh Landing, LLC's Responses to Public Comments Received Regarding Preliminary Determination of Compliance for the Marsh Landing Generating Station, docketed June 4, 2010					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
41	Marsh Landing Generating Station Investigation Report and Updated Human Health Risk Assessment prepared for PG&E by AMEC Geomatrix, dated June 15, 2010					
42	Mirant Marsh Landing, LLC's Written Testimony, Declarations, and Witness Qualifications, dated June 16, 2010, and docketed June 16, 2010 (a) Executive Summary (b) Project Description (1) Figure 1-1 (2) Figure 1-2 (3) Figure 1-3 (4) Figure 1-4 (5) Figure 1-5 (c) Air Quality And Greenhouse Gas Emissions (d) Biological Resources (e) Cultural Resources (f) Hazardous Materials (g) Land Use (h) Noise And Vibration (i) Public Health (j) Socioeconomic Resources (k) Soil And Water Resources (l) Traffic And Transportation (m) Transmission Line Safety And Nuisance (n) Visual Resources (o) Waste Management (p) Worker Safety (q) Facility Design (r) Geology And Paleontology (s) Power Plant Efficiency (t) Power Plant Reliability (u) Transmission System Engineering (v) Alternatives (w) Appendix A- Witness Qualifications (x) Appendix B- Tentative Exhibit List as of June 16, 2010					

Exhibit	Brief Description	Stipulation	Offered	Admitted	Refused	CEC Use Only
CORRESPONDENCE FROM OTHER AGENCIES						
100	Letter from the Bay Area Air Quality Management District (B. Lusher) to URS (M. Strehlow), Assigning an Application Number to Marsh Landing Generating Station and Confirming the Completeness of Application, dated June 30, 2008, and docketed June 30, 2008					
101	Letter from City of Antioch (V. Carniglia) to CEC (M. Monasmith) re Preliminary Review of Marsh Landing Generating Station Application for Certification, dated July 2, 2008, and docketed July 2, 2008					
102	Letter from Contract Costa Health Services (D. Nixon) to CEC (M. Monasmith) re Comments on Marsh Landing Generating Station Application for Certification, dated July 2, 2008, Docketed July 2, 2008					
103	Letter from the Department of Toxic Substances Control (J. Naito) to the CEC (M. Monasmith) Requesting to be Included on the Distribution List, dated March 02, 2009, and docketed March 02, 2009					
104	Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) Conceptually Supporting the Proposed Marsh Landing Generating Station Power Plant, and Notifying the Adoption of A Resolution Authorizing an Annexation Agreement with Mirant and Another Resolution to Enter into a Project Agreement with MLGS, dated November 30, 2009, and docketed November 30, 2009					
105	Letter from the City of Antioch (R. Bernal) to Mirant Marsh Landing, LLC (J. Chillemi) re Use of Potable Water and Discharge of Process Wastewater from the Project, dated February 17, 2010, and docketed February 17, 2010					
106	Bay Area Air Quality Management District Preliminary Determination of Compliance, dated March 2010, and docketed March 24, 2010					
107	Letter from the City of Antioch (V. Carniglia) to the CEC (M. Monasmith) re Comments Regarding Staff Assessment, dated May 25, 2010, and docketed May 25, 2010					
108	Letter from United States Environmental Protection Agency (G. Rios) to the BAAQMD (B. Bateman) Confirming that Marsh Landing Generating Station and Contra Costa Power Plant Should be Treated as Separate Facilities For Purposes of PSD Permitting, dated June 7, 2010.					