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June 21, 2007

Ms. Raquel Rodriguez
California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **Edison Mission Energy's Testimony for the Walnut Creek Energy Park Docket No. 05-AFC-2**

Dear Ms. Rodriguez:

Enclosed for filing with the California Energy Commission are one original and 12 (Twelve) copies of the **Edison Mission Energy's Testimony, for the Walnut Creek Energy Park Docket No. 05-AFC-2.**

Sincerely,

Marguerite Cosens
Administrative Assistant
GalatiBlek

PROJECT DESCRIPTION

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Bernard M. Piazza**

I, Bernard M. Piazza, declare as follows:

1. I am presently employed by Edison Mission Energy, as a Managing Director, Engineering & Construction.

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

3. I prepared the attached testimony relating to Project Description for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Bernard M Piazza

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Victor Yamada**

I, Victor Yamada, declare as follows:

6. I am presently employed by Edison Mission Energy, as Director ,Environmental Health and Safety.

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

8. I assisted in prepared the attached testimony relating to Project Description for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

9. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Victor Yamada

I. Name: Bernard M. Piazza
Victor Yamada.

II. Purpose:

Our testimony addresses the Project Description associated with the construction and operation of the Walnut Creek Energy Park (WCEP) with special emphasis in describing the features of the LMS 100 turbine technology.

III. Qualifications:

Bernard M. Piazza: I have worked for Edison International for 9+ years (7+ years for Mission Energy) and am presently a Managing Director, Engineering & Construction with that organization. I have a Degree in Mechanical Engineering and I have over 30 years of experience in power plant engineering. I assisted in the preparation of the Project Description and Engineering sections of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

Victor Yamada: I am presently employed at Edison Mission Energy as Director, Environmental, Health & Safety and have been for the past 0.7 years. I have a Degree in Civil / Environmental Engineering and I have 30+ years of experience in Environmental Planning, Permitting and Licensing. I assisted in the preparation of the Project Description and Engineering sections of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume

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

IV. Exhibits

We are sponsoring the Exhibits listed on the attached Exhibit List, all of which have been previously docketed in this proceeding.

V. Opinion and Conclusions

The WCEP Application For Certification (AFC) provides an overall description of the components of the WCEP. At the PreHearing Conference the Committee requested additional information to enable it to better understand and describe certain aspects of the project in the Presiding Members Proposed Decision. The following addresses that request.

Features of the LMS100 Technology

Generating Facility Cycle

The GE LMS100 combustion turbine generator is the first modern production gas turbine in the power generation industry to employ off-engine intercooling technology. With this technology, the LMS100 provides the highest simple cycle efficiency in the industry today. The published LMS100 simple cycle efficiency of approximately 45% represents an 8-10% efficiency increase over other simple cycle gas turbines available today.

CTG combustion air flows through the inlet air filter, evaporative cooler and associated air inlet ductwork. The air is then compressed in the gas turbine low-pressure compressor section and cooled through the off-base intercooler before it enters the high-pressure compressor. The compressed air then flows to the CTG combustor. Natural gas fuel is injected into the compressed air in the combustor and ignited. The hot combustion gases expand through the power turbine sections of the CTGs, causing them to rotate, driving the electric generators and CTG compressors. The hot combustion gases exit the turbine sections at approximately 770°F and then pass through the catalyst housing for exposure to NOx and CO emissions catalysts, and then exit the exhaust stacks.

Combustion Turbine Generators

Electricity is produced by the five CTGs. The following paragraphs describe the major components of the generating facility.

Combustion Turbine Generators

Thermal energy is produced in the CTGs through the combustion of natural gas, which is converted into mechanical energy required to drive

the combustion turbine compressors and electric generators. Five GE Energy LMS100 CTGs have been selected for WCEP.

The LMS100 integrates features of GE Energy's industrial and aeroderivative CTG designs. The low-pressure compressor is derived from the GE's industrial Frame 6FA engine and the high-pressure compressor, combustor, and power turbine are derived from the aeroderivative CF6-80C2/LM6000 gas turbine.

The LMS100 system includes a 3-spool gas turbine that uses an intercooler between the low-pressure compressor (LPC) and the high-pressure compressor (HPC). Intercooling provides significant benefits to the Brayton cycle by reducing the work of compression for the HPC, which allows for higher pressure ratios, thus increasing overall efficiency. The reduced inlet temperature for the HPC allows increased mass flow resulting in higher specific power. The lower resultant compressor discharge temperature provides colder air to the turbines, which allows increased firing temperatures producing increased efficiency.

The intercooler system consists of a heat exchanger, piping, expansion joints, moisture separators and variable bleed valve (VBV) system. Air from the LPC is cooled as it flows through the shell side of the intercooler by the cooling water system. The VBV system vents excess air from LPC to atmosphere during startup and under certain transient compressor operating conditions. The VBV consists of a diverter valve, vent stack and silencer. The air exiting the vent stack is ambient air, which is heated during compression and contains no combustion products.

Each CTG consists of a stationary combustion turbine-generator, and associated auxiliary equipment. The CTGs will be equipped with water injection capability to control NOx emissions formed in the combustion process. While GE Energy anticipates future units will be capable of using steam injection and Dry Low Emissions (DLE) combustors, these design options are not as suitable for peaking operation.

The CTGs will be equipped with the following required accessories to provide safe, efficient and reliable operation:

- Evaporative coolers
- Inlet air filters
- Metal acoustical enclosure
- Duplex shell and tube lube oil coolers for the turbine and generator
- Annular combustor combustion system

The LMS100 technology is ideal for peaking service as it provides quick start capability, load following capability, high part load efficiency and less

power and efficiency drop off at high ambient temperatures relative to other gas turbines.

Efficiency

The WCEP will employ five General electric LMS100 gas turbine generators in the WCEP. The LMS100 gas turbine represents the most modern and efficient such machine now available. This machine is nominally rated at 99 MW and 45.1 percent efficiency LHV at ISO[1] conditions (Gas Turbine World 2007). (The gas turbine industry uses ISO ratings as a common baseline for comparing alternative machines.)

In the LMS100, GE has taken a novel approach by combining technology from both aircraft engines and heavy industrial machines. Like most aeroderivatives, the LMS100 is basically a two-shaft engine, in which an initial low-pressure compressor section is driven by the final low-pressure turbine section. An independent high pressure compressor section, spinning on a concentric shaft, is driven by the high-pressure turbine section. GE has done three things differently on the LMS100.

First, while the high-pressure compressor and turbine spool is taken from an aero engine (the GE CF6-80C2 that powers the Boeing 747 and the CF6-80E1 that powers the Boeing 767), the low pressure spool is taken from GE's industrial Frame 6 machine. Where the airflow (and, thus, power output) of GE's popular LM6000 aeroderivative engine (see below) was limited by airflow through the low pressure spool, this limit is removed by substituting these parts from the Frame 6.

Second, GE has employed a much more effective compressor interstage cooling system. On the LM6000 SPRINT[2] machine, after air has been partially compressed in the low pressure compressor, it is evaporatively cooled by spraying water into the interstage space. Since the air entering the high pressure compressor is now cooler than it would be without intercooling, less power is required to drive the high pressure compressor. This leaves more power to drive the electric generator, increasing both power output and fuel efficiency. On the LMS100, GE ducts the air discharged from the low pressure compressor away from the machine, where it can be more effectively cooled by a separate cooling system (once-through, evaporative or dry cooling systems can be employed). The cooled air is then ducted back into the high pressure compressor.

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[1]International Standards Organization (ISO) standard conditions are 15°C (59°F), 60 percent relative humidity, and one atmosphere of pressure (equivalent to sea level)

[2]SPRINT stands for "spray intercooling."

Third, GE has provided a third shaft, independent of the first two spools, to drive the power turbine, which is in turn coupled to the electric generator. On most aeroderivative gas turbine generators, the generator is coupled directly to the low pressure turbine shaft. Since the generator must turn at synchronous speed (3,600 rpm in North America), the low pressure spool must also turn at this speed. This restricts design of the machine, preventing the turbine from operating at optimum levels. Since the LMS100's power turbine (and generator) are not mechanically coupled to the low pressure spool, this spool is free to spin at optimum speed (approximately 5,300 at full load).

The net result of these design improvements is a doubling of power output, a ten percent improvement in fuel efficiency, and much greater operating flexibility. Where other gas turbine generators' fuel efficiency drops off rapidly when the machine is operated at less than full load, the LMS100's efficiency suffers much less at lower output. Further, the machine is capable of ramping at high rates. The LMS100 can be operated at loads as low as fifty percent (50 MW), then ramped up quickly to reach full load of nearly 100 MW in less than a minute. In addition, the LMS100 can go from a cold start to full load in ten minutes. Such operating flexibility make this the most capable machine available for providing such ancillary services are peaking, load following and automatic generation control.

Simple Cycle vs. Combined Cycle

The project selected a simple cycle configuration instead of a combined cycle configuration mainly due to the current needs of the power market in Southern California. The utility expressed a preference for fast start resources close to the load center and simple cycle projects would have more favorable characteristics in that regard.

Water Cooled vs. Air Cooled

Dry cooling was not selected due to the higher capital cost, lower efficiency and higher space requirements of a dry air cooler configuration. In addition, the project site was selected because of the ample supply of recycled water in the immediate vicinity.

Water Injection vs. Dry Low-NOx

Water injection was selected because of the higher power output and lower capital cost associated with this form of NOx control technology. In addition, the water injected version of the LMS100 was the first model developed and tested by GE and was the only version commercially available at the time of our application for certification.

Variable Bleed Valve (VBV) Stack

The VBV stack is used to vent compressed air from the low pressure compressor section of the unit during certain startup, shutdown and transient conditions. The air exiting the vent stack is ambient air, which is heated during compression and contains no combustion products. The stack is approximately 50 feet tall.

The description in the AFC along with this testimony describes all of the development proposed for the site.

BERNARD M. PIAZZA

SUMMARY OF EXPERIENCE

Registered professional engineer in seven states with over 30 years of power experience on a significant number of domestic and international projects. Currently working for Edison Mission Energy with previous background working for major engineering contractors. Responsibilities have included negotiation of gas turbine purchase and long term maintenance programs, owner project management activities, providing technical support on gas turbines for domestic and international projects, owner due diligence, providing input for project financial models, performing engineering studies, preparing EPC specifications, doing detailed calculations, providing consulting services, performing bank due diligence, preparing EPC contractor proposals, managing a department, managing a project, meeting with clients and making presentations.

SPECIFIC CURRENT EXPERIENCE

Presently serving as Managing Director, Engineering & Construction (and occasional project manger) for Edison Mission Energy performing a variety of tasks in support of project development. Recent accomplishments include the following:

- Provided engineering support to the Walnut Creek and Sun Valley LMS100 Projects, including SCE RFO bid preparation, engineering management and permitting
- Purchased GE LMS100 gas turbines including engineering and commercial aspects
- Prepared solicitation and negotiated purchase of "F" class gas turbines
- Negotiated Long Term Maintenance Agreements for SW 501FD and GE 7FA gas turbines
- Participate in a number of gas turbine user groups as well as following technology developments in the gas turbine industry
- Negotiated turnkey contract for a plant expansion project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Reviewed plant designs and technical viability of developing projects
- Developed plant performance, schedule, technical scope and costs for plant construction
- Provided input to business dynamics and project financial models
- Provided owner assessment of construction projects as well as operating plants in the fleet
- Provided owner project management and project engineering on development projects
- Prepared design criteria and specifications for a combined cycle power project

REGISTRATIONS

Professional Engineer in 7 states - CA, NV, WA, VA, OR, CO, ID

EDUCATION

B.S. Mechanical Engineering - Cooper Union, New York, NY - 1976
Postgraduate Business Curriculum toward MBA - Rutger's University

EMPLOYMENT HISTORY

1997 - Present **Edison International**
Engineering Director/Project Manager
1986 - 1997 **Raytheon Engineers & Constructors (formerly Ebasco)**
Lead Engineer/Project Engineering Manager/Mechanical Department Supervisor
1976 - 1986 **Burns & Roe Incorporated**
Engineer/Field Engineer/Lead Engineer

VICTOR M. YAMADA

SUMMARY

Project / program manager with over 30 years of experience in environmental, health and safety planning and compliance program direction on EHS issues for business, consulting, and government. Skills in environmental planning, environmental review, regulatory support, risk management, hazardous materials, air quality, solid / hazardous waste, and wastewater Currently working for Edison Mission Energy with previous background working for industrial manufacturer, environmental consultants, and government.

KEY EXPERIENCE / CAPABILITIES

Presently serving as Director, Environmental, Health & Safety for Edison Mission Energy performing a variety of tasks in support of project development. Accomplishments and skills include the following:

- Providing SCAQMD permitting / CEC licensing support to the Walnut Creek and Sun Valley LMS100 Power Plant Projects
- Served as company's environmental manager related to acquisition & CEC licensing on Mountainview & Sunrise power plant projects
- Served as environmental manager of SCAQMD permitting process on Mountainview power plant and various industrial projects
- Managed construction and pre operation EH&S compliance on Mountainview power plant project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Performed siting studies for new power plant and industrial developments
- Has broad experience & understanding of diverse forms of electrical power generation technologies (combined cycle & peaker gas turbines, offshore & onshore wind turbines, coal / gas / oil combustion steam generators, geothermal, bio-mass, hydro, solar and integrated gasification combined cycle)
- Has broad knowledge of air, hazardous materials, industrial hygiene, safety, waste laws, regulations, and policies
- Involved in legislation, regulatory & public policy development at federal, state & regional / local levels

REGISTRATIONS

Qualified Environmental Professional
Registered Environmental Assessor, CA

EDUCATION

B.S. Civil Engineering – University of Washington, Seattle, WA

M.S. Civil / Environmental Engineering – University of Washington, Seattle, WA
M.B.A. Business Administration – Pepperdine University, Los Angeles, CA

EMPLOYMENT HISTORY

Edison International 1999 - Present
Project Manager; Director, Environmental, Health & Safety
Courtaulds Aerospace
Environmental Manager
Various Environmental Consulting Companies
Environmental Planner; Project Manager; Section Head
US Public Health Service / US Environmental Protection Agency
Environmental Engineer; Air Quality Section Head

Walnut Creek Energy LLC
Walnut Creek Energy Park
(05-AFC-02)
Exhibit List

Exhibit 1	**Walnut Creek Energy Park AFC** (05-AFC-02)
Exhibit 2	**Application for a Permit to Construct from the South Coast Air Quality Management District** (05-AFC-02) 11/21/04
Exhibit 3	**Supplemental Request for Confidential Designation Confidential Offset Strategy** (05-AFC-02) 01/25/06
Exhibit 4	**PM10 Significance Modeling for the Walnut Creek Energy Park and the Sun Valley Energy Project** (05-AFC-02) 01/26/06
Exhibit 5	**Initial Study for: 911 Bixby Drive Building Demolition**, (05-AFC-02) 01/31/06
Exhibit 6	**Negative Declaration for Demolition of Warehouse at 911 Bixby Drive** (05-AFC-02) 02/01/06
Exhibit 7	**Notice of Determination of approval of Demolition of Warehouse at 911 Bixby Drive** (05-AFC-02) 02/23/06
Exhibit 8	**Applicant's Responses to CEC Staff Data Requests 1-97** (05-AFC-02) 04/10/06
Exhibit 9	**City of Industry Demolition Project**,(05-AFC-02) 04/18/06
Exhibit 10	**Air Quality Modeling** (05-AFC-02) 05/04/06
Exhibit 11	**Supplemental Data Responses (set 1-97), Responses to Workshop Questions, and Data Responses 98-99** (05-AFC-02) 05/31/06
Exhibit 12	**Supplemental II in Response to Data Request 1 through 104 and April 25 Workshop Queries in Support of the Application for Certification** (05-AFC-02) 07/07/06
Exhibit 13	**Supplement III in Response to Data Request 1 through 104 and April 25 Workshop queries in support of the AFC** (05-AFC-02) 09/01/06

Exhibit 14 **Supplement III in Response to Data Requests 1-104** (05-AFC-02) 09/06/06

Exhibit 15 **South Coast Air Quality Management District's PDOC and Engineering Analysis** (05-AFC-02) 10/31/06

Exhibit 16 **Supplement IV in Response to Data Request** (05-AFC 02) 11/31/06

Exhibit 17 **Preliminary Comments on the Preliminary Staff Assessment** (05-AFC-02) 01/12/07

Exhibit 18 **Supplement Comments and Notes on PSA Workshop,** (05-AFC-02) 01/23/07

Exhibit 19 **Supplemental Cultural Resources Survey** (05-AFC-02) 01/16/07

Exhibit 20 **Data Request Response #84 in support of AFC** (05-AFC-02) 02/14/07

Exhibit 21 **Final Determination of Compliance,** for Walnut Creek Energy, LLC (05-AFC-02) 02/23/07

Exhibit 22 **WCE Testimony** (05-AFC-02) to be docketed in accordance with Prehearing Conference Order

Exhibit 23 **Email from Mr. Ken Coats**, SCAQMD Permit Engineer to Joseph Loyer, CEC AQ Specialist regarding VOC emission calculations, dated June, 6, 2007.

AIR QUALITY

Air Quality

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Greg Darvin**

I, Greg Darvin, declare as follows:

1. I am presently employed by Atmospheric Dynamics Inc., as a Meteorologist.

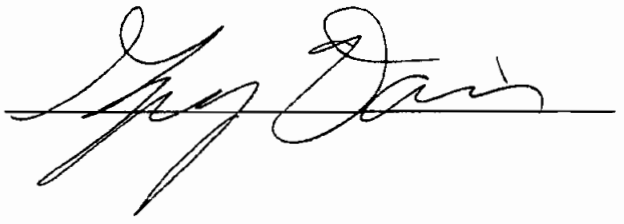
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Air Quality for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Santa Barbara, CA on June 18, 2007.



I. Name: Gregory Darvin

II. Purpose:

My testimony addresses the subject of Air Quality associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at Atmospheric Dynamics Inc. for the past four years and am presently a meteorologist with that organization. I have a Graduate Degree in Atmospheric Science and I have 15 years of experience in meteorological and air quality modeling/permitting. I prepared the Air Quality section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Air Quality section of the Final Staff Assessment and agree that with incorporation of the Conditions of Certification the WCEP will not result in significant air quality impacts and will comply with all air quality related laws, ordinances, regulations and standards (LORS).

I do recommend the following modifications to Conditions of Certification proposed in the FSA.

AQ-SC7

Staff's Proposed Condition of Certification **AQ-SC7** sets forth the amount of emission reduction credits (ERCs) that must be surrendered to satisfy the District Rules. WCE believes the amount of ERCs for VOC emissions is incorrectly stated in the South Coast Air Quality Management District 's (District) Final Determination of Compliance (FDOC). On June 6, 2007, Ken Coats, Permitting Engineer for the District sent an email to Joe Loyer, CEC Air Quality Specialist, recommending the amount of VOCs as follows:

"Joe,

I wanted to touch base with you regarding a few minor changes we made to the WCEP and SVEP engineering evaluations. I noticed that an incorrect number for the molecular weigh off VOC was used in the analyses I sent you for both projects below. In correcting the molecular weight, the following should be noted for your records:

WALNUT CREEK
The PDOC VOC emission limits and emissions offsets in lb/day and lb/month were corrected, and then updated in the FDOC for the Walnut Creek Project. The monthly emission limit has been revised from 904 lb/month to 1114 lb/month during the commissioning year and 887 lb/month to 1106 lb/month during the non-commissioning year The required offsets for VOC on a lb/day basis (including the 1.2 NSR factor) have been amended from 225 lb/day which was reflected in the CEC PSA for this project. The revised number is 220 lb/day. "

Therefore, I recommend the amount of VOCs be revised in Condition of Certification ***AQ-SC7*** from 225 lb/day to 220 lb/day.

AQ-7

Staff Proposed Condition **AQ-7** reproduces Condition 29.1 in the FDOC but modifies the frequency of source testing from every three years following the initial source test as required by the District to annual testing. WCE proposes the condition be modified as follows to conform to the District FDOC.

AQ-7 The project owner shall conduct an initial source test and ~~annually~~ ***every three years*** thereafter for NOx, CO and NH_3 and ~~annually~~ ***every three years*** thereafter for SOx, VOC and PM10 of each gas turbine exhaust stack in accordance with the following requirements:.....

Scott Galati

From: Ken Coats [KCoats@aqmd.gov]
Sent: Wednesday, June 06, 2007 2:04 PM
To: jmloyer@energy.state.ca.us
Cc: Scott Galati; Gregory Darvin
Subject: Revised VOC numbers for WCEP and SVEP

Joe,
I wanted to touch base with you regarding a few minor changes we made to the WCEP and SVEP engineering evaluations. I noticed that an incorrect number for the molecular weigh off VOC was used in the analyses I sent you for both projects below. In correcting the molecular weight, the following should be noted for your records:

WALNUT CREEK
The PDOC VOC emission limits and emissions offsets in lb/day and lb/month were corrected, and then updated in the FDOC for the Walnut Creek Project. The monthly emission limit has been revised from 904 lb/month to 1114 lb/month during the commissioning year and 887 lb/month to 1106 lb/month during the non-commissioning year The required offsets for VOC on a lb/day basis (including the 1.2 NSR factor) have been amended from 225 lb/day which was reflected in the CEC PSA for this project. The revised number is 220 lb/day.

SUN VALLEY
The PDOC incorrectly listed the VOC emissions and offset requirements on a lb/day and lb/month basis and will be reflected in the FDOC. The monthly emission limit will be revised from 904 lb/month to 1114 lb/month during the commissioning year and 887 lb/month to 1106 lb/month during the non-commissioning year in the FDOC. The required offsets for VOC on a lb/day basis (including the 1.2 NSR factor) will be amended from 180 lb/day in the PDOC to 220 lb/day in the FDOC.

Please call me if you have any questions.

Thanks,
Ken
909-396-2527

GREGORY S. DARVIN
Meteorologist

ATMOSPHERIC DYNAMICS
METEOROLOGICAL AND AIR QUALITY MODELING

Summary of Experience

Mr. Darvin has specialized in the meteorological aspects of air quality issues for the last fifteen years. He has extensive experience in air quality management, dispersion modeling, meteorological modeling, monitoring, major source permitting, complex terrain model development and implementation, emission inventory and health risk assessments. Mr. Darvin also has extensive experience in air quality operational permits (Title V), especially for the oil and gas industry. His experience spans more than 25 different states and several countries.

He has been actively involved with recent PSD permits for many large-scale solid fuel and gaseous fuel projects across the United States. Mr. Darvin has performed the following in support of PSD applications for utilities: baseline air quality and air quality modeling analyses (including preparation and negotiation of the modeling protocol), prepared the PSD and air permit regulatory applicability analyses, managed the preparation of the air quality emissions inventory, and assisted with the Best Available Control Technology (BACT) evaluations.

Specific project experience includes emissions calculations, modeling of impacts, evaluation of regulatory applicability and compliance, New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting, and minor source permitting. He has used and is thoroughly familiar with a number of air quality models, including AERMOD, ISC3, CALPUFF, CALMET, COMPLEX I AND II, IGM, FDM, RTDM, CTSCREEN, CTDMPLUS, UAM, DEGADIS, SPILLS, VISCREEN, PLUVUEII, MESOPUFF, INPUFF, BLP, PAL, CAMEO, CALINE4, OCD5, RAM, TRACE, MM5, SLAB, and the Paris Airshed Model. These models have been used in scientific and development settings as well as in regulatory settings.

Education

M.S. Atmospheric Science, San Francisco State University, 1993
B.A. Physical Geography/Meteorology, University of California, Santa Barbara, 1985.

Professional Affiliations

Air and Waste Management Association
American Meteorological Society

Select Project Experience

A representative selection of Mr. Darvin's projects is included below.

Carson Hydrogen Project AFC, BP and Edison Mission Energy (August 2006-Present). Air Quality Project Manager and lead modeler for preparation of the first hydrogen powered combined cycle power plant for 500 MW of generation. The project will gasify petroleum coke and remove the CO_2 for oilfield re-injection. The project will also include permitting the gasification process and will involve preparation of a PSD permit application, Class I modeling, and offsets.

GREGORY S. DARVIN

Select Project Experience (continued)

Walnut Creek and Sun Valley Energy Project AFCs, Edison Mission Energy (August 2005 to Present). Air Quality Project Manager and lead air quality modeler for preparation of two simple cycle AFC's for over 1000 MW of generation in the South Coast Air Basin. Project includes permit negotiation, ERC/RECLAIM review, and preparation of visible cooling tower plume analyses.

Mountainview Power Plant – SCE (2005 to Present). Project Manager for preparing an air quality permit modification related to commissioning activities and plant startup/shutdown. The project includes preparing a CEMS certification protocol, siting a meteorological tower, and ongoing compliance and regulatory consulting.

Roseville Electric Project AFC, City of Roseville, Ca. (January 2003 to Present). Air Quality Project Manager for air quality analysis related to a proposed new 200 MW natural gas fired power plant. Analysis included evaluation of Class I impacts, visibility impacts, complex terrain, and cooling tower plume modeling.

Pico Power Project AFC, City of Santa Clara. (January 2002 to November 2004). Air Quality Project Manager and lead air quality modeler for permitting a 180 MW power plant in the City of Santa Clara, Ca. Prepared and negotiated air quality permit with BAAQMD and prepared air section(s) of AFC for the California Energy Commission.

Russell City Energy Center AFC, Calpine (January 1999 to November 2002, September 2006-Present). Air Quality Project Manager for obtaining PSD permit and AFC for a large natural gas fired power plant, located near Hayward, Ca. Project required detailed emission calculations, air quality modeling, combined impact assessments, BACT analysis and demonstration, Title IV compliance, and Title V compliance issues.

Metcalf Energy Center AFC, Calpine. (1998 to 2003) Lead air quality modeler for modeling a large natural gas fired power plant, located near San Jose, Ca. Project included using refined modeling techniques to determine nitrogen deposition impacts, Class I analysis, and downwash analysis.

Otay Mesa Generating AFC, Calpine. (1999 to 2004). Lead Meteorologist for permitting a combined cycle power plant, located near San Diego, Ca. Project included Class I impacts, a nitrogen deposition impact assessment, and a downwash analysis in complex terrain. Modeling was used to prepare PSD permit application as well as the AFC application which was submitted to CEC.

East Altamont Energy Center AFC (2000-2002) Lead Meteorologist for permitting large power plant, located near Tracy, Ca. Project included meteorological data set assessments, criteria pollutant and toxics impacts analysis, and constructon impact modeling. Modeling was used to prepare PSD permit application as well as the AFC application for submittal to the CEC.

Select Project Experience (continued)

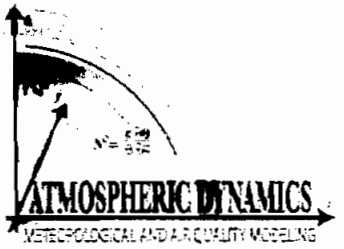
San Joaquin Energy Center AFC (2001-2002) Lead Meteorologist for permitting large power plant, located near the town of San Joaquin in the San Joaquin Valley. Project included preparing modeling assessments for toxics and criteria pollutants, meteorological data set assessments, construction impacts, and plume visibility assessments for the CEC and local air agency.

Prevention of Significant Deterioration (PSD) Permit Modification, Kettle Falls Generating Station, Avista Corporation, Kettle Falls Washington. Prepared a PSD application for modification to the Kettle Falls Generating Station, a wood-waste fired generating facility to address emission increases resulting from a capacity increase modification at the facility. Air quality modeling analyses were required to assess compliance with ambient air quality standards and PSD increments. A toxic air pollutant evaluation was also prepared.

PSD Permitting and EIS For 2000-MW Coal-Fired Power Plant, Sierra Pacific Resources, Nevada. Managed the preparation of a Prevention of Significant Deterioration (PSD) permit application for a 2000-megawatt coal-fired power plant in northeastern Nevada proposed by Sierra Pacific Resources. Evaluation of PSD increments involved extensive air quality modeling for regions with complex terrain. Detailed air quality analyses were performed to address complex issues including: long-range transport of pollutants and subsequent effects on acid deposition, effects of plant emissions on visibility in nearby and distant Class I areas, evaluation of pollutant buildup during stagnation conditions and its effect on visibility, dust emissions from the construction and operation of the power plant, and ambient air quality standards and PSD increments. As part of the state's permitting requirements, an evaluation of air toxics was performed.

PSD Permitting for Rinker Materials Cement Kiln in Brooksville, Florida. Mr. Darvin performed the baseline air quality and air quality modeling analyses, prepared the PSD and air permit regulatory applicability analyses, managed the preparation of the air quality emissions inventory and assisted with the Best Available Control Technology (BACT) evaluation. The project fuel sources included coal, oil, and natural gas.

Air Quality Permitting for an Ammonia/Urea Plant, Btu Nitrogen Company, Wallula, Washington. Prepared a Notice of Construction application for the proposed Btu Nitrogen Plant near Wallula, Washington which included a 600 ton per day ammonia plant and 1,000 ton per day urea fertilizer plant. The facility was to be located in a PM_{10} nonattainment area. Air quality modeling was used to demonstrate compliance with PM_{10} requirements and air quality standards for criteria and toxic air pollutants. Additionally, Best Available Control Technology analyses were prepared for both criteria and toxic air pollutants.



Select Project Experience (continued)

Power Generation Facility – 1250 MW Combined-Cycle, PSD Air Quality Permitting, Kootenai Generation LLC, Rathdrum, Idaho. Managed preparation of a PSD permit application for a proposed 1,250 MW gas-fired combined-cycle turbine power generation facility to be located in Rathdrum, Idaho. Evaluation of local and regional air quality impacts were assessed with the ISCST3 model and CTSCREEN model for impacts in complex terrain. Potential impacts on regional haze and acid deposition on distant federal Class I areas were evaluated with the CALPUFF modeling system. Other air quality evaluations required for the PSD permit application include evaluation of impacts from toxic air pollutants and evaluation of Best Available Control Technology (BACT).

Clean Fuels Refinery Modification, Chevron, Los Angeles, California. Lead air quality modeler for preparation of an Environmental Impact Report (EIR) and New Source Review permit for a large refinery modification in Los Angeles to support the Clean Fuels Program. Project also included toxic emissions calculations and preparation of a Health Risk Assessment.

Prevention of Significant Deterioration - Calpine Rocky Mountain Energy Center. Project manager for preparing PSD application for a 620 MW power plant, located near Hudson Colorado. Project required completion of a PSD permit application, air quality impact modeling analysis in both near and distant from the source, BACT demonstration, and assessment of Class I area impacts. Project was deemed complete by agency in less than 4 weeks.

Arctic Ocean Permitting, Arco Alaska. Task Leader and lead modeler for the first OCS permit ever submitted to the USEPA. Permit was for several off-shore oil exploration drilling platforms in the Arctic Ocean off Alaska. Project involved use of OCD to calculate impacts from exploratory drilling rig and support vessels. Impacts at ANWR were also assessed.

Mesoscale Complex Terrain Model Development, Italian Government and Alyeska. Developed a mesoscale complex terrain wind field model to determine impacts of topographically induced winds on a large man-made lake in the Italian Alps. This model has also been used to diagnose trajectories of potential oil spills in Alaskan waters.

Lead Dispersion and Deposition Study, ASARCO, Leadville, Colorado. Lead scientist for assessing potential deposition of lead from smelting operations over a 130-year period. Results of emissions calculations, modeling and deposition were used to develop a soils sampling program and subsequent cleanup criteria.

ALTERNATIVES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Victor Yamada**

I, Victor Yamada, declare as follows:

1. I am presently employed by Edison Mission Energy, as Director, Environmental, Health & Safety.

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

3. I prepared the attached testimony relating to Alternatives Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Victor Yamada

I. Name: Victor Yamada

II. Purpose:

My testimony addresses the subject of Alternatives considered for the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at Edison Mission Energy as Director, Environmental, Health & Safety and have been for the past 0.7 year. I have a Degree in Civil / Environmental Engineering and I have 30+ years of experience in Environmental Planning, Permitting and Licensing. I assisted in the preparation and or/review of the Alternatives section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Alternatives section of the Final Staff Assessment (FSA) and agree with the conclusions contained therein.

VICTOR M. YAMADA

SUMMARY

Project / program manager with over 30 years of experience in environmental, health and safety planning and compliance program direction on EHS issues for business, consulting, and government. Skills in environmental planning, environmental review, regulatory support, risk management, hazardous materials, air quality, solid / hazardous waste, and wastewater Currently working for Edison Mission Energy with previous background working for industrial manufacturer, environmental consultants, and government.

KEY EXPERIENCE / CAPABILITIES

Presently serving as Director, Environmental, Health & Safety for Edison Mission Energy performing a variety of tasks in support of project development. Accomplishments and skills include the following:

- Providing SCAQMD permitting / CEC licensing support to the Walnut Creek and Sun Valley LMS100 Power Plant Projects
- Served as company's environmental manager related to acquisition & CEC licensing on Mountainview & Sunrise power plant projects
- Served as environmental manager of SCAQMD permitting process on Mountainview power plant and various industrial projects
- Managed construction and pre operation EH&S compliance on Mountainview power plant project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Performed siting studies for new power plant and industrial developments
- Has broad experience & understanding of diverse forms of electrical power generation technologies (combined cycle & peaker gas turbines, offshore & onshore wind turbines, coal / gas / oil combustion steam generators, geothermal, bio-mass, hydro, solar and integrated gasification combined cycle)
- Has broad knowledge of air, hazardous materials, industrial hygiene, safety, waste laws, regulations, and policies
- Involved in legislation, regulatory & public policy development at federal, state & regional / local levels

REGISTRATIONS

Qualified Environmental Professional
Registered Environmental Assessor, CA

EDUCATION

B.S. Civil Engineering – University of Washington, Seattle, WA

M.S. Civil / Environmental Engineering – University of Washington, Seattle, WA
M.B.A. Business Administration – Pepperdine University, Los Angeles, CA

EMPLOYMENT HISTORY

Edison International 1999 - Present
Project Manager; Director, Environmental, Health & Safety
Courtaulds Aerospace
Environmental Manager
Various Environmental Consulting Companies
Environmental Planner; Project Manager; Section Head
US Public Health Service / US Environmental Protection Agency
Environmental Engineer; Air Quality Section Head

BIOLOGICAL RESOURCES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Marjorie Eisert**

I, Marjorie Eisert, declare as follows:

1. I am presently employed by CH2M HILL, as a Biological Scientist.

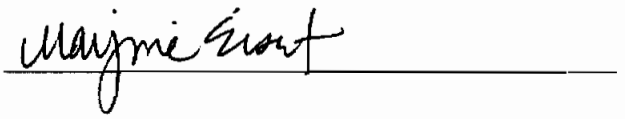
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Biological Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 20. 2007.



I. Name: Marjorie Eisert

II. Purpose:

My testimony addresses the subject of Biological Resources associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as an Biological Scientist and have been for the past 18 years. I have a Degree in Wildlife and Fisheries Biology and I have 18 years of experience in environmental impact assessment for biological resources. I assisted in the preparation of the Biological Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Biological Resources section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant impacts to Biological Resources and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Biological Resources.

Marjorie Eisert

Biologist

Education

B.S., Wildlife and Fisheries Biology, University of California

Distinguishing Qualifications

- More than 16 years of experience working on applied environmental problems in terrestrial habitats in California
- Knowledge of California and federal regulations pertaining to both wetland and wildlife issues

Relevant Experience

Ms. Eisert's expertise includes knowledge of invertebrate and vertebrate natural history, handling and restraint of herpetile, bird, and mammalian species, experience with vertebrate and invertebrate collection methodologies and techniques, and identification of herpetile, bird, and mammalian species. She prepares biological assessments for endangered species and develops mitigation plans for Section 7 and 10(a) under the Endangered Species Act. She has over 10 years of experience working on applied environmental problems in terrestrial habitats.

Representative Projects

- ✓ **Senior Biologist, AFC, Sun Valley Energy Center, Riverside County, California.** Performed threatened and endangered species surveys and wildlife impact evaluation for proposed electric power plant, recycled water supply line, natural gas pipeline route, and electric transmission line connections. Provided senior biological review for the biological resources section of the AFC.
- ✓ **Task Manager, AFC, Walnut Energy Center, City of Industry, California.** Task manager for biological resource impact analysis and document section of AFC. Performed threatened and endangered species surveys, literature search, and wildlife impact evaluation for proposed electric power plant, recycled water supply line, natural gas pipeline route, and electric transmission line connections. Prepared the biological resources section of the AFC and performed informal consultations for sensitive biological resources with USACE, U.S. Fish and Wildlife Service (USFWS), and the California Fish and Game Commission (CFGC).
- ✓ **Senior Biologist, AFC, City of Vernon, California.** Provided senior biological review of the biological resource impact analysis and document section of AFC. Coordinated consultation with resource agencies (USACE, USFWS, and CFGC) and the project biologist.
- ✓ **Project Biologist, Chevron Richmond Refinery, Richmond, California.** Performed surveys of shorebirds nesting in constructed wetlands at a constructed wetland at a Chevron refinery. Conducted nest searches, monitored incubating eggs, collected egg samples, and

fail-to-hatch and predated eggs. Data on selenium and mercury bioaccumulation were used with survey results to develop a management plan for the wetlands.

- ✓ **Project Biologist, Biological Surveys, Pacific Gas Transmission Company, Oregon.** Evaluated ecological resources including wetlands and threatened and endangered species along a proposed natural gas pipeline route in southern Oregon. Surveys included owl calling, herpetile ground searches, amphibian surveys, and use of the Pathfinder global positioning system (GPS), as well as the management of collected field data.
- ✓ **Field Team Leader, Confirmatory Sampling and Ecological Risk Assessment, Bolsa Chica Lowlands, Orange County, California.** Field team leader for field investigations of surface water, sediment, surface and subsurface soil, and aquatic and terrestrial biota. Sample management responsibilities included implementation of an in-house sample tracking system and laboratory coordination for sample analysis and shipping. The focus of this project for the USFWS was to conduct sampling and to perform an ecological risk assessment for the 1,200-acre Bolsa Chica Lowlands.
- ✓ **Project Manager, Various Projects, CPN Pipeline Company.** Managed several projects for Calpine's Natural Gas division. Conducted biological surveys, wetland delineations, and permitting (including Section 404, 401, Section 7 ESA, and CDFG Streambed Alteration Agreements). Managed the Rio Vista Pipeline project, which consisted of approximately 11.5 miles of 12-inch-diameter natural gas pipeline and an approximate 4,850-foot crossing of the Sacramento River that was executed by horizontal directional drill.

CULTURAL RESOURCES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Clinton Helton**

I, Clinton Helton, declare as follows:

1. I am presently employed by CH2M Hill, as a Cultural Resources Scientist.

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

3. I prepared the attached testimony relating to Cultural Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007.

I. Name: Clinton Helton

II. Purpose:

My testimony addresses the subject of Cultural Resources associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Cultural Resources Scientist and have been for the past 1.5 years. I have a Degree in Anthropology and I have 11 years of experience in Archaeology and Cultural Resources Management. I assisted in the preparation of the Cultural Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Cultural Resources section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant impacts to Cultural Resources and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Cultural Resources.

Clinton Helton, RPA

Cultural Resources Scientist

Education

M.A., Anthropology, Brigham Young University
B.A., Language and Literature, University of Utah

Professional Registrations

Registered Professional Archaeologist

Distinguishing Qualifications

- Strong leadership and management skills including over 9 years of environmental management experience
- Experienced in managing cultural, paleontological, biological, and environmental compliance resources

Relevant Experience

Mr. Helton's knowledge of regulatory compliance enables him to manage National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA) as well as California Environmental Quality Act (CEQA) compliance activities and document preparation. He has more than 9 years of environmental management experience in the western U.S., including his recent years of experience in California. He has authored numerous environmental technical reports, cultural resources studies, Programmatic Agreements, Memorandums of Understanding (MOU), and contributed to many CEQA and NEPA documents for a variety of private and public sector clients.

Representative Projects

- ✓ **Senior Scientist, Inland Empire Energy Center, Calpine Corporation, Riverside, California.** Provided cultural resources support. Tasks included evaluation of applicable regulations, conducting field surveys, and preparation of results.
- ✓ **Deputy Project Manager, Confidential Southern California Power Project.** Deputy project manager for proposed power plant and associated natural gas pipeline. Assisted with preparation of the AFC including lead for required analysis of 8 miles of new gas line. Key issues included land use, water supply, air quality, cultural resources, biological resources, visual resources, and noise.
- ✓ **Project Manager, Sacramento Municipal Utility District (SMUD) Cosumnes Power Plant and Gas Pipeline Project, Environmental Compliance, Sacramento, California.** Managed an interdisciplinary team of over 20 environmental specialists including archaeologists,

biologists, and paleontologists during construction of a 26-mile gas pipeline and associated power generation plant.

- ✓ **Project Manager, 700-mile Kern River Pipeline Expansion, Utah, Nevada, and California.** Managed major cultural resources services contract with Williams Energy, in support of the 700-mile Kern River Pipeline Expansion project, traversing Utah, Nevada, Wyoming, and California. Individually sought by Williams Energy to provide regulatory guidance, regional technical expertise in cultural resources and project management support, as well as provide leadership as the agency and subcontractor liaison for the project, given the size, complexity, multistate and multijurisdictional challenges and aggressive schedule of the project. Assisted from project initiation with facilitation of project Programmatic Agreement and led coordination meetings with stakeholder agencies and permitting authorities in California, Utah, Nevada, and Wyoming. Coordinated the activities of three subconsultants and the support of SWCA regional offices and technical contributors. Played a major role in the development of treatment plans to mitigate impacts to a large number of National Register eligible cultural sites.

- ✓ **Project Principal /Quality Control Manager, Western Area Power Administration, Transmission Line Project, Imperial County, California.** Provided overall management of cultural resources services for the Parker-Blythe 1 161-kV transmission line project. The inventory extended from Blythe, California, to Parker, Arizona. A total of 147 sites (136 in California and 11 in Arizona) were recorded.

- ✓ **Project Principal/Quality Control Manager, Talega Residential Housing Development, Archaeological and Paleontological Compliance, Data Recovery, and Compliance Monitoring, San Clemente, California.** Project principal for a multidisciplinary team providing environmental compliance services for this 3,700-acre home development. Assisted with frequent agency consultation with USACE. Worked with project manager and supporting scientists to ensure adequate staffing and production of high-quality reports.

- ✓ **Project Principal/Quality Control Manager, Williams Pipeline, Rockies Expansion Pipeline Construction, Idaho and Wyoming.** Provided overall management of cultural resources and paleontological resources compliance monitoring services.

- ✓ **Project Manager, Level III Communications Fiber Optic Line, Salt Lake to Las Vegas, Nevada.** Managed multi-phased contract for this major interstate utility project. Managed cultural resources surveys of project right-of-way, cultural resources monitoring during construction, major data recovery excavations of significant archaeological sites, and production of multivolume final technical report production.

FACILITY DESIGN, EFFICIENCY AND RELIABILITY

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of: Application For Certification for the Walnut Creek Energy Park	**DOCKET NO. 05-AFC-2** **DECLARATION OF Bernard M. Piazza**

I, Bernard M. Piazza, declare as follows:

1. I am presently employed by Edison Mission Energy, as a Managing Director, Engineering & Construction.

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

3. I prepared the attached testimony relating to Facility Design, Efficiency and Reliability for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Bernard M Piazza

I. Name: Bernard M. Piazza

II. Purpose:

My testimony addresses the subject of Facility Design, Efficiency and Reliability associated with the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at Edison Mission Energy as a Managing Director, Engineering & Construction and have worked for Edison International for 9+ years (7+ years for Mission Energy). I have a Degree in Mechanical Engineering and I have over 30 years of experience in power plant engineering. I assisted in the preparation and or/review of the Facility Design, Efficiency and Reliability sections of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Facility Design, Efficiency and Reliability sections of the Final Staff Assessment (FSA) and agree with the conclusions contained therein as well as the with the proposed Conditions of Certification the WCEP will comply with all design related laws, ordinances, regulations and standards (LORS).

BERNARD M. PIAZZA

SUMMARY OF EXPERIENCE

Registered professional engineer in seven states with over 30 years of power experience on a significant number of domestic and international projects. Currently working for Edison Mission Energy with previous background working for major engineering contractors. Responsibilities have included negotiation of gas turbine purchase and long term maintenance programs, owner project management activities, providing technical support on gas turbines for domestic and international projects, owner due diligence, providing input for project financial models, performing engineering studies, preparing EPC specifications, doing detailed calculations, providing consulting services, performing bank due diligence, preparing EPC contractor proposals, managing a department, managing a project, meeting with clients and making presentations.

SPECIFIC CURRENT EXPERIENCE

Presently serving as Managing Director, Engineering & Construction (and occasional project manger) for Edison Mission Energy performing a variety of tasks in support of project development. Recent accomplishments include the following:

- Provided engineering support to the Walnut Creek and Sun Valley LMS100 Projects, including SCE RFO bid preparation, engineering management and permitting
- Purchased GE LMS100 gas turbines including engineering and commercial aspects
- Prepared solicitation and negotiated purchase of "F" class gas turbines
- Negotiated Long Term Maintenance Agreements for SW 501FD and GE 7FA gas turbines
- Participate in a number of gas turbine user groups as well as following technology developments in the gas turbine industry
- Negotiated turnkey contract for a plant expansion project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Reviewed plant designs and technical viability of developing projects
- Developed plant performance, schedule, technical scope and costs for plant construction
- Provided input to business dynamics and project financial models
- Provided owner assessment of construction projects as well as operating plants in the fleet
- Provided owner project management and project engineering on development projects
- Prepared design criteria and specifications for a combined cycle power project

REGISTRATIONS

Professional Engineer in 7 states - CA, NV, WA, VA, OR, CO, ID

EDUCATION

B.S. Mechanical Engineering - Cooper Union, New York, NY - 1976
Postgraduate Business Curriculum toward MBA - Rutger's University

EMPLOYMENT HISTORY

1997 - Present **Edison International**
Engineering Director/Project Manager

1986 - 1997 **Raytheon Engineers & Constructors (formerly Ebasco)**
Lead Engineer/Project Engineering Manager/Mechanical Department Supervisor

1976 - 1986 **Burns & Roe Incorporated**
Engineer/Field Engineer/Lead Engineer

GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF** Douglas Davy

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2M HILL, as a Senior Project Manager.

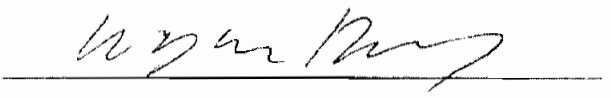
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Geological and Paleontological Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 19, 2007.



I. Name: Douglas Davy

II. Purpose:

My testimony addresses the subject of Geological and Paleontological Resources associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Senior Project Manager and have been for the past 3.5 years. I have a Degree in Anthropology and I have 22 years of experience in environmental assessment for infrastructure development. I assisted in the preparation of the Paleontological Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Geological and Paleontological Resources section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant impacts to Geological and Paleontological Resources and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Geological and Paleontological Resources.

Douglas Davy, Ph.D.

Project Manager

Education

Ph.D., Archaeology, Southern Illinois University
M.A., Anthropology, Southern Illinois University
B.A., Anthropology, University of California

Relevant Experience

Dr. Davy has 22 years of experience providing regulatory compliance and project management support for infrastructure development projects. He has served as project manager for numerous environmental licensing and permitting projects, directing multidisciplinary teams of planners, engineers, and scientists in helping to resolve complex environmental regulatory issues.
Dr. Davy has served as project manager for nine successful Applications for Certification (AFCs), including the AFC for Inland Empire Energy Center, which is located near the Sun Valley site. His California Energy Commission (CEC) licensing experience includes project management on eight 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, several AFC and permit amendments, and three emergency peaker AFCs.
Dr. Davy has also prepared critical project development and permitting reviews for 10 prospective power plant development sites in California.

Representative Projects

- **Project Manager, Walnut Creek Energy Park, Sun Valley Energy Center AFCs, Edison Mission Energy, City of Industry and Romoland, California.** Project manager for AFCs before the CEC for two 500 MW natural gas-fired peaking power plants using GE Energy LMS100 technology. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Inland Empire Energy Center, Calpine Corporation, Riverside, California.** Project manager for AFC before the CEC for the 810-MW natural gas-fired power plant. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing. Managed preparation of license amendments, including conversion of the turbine technology to the GE Energy S107H System and for a rerouting of the natural gas pipeline. Coordinated consultations with CEC staff and other regulatory agencies.

- **Project Manager, Humboldt Bay Repowering Project AFC, Pacific Gas and Electric Company, Eureka, California.** Project manager for AFC before the CEC for the 163-MW natural gas-fired power plant using 10 Wärtsilä 18V50DF dual-fuel turbine-generators. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Russell City Energy Center, Calpine/Bechtel Joint Development, Hayward, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Prepared environmental assessment associated with reconductoring 14 miles of 230 kV transmission line. Project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing executive order. Also served as project manager for an amendment to the project license involving movement of the project configuration.

- **Project Manager, Roseville Energy Park, Roseville Electric, Roseville, California.** Project manager for AFC before the CEC for a 160-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests. Participated in consultations with CEC staff and other regulatory agencies including the Placer County Air Pollution Control District and the U.S. Army Corps of Engineers (USACE).

- **Project Manager, Donald Von Raesfeld Power Plant/Pico Power Project, Silicon Valley Power, Santa Clara, California.** Project manager for AFC before the CEC for a 123-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests, and providing expert testimony. Participated in consultations with CEC staff and other regulatory agencies. Project challenges included developing a mitigation plan for air emissions deposition effects on the Bay checkerspot butterfly, rezoning of the project site, negotiating Best Available Control Technology standards, and Federal Aviation Administration (FAA) air navigation hazard clearance.

- **Project Manager, Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion, Calpine Corporation, San Jose, California.** Project manager for AFC before the CEC that included relicensing a 180-MW simple-cycle power plant and a conversion to combined-cycle operation that would increase the nominal plant output to 320-MW.

- **Project Manager, Newark Energy Center, Calpine/Bechtel Joint Development, Alameda County, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines.

- **Project Manager, Sutter Energy Center, Calpine Corporation. Sutter County, California.** Project manager for an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including 12 miles of natural gas and 4 miles of electrical transmission lines. Coordinated a multidisciplinary team during the Discovery and Decision phases of licensing. Key analyses included preparing water temperature and water quality models, identifying emission reduction credits, and assessing potential impacts along an electrical transmission route.

HAZARDOUS MATERIALS

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Sarah Madams**

I, Sarah Madams, declare as follows:

1. I am presently employed by CH2M HILL, as a Hazardous Materials and Waste Management Specialist.

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

3. I prepared the attached testimony relating to Hazardous Materials for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007

_____

I. Name: Sarah Madams

II. Purpose:

My testimony addresses the subject of Hazardous Materials associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Hazardous Materials Management Specialist and have been for the past 6.5 years. I have a Degree in Environmental Toxicology and I have 10 years of experience in Hazardous Materials and Waste Management. I assisted in the preparation of the Hazardous Materials section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Hazardous Materials section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant Hazardous Materials impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Hazardous Materials.

Sarah Madams

Environmental Toxicologist

Education

B.S., Environmental Toxicology, University of California

Distinguishing Qualifications

- Expertise includes working with multidisciplinary teams to assess the environment impacts of power plants on the environment
- Currently serves as deputy project manager for power plant licensing works performed by CH2M HILL

Relevant Experience

Ms. Madams has more than 7 years of professional experience in project management, regulatory compliance, permitting, public involvement/community relations, data collection and analysis, database management, compliance audits, document preparation, and technical writing. Her environmental assessment experience includes impacts to air, biological and cultural resources, land uses, noise, socioeconomics, public health, water and visual resources, soils and geology, and paleontology.

Representative Projects

- ✓ **Project Coordinator, AFC for AES Highgrove Power Plant.** Project coordinator for the AFC for a 100-MW power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.
- ✓ **Project Coordinator, AFC, Los Esteros Critical Energy Facility, Calpine C*Power, San Jose, California.** Project coordinator for the AFC for a 180-MW power plant. The project required the preparation of numerous other studies/documents to satisfy the CEC staff request. These studies/documents included the preparation of a General Plan amendment and planned development zoning applications, archaeological and paleontological survey reports, and biological resource protection permits. Assisted with the development and implementation of biological, cultural, and paleontological resource monitoring programs, risk management plan, and traffic and transportation management plan.
- ✓ **Project Coordinator, AFC, San Francisco Electric Reliability Project, San Francisco Public Utilities Commission, California.** Project coordinator for the AFC for a 145-MW simple-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, attended public workshops, and prepared a site investigation report for the process water route. Assisted in preparation of the hazardous materials and hazardous

waste sections for the AFC. Served as liaison and coordinated efforts between CEC project management and staff.

- ✓ **Project Coordinator, Small Power Plant Exemption (SPPE), Electric Generation Station, Modesto Irrigation District, Ripon, California.** Project coordinator for the SPPE for a 95-MW peaking plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.

- ✓ **Project Coordinator, AFC, Walnut Energy Center, Turlock Irrigation District, California.** Project coordinator for the AFC for a 250-MW combined-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and coordinated efforts between CEC project management and CH2M HILL staff. Assisted with the development of the security plan and emergency response plan.

- ✓ **Project Coordinator, AFC, Salton Sea Unit 6 Geothermal Power Plant, Mid-American Energy Holding Company, Imperial County, California.** Project coordinator for the licensing of the 185-MW geothermal power plant. The power plant design was based on the flash geothermal power plant process, which produces both solid and liquid byproducts that required disposal. The project site was in a rural area of Imperial County, but adjacent to a National Wildlife Refugee that supports significant populations of avian species. The licensing process involved the review of all environmental areas, and specifically focused on waste disposal, air quality, hazardous materials handling, and biological resources. Responsible for the development and tracking of data response submittals requested by the CEC. The project was successfully completed, with a license issued by the CEC.

- ✓ **Air Quality Audits, SMUD, California.** Conducted air quality audits of the Central Valley Finance Authority's Carson Energy facility and McClellan gas turbine facility. Responsibilities included assisting with the development of the pre-audit checklist and field interview forms, conducting field interviews and audits, and assisting with summarizing and presenting findings in the final audit report.

- ✓ **Initial Study, August Substation, Turlock Irrigation District, California.** Managed the preparation of an Initial Study (IS) for the construction and operation of a proposed substation in Hilmar. The IS evaluated all environmental resources and identified mitigation for significant impacts. Prepared the hazardous materials portion of the IS.

- ✓ **Project Team Member, Environmental Regulatory Services, SMUD, Sacramento, California.** Project team member for on-call environmental support. Prepared the hazardous material subsections for the Initial Studies/Mitigated Negative Declarations (IS/MNDs) at the following substations and connecting overhead 69-kV subtransmission lines: Metro Air Park, North Vineyard, Franklin-Elk Grove, and Oselot-Zinfandel.

LAND USE

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	DOCKET NO. 05-AFC-2
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Douglas Davy**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2M HILL, as a Senior Project Manager

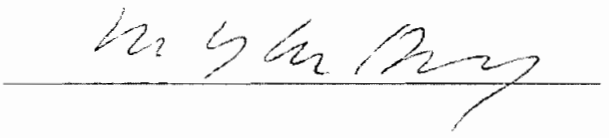
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Land Use for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 19, 2007.



I. Name: Douglas Davy

II. Purpose:

My testimony addresses the subject of Land Use associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Senior Project Manager and have been for the past 3.5 years. I have a Degree in Anthropology and I have 22 years of experience in environmental assessment for infrastructure development. I assisted in the preparation of the Land Use section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Land Use section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed (as modified below) in the FSA construction and operation of the WCEP will not result in significant Land Use impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Land Use.

LAND-1

Staff Proposed Condition of Certification LAND-1 reflects certain City of Industry requirements. One of the requirements relates to the types of buildings that have loading doors. To reflect the specific building of the WCEP that will have a loading door WCE requests Item 6 of the condition be revised as follows:

6. The ~~Control/Admin/Switchgear~~ ***Warehouse/Maintenance*** building shall be provided with a minimum of one loading door. The required truck loading door shall be designed with sufficient size to permit truck trailer loading and unloading through the loading door.

Douglas Davy, Ph.D.

Project Manager

Education

Ph.D., Archaeology, Southern Illinois University
M.A., Anthropology, Southern Illinois University
B.A., Anthropology, University of California

Relevant Experience

Dr. Davy has 22 years of experience providing regulatory compliance and project management support for infrastructure development projects. He has served as project manager for numerous environmental licensing and permitting projects, directing multidisciplinary teams of planners, engineers, and scientists in helping to resolve complex environmental regulatory issues. Dr. Davy has served as project manager for nine successful Applications for Certification (AFCs), including the AFC for Inland Empire Energy Center, which is located near the Sun Valley site. His California Energy Commission (CEC) licensing experience includes project management on eight 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, several AFC and permit amendments, and three emergency peaker AFCs. Dr. Davy has also prepared critical project development and permitting reviews for 10 prospective power plant development sites in California.

Representative Projects

- **Project Manager, Walnut Creek Energy Park, Sun Valley Energy Center AFCs, Edison Mission Energy, City of Industry and Romoland, California.** Project manager for AFCs before the CEC for two 500 MW natural gas-fired peaking power plants using GE Energy LMS100 technology. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Inland Empire Energy Center, Calpine Corporation, Riverside, California.** Project manager for AFC before the CEC for the 810-MW natural gas-fired power plant. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing. Managed preparation of license amendments, including conversion of the turbine technology to the GE Energy S107H System and for a rerouting of the natural gas pipeline. Coordinated consultations with CEC staff and other regulatory agencies.

- **Project Manager, Humboldt Bay Repowering Project AFC, Pacific Gas and Electric Company, Eureka, California.** Project manager for AFC before the CEC for the 163-MW natural gas-fired power plant using 10 Wärtsilä 18V50DF dual-fuel turbine-generators. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Russell City Energy Center, Calpine/Bechtel Joint Development, Hayward, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Prepared environmental assessment associated with reconductoring 14 miles of 230 kV transmission line. Project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing executive order. Also served as project manager for an amendment to the project license involving movement of the project configuration.

- **Project Manager, Roseville Energy Park, Roseville Electric, Roseville, California.** Project manager for AFC before the CEC for a 160-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests. Participated in consultations with CEC staff and other regulatory agencies including the Placer County Air Pollution Control District and the U.S. Army Corps of Engineers (USACE).

- **Project Manager, Donald Von Raesfeld Power Plant/Pico Power Project, Silicon Valley Power, Santa Clara, California.** Project manager for AFC before the CEC for a 123-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests, and providing expert testimony. Participated in consultations with CEC staff and other regulatory agencies. Project challenges included developing a mitigation plan for air emissions deposition effects on the Bay checkerspot butterfly, rezoning of the project site, negotiating Best Available Control Technology standards, and Federal Aviation Administration (FAA) air navigation hazard clearance.

- **Project Manager, Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion, Calpine Corporation, San Jose, California.** Project manager for AFC before the CEC that included relicensing a 180-MW simple-cycle power plant and a conversion to combined-cycle operation that would increase the nominal plant output to 320-MW.

- **Project Manager, Newark Energy Center, Calpine/Bechtel Joint Development, Alameda County, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines.

- **Project Manager, Sutter Energy Center, Calpine Corporation. Sutter County, California.** Project manager for an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including 12 miles of natural gas and 4 miles of electrical transmission lines. Coordinated a multidisciplinary team during the Discovery and Decision phases of licensing. Key analyses included preparing water temperature and water quality models, identifying emission reduction credits, and assessing potential impacts along an electrical transmission route.

NOISE AND VIBRATION

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Mark Bastasch**

I, Mark Bastasch, declare as follows:

1. I am presently employed by CH2M HILL, as an Acoustical Engineer.

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

3. I prepared the attached testimony relating to Noise and Vibration for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Portland, OR on June 18, 2007.

_____

I. Name: Mark Bastasch

II. Purpose:

My testimony addresses the subject of Noise and Vibration associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as an Acoustical Engineer and have been for the past 9 years. I have a Degree in Environmental Engineering and I have 10 years of experience in Acoustical Engineering. I assisted in the preparation of the Noise and Vibration section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Noise and Vibration section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant Noise and Vibration impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Noise and Vibration.

Mark Bastasch, P.E.

Acoustical Engineer

Education

M.S., Environmental Engineering, William Marsh Rice University
B.S. (cum laude), Environmental Engineering, Cal Poly San Luis Obispo

Professional Registrations

Acoustical Engineer: Oregon
Professional Environmental Engineer: Oregon
Professional Civil Engineer: Oregon
Certified Water Rights Examiner: Oregon

Distinguishing Qualifications

- Experience includes evaluation and measurements of existing noise levels, feasibility mitigation design, and fatal flaw siting analysis of power facilities
- Conducted numerous noise studies in accordance with CEC requirements including both oral and written expert witness testimony
- Prepared acoustical analysis or expert testimony for more than 1,500-MW from wind generation facilities and 6,000-MW from gas-fired facilities

Relevant Experience

Mr. Bastasch has extensive experience conducting acoustical studies for power plants. His acoustical experience includes preliminary siting studies, regulatory development and assessments, ambient noise measurements, industrial measurements for model development and compliance purposes, mitigation analysis, and modeling of industrial and transportation noise.

Representative Projects

- ✓ **Walnut Energy Center Turlock Irrigation District, California.** Provided noise support in preparation of the AFC for submittal to the CEC. Tasks included evaluation of applicable regulations, identifying sensitive receptors, background noise measurements, acoustical modeling and determination of mitigation measures. Provided additional support as owner's engineer, including preparation of acoustical specications for various equipment, enclosures, and barriers.
- ✓ **Los Esteros Critical Energy Facility, Calpine, California.** Provided noise support in preparation of the AFC for submittal to the CEC. Tasks included evaluation of applicable regulations, identifying sensitive receptors, background and equipment noise

measurements, mitigation recommendations. Conducted operational compliance monitoring in accordance with Conditions of Certification.

- ✓ **Confidential Southern California Power Project.** Assisted in the evaluation of noise impacts for the AFC for a proposed power plant.
- ✓ **San Francisco Electric Reliability Project, City and County of San Francisco, California.** Provided noise support for document preparation for the AFC for a proposed power plant in the City of San Francisco.
- ✓ **San Joaquin Valley Energy Center, Calpine.** Provided noise support in preparation of the AFC for submittal to the CEC. Tasks included evaluation of applicable regulations, identifying sensitive receptors, and the preparation of expert witness testimony that prevailed over CEC's staff recommendations.
- ✓ **East Altamont Energy Center, Calpine.** Provided noise support in preparation of the AFC for submittal to the CEC. Tasks included evaluation of applicable regulations, identifying sensitive receptors, and numerous acoustical analyses.
- ✓ **AFC, Salton Sea Unit 6 Geothermal Power Plant, Mid-American Energy Holding Company, Imperial County, California.** Provided noise support for the licensing of the 185-MW geothermal power plant.
- ✓ **Small Power Plant Exemption, Electric Generation Station, Modesto Irrigation District, Ripon, California.** Provided noise support for the preparation of the SPPE.
- ✓ **Acoustical Technical Lead, Metcalf Energy Center, San Jose, California.** Provided noise support for a 600-MW power plant. Tasks included evaluating and measuring background noise levels and modeling and comparison of expected noise levels with the City of San Jose, County of Santa Clara standards, and the CEC 5 dBA over background guidelines. Provided recommendations to acquire additional property, prepared AFC submitted to the CEC, regulatory negotiation, and review of Conditions of Certification. Provided testimony at public hearings and CEC evidentiary hearings, which included detailed cross-examination.
- ✓ **Delta Energy Center Project in Contra Costa County, California for Calpine/Bechtel, San Francisco, California.** Provided noise support for a 700+ MW gas-fired power plant licensed by the CEC.
- ✓ **Cosumnes Power Plant, SMUD, Sacramento, California.** Provided noise support in preparation of the AFC for submittal to the CEC. Tasks included evaluation of applicable regulations, identifying sensitive receptors, background noise measurements, and expert witness testimony.
- ✓ **Roseville Energy Park, Roseville Electric, Roseville, California.** Assisted in the evaluation of noise impacts from the Roseville Energy Park, a natural gas-fired combined-cycle power plant.

PUBLIC HEALTH

Public Health

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Greg Darvin**

I, Greg Darvin, declare as follows:

1. I am presently employed by Atmospheric Dynamics, as a meteorologist.

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

3. I prepared the attached testimony relating to Public Health for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007.

Public Health

I. Name: Greg Darvin

II. Purpose:

My testimony addresses the subject of Public Health associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I a I am presently employed at Atmospheric Dynamics Inc. for the past four years and am presently a meteorologist with that organization. I have a Graduate Degree in Atmospheric Science and I have 15 years of experience in meteorological and air quality modeling/permitting. I assisted in the preparation of the Public Health section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Public Health section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification the construction and operation of the WCEP will not result in significant Public Health impacts and will comply with all applicable Public Health related laws, ordinances, regulations and standards (LORS).

GREGORY S. DARVIN
Meteorologist

ATMOSPHERIC DYNAMICS
METEOROLOGICAL AND AIR QUALITY MODELING

Summary of Experience

Mr. Darvin has specialized in the meteorological aspects of air quality issues for the last fifteen years. He has extensive experience in air quality management, dispersion modeling, meteorological modeling, monitoring, major source permitting, complex terrain model development and implementation, emission inventory and health risk assessments. Mr. Darvin also has extensive experience in air quality operational permits (Title V), especially for the oil and gas industry. His experience spans more than 25 different states and several countries.

He has been actively involved with recent PSD permits for many large-scale solid fuel and gaseous fuel projects across the United States. Mr. Darvin has performed the following in support of PSD applications for utilities: baseline air quality and air quality modeling analyses (including preparation and negotiation of the modeling protocol), prepared the PSD and air permit regulatory applicability analyses, managed the preparation of the air quality emissions inventory, and assisted with the Best Available Control Technology (BACT) evaluations.

Specific project experience includes emissions calculations, modeling of impacts, evaluation of regulatory applicability and compliance, New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting, and minor source permitting. He has used and is thoroughly familiar with a number of air quality models, including AERMOD, ISC3, CALPUFF, CALMET, COMPLEX I AND II, IGM, FDM, RTDM, CTSCREEN, CTDMPLUS, UAM, DEGADIS, SPILLS, VISCREEN, PLUVUEII, MESOPUFF, INPUFF, BLP, PAL, CAMEO, CALINE4, OCD5, RAM, TRACE, MM5, SLAB, and the Paris Airshed Model. These models have been used in scientific and development settings as well as in regulatory settings.

Education
M.S. Atmospheric Science, San Francisco State University, 1993
B.A. Physical Geography/Meteorology, University of California, Santa Barbara, 1985.

Professional Affiliations
Air and Waste Management Association
American Meteorological Society

Select Project Experience
A representative selection of Mr. Darvin's projects is included below.

Carson Hydrogen Project AFC, BP and Edison Mission Energy (August 2006-Present). Air Quality Project Manager and lead modeler for preparation of the first hydrogen powered combined cycle power plant for 500 MW of generation. The project will gasify petroleum coke and remove the CO_2 for oilfield re-injection. The project will also include permitting the gasification process and will involve preparation of a PSD permit application, Class I modeling, and offsets.

GREGORY S. DARVIN

Select Project Experience (continued)

Walnut Creek and Sun Valley Energy Project AFCs, Edison Mission Energy (August 2005 to Present). Air Quality Project Manager and lead air quality modeler for preparation of two simple cycle AFC's for over 1000 MW of generation in the South Coast Air Basin. Project includes permit negotiation, ERC/RECLAIM review, and preparation of visible cooling tower plume analyses.

Mountainview Power Plant – SCE (2005 to Present). Project Manager for preparing an air quality permit modification related to commissioning activities and plant startup/shutdown. The project includes preparing a CEMS certification protocol, siting a meteorological tower, and ongoing compliance and regulatory consulting.

Roseville Electric Project AFC, City of Roseville, Ca. (January 2003 to Present). Air Quality Project Manager for air quality analysis related to a proposed new 200 MW natural gas fired power plant. Analysis included evaluation of Class I impacts, visibility impacts, complex terrain, and cooling tower plume modeling.

Pico Power Project AFC, City of Santa Clara. (January 2002 to November 2004). Air Quality Project Manager and lead air quality modeler for permitting a 180 MW power plant in the City of Santa Clara, Ca. Prepared and negotiated air quality permit with BAAQMD and prepared air section(s) of AFC for the California Energy Commission.

Russell City Energy Center AFC, Calpine (January 1999 to November 2002, September 2006-Present). Air Quality Project Manager for obtaining PSD permit and AFC for a large natural gas fired power plant, located near Hayward, Ca. Project required detailed emission calculations, air quality modeling, combined impact assessments, BACT analysis and demonstration, Title IV compliance, and Title V compliance issues.

Metcalf Energy Center AFC, Calpine. (1998 to 2003) Lead air quality modeler for modeling a large natural gas fired power plant, located near San Jose, Ca. Project included using refined modeling techniques to determine nitrogen deposition impacts, Class I analysis, and downwash analysis.

Otay Mesa Generating AFC, Calpine. (1999 to 2004). Lead Meteorologist for permitting a combined cycle power plant, located near San Diego, Ca. Project included Class I impacts, a nitrogen deposition impact assessment, and a downwash analysis in complex terrain. Modeling was used to prepare PSD permit application as well as the AFC application which was submitted to CEC.

East Altamont Energy Center AFC (2000-2002) Lead Meteorologist for permitting large power plant, located near Tracy, Ca. Project included meteorological data set assessments, criteria pollutant and toxics impacts analysis, and constructon impact modeling. Modeling was used to prepare PSD permit application as well as the AFC application for submittal to the CEC.

Select Project Experience (continued)

San Joaquin Energy Center AFC (2001-2002) Lead Meteorologist for permitting large power plant, located near the town of San Joaquin in the San Joaquin Valley. Project included preparing modeling assessments for toxics and criteria pollutants, meteorological data set assessments, construction impacts, and plume visibility assessments for the CEC and local air agency.

Prevention of Significant Deterioration (PSD) Permit Modification, Kettle Falls Generating Station, Avista Corporation, Kettle Falls Washington. Prepared a PSD application for modification to the Kettle Falls Generating Station, a wood-waste fired generating facility to address emission increases resulting from a capacity increase modification at the facility. Air quality modeling analyses were required to assess compliance with ambient air quality standards and PSD increments. A toxic air pollutant evaluation was also prepared.

PSD Permitting and EIS For 2000-MW Coal-Fired Power Plant, Sierra Pacific Resources, Nevada. Managed the preparation of a Prevention of Significant Deterioration (PSD) permit application for a 2000-megawatt coal-fired power plant in northeastern Nevada proposed by Sierra Pacific Resources. Evaluation of PSD increments involved extensive air quality modeling for regions with complex terrain. Detailed air quality analyses were performed to address complex issues including: long-range transport of pollutants and subsequent effects on acid deposition, effects of plant emissions on visibility in nearby and distant Class I areas, evaluation of pollutant buildup during stagnation conditions and its effect on visibility, dust emissions from the construction and operation of the power plant, and ambient air quality standards and PSD increments. As part of the state's permitting requirements, an evaluation of air toxics was performed.

PSD Permitting for Rinker Materials Cement Kiln in Brooksville, Florida. Mr. Darvin performed the baseline air quality and air quality modeling analyses, prepared the PSD and air permit regulatory applicability analyses, managed the preparation of the air quality emissions inventory and assisted with the Best Available Control Technology (BACT) evaluation. The project fuel sources included coal, oil, and natural gas.

Air Quality Permitting for an Ammonia/Urea Plant, Btu Nitrogen Company, Wallula, Washington. Prepared a Notice of Construction application for the proposed Btu Nitrogen Plant near Wallula, Washington which included a 600 ton per day ammonia plant and 1,000 ton per day urea fertilizer plant. The facility was to be located in a PM_{10} nonattainment area. Air quality modeling was used to demonstrate compliance with PM_{10} requirements and air quality standards for criteria and toxic air pollutants. Additionally, Best Available Control Technology analyses were prepared for both criteria and toxic air pollutants.

GREGORY S. DARVIN

Select Project Experience (continued)

Power Generation Facility – 1250 MW Combined-Cycle, PSD Air Quality Permitting, Kootenai Generation LLC, Rathdrum, Idaho. Managed preparation of a PSD permit application for a proposed 1,250 MW gas-fired combined-cycle turbine power generation facility to be located in Rathdrum, Idaho. Evaluation of local and regional air quality impacts were assessed with the ISCST3 model and CTSCREEN model for impacts in complex terrain. Potential impacts on regional haze and acid deposition on distant federal Class I areas were evaluated with the CALPUFF modeling system. Other air quality evaluations required for the PSD permit application include evaluation of impacts from toxic air pollutants and evaluation of Best Available Control Technology (BACT).

Clean Fuels Refinery Modification, Chevron, Los Angeles, California. Lead air quality modeler for preparation of an Environmental Impact Report (EIR) and New Source Review permit for a large refinery modification in Los Angeles to support the Clean Fuels Program. Project also included toxic emissions calculations and preparation of a Health Risk Assessment.

Prevention of Significant Deterioration - Calpine Rocky Mountain Energy Center. Project manager for preparing PSD application for a 620 MW power plant, located near Hudson Colorado. Project required completion of a PSD permit application, air quality impact modeling analysis in both near and distant from the source, BACT demonstration, and assessment of Class I area impacts. Project was deemed complete by agency in less than 4 weeks.

Arctic Ocean Permitting, Arco Alaska. Task Leader and lead modeler for the first OCS permit ever submitted to the USEPA. Permit was for several off-shore oil exploration drilling platforms in the Arctic Ocean off Alaska. Project involved use of OCD to calculate impacts from exploratory drilling rig and support vessels. Impacts at ANWR were also assessed.

Mesoscale Complex Terrain Model Development, Italian Government and Alyeska. Developed a mesoscale complex terrain wind field model to determine impacts of topographically induced winds on a large man-made lake in the Italian Alps. This model has also been used to diagnose trajectories of potential oil spills in Alaskan waters.

Lead Dispersion and Deposition Study, ASARCO, Leadville, Colorado. Lead scientist for assessing potential deposition of lead from smelting operations over a 130-year period. Results of emissions calculations, modeling and deposition were used to develop a soils sampling program and subsequent cleanup criteria.

SOCIOECONOMICS

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Douglas Davy**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2M HILL, as a Senior Project Manager.

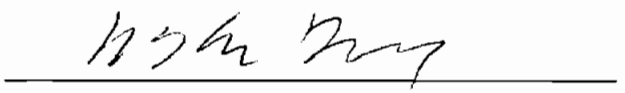
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Socioeconomics for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 20, 2007.



I. Name: Douglas Davy

II. Purpose:

My testimony addresses the subject of Socioeconomics associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Senior Project Manager and have been for the past 3.5 years. I have a Degree in Anthropology and I have 22 years of experience in environmental assessment for infrastructure development. I assisted in the preparation of the Socioeconomics section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Socioeconomics section of the Final Staff Assessment (FSA) and agree that with the conclusions that construction and operation of the WCEP will not result in significant Socioeconomic impacts.

Douglas Davy, Ph.D.

Project Manager

Education

Ph.D., Archaeology, Southern Illinois University
M.A., Anthropology, Southern Illinois University
B.A., Anthropology, University of California

Relevant Experience

Dr. Davy has 22 years of experience providing regulatory compliance and project management support for infrastructure development projects. He has served as project manager for numerous environmental licensing and permitting projects, directing multidisciplinary teams of planners, engineers, and scientists in helping to resolve complex environmental regulatory issues. Dr. Davy has served as project manager for nine successful Applications for Certification (AFCs), including the AFC for Inland Empire Energy Center, which is located near the Sun Valley site. His California Energy Commission (CEC) licensing experience includes project management on eight 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, several AFC and permit amendments, and three emergency peaker AFCs. Dr. Davy has also prepared critical project development and permitting reviews for 10 prospective power plant development sites in California.

Representative Projects

- **Project Manager, Walnut Creek Energy Park, Sun Valley Energy Center AFCs, Edison Mission Energy, City of Industry and Romoland, California.** Project manager for AFCs before the CEC for two 500 MW natural gas-fired peaking power plants using GE Energy LMS100 technology. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.
- **Project Manager, Inland Empire Energy Center, Calpine Corporation, Riverside, California.** Project manager for AFC before the CEC for the 810-MW natural gas-fired power plant. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing. Managed preparation of license amendments, including conversion of the turbine technology to the GE Energy S107H System and for a rerouting of the natural gas pipeline. Coordinated consultations with CEC staff and other regulatory agencies.
- **Project Manager, Humboldt Bay Repowering Project AFC, Pacific Gas and Electric Company, Eureka, California.** Project manager for AFC before the CEC for the 163-MW natural gas-fired power plant using 10 Wärtsilä 18V50DF dual-fuel turbine-generators. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Russell City Energy Center, Calpine/Bechtel Joint Development, Hayward, California**. Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Prepared environmental assessment associated with reconductoring 14 miles of 230 kV transmission line. Project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing executive order. Also served as project manager for an amendment to the project license involving movement of the project configuration.

- **Project Manager, Roseville Energy Park, Roseville Electric, Roseville, California.** Project manager for AFC before the CEC for a 160-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests. Participated in consultations with CEC staff and other regulatory agencies including the Placer County Air Pollution Control District and the U.S. Army Corps of Engineers (USACE).

- **Project Manager, Donald Von Raesfeld Power Plant/Pico Power Project, Silicon Valley Power, Santa Clara, California.** Project manager for AFC before the CEC for a 123-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests, and providing expert testimony. Participated in consultations with CEC staff and other regulatory agencies. Project challenges included developing a mitigation plan for air emissions deposition effects on the Bay checkerspot butterfly, rezoning of the project site, negotiating Best Available Control Technology standards, and Federal Aviation Administration (FAA) air navigation hazard clearance.

- **Project Manager, Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion, Calpine Corporation, San Jose, California.** Project manager for AFC before the CEC that included relicensing a 180-MW simple-cycle power plant and a conversion to combined-cycle operation that would increase the nominal plant output to 320-MW.

- **Project Manager, Newark Energy Center, Calpine/Bechtel Joint Development, Alameda County, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines.

- **Project Manager, Sutter Energy Center, Calpine Corporation. Sutter County, California**. Project manager for an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including 12 miles of natural gas and 4 miles of electrical transmission lines. Coordinated a multidisciplinary team during the Discovery and Decision phases of licensing. Key analyses included preparing water temperature and water quality models, identifying emission reduction credits, and assessing potential impacts along an electrical transmission route.

TRAFFIC AND TRANSPORTATION

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Loren Bloomberg**

I, Loren Bloomberg, declare as follows:

1. I am presently employed by CH2M HILL, as a Transportation Engineer.

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

3. I prepared the attached testimony relating to Traffic and Transportation for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007.

I. Name: Loren Bloomberg

II. Purpose:

My testimony addresses the subject of Traffic and Transportation associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Transportation Engineer and have been for the past 9 years. I have a Degree in Civil Engineering and I have 14 years of experience in Transportation Engineering. I assisted in the preparation of the Traffic and Transportation section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Traffic and Transportation section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification the construction and operation of the WCEP will not result in significant impacts to the Traffic and Transportation system and will comply with all applicable Traffic and Transportation related laws, ordinances, regulations and standards (LORS).

Loren Bloomberg, P.E.

Transportation Engineer

Education

M.S., Civil Engineering, University of California
B.S., Systems Engineering, University of Virginia

Professional Registrations

Professional Engineer (Traffic): California

Distinguishing Qualifications

- Broad background in transportation planning, conceptual design, and transportation systems analysis
- Expert in traffic simulation modeling

Relevant Experience

Mr. Bloomberg has led or played a key role in numerous transportation analyses for new power plant permitting projects. He has conducted studies and developed plans for local areas, corridors, and entire regions. Mr. Bloomberg's technical expertise is simulation modeling and traffic operations, with a particular focus on conceptual engineering and traffic analysis. He is often called upon as a technical expert for CH2M HILL's modeling projects and is known for his ability to complete traffic analyses accurately and efficiently, while meeting client requirements.

Representative Projects

- ✓ **AFC, Walnut Energy Center, and Traffic Control and Implementation Plan (TCIP), Turlock Irrigation District, California.** Developed the traffic control plan for the utility (potable and recycled water) lines. The TCIP addressed the mitigation of traffic impacts to the existing transportation facilities to satisfy the requirements of the CEC Conditions of Certification.
- ✓ **Task Lead, AFC, Metcalf Energy Center, Calpine Corporation, San Jose, California.** Traffic control lead for this fast-track effort to design and construct linear facilities (recycled water, sewer, and potable water) to support a new energy center. Developed plans to support two pipeline alignments through 6 to 10 miles of urban streets. Worked with local agencies to develop a transportation management plan to support agency requirements and maintain construction schedules.
- ✓ **Task Lead, AFC, San Francisco Electric Reliability Project, San Francisco Public Utilities Commission, California.** Task lead for the traffic and transportation section of the AFC. Traffic impacts focused on construction activities.

- ✓ **Task Lead, Proponent's Environmental Assessment (PEA), San Mateo County, California.** Task lead for the transportation analysis to support the PEA and associated environmental impact report (EIR) for a major utility company. The project involved trenching and overhead construction throughout San Mateo County, with potential impacts to freeways, ramps, surface streets, and Bay Area Rapid Transit (BART). Led the transportation analysis (including evaluation, assessment of impacts, and development of mitigation measures) and was primary author for the transportation section of the environmental document. Leaded the development of transportation management plans for the multiple jurisdictions.
- ✓ **Traffic Task Lead, Infrastructure Improvement Projects and Dutton Meadows EIR, Santa Rosa, California.** Traffic task lead for developing project- and program-level EIRs to support planned development in Santa Rosa. Developed traffic/transportation sections of the CEQA documents, tiering off previous environmental documents and technical studies.
- ✓ **Traffic Task Lead, Owens Lake Dust Control Project EIR, Southern California.** Traffic task lead for the assessment of the impacts of a major hauling operation near Lone Pine. Gathered traffic information and forecasts and conducted reconnaissance with local agency staff. Assessed traffic operations and impacts of the proposed project.
- ✓ **Traffic Task Lead, SR 237 Guadalupe Bridge Replacement, Santa Clara County, California.** Traffic task lead for this replacement bridge on SR 237 over the Guadalupe River. Developed transportation management plan, including detour plans and lane closure charts. Conducted operational analysis for staging plans and late lane re-opening penalties.
- ✓ **Task Lead, Route 70/Algodon Road Interchange, Yuba City, California.** Task lead for traffic operations analysis to support planning efforts for the Route 70/Algodon Road interchange near Yuba City. Led the analysis is to assess future operations of the freeway, interchange, and cross-streets to identify design improvements.
- ✓ **Highway 114/Hyampom Road, Trinity County, California. Traffic task lead for evaluating a rural road in Trinity County.** Directed the effort to gather traffic information and forecasts, conduct reconnaissance with local agency staff, and evaluate existing and future traffic. Worked with client staff to achieve consensus on future forecasts, and helped craft the purpose and need statement.

TRANSMISSION LINE SAFETY AND NUISANCE

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Bernard M. Piazza**

I, Bernard M. Piazza, declare as follows:

1. I am presently employed by Edison Mission Energy, as a Managing Director, Engineering & Construction.

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

3. I prepared the attached testimony relating to Transmission Line Safety and Nuisance for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Bernard M Piazza

I. Name: Bernard M. Piazza

II. Purpose:

My testimony addresses the subject of Transmission Line Safety and Nuisance associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at Edison Mission Energy as a Managing Director, Engineering & Construction and have worked for Edison International for 9+ years (7+ years for Mission Energy). I have a Degree in Mechanical Engineering and I have over 30 years of experience in power plant engineering. I assisted in the preparation of the Transmission Line Safety and Nuisance section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Transmission Line Safety and Nuisance section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant Transmission Line Safety and Nuisance impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Transmission Line Safety and Nuisance.

BERNARD M. PIAZZA

SUMMARY OF EXPERIENCE

Registered professional engineer in seven states with over 30 years of power experience on a significant number of domestic and international projects. Currently working for Edison Mission Energy with previous background working for major engineering contractors. Responsibilities have included negotiation of gas turbine purchase and long term maintenance programs, owner project management activities, providing technical support on gas turbines for domestic and international projects, owner due diligence, providing input for project financial models, performing engineering studies, preparing EPC specifications, doing detailed calculations, providing consulting services, performing bank due diligence, preparing EPC contractor proposals, managing a department, managing a project, meeting with clients and making presentations.

SPECIFIC CURRENT EXPERIENCE

Presently serving as Managing Director, Engineering & Construction (and occasional project manger) for Edison Mission Energy performing a variety of tasks in support of project development. Recent accomplishments include the following:

- Provided engineering support to the Walnut Creek and Sun Valley LMS100 Projects, including SCE RFO bid preparation, engineering management and permitting
- Purchased GE LMS100 gas turbines including engineering and commercial aspects
- Prepared solicitation and negotiated purchase of "F" class gas turbines
- Negotiated Long Term Maintenance Agreements for SW 501FD and GE 7FA gas turbines
- Participate in a number of gas turbine user groups as well as following technology developments in the gas turbine industry
- Negotiated turnkey contract for a plant expansion project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Reviewed plant designs and technical viability of developing projects
- Developed plant performance, schedule, technical scope and costs for plant construction
- Provided input to business dynamics and project financial models
- Provided owner assessment of construction projects as well as operating plants in the fleet
- Provided owner project management and project engineering on development projects
- Prepared design criteria and specifications for a combined cycle power project

REGISTRATIONS

Professional Engineer in 7 states - CA, NV, WA, VA, OR, CO, ID

EDUCATION

B.S. Mechanical Engineering - Cooper Union, New York, NY - 1976
Postgraduate Business Curriculum toward MBA - Rutger's University

EMPLOYMENT HISTORY

1997 - Present **Edison International**
Engineering Director/Project Manager
1986 - 1997 **Raytheon Engineers & Constructors (formerly Ebasco)**
Lead Engineer/Project Engineering Manager/Mechanical Department Supervisor
1976 - 1986 **Burns & Roe Incorporated**
Engineer/Field Engineer/Lead Engineer

TRANSMISSION SYSTEM ENGINEERING

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Bernard M. Piazza**

I, Bernard M. Piazza, declare as follows:

1. I am presently employed by Edison Mission Energy, as a Managing Director, Engineering & Construction.

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

3. I prepared the attached testimony relating to Transmission System Engineering for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Irvine, CA on June 18, 2007.

Bernard M Piazza

I. Name: Bernard M. Piazza

II. Purpose:

My testimony addresses the subject of Transmission System Engineering associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at Edison Mission Energy as a Managing Director, Engineering & Construction and have worked for Edison International for 9+ years (7+ years for Mission Energy). I have a Degree in Mechanical Engineering and I have over 30 years of experience in power plant engineering. I assisted in the preparation of the Transmission System Engineering section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Transmission System Engineering section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed in the FSA construction and operation of the WCEP will not result in significant Transmission System Engineering impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Transmission System Engineering.

BERNARD M. PIAZZA

SUMMARY OF EXPERIENCE

Registered professional engineer in seven states with over 30 years of power experience on a significant number of domestic and international projects. Currently working for Edison Mission Energy with previous background working for major engineering contractors. Responsibilities have included negotiation of gas turbine purchase and long term maintenance programs, owner project management activities, providing technical support on gas turbines for domestic and international projects, owner due diligence, providing input for project financial models, performing engineering studies, preparing EPC specifications, doing detailed calculations, providing consulting services, performing bank due diligence, preparing EPC contractor proposals, managing a department, managing a project, meeting with clients and making presentations.

SPECIFIC CURRENT EXPERIENCE

Presently serving as Managing Director, Engineering & Construction (and occasional project manger) for Edison Mission Energy performing a variety of tasks in support of project development. Recent accomplishments include the following:

- Provided engineering support to the Walnut Creek and Sun Valley LMS100 Projects, including SCE RFO bid preparation, engineering management and permitting
- Purchased GE LMS100 gas turbines including engineering and commercial aspects
- Prepared solicitation and negotiated purchase of "F" class gas turbines
- Negotiated Long Term Maintenance Agreements for SW 501FD and GE 7FA gas turbines
- Participate in a number of gas turbine user groups as well as following technology developments in the gas turbine industry
- Negotiated turnkey contract for a plant expansion project
- Participated in due diligence teams on a number of domestic and international plant acquisitions
- Reviewed plant designs and technical viability of developing projects
- Developed plant performance, schedule, technical scope and costs for plant construction
- Provided input to business dynamics and project financial models
- Provided owner assessment of construction projects as well as operating plants in the fleet
- Provided owner project management and project engineering on development projects
- Prepared design criteria and specifications for a combined cycle power project

REGISTRATIONS

Professional Engineer in 7 states - CA, NV, WA, VA, OR, CO, ID

EDUCATION

B.S. Mechanical Engineering - Cooper Union, New York, NY - 1976
Postgraduate Business Curriculum toward MBA - Rutger's University

EMPLOYMENT HISTORY

1997 - Present **Edison International**
Engineering Director/Project Manager
1986 - 1997 **Raytheon Engineers & Constructors (formerly Ebasco)**
Lead Engineer/Project Engineering Manager/Mechanical Department Supervisor
1976 - 1986 **Burns & Roe Incorporated**
Engineer/Field Engineer/Lead Engineer

WASTE MANAGEMENT

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Sarah Madams**

I, Sarah Madams, declare as follows:

1. I am presently employed by CH2M HILL, as a Hazardous Materials and Waste Management Specialist.

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

3. I prepared the attached testimony relating to Waste Management for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007.

I. Name: Sarah Madams

II. Purpose:

My testimony addresses the subject of Waste Management associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Hazardous Materials Management Specialist and have been for the past 6.5 years. I have a Degree in Environmental Toxicology and I have 10 years of experience in Hazardous Materials and Waste Management. I assisted in the preparation of the Waste Management section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Waste Management section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification the construction and operation of the WCEP will not result in significant Waste Management impacts and will comply with all applicable Waste Management related laws, ordinances, regulations and standards (LORS).

Sarah Madams

Environmental Toxicologist

Education

B.S., Environmental Toxicology, University of California

Distinguishing Qualifications

- Expertise includes working with multidisciplinary teams to assess the environment impacts of power plants on the environment
- Currently serves as deputy project manager for power plant licensing works performed by CH2M HILL

Relevant Experience

Ms. Madams has more than 7 years of professional experience in project management, regulatory compliance, permitting, public involvement/community relations, data collection and analysis, database management, compliance audits, document preparation, and technical writing. Her environmental assessment experience includes impacts to air, biological and cultural resources, land uses, noise, socioeconomics, public health, water and visual resources, soils and geology, and paleontology.

Representative Projects

- ✓ **Project Coordinator, AFC for AES Highgrove Power Plant.** Project coordinator for the AFC for a 100-MW power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.
- ✓ **Project Coordinator, AFC, Los Esteros Critical Energy Facility, Calpine C*Power, San Jose, California.** Project coordinator for the AFC for a 180-MW power plant. The project required the preparation of numerous other studies/documents to satisfy the CEC staff request. These studies/documents included the preparation of a General Plan amendment and planned development zoning applications, archaeological and paleontological survey reports, and biological resource protection permits. Assisted with the development and implementation of biological, cultural, and paleontological resource monitoring programs, risk management plan, and traffic and transportation management plan.
- ✓ **Project Coordinator, AFC, San Francisco Electric Reliability Project, San Francisco Public Utilities Commission, California.** Project coordinator for the AFC for a 145-MW simple-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, attended public workshops, and prepared a site investigation report for the process water route. Assisted in preparation of the hazardous materials and hazardous

waste sections for the AFC. Served as liaison and coordinated efforts between CEC project management and staff.

- ✓ **Project Coordinator, Small Power Plant Exemption (SPPE), Electric Generation Station, Modesto Irrigation District, Ripon, California.** Project coordinator for the SPPE for a 95-MW peaking plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.
- ✓ **Project Coordinator, AFC, Walnut Energy Center, Turlock Irrigation District, California.** Project coordinator for the AFC for a 250-MW combined-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and coordinated efforts between CEC project management and CH2M HILL staff. Assisted with the development of the security plan and emergency response plan.
- ✓ **Project Coordinator, AFC, Salton Sea Unit 6 Geothermal Power Plant, Mid-American Energy Holding Company, Imperial County, California.** Project coordinator for the licensing of the 185-MW geothermal power plant. The power plant design was based on the flash geothermal power plant process, which produces both solid and liquid byproducts that required disposal. The project site was in a rural area of Imperial County, but adjacent to a National Wildlife Refugee that supports significant populations of avian species. The licensing process involved the review of all environmental areas, and specifically focused on waste disposal, air quality, hazardous materials handling, and biological resources. Responsible for the development and tracking of data response submittals requested by the CEC. The project was successfully completed, with a license issued by the CEC.
- ✓ **Air Quality Audits, SMUD, California.** Conducted air quality audits of the Central Valley Finance Authority's Carson Energy facility and McClellan gas turbine facility. Responsibilities included assisting with the development of the pre-audit checklist and field interview forms, conducting field interviews and audits, and assisting with summarizing and presenting findings in the final audit report.
- ✓ **Initial Study, August Substation, Turlock Irrigation District, California.** Managed the preparation of an Initial Study (IS) for the construction and operation of a proposed substation in Hilmar. The IS evaluated all environmental resources and identified mitigation for significant impacts. Prepared the hazardous materials portion of the IS.
- ✓ **Project Team Member, Environmental Regulatory Services, SMUD, Sacramento, California.** Project team member for on-call environmental support. Prepared the hazardous material subsections for the Initial Studies/Mitigated Negative Declarations (IS/MNDs) at the following substations and connecting overhead 69-kV subtransmission lines: Metro Air Park, North Vineyard, Franklin-Elk Grove, and Oselot-Zinfandel.

SOIL AND WATER RESOURCES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Matthew Franck**

I, Matthew Franck, declare as follows:

1. I am presently employed by CH2M HILL, as a Water Resources Planner.

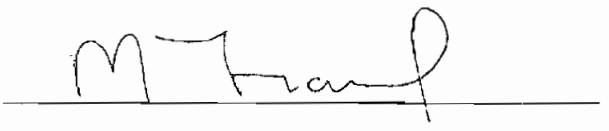
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Soil and Water Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007.



I. Name: Matthew Franck

II. Purpose:

My testimony addresses the subject of Soil and Water Resources associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Water Resources Planner and have been for the past 8 years. I have a Degree in Environmental Policy Analysis and Planning and I have 18 years of experience in Water Resources Planning. I assisted in the preparation of the Soil and Water Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Soil and Water Resources section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification the construction and operation of the WCEP will not result in significant impacts to Soil and Water Resources and will comply with all applicable Soil and Water Resources related laws, ordinances, regulations and standards (LORS).

Matthew Franck

Water Resources Planner

Education

B.S., Environmental Policy Analysis and Planning, University of California

Distinguishing Qualifications

- Proven experience in environmental permitting and compliance activities and coordinating local, state, and federal regulatory processes
- Conducted environmental studies throughout California, Oregon, and Washington

Relevant Experience

Mr. Franck has 15 years of experience in managing and writing environmental impact assessment documents in compliance with NEPA and CEQA. His education and multidisciplinary experience, as well as his expertise in land use and resource planning, provides a solid background for evaluating complex environmental policy issues.

Representative Projects

- ✓ **Task Lead, Confidential Southern California Power Project**. Lead author for water resources section, including analysis of constituent concentrations in effluent under various scenarios.
- ✓ **AFCs, Walnut Creek Energy Park and Sun Valley Energy Project, Edison Mission Energy, City of Industry/Romoland, California.** Provided support for two AFCs before the CEC for similarly designed 500-MW natural gas-fired peaking power plants using the GE LMS100 advanced gas turbine technology. These applications were prepared in parallel and were filed at the Energy Commission within one week of one another.
- ✓ **Task Lead, AFC, AES Highgrove Project.** Lead author for the water resources section, including analysis of constituent concentrations in effluent under various scenarios.
- ✓ **AFC, Roseville Energy Park, Roseville Electric, Roseville, California.** Provided support for the AFC before the CEC for a 160-MW natural gas-fired power plant.
- ✓ **Task Manager, AFC, San Francisco Electric Reliability Project, Public Utilities District for the City and County of San Francisco, California.** Task manager for the preparation of the water resources section of this AFC, a CEC process that is functionally equivalent to CEQA. The CEQA-equivalent evaluation is focused on water, wastewater, and stormwater generation and use by the proposed facility in the context of Citywide compliance with the federal Clean Water Act and state Porter-Cologne Water Quality Control Act.
- ✓ **Task Manager, SPPE, Electric Generation Station, Modesto Irrigation District, Ripon, California.** Task manager for the preparation of the water resources section of this SSPPE, a

CEC process that is functionally equivalent to CEQA. The CEQA-equivalent evaluation focused on water, wastewater, and stormwater generation and use by the proposed facility in compliance with the federal Clean Water Act and state Porter-Cologne Water Quality Control Act.

- ✓ **Task Manager, Ongoing Environmental Documentation and Permitting Support, OMI-Thames Water, Stockton, California.** Task manager for environmental documentation and permitting support for the contract operation of the City of Stockton's wastewater, water, and stormwater infrastructure. The major task in this support effort has been the coordination of a contractor's preparation of an EIR under CEQA for the upgrade of the City's wastewater treatment plant in accordance with Clean Water Act requirements. Another major task is the preparation of an application to the U.S. Coast Guard for a new utility bridge crossing of the San Joaquin River, including a NEPA environmental assessment. The project included extensive agency coordination with the National Marine Fisheries Service, USFWS, CDFG, Central Valley Regional Water Quality Control Board (CVRWQCB), and state and local levee agencies.

- ✓ **Task Lead, Bradshaw Interceptor and Road Widening, Sacramento Regional County Sanitation District, Sacramento, California.** Task lead for the coordination of all environmental permit activities to the construction of a large-diameter sewer interceptor along Bradshaw Road in Sacramento County and the widening of the road from two to four lanes. Permitting agencies include the USACE, USFWS, CDFG, CVRWQCB, and the State Historic Preservation Officer. Managed staff in wetland delineation and special-status species surveys. Coordinated with the County's Department of Environmental Review and Assessment to ensure the completion of environmental documentation for the project.

- ✓ **Water Treatment Plant Expansion, City of Sacramento, California.** Coordinated preparation of the City of Sacramento's EIR to assess the planned expansion of the E.A. Fairbairn and Sacramento River Water Treatment Plants. Responsible for preparing and coordinating the preparation of all impact sections. The EIR required project-level impact considerations that included the application of PROSIM, a hydrologic model used to simulate Central Valley project water deliveries.

- ✓ **Task Lead, Use Permit for Land Treatment of Agricultural Process Wastewater, Colusa Industrial Properties, Colusa, California.** Task lead for the preparation of a CEQA IS for the use of a parcel of land for land disposal of agricultural process wastewater. The IS was required to satisfy Colusa County Use Permit requirements. Prepared entire IS with the assistance of soil scientists and water quality specialists. Assisted in the regulatory process for the issuance of Waste Discharge Requirements by the CVRWQCB.

WORKER SAFETY AND FIRE PROTECTION

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Sarah Madams**

I, Sarah Madams, declare as follows:

1. I am presently employed by CH2M HILL, as a Hazardous Materials and Waste Management Specialist.

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

3. I prepared the attached testimony relating to Worker Safety and Fire Protection for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 18, 2007

I. Name: Sarah Madams

II. Purpose:

My testimony addresses the subject of Worker Safety and Fire Protection associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Hazardous Materials Management Specialist and have been for the past 6.5 years. I have a Degree in Environmental Toxicology and I have 10 years of experience in Hazardous Materials and Waste Management. I assisted in the preparation of the Worker Safety and Fire Protection section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Worker Safety and Fire Protection section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification the construction and operation of the WCEP will not result in significant impacts to Worker Safety and Fire Protection and will comply with all applicable Worker Safety and Fire Protection related laws, ordinances, regulations and standards (LORS).

Sarah Madams

Environmental Toxicologist

Education

B.S., Environmental Toxicology, University of California

Distinguishing Qualifications

- Expertise includes working with multidisciplinary teams to assess the environment impacts of power plants on the environment
- Currently serves as deputy project manager for power plant licensing works performed by CH2M HILL

Relevant Experience

Ms. Madams has more than 7 years of professional experience in project management, regulatory compliance, permitting, public involvement/community relations, data collection and analysis, database management, compliance audits, document preparation, and technical writing. Her environmental assessment experience includes impacts to air, biological and cultural resources, land uses, noise, socioeconomics, public health, water and visual resources, soils and geology, and paleontology.

Representative Projects

- ✓ **Project Coordinator, AFC for AES Highgrove Power Plant.** Project coordinator for the AFC for a 100-MW power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.
- ✓ **Project Coordinator, AFC, Los Esteros Critical Energy Facility, Calpine C*Power, San Jose, California.** Project coordinator for the AFC for a 180-MW power plant. The project required the preparation of numerous other studies/documents to satisfy the CEC staff request. These studies/documents included the preparation of a General Plan amendment and planned development zoning applications, archaeological and paleontological survey reports, and biological resource protection permits. Assisted with the development and implementation of biological, cultural, and paleontological resource monitoring programs, risk management plan, and traffic and transportation management plan.
- ✓ **Project Coordinator, AFC, San Francisco Electric Reliability Project, San Francisco Public Utilities Commission, California.** Project coordinator for the AFC for a 145-MW simple-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, attended public workshops, and prepared a site investigation report for the process water route. Assisted in preparation of the hazardous materials and hazardous

waste sections for the AFC. Served as liaison and coordinated efforts between CEC project management and staff.

- ✓ **Project Coordinator, Small Power Plant Exemption (SPPE), Electric Generation Station, Modesto Irrigation District, Ripon, California.** Project coordinator for the SPPE for a 95-MW peaking plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and served as liaison and coordinated efforts between CEC project management and staff.

- ✓ **Project Coordinator, AFC, Walnut Energy Center, Turlock Irrigation District, California.** Project coordinator for the AFC for a 250-MW combined-cycle power plant. Reviewed applications, coordinated multidisciplinary data requests and responses, and coordinated efforts between CEC project management and CH2M HILL staff. Assisted with the development of the security plan and emergency response plan.

- ✓ **Project Coordinator, AFC, Salton Sea Unit 6 Geothermal Power Plant, Mid-American Energy Holding Company, Imperial County, California.** Project coordinator for the licensing of the 185-MW geothermal power plant. The power plant design was based on the flash geothermal power plant process, which produces both solid and liquid byproducts that required disposal. The project site was in a rural area of Imperial County, but adjacent to a National Wildlife Refugee that supports significant populations of avian species. The licensing process involved the review of all environmental areas, and specifically focused on waste disposal, air quality, hazardous materials handling, and biological resources. Responsible for the development and tracking of data response submittals requested by the CEC. The project was successfully completed, with a license issued by the CEC.

- ✓ **Air Quality Audits, SMUD, California.** Conducted air quality audits of the Central Valley Finance Authority's Carson Energy facility and McClellan gas turbine facility. Responsibilities included assisting with the development of the pre-audit checklist and field interview forms, conducting field interviews and audits, and assisting with summarizing and presenting findings in the final audit report.

- ✓ **Initial Study, August Substation, Turlock Irrigation District, California.** Managed the preparation of an Initial Study (IS) for the construction and operation of a proposed substation in Hilmar. The IS evaluated all environmental resources and identified mitigation for significant impacts. Prepared the hazardous materials portion of the IS.

- ✓ **Project Team Member, Environmental Regulatory Services, SMUD, Sacramento, California.** Project team member for on-call environmental support. Prepared the hazardous material subsections for the Initial Studies/Mitigated Negative Declarations (IS/MNDs) at the following substations and connecting overhead 69-kV subtransmission lines: Metro Air Park, North Vineyard, Franklin-Elk Grove, and Oselot-Zinfandel.

VISUAL RESOURCES

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 05-AFC-2**
Application For Certification for the Walnut Creek Energy Park	**DECLARATION OF Douglas Davy**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2M HILL, as a Senior Project Manager

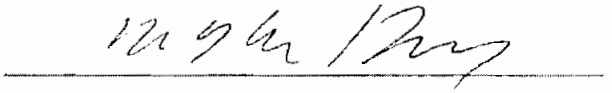
2. A copy of my professional qualifications and experience is included with the attached testimony in Appendix A, and is incorporated by reference in this Declaration.

3. I prepared the attached testimony relating to Visual Resources for the Walnut Creek Energy Park (California Energy Commission Docket Number 05-AFC-2).

4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues 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, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Sacramento, CA on June 19, 2007.



I. Name: Doug Davy

II. Purpose:

My testimony addresses the subject of Visual Resources associated with the construction and operation of the Walnut Creek Energy Park (WCEP).

III. Qualifications:

I am presently employed at CH2M HILL as a Senior Project Manager and have been for the past 3.5 years. I have a Degree in Anthropology and I have 22 years of experience in environmental assessment for infrastructure development. I assisted in the preparation of the Visual Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the attached resume.

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

IV. Opinion and Conclusions

I have reviewed the Visual Resources section of the Final Staff Assessment (FSA) and agree that with the Conditions of Certification proposed (as modified below) in the FSA construction and operation of the WCEP will not result in significant Visual Resources impacts and will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to Visual Resources.

VIS-4

WCE and Staff had productive conversations concerning Staff's Proposed Condition of Certification **VIS-4**. Staff made the modifications as requested but also included an additional paragraph in the Verification. We understand that Staff included the additional paragraph to address concerns raised by WCE at the PSA Workshop. While WCE appreciates Staff's intent, WCE requests the paragraph be deleted because the other changes made by Staff address all of WCE's concerns. Therefore, we recommend the entire last paragraph in the Verification of **VIS-4** be deleted.

Douglas Davy, Ph.D.

Project Manager

Education

Ph.D., Archaeology, Southern Illinois University
M.A., Anthropology, Southern Illinois University
B.A., Anthropology, University of California

Relevant Experience

Dr. Davy has 22 years of experience providing regulatory compliance and project management support for infrastructure development projects. He has served as project manager for numerous environmental licensing and permitting projects, directing multidisciplinary teams of planners, engineers, and scientists in helping to resolve complex environmental regulatory issues. Dr. Davy has served as project manager for nine successful Applications for Certification (AFCs), including the AFC for Inland Empire Energy Center, which is located near the Sun Valley site. His California Energy Commission (CEC) licensing experience includes project management on eight 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, several AFC and permit amendments, and three emergency peaker AFCs. Dr. Davy has also prepared critical project development and permitting reviews for 10 prospective power plant development sites in California.

Representative Projects

- **Project Manager, Walnut Creek Energy Park, Sun Valley Energy Center AFCs, Edison Mission Energy, City of Industry and Romoland, California.** Project manager for AFCs before the CEC for two 500 MW natural gas-fired peaking power plants using GE Energy LMS100 technology. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Inland Empire Energy Center, Calpine Corporation, Riverside, California.** Project manager for AFC before the CEC for the 810-MW natural gas-fired power plant. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing. Managed preparation of license amendments, including conversion of the turbine technology to the GE Energy S107H System and for a rerouting of the natural gas pipeline. Coordinated consultations with CEC staff and other regulatory agencies.

- **Project Manager, Humboldt Bay Repowering Project AFC, Pacific Gas and Electric Company, Eureka, California.** Project manager for AFC before the CEC for the 163-MW natural gas-fired power plant using 10 Wärtsilä 18V50DF dual-fuel turbine-generators. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing.

- **Project Manager, Russell City Energy Center, Calpine/Bechtel Joint Development, Hayward, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Prepared environmental assessment associated with reconductoring 14 miles of 230 kV transmission line. Project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing executive order. Also served as project manager for an amendment to the project license involving movement of the project configuration.
- **Project Manager, Roseville Energy Park, Roseville Electric, Roseville, California.** Project manager for AFC before the CEC for a 160-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests. Participated in consultations with CEC staff and other regulatory agencies including the Placer County Air Pollution Control District and the U.S. Army Corps of Engineers (USACE).
- **Project Manager, Donald Von Raesfeld Power Plant/Pico Power Project, Silicon Valley Power, Santa Clara, California.** Project manager for AFC before the CEC for a 123-MW natural gas-fired power plant. Directed a multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests, and providing expert testimony. Participated in consultations with CEC staff and other regulatory agencies. Project challenges included developing a mitigation plan for air emissions deposition effects on the Bay checkerspot butterfly, rezoning of the project site, negotiating Best Available Control Technology standards, and Federal Aviation Administration (FAA) air navigation hazard clearance.
- **Project Manager, Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion, Calpine Corporation, San Jose, California.** Project manager for AFC before the CEC that included relicensing a 180-MW simple-cycle power plant and a conversion to combined-cycle operation that would increase the nominal plant output to 320-MW.
- **Project Manager, Newark Energy Center, Calpine/Bechtel Joint Development, Alameda County, California.** Project manager for the preparation of an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including natural gas, water supply, and electrical transmission lines.
- **Project Manager, Sutter Energy Center, Calpine Corporation. Sutter County, California.** Project manager for an AFC before the CEC for a 600-MW natural gas-fired power plant and appurtenant facilities including 12 miles of natural gas and 4 miles of electrical transmission lines. Coordinated a multidisciplinary team during the Discovery and Decision phases of licensing. Key analyses included preparing water temperature and water quality models, identifying emission reduction credits, and assessing potential impacts along an electrical transmission route.

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

APPLICATION FOR CERTIFICATION FOR THE WALNUT CREEK ENERGY PARK (WCEP)	DOCKET NO. 05-AFC-2 (Revised 6/6/07)

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the Docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 05-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

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INTERESTED AGENCIES

No agencies to date.

INTERVENORS

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DECLARATION OF SERVICE

I, Marguerite Cosens, declare that on June 21, 2007, I deposited copies of the attached **Edison Mission Energy's Testimony, for the Walnut Creek Energy Park** in the United States mail at with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

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

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

Marguerite Cosens