

CEC No. 02-AFC-02

# SALTON SEA GEOTHERMAL UNIT 6

Power Plant Project

## WRITTEN TESTIMONY

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### Application for Certification (02-AFC-02) for Salton Sea Geothermal Unit 6 Power Plant Project

*Submitted by:*

CE Obsidian Energy LLC

*Submitted to:*

California Energy Commission

**1516 Ninth Street, MS-4**  
Sacramento, California 95814-5512

**File date: October 17, 2003**

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# AIR QUALITY

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## I. Introduction

### A. Name

Paul E. Neil, P.E., D.E.E. Mr. Neil has over 30 years experience in air quality and other environmental permitting activities. His resume is attached (Appendix A).

### B. Prior Filings

This testimony includes by reference the following documents submitted in this proceeding that are listed in Appendix B, which were prepared by me or under my direction or supervision:

- Section 5.1 of the AFC (Docket No. 26373)
- Data Adequacy Supplement to the AFC Pertaining to Air Quality (Docket No. 26734)
- Data Response, Set 1, Nos. 1-30 (Docket No. 27568)
- Data Response, Set 2, Nos. 99-104 (Docket No. 27657)
- Data Response, Set 3, Nos. 107-116 (Docket No. 27997)
- Data Response, Set 4, Nos. 140 (Docket No. 28167)
- Response to CEC Workshop Data Requests
- Comments on the Preliminary Staff Assessment (Docket No. 28673)
- Comments on the Final Staff Assessment (Docket No. 29677, 30069)
- CURE Data Response, Set 1 (Docket No. 27713)
- CURE Data Response, Set 2 (Docket No. 27775)
- CURE Data Response, Set 3 (Docket No. 27942)
- CURE Data Response, Set 4 (Docket No. 28179)

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

## II. Summary

The Final Staff Assessment (FSA) for the Salton Sea Unit 6 Power Plant (SSU6) Project recommends that Conditions of Certification be adopted to address air quality issues. These conditions are AQ-C1 through AQ-C15, as proposed by the CEC Staff and AQ-1 through AQ-38 as taken from the Final Determination of Compliance issued by the Imperial County Air Pollution Control District (ICAPCD) and described on pages 2.1.62 through 2.1.76 of the FSA. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable except for AQ-C13. The Applicant requests that this condition be deleted. Construction and operation of the Project as described in the documents listed above, and implementation of the remaining Conditions of Certification will ensure that the facility will be in compliance with applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance.

Staff has concluded that even after implementation of proposed mitigation, the Project will result in two unmitigated significant impacts. One impact identified is the potential temporary exceedance of the hydrogen sulfide (H<sub>2</sub>S) standard during commissioning, and the other impact is secondary particulate matter formation due to ammonia emissions during normal operation. Applicant disagrees with the Staff on both of these items.

With regard to the commissioning emissions, the duration of the modeled exceedances is very short, amounting to only six hours. The locations of the modeled exceedances are remote and uninhabited. Furthermore, the Applicant will be providing ERCs to offset the emissions of H<sub>2</sub>S emitted during the commissioning period. Thus, commissioning impacts are less than significant.

With regard to ammonia emissions, Staff's assumptions that ammonia will cause significant secondary particulate formation are unsupported. Under certain conditions acid gases will combine with ammonia to form particulate. However, in the environment of Imperial County, the acid gases are the limiting factor. Thus, adding more ammonia to the reaction will not generate more particulate beyond what would have already been generated due to existing conditions. Therefore, the additional net increase in ammonia emissions due to the Project will not result in a significant impact.

### A. Project Overview and Methods of Analysis

CE Obsidian Energy, LLC (Applicant) proposes to develop a 185-megawatt (MW) geothermal power plant, along with a production and injection well field and a transmission line near the Salton Sea in Imperial County. The purpose of Chapter 5.1 of the AFC and subsequent data and analysis, is to review the proposed Project in sufficient detail to determine to what extent the proposed action may cause impacts, as described in CEQA, or may affect air quality.

The air quality analysis consisted of (1) review of existing air quality; (2) estimate of construction, operational and temporary activity emissions; (3) dispersion modeling; (4) assessment of compliance with air quality standards; (5) identification and evaluation of

potential mitigation measures; and (6) application for a determination of compliance from the ICAPCD.

Other permits that will need to be obtained for the Project include:

- Authority to Construct Permits for Well Drilling Activities (if drilling contractors do not have existing State Portable Permits); and
- Authority to Construct Permits for Well Flow Testing Activities.

The AFC and other documents described above, present a detailed description of the Project and addresses potential project impacts to air quality in the project area.

**B. Project Location and Description of Proposed Action**

The Project will be located on an 80-acre parcel approximately six miles northwest of the town of Calipatria on a portion of a 160-acre quarter section of land owned by CalEnergy, Inc. The new power facility will generate approximately 185-MW of electricity. The Project consists of a resource production facility (RPF), a power generation facility (PGF), a new 161-kV switchyard, and ancillary facilities, including 10 geothermal production wells, seven injection wells, and two electrical transmission lines. The RPF, PGF, two production and two injection wells will be located on the 80-acre parcel. The remaining wells will be located off-site. The site vicinity includes existing geothermal facilities and developed agricultural lands. The Project is at -228 feet elevation, southeast of the Salton Sea.

**C. Coordination with Agencies**

Applicant submitted an Application of Determination of Compliance in July of 2002 containing all of the project description and air quality information listed in the AFC to the ICAPCD. Since the submission, Applicant and their consultants and attorneys have worked with the ICAPCD to identify potential impacts and mitigation measures. The ICAPCD issued its Final Determination of Compliance on September 8, 2003 with recommended permit conditions.

**D. Impacts and Mitigation - Operations**

The Project is expected to emit the following amounts of criteria pollutants during operations:

Pollutant	lb/day	tons/year
PM <sub>10</sub>	76.3	13.7
NO <sub>2</sub>	79.1	3.7
CO	239	10.2
SO <sub>2</sub>	3.33	0.4
VOC	23.4	2.2
H <sub>2</sub> S	116	21.1

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Potential impacts from the Project's emissions are expected to be below all applicable state and federal standards for all pollutants except for PM<sub>10</sub>. Existing concentrations of PM<sub>10</sub> in the project area already exceed state and federal standards. The incremental increase of PM<sub>10</sub> concentrations due to the Project are below federal ambient impact significance levels.

Project impacts will be mitigated by using the most effective emission control technologies available, by providing emission reduction credits (ERCs) to offset the Project's emissions, and by implementing a PM<sub>10</sub> mitigation plan.

The SSU6 Project is designed with the following major emission control technologies:

- LO-CAT H<sub>2</sub>S Control System with a projected efficiency of 99.5% for the noncondensable gases. An H<sub>2</sub>S scavenging unit, after the LO-CAT System, will further reduce H<sub>2</sub>S emissions.
- Carbon Adsorption System for the control of benzene with a projected efficiency of 90% for the noncondensable gases.
- High efficiency drift control eliminators rated at 0.0005% for the cooling towers.
- Oxidizer box H<sub>2</sub>S control system with a projected efficiency of 90% for the cooling tower off-gassing.

The Project will provide the following ERCs:

- A total of 39.9 tons of H<sub>2</sub>S offsets will be provided by applying H<sub>2</sub>S control technology to the Leathers Geothermal Power Plant (through use of either a biofilter or LO-CAT system). There are over 63 tons of ERCs available by controlling the H<sub>2</sub>S emissions from the Leathers Geothermal Power Plant. ERCs not required to offset Project emissions would be banked. The ERCs will offset H<sub>2</sub>S emissions from normal operations, temporary activities, well flow testing and commissioning. Table 1 below shows the calculated amounts.

**Table 1 – H<sub>2</sub>S ERCs**

	<b>Project Emissions (tpy)</b>	<b>ERC Factor</b>	<b>ERC Amount (tpy)</b>
Normal Operations	21.1	1.2	25.3
Temporary Emissions <sup>(a)</sup>	0.9	1.0	0.9
Well Flow Testing <sup>(b)</sup>	5.0	1.0	5.0
Commissioning <sup>(b)</sup>	8.7	1.0	8.7
		<b>TOTAL:</b>	<b>39.9</b>
(a) Venting and Startup			
(b) Temporary			

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- a. Applicant will obtain or purchase from the ICAPCD Stationary or Agricultural Bank a total of 55 tons of PM<sub>10</sub> emission offsets. These ERCs will offset emissions from normal operations, construction, well flow testing and commissioning. Table 2 shows the calculated amounts.

**Table 2 – PM<sub>10</sub> ERCs**

	<b>Project Emissions (tpy)</b>	<b>ERC Factor</b>	<b>ERC Amount (tpy)</b>
Normal Operations/ Secondary PM <sub>10</sub> Emissions <sup>(a)</sup>	NA	NA	19.6
Construction Well Flow Testing <sup>(b)</sup>	29.8	1.0	29.8
Commissioning <sup>(b)</sup>	5.63	1.0	5.6
		<b>TOTAL:</b>	<b>55</b>

(a) CURE Mitigation Agreement  
 (b) Temporary  
 NA = Not Applicable

Although the CEC Staff concedes that it cannot accurately estimate what fraction of the Project’s ammonia emissions will form particulate matter, it has determined that the Project’s contribution to secondary particulate formation will be potentially significant. Staff’s conclusion rests on the premise that ambient conditions in the area surrounding the Project are ammonia lean. In addition, Staff’s assumption is based on a review of available particulate data (PM<sub>2.5</sub>), which indicates that the mole ratio of nitrate to sulfate in Imperial County is half that of San Joaquin County – an area known to be ammonia rich. Staff concludes that this demonstrates that Imperial County is not ammonia rich. Staff has concluded that emissions transported into Imperial County are likely to be ammonia lean. Because the Staff is incorrect in its underlying premise that the region is ammonia lean, its conclusion regarding the potential for the Project’s ammonia emissions to generate secondary particulate is also incorrect.

Ammonia’s role in secondary particulate formation has been the subject of numerous studies. An excellent reference is the Northern Front Range Air Quality Study (Watson, J.G., et al. “Northern Front Range Air Quality Study Final Report” Desert Research Institute Document N. 6580-685-8750-IF2 (1998)), which is referred to and relied upon in the following discussion.

Secondary particulate generation is dependent upon several factors:

- concentrations of SO<sub>x</sub>, NO<sub>x</sub> and ammonia;

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- ambient temperature; and
- relative humidity.

Under certain environmental conditions, sulfur dioxide can be converted into particulate sulfate through gas or aqueous-phase pathways. The aqueous-phase has a much higher reaction rate. The resulting ammonia sulfate is a stable compound, meaning once generated it remains in particulate form. Nitrogen oxides can also be converted into nitric acid by basically the same process, however at much higher reaction rates. Ten to thirty percent per hour conversion factors have been used in reviewing other CEC projects. The resulting ammonia nitrate is not a stable compound. Ammonia nitrate particulate is primarily generated at temperatures below 15 °C (59 °F). Above 35 °C (95 °F) the gaseous phase is favored. Thus, particulate ammonia nitrate is generated under conditions of high relative humidity and low temperature.

Imperial County is classified as a desert climate with low precipitation, hot summers, mild winters and low humidity. The mean annual temperature at the nearest station (Brawley) is 72.4 °F and average relative humidity for the County is 25 percent. These conditions are not conducive to ammonia nitrate particulate formation.

Data (taken from the California Air Resources Board website unless otherwise noted) for area-wide emissions of the three relevant compounds are presented below for the year 2002:

Air Basin	NO <sub>2</sub>	SO <sub>2</sub>	Ammonia	Mole Ratio
Imperial County (tpd)	33.5	0.94	50+ <sup>(a)</sup>	3.87
(mole tpd)	0.73	0.015	2.94	
San Joaquin Valley (tpd)	525	34.5	369 <sup>(b)</sup>	1.74
(mole tpd)	11.4	0.54	21.7	
San Diego County (tpd)	220.5	7.51	NA	NA
(mole tpd)	4.79	0.12		
South Coast (tpd)	1088	64.5	182 <sup>(b)</sup>	0.42
(mole tpd)	23.7	1.0	10.7	
Mexicali <sup>(c)</sup> (tpd)	55.9	11.4	23.5	1.10
(mole tpd)	1.22	0.18	1.38	

(a) Current Imperial County APCD estimate taken from its PDOC  
 (b) Year = 2000  
 (c) Year = 1996 (Source: Air Emissions Inventory for Mexicali, Baja California – Radian International)

tpd = tons per day  
 NA = Not Available

As indicated in this table, Imperial County, Mexicali and San Joaquin Valley are ammonia rich. The table also shows that SO<sub>2</sub> plays a minor role in potential total particulate formation, with NO<sub>2</sub> providing 85% to 97% of the acid gases on a mole ratio basis. NO<sub>2</sub> is the major factor in secondary particulate generation.

Furthermore, long-distance transport of nitric acid is not expected since the nitric acid fairly rapidly deposits out and NO<sub>2</sub> oxidizes quickly to nitric acid. Thus, San Diego and South Coast emissions are not expected to significantly influence Imperial County air quality with regard to secondary ammonia nitrate formation. Because it is located near by, Mexicali could potentially have an impact on air quality in Imperial County. However, the area would still be very ammonia rich with a combined mole ratio of 1.85. Furthermore, ammonia emissions assumed for Mexicali do not include motor vehicles and natural sources. In San Joaquin Valley, these sources contributed five percent to the total, while in the South Coast these sources contributed thirty-seven percent of the total ammonia emissions. Thus, the 1.85 mole ratio is an understatement for the combined Imperial County and Mexicali area. Therefore, the data show Imperial County is ammonia rich even when transported emissions are taken into consideration. Staff's assumption regarding ambient conditions is therefore incorrect.

As further support for the premise that Imperial County is not ammonia rich, Staff points out that the ammonia to nitrate/sulfate particulate mole ratio in San Joaquin Valley is almost twice that of Imperial County. The Northern Front Range Air Quality Study reviewed these ratios (refer to Figure 8.2-1) and found [no such correlation as assumed by Staff, although the study noted that the "molar ratio is typically lowest when particle nitrate concentrations are large."] As noted before, ammonia nitrate particulate is a function of temperature, humidity and concentrations of the three components. The annual average temperature of San Joaquin Valley is 65 °F (lower than Imperial County) and its average relative humidity is much higher than Imperial County. The ratio alone, as presented by Staff, does not indicate whether an area is ammonia rich or ammonia lean because the data does not contain information on the available concentrations of ammonia/nitrate/sulfate and other factors. Thus, Staff's reliance on the mole ratio is misplaced.

Staff's conclusion is also inconsistent with conclusions reached on other, recent projects located in areas that were deemed to be ammonia rich. In some of the cases, such as downtown Los Angeles, the area would not be expected to be nearly as ammonia rich as Imperial County. Staff has routinely concluded that ammonia emissions were not likely to result in secondary particulate formation under such circumstances. The following examples illustrate this point:

El Segundo Power: 00-AFC-14

"The data recorded in the South Coast Study seems to indicate that the downtown Los Angeles area is ammonia rich". "Based on the presumption that the area downwind of the project is ammonia rich from September through April, it is Staff's opinion that the ammonia emissions from the project do not have the potential to cause or contribute to an exceedance of the PM<sub>10</sub> ambient air quality standard during..."

San Joaquin: 01-AFC-22

“The San Joaquin Valley, as a result of agricultural ammonia emissions, is ammonia rich, meaning that ammonia is not the limiting reactant for secondary PM<sub>10</sub> formation. This means higher ammonia emissions will not necessarily result in additional secondary PM<sub>10</sub> formation; however, reducing NO<sub>x</sub> emissions will almost certainly reduce secondary PM<sub>10</sub> formation.”

Based upon the insights derived from the Northern Front Range Air Quality Study, impacts of the Project's 2,700 tons per year of ammonia emissions to the air quality of Imperial County can be estimated. The Study reviewed temperature, humidity, and mole ratio graphs derived from data collected. One graph closely matches the conditions experienced in Imperial County. This graph (Figure 8.2-4 of the Study) is set at 30 percent relative humidity, which is near the average relative humidity of Imperial County. This graph shows how much particulate ammonia nitrate is expected at different mole ratios and temperatures. Using the average mole ratio of approximately 4 for Imperial County, the graph indicates that no particulate ammonia nitrate is expected above temperatures of 18 °C (64 °F). The Study also shows that for “the average situation that no increases in ammonia nitrate result from increases in ammonia concentrations”, and that with reductions in available nitric acid the relationship is linear and proportional. Decreases in ammonia emissions provide no benefit or reductions in particulate matter until the mole ratio is below 1. The average situation is an ammonia rich environment, similar to Imperial County. This is a logical conclusion since NO<sub>2</sub> is the limiting factor in this chemical reaction.

During the FSA workshop on October 1, 2003, the Staff suggested that even if the area is ammonia rich, there will still be some additional reaction and particulate formation as a result of the additional ammonia emissions. The Northern Front Range Air Quality Study shows that this is not the case in an ammonia rich environment such as Imperial County. Figure 8.2-8 illustrates changes in particulate nitrate concentrations in response to changes in ammonia on page 8-13 of the study. Increases in ammonia concentrations do not lead to increases in particulate nitrate concentrations. Additionally, calls were made to the Project Manager of the Northern Front Range Air Quality Study, the California Air Resources Board staff, and the San Joaquin Valley Air Pollution Control District staff to review with them the newest assertions made by the CEC Staff. All of these agencies confirmed that in rich ammonia environments, changes in ammonia concentrations did not affect particulate formation. California Air Resources Board staff noted that the equilibrium equation was between particulate and nitrogen oxides, not between particulate and ammonia as assumed by the CEC Staff.

As the available data shows, the ammonia emissions from the Project are not expected to contribute to secondary particulate formation. For the reasons illustrated above, the ammonia emissions do not cause a significant impact and thus there is no need for AQ-C13. The Applicant requests that this condition be deleted. Again, scientific analysis and past CEC reviews do not support a significance determination for this project.

**E. Impacts and Mitigation - Construction**

The Project is expected to emit the following amounts of criteria pollutants during the construction of the Project.

Pollutant	lb/day
PM <sub>10</sub>	79.3
NO <sub>2</sub>	67
CO	111
SO <sub>2</sub>	1.3
VOC	13.9
H <sub>2</sub> S	11.8

These emissions include fugitive dust emissions from construction activities, equipment exhaust emissions, transmission line emissions, and emissions due to well flow testing. Potential impacts from the Project’s construction emissions are expected to be below all applicable state and federal standards for all pollutants except for PM<sub>10</sub>. Existing concentrations of PM<sub>10</sub>, without the Project, exceed the state and federal standards.

Project emissions will be mitigated by using the most efficient emission control technologies available, providing ERCs to offset the Project’s emissions, and by implementing a PM<sub>10</sub> mitigation plan. The construction phase of the Project will utilize the following major emission control strategies:

- Tier 1 emission standards for diesel engines and drill rig engines; and
- application of “soil sealant” solutions to mitigate fugitive dust emissions

Further, as listed in Tables 1 and 2, the H<sub>2</sub>S and PM<sub>10</sub> emissions generated by well flow testing will be offset with five tons of H<sub>2</sub>S offsets and 29.8 tons of PM<sub>10</sub> offsets. In addition, the Applicant will have an air quality construction mitigation manager on site with responsibility for ensuring construction emissions are minimized.

**F. Impacts and Mitigation - Commissioning**

The Project is expected to emit the following amounts of criteria pollutants during the commissioning of the Project.

Pollutant	Tons/Period
PM <sub>10</sub>	5.6
NO <sub>2</sub>	NA
CO	NA

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Pollutant	Tons/Period
SO <sub>2</sub>	NA
VOC	1.1
H <sub>2</sub> S	8.7
NA – not applicable	

These emissions include all of the various activities associated with initial startup of a geothermal plant, such as well flow testing of each well on a sequential schedule, pipeline system warm-up, process equipment warm-up, and steam blow prior to adjusting to normal operations. Potential impacts from the Project commissioning emissions are expected to be below all applicable state and federal standards except for PM<sub>10</sub> and H<sub>2</sub>S. Applicant will offset the PM<sub>10</sub> and H<sub>2</sub>S emissions as noted in Tables 1 and 2 and will submit a Commissioning Plan to the ICAPCD and the CEC focused on monitoring and mitigating H<sub>2</sub>S.

Staff has expressed concern regarding emissions of H<sub>2</sub>S during the commissioning period. Staff's worst-case modeling suggests that during the two-week commissioning period, the one-hour ambient air quality standard for H<sub>2</sub>S could be exceeded for five hours at Obsidian Butte and for one hour at Rock Hill. Neither of these areas are populated.

Concluding that temporary exceedances of ambient air quality standards constitutes a significant impact is inconsistent with the approach that the CEC has taken in other projects. As shown in the following selected sampling of CEC FSA reports, the Staff and Commission have routinely concluded that exceedances of air quality standards during the temporary periods of construction and commissioning are not significant:

- o Metcalf Energy Center (99-AFC-3): construction activities exceeded the NO<sub>2</sub> 1-Hour Standard by 127%, the 24-Hour PM<sub>10</sub> Standard by 543% and the Annual PM<sub>10</sub> Standard by 182%. The 24-Hour PM<sub>10</sub> Facility Impact exceeded the standard even without background conditions being included. Commissioning activities were not reviewed. Construction impacts were not deemed significant.
- o Pastoria Energy Facility (99-AFC-7): construction activities exceeded the NO<sub>2</sub> 1-Hour Standard by 1,322%, the NO<sub>2</sub> Annual Standard by 118%, the 24-Hour PM<sub>10</sub> Standard by 495%, the Annual PM<sub>10</sub> Standard by 128%, and the 8-Hour CO Standard by 102%. The 1-Hour NO<sub>2</sub> and the 24-Hour PM<sub>10</sub> Facility Impacts exceed the standards even without including background conditions. Commissioning activities were not reviewed. Construction impacts were not deemed significant.
- o Magnolia Power Project (01-AFC-6): construction activities exceeded the NO<sub>2</sub> 1-Hour Standard by 186%, the 24-Hour PM<sub>10</sub> Standard by 229%, and the

Annual PM<sub>10</sub> Standard by 159%. The 1-Hour NO<sub>2</sub> Facility Impact exceeded the Standard even without including background conditions. Commissioning activities exceeded the NO<sub>2</sub> 1-Hour Standard by 107%. Construction and commissioning impacts were not deemed significant.

- Cosumnes Power Plant (01-AFC-19): construction activities exceeded the 24-Hour PM<sub>10</sub> Standard by 240%. Commissioning activities were deemed to be below operational activities. Construction impacts were not deemed significant.
- El Segundo Power (01-AFC-14): construction activities exceeded the NO<sub>2</sub> 1-Hour Standard by 99%, the 24-Hour PM<sub>10</sub> Standard by 494%, the Annual PM<sub>10</sub> Standard by 236%, and the 24-Hour and Annual without background commissioning impacts reviewed. Construction impacts were not deemed significant.
- San Joaquin (01-AFC-22): construction activities exceeded the 1-Hour NO<sub>2</sub> Standard by 102%, the 24-Hour PM<sub>10</sub> Standard by 422%, the Annual PM<sub>10</sub> Standard by 176%, and the 24-Hour PM<sub>10</sub> Standard was exceeded without including background impacts.
- Morro Bay (01-AFC-12): construction activities exceeded the 24-Hour PM<sub>10</sub> Standard by 370%, and the Annual PM<sub>10</sub> Standard by 210%. Commissioning activities were not considered. Annual and 24-Hour PM<sub>10</sub> Standards were exceeded without including background impacts.
- Inland Empire (01-AFC-17): construction activities exceeded the 24-Hour PM<sub>10</sub> Standard by 374% and the Annual PM<sub>10</sub> Standards by 167%.

Furthermore, although Staff refers to the ICAPCD Permit Conditions, it does not take into consideration in its analysis that the H<sub>2</sub>S emissions during commissioning will be completely offset. The ICAPCD and the Applicant have taken a proactive stance in offsetting completely H<sub>2</sub>S commissioning emissions. Even if the unmitigated emissions were determined to be significant, which would be inconsistent with CEC precedent, the offsets mitigate the impacts associated with commissioning activities below significance.

#### **G. Impacts and Mitigation - Temporary Activities**

Beyond the normal everyday activities, Applicant has anticipated several activities that occur for short periods of time, such as redrilling wells, well flow testing of redrilled wells, plant startup, and emergency venting. The Project is expected to emit the following amounts of criteria pollutants during the year.

Pollutant	Tons/Year
PM <sub>10</sub>	10.6
NO <sub>2</sub>	6.9
CO	0.8
SO <sub>2</sub>	0.2
VOC	0.18
H <sub>2</sub> S	2.3

Potential impacts from the Project's emissions are expected to be below all applicable state and federal standards for all pollutants except for PM<sub>10</sub>. For PM<sub>10</sub>, existing concentrations in the project area already exceed the state and federal standards.

The major emissions control system used for temporary activities is the Turbine By-Pass System. This system routes high pressure steam containing over 90% of the H<sub>2</sub>S to the LO-CAT System for control of H<sub>2</sub>S during venting and startup periods. Applicant will offset the H<sub>2</sub>S emissions from the plant startup, venting and well flow testing as shown in Table 1. PM<sub>10</sub> emissions will be offset for the well flow activities.

### III. Compliance with Laws, Ordinances, Regulations, and Standards

The Project Owner will comply with laws, ordinances, regulations, and standards by ensuring that all air permits have been obtained and complying with all permit conditions.

With the implementation of the above mitigation measures, in combination with the proposed Conditions of Certification contained in the FSA, the Project will comply with the applicable federal, state, and local laws, ordinances, regulations, and standards, and potential impacts, if any, will be mitigated to a level of less than significant.

## IV. Declaration

I, Paul E. Neil, declare as follows:

1. I am presently employed by RTP Environmental Associates, Inc. as a Principal.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the attached testimony on air quality for the Salton Sea Unit 6 Project based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: \_\_\_\_\_ Signed: \_\_\_\_\_

At: \_\_\_\_\_

# ALTERNATIVES

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## I. Introduction

### A. Name

Jerry Salamy

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Alternatives sections of the following documents submitted in this proceeding:

- Section 6.0 of the AFC (Docket No. 26373)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project does not recommend any Conditions of Certification be adopted. Project design ensures that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS).

### III. Declaration

I, Jerry Salamy, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Project Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Alternatives for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: 

At: Sacramento, CA

# BIOLOGICAL RESOURCES

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## I. Introduction

### A. Name

My name is EJ Koford, MS, Certified Wildlife Biologist. I have over 20 years experience in biological resource evaluation and analysis issues and have conducted 21 biological resources investigations for power plants and electrical energy transmission projects. My resume is attached (Appendix A).

### B. Prior Filings

This testimony includes by reference the following documents submitted in this proceeding that are listed in Appendix B, which were prepared by URS and reviewed by me.

- Section 5.5, 6.0 and Appendix K of the AFC (Docket No. 26373)
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- Data Response to CURE Data Requests, Set 2, Nos. 184 through 236 (Docket No. 27775)
- Data Response, Set 3, Nos. 117 through 123 (Docket No. 27997)
- Data Response to CURE Data Request, Set 4, Nos. 334 through 357 (Docket No. 28179)
- Attachment DCR-352 to CURE Data Request, Set 4 (Docket No. 28238)
- Data Request to CURE Data Request, Set 5, Nos. 359 through 364, Attachment CDR 359 (Docket No. 28569)
- Preliminary Staff Assessment Comment Set 1, pertaining to Biological Resources (Docket No. 28673)
- Response to Issues Raised at the June 4<sup>th</sup> Workshop
- Final Staff Assessment Comments pertaining to Biological Resources (Docket No. 29733)

This analysis is based, in part, upon information provided in the Application for Certification (AFC) for the Salton Sea Project (CEOE 2002a, Section 5.5 and Appendix K), Data Adequacy Responses (CEOE 2002e), various responses to staff data requests (CEOE 2002i and 2003d) and CURE data requests (CEOE 2003a), site visits conducted on August 21, 2002 and January 9, 2003, and discussions with various agency and applicant representatives during Data Response and Issues Workshops on January 9 through October 14, 2003. To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. I make these statements and render these

opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

## II. Summary

The Final Staff Assessment (FSA) for the Salton Sea Unit 6(SSU6) project recommends that Conditions of Certification be adopted to address Biological Resources. These conditions are BIO-1 through BIO-24 and are described on pages 4.2-51 through 4.2-64 of the FSA. Implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable, with the exceptions presented below.

### Project Overview and Methods of Analysis

Cal Energy (CEOE) proposes to develop a geothermal power plant that would incorporate a turbine generator area, resource production facility separation/ brine clarification area, electrical/control building area, cooling towers, filter press and storage area, electrical switchyard, brine pond and construction laydown area. Ten production wells on five pads and seven injection wells on three well pads would be located near the plant, with pipelines connecting them to the plant. A water supply pipeline would connect the plant to irrigation lateral Vail 4a. A 161 kV transmission line would be constructed to connect to the existing L line southwest of the plant site. A 15-mile 161 kV transmission line (IID Midway Interconnection) would be constructed to connect the plant site to the existing Midway Substation, located east of the plant site. The purpose of Chapter 5.5 of the AFC and subsequent data is to review the proposed SSU6 in sufficient detail to determine to what extent the proposed project may result in environmental impacts under the California Environmental Quality Act (CEQA); may affect any species listed or proposed to be listed as threatened or endangered or classified as sensitive under either federal or state law; or may affect any area designated as critical habitat under the federal Endangered Species Act.

The Biological Resources Analysis consisted of: 1) an evaluation of existing records, reports and databases, including the California Natural Diversity Database (CNDDDB); 2) consultation with agencies responsible for protection of sensitive biological resources; 3) field surveys to confirm and supplement information from these resources; 4) public and agency review of the biological analyses presented in the AFC and responses; and 5) documents submitted to state and federal agencies to comply with requirements for individual permits.

Other permits and evaluations of biological resources that were prepared or will be required for this project include:

- 1) Clean Water Act Section 404 Permit application for impacts to waters of the United States, submitted to the U. S. Army Corps of Engineers (ACOE) on July 11, 2002 and supplemented on July 30, 2003.
- 2) Biological Assessment (BA), prepared in accordance with legal requirements set forth under Section 7 of the federal Endangered Species Act (16 U.S.C. Section 1536(c); 50 CFR Section 402.14). The ACOE is the lead federal agency for the

## CE OBSIDIAN ENERGY LLC'S SALTON SEA UNIT 6 WRITTEN TESTIMONY

proposed project and will oversee compliance with federal laws, ordinances, regulations, and standards (LORS) for the project, as well as any mitigation and protection measures for sensitive biological resources. Submitted to the U.S. Fish and Wildlife Service (USFWS) on July 29, 2002 and docketed as part of Appendix K of the AFC.

- 3) Clean Water Act Section 401 Permit application for water quality certification, submitted to the Regional Water Quality Control Board (RWQCB).
- 4) California Fish and Game Code Section 1603 permit application for Streambed Alteration Agreement, submitted to California Department of Fish and Game (CDFG).
- 5) Clean Water Act NPDES permit for stormwater discharges during construction, to be submitted to the RWQCB 60 days prior to construction.

The AFC presents a detailed description of the project and addresses potential project impacts to sensitive biological resources in the project area. The BA further refines the analysis of impacts to special-status species that occur, or could potentially occur, in the SSU6 project area.

### **Project Location and Description of Proposed Action**

CE Obsidian Energy, LLC proposes to develop a 185-megawatt (MW) geothermal power plant, along with a production and injection well field and a transmission line near the Salton Sea in Imperial County.

### **Consultation and Coordination with Agencies**

The ACOE initiated consultation with the USFWS on October 3, 2002 (USACE 2002) for the fill of degraded wetlands to widen McKendry Road. The USFWS concurred that such an action may affect, but is not likely to adversely affect Yuma clapper rail so long as the construction and development of McKendry Road [for well pad OB-3] is scheduled outside of the breeding season (USFWS 2002a). No impact to desert pupfish was anticipated with the construction and development of well pad OB-3.

The power plant site, transmission lines, wellheads, injection pipelines, and the remainder of the production lines also are part of the Section 7 consultation between ACOE and the USFWS. Staff expects the Biological Opinion for the project to be completed sometime in November 2003. Once the ACOE has issued its Section 404 authorization for the project, which must incorporate all the Terms and Conditions from the USFWS Biological Opinion, the applicant is in compliance with the Endangered Species Act (see Conditions of Certification LAND-7).

As project applicant, CEOE has been involved in discussions with USFWS, CDFG, BLM and ACOE since the initiation of this project in 2003. Over the last 15 months, CEOE has provided current project description information, pipeline alignments, proposals for surveys and mitigation and solicited the assistance, advice and participation of those agencies in developing and designing a project that would meet the objectives of CEOE to deliver safe, renewable power to its customers, while avoiding, minimizing or

compensating for adverse environmental affects that might occur. CEOE, their consultants, and attorneys have corresponded by telephone, e-mail, and have met and conducted field visits with agency representatives to reach agreements for project monitoring and mitigation that have been incorporated into the project. CEOE has worked diligently to identify and apply objective science to be used in making determinations regarding potential biological impacts and proposing mitigation measures. CEOE has submitted this information to the agencies for their review and has implemented revisions and modifications at the agencies' requests throughout this process.

### Impacts and Mitigation

Construction of the proposed project would temporarily increase the number of vehicles and construction equipment operating on local roads, resulting in a temporary increase in potential wildlife collision mortality. Noise generated by construction could interfere with the ability of birds to detect songs that are important in pair formation and territorial defense. Noise could also cause disturbance of nesting, roosting or feeding birds that might use habitats in the vicinity of the project. Yuma clapper rail, in particular, is a federal and state listed species that nests in the area west of the project site, north and south of McKendry Road (McKendry Marsh).

The power plant would convert approximately 173 acres of agricultural lands, currently used to grow vegetables and grass crops to industrial facilities for producing renewable energy. The agricultural habitat provides foraging habitat for many birds and some terrestrial wildlife. Project construction would require temporary use of a 20-acre laydown area that would be unavailable for wildlife foraging for 24-36 months. Ponds designed to hold brine spills and waste water could potentially attract waterfowl, which could be adversely affected if they landed in or consumed high-salinity water.

Emissions from the power plant were evaluated for potentially adverse effects on crops and vegetation in the vicinity and determined to be insignificant. Production wells OB1 and 2 would be installed on agricultural habitat leased to the Sonny Bono National Wildlife Refuge for the purpose of waterfowl enhancement. Approximately 10 acres of habitat would be converted from cropland to bare gravel. Although some species (mountain plover, burrowing owl) prefer sparse vegetation, waterfowl that currently forage in these croplands would be less likely to forage there. Within the regional context of abundant croplands, this relatively small area can be compensated by providing equivalent habitat nearby for waterfowl.

Transmission lines constructed for the power project would increase the potential for waterfowl and raptor collisions and electrocution. The proposed transmission lines turn south adjacent to a shoreline pond at Lack and Lindsay Roads, that is frequently used by ducks, pelicans and other water birds. In another location, the transmission line crosses the New River, which is a movement pathway for many small songbirds and waterfowl. Additional transmission lines in these areas could increase slightly the hazard of collision mortality. Where roads and access are not extant (across parts of BLM property) temporary construction roads, stringing and pulling sites will need to be graded to allow transmission line construction. Small areas of desert creosote habitat will be converted to open ground around power poles and along roads.

CE OBSIDIAN ENERGY LLC'S SALTON SEA UNIT 6 WRITTEN TESTIMONY

Burrowing owl, a federal and state species of concern, is regionally abundant in the project area and along the proposed transmission lines. Because transmission lines run along the edge of existing roads and agricultural fields, they cross the same areas that are most densely occupied by burrowing owls. Pre-construction surveys prior to installing transmission poles, and monitoring during construction to avoid areas where active owl nests could be disturbed, would be used to reduce the potential adverse impacts to burrowing owls.

Construction of the production and injection well areas will require clearing agricultural and ruderal vegetation to support wells and their support structures. During operation, if wells and pipelines rupture, hot, salty water could potentially spill onto the ground and into the adjacent wetlands area until the rupture is closed.

Widening of McKendry Road and construction of a pipeline to supply production and injection well OB3 would fill a small area of jurisdictional wetlands near McKendry Marsh (0.1 acres) and construction along the transmission line would fill another 0.08 acres of ephemeral desert washes for a total of 0.18 acres. Fill of these areas would be permitted by the ACOE pursuant to Section 404 of the Clean Water Act and compensated by purchase and dedication of equivalent wetlands and marsh areas. The ACOE has consulted with the USFWS) pursuant to Section 7 of the ESA to obtain authorization for take of endangered species. Species considered in the resulting Biological Opinion include Pierson's milkvetch, desert pupfish, brown pelican, Yuma clapper rail, burrowing owl and gull-billed tern.

Finally, the project would have no significant effects on introduction or dispersal of weed species, commercial or recreational uses of biological resources, nor increase cumulative impacts in the region. By reducing dependence on non-renewable fuels to support regional power needs, the project may provide a slight benefit to air quality and biological resources by providing more efficient use of renewable energy.

Table 1 summarizes the area of major project features and durations of impact.

**BIOLOGICAL RESOURCES – Table 1**

**Summary of Affected Acreage (CEOE 2002I, Table 5.5-1DR1; May 29, 2003 Conference Call)**

Feature	Number of Acres Affected during Project Construction	
	Temporary	Permanent
Power Plant	0	80
Production Wells	0	26.2
Injection Wells	0	15.4
Well Pipelines	0	94.9
Water Supply Line	0.7	0
L-Line Interconnection	86.3	2.7

**BIOLOGICAL RESOURCES – Table 1**

Summary of Affected Acreage (CEOE 2002I, Table 5.5-1DR1; May 29, 2003 Conference Call)

Feature	Number of Acres Affected during Project Construction	
	Temporary	Permanent
IID Midway Interconnection	85.4	2.6
Pull sites	39	0
Bannister Switching station	5.7	0.2 to 5.7
T-Line Staging Areas and Access Roads	48	0
<b>TOTAL</b>	<b>265.1 acres</b>	<b>222.0 to 227.5 acres</b>

Note: For Habitat Types impacted see original table

**Mitigation Measures to Reduce Impacts**

The construction and operation of SSU6 would cause impacts to lands currently used for rural residential and agriculture use in the project area. However, because these areas have generally been altered from natural conditions some basic measures to avoid and minimize adverse impacts are appropriate as described below.

- Provide worker environmental awareness training for all construction personnel that identifies the sensitive biological resources and measures required to minimize project impacts during construction and operation.
- Provide mitigation construction monitoring by a qualified Designated Biologist during construction activities near sensitive habitats.
- Prepare a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) that outlines how the Project Owner will implement the mitigation measures.
- Avoid sensitive habitats and species during construction by developing construction exclusion zones and erecting silt fencing around sensitive areas.
- Conduct additional preconstruction surveys for sensitive species in impact areas during the spring before construction begins.
- Prepare construction monitoring and compliance reports that analyze the effectiveness of the mitigation measures.

## Conditions of Certification

The CEC staff has proposed Conditions of Certification on pages 4.2-53 to 4.2-64 of the Final Staff Assessment and pages 19 through 26 of the Addendum. The Applicant is in agreement with conditions Bio-1, 2,3,4,5,6,7,8,9,10,11, 12, 13, 14, 15, 16, 18, 20, 21, 22, 23, 24 and 25. Applicant requests the following changes be considered for Conditions 17, and 19:

### Survey and Provide Habitat Compensation for Impacts to Burrowing Owls

**BIO-19** The project owner shall survey for burrowing owl activities on the 80-acre parcel and along the transmission lines prior to site mobilization to assess owl presence. The project owner shall evaluate the potential impact to each burrowing owl occurrence using impact criteria reviewed by the CDFG and USFWS and approved by the CPM. The impact criteria will be based on type of activity, length of activity, distance maintained from the burrowing owl(s), and time of year. For impact determinations that require monitoring of burrowing owls, a credentialed biologist approved by the CPM must do the monitoring.

The project owner shall protect at least 6.5 acres of suitable land for each impacted pair of owls or impacted unpaired resident bird (as determined by the CPM-approved impact criteria). For each occupied burrowing owl burrow that must be destroyed, existing unsuitable burrows on the protected lands shall be enhanced (e.g., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1. If habitat is made unsuitable (e.g. the owls leave the area), 6.5 acres of habitat per pair would be provided. For example, if pre-construction surveys find 17 occupied owl burrows within the project's footprint, and monitoring determined 17 burrowing owl pairs left the area were impacted, the project owner must create 34 new or improve 34 existing burrows and provide 110.5 acres of protected land. The actual requirement will be determined after the CPM reviews the burrowing owl pre-construction surveys and monitoring. Avoidance is preferred over mitigation of impacts.

**Verification:** At least 60 days prior to site mobilization, the project owner shall provide to the CPM for review and approval, and to the USFWS and CDFG for review and comment, the impact criteria that will be used to evaluate construction, maintenance, and operational impacts to burrowing owls. The project owner must submit to the CPM for approval the resume of any biologist (s) that will perform the burrowing owl monitoring at least one week prior to their assignment to start monitoring. If burrowing owl monitoring is needed, then a summary report completed by the Designated Biologist and all original data sheets shall be included in the MCR. At least 15 days prior to site mobilization, the project owner shall provide the CPM, USFWS, Refuge, and CDFG with the burrowing owl survey results. Burrowing owl surveys for pre-construction are valid only for 30 days.

Based on the number of burrowing owls identified as impacted, the project owner shall identify the amount of land it intends to protect 15 days prior to construction. The project owner shall fund the acquisition and long-term management of the compensation lands in a form acceptable to the CEC and CDFG (e.g., provide a letter of credit or establish an escrow account) 15 days prior to construction. The project owner shall propose land for purchase or protection with a description of habitat types and propose a management and monitoring plan 90 days prior to commercial operation. The land protection proposal and management fund(s) shall be approved by the CPM and reviewed by CDFG.

The project owner shall rectify any underfunded amounts in the acquisition and long-term management account(s) at least 60 days prior to commercial operation. At least 30 days prior the start of commercial operation, the project owner shall submit to the CPM two copies of the relevant legal paperwork that protects lands in perpetuity (e.g., a conservation easement as filed with the Imperial County Recorder), a final land management and monitoring plan, and documents which discuss the types of habitat protected on the parcel. If a private mitigation bank is used, the project owner shall provide a letter to the CPM from the approved land management organization stating the amount of funds received, the amount of acres purchased and their location, and the amount of funds dedicated to long term monitoring or management at least 60 days prior to commercial operation. If fund remain after performance of all habitat compensation obligations, the monies in the letter of credit or escrow account will be returned to the project owner with written approval of the CPM.

All mitigation measures and their implementation methods shall be included in the BRMIMP.

## **Compliance with Laws, Ordinances, Regulations, and Standards**

The Project Owner will comply with laws, ordinances, regulations, and standards by completing preconstruction surveys for biological resources and monitoring during earth disturbing activities and complying with all permit conditions.

With the implementation of the above mitigation measures, in combination with the proposed Conditions of Certification contained in the FSA, the project will comply with the applicable federal, state, and local laws, ordinances, regulations, and standards, and potential impacts, if any, will be mitigated to a level of less than significant.

### III. Declaration

I, EJ Koford, declare as follows:

1. I am presently employed by IEC Corporation as a Senior Biologist and Project Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the testimony for the Salton Sea Unit 6 project based on my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. In my opinion, I am personally familiar with the general facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 17, 2003 Signed:



At: Sacramento, CA

# CULTURAL RESOURCES

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## I. Introduction

### A. Name

James C. Bard

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Cultural Resources sections of the following documents submitted in this proceeding:

- Section 5.6 and Appendix H of the AFC (Docket No. 26373)
- Volume I of the Salton Sea Unit 6 AFC Replacement Pages (Docket No. 26491)
- Data Adequacy Supplement to the AFC, pertaining to Cultural Resources (Docket No. 26734)
- Data Response, Set 1, Nos. 31 through 45 (Docket No. 27568)
- Supplemental Response to Data Response Set 1, Nos. 31 through 38 (Docket No. 27831)
- Data Response Set to CEC/CURE January 2003 Workshop Data Request, Nos. 31 through 44 (Docket No. 28044)
- Confidential Filing (Docket No. 28386)
- Preliminary Staff Assessment Workshop Responses, pertaining to Cultural Resources (Docket No. 28929)
- Preliminary Staff Assessment Comment Set 1, pertaining to Cultural Resources (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Cultural Resources. These conditions are CUL-1 through CUL-11 and are described on pages 4.3-30 through 4.3-39 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

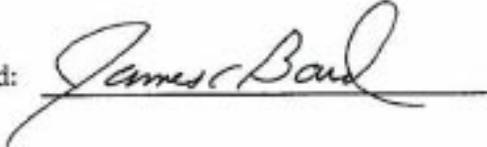
### III. Declaration

I, James C. Bard, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Technologist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Cultural Resources for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: 

At: Corvallis, OR

# PROJECT DESCRIPTION, FACILITY DESIGN, POWER PLANT RELIABILITY AND EFFICIENCY

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## I. Introduction

### A. Name

Bernard J. Raemy

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Project Description, Facility Design, Power Plant Reliability, and Power Plant Efficiency sections of the following documents submitted in this proceeding:

- Sections 1.0, 2.0, 5.17, 6.2.3, and 7.0 and Appendices M and R of the AFC (Docket No. 26373)
- Volume I of the Salton Sea Unit 6 AFC Replacement Pages pertaining to Project Description and Ownership (Docket No. 26491)
- Data Adequacy Supplement to the AFC, Comment PO-1 and PO-2 (Docket No. 26734)
- Preliminary Staff Assessment Comment Set 1, pertaining to Project Description and Ownership (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Project Description/Facility Design. These conditions are GEN-1 through GEN-8 described on pages 5.1-5 through 5.1-13, CIVIL-1 through CIVIL-4 described on pages 5.1-14 through 5.1-15, STRUC-1 through STRUC-8 described on pages 5.1-15 through 5.1-17, MECH-1 through MECH-3, described on pages 5.1-17 through 5.1-19, and condition ELEC-1 described on pages 5.1-20 through 5.5-21 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable. No Conditions of Certification were recommended for Power Plant Reliability and Efficiency.

### III. Declaration

I, Bernard J. Raemy, declare as follows:

1. I am presently employed by CE Obsidian Energy LLC. as a Project Development Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the testimony on Project Description, Facility Design, Power Plant Reliability and Power Plant Efficiency for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 10, 2003

Signed:

B Raemy

At: Calipatria, CA

# HAZARDOUS MATERIALS

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## I. Introduction

### A. Name

Karen L. Parker

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Hazardous Materials sections of the following documents submitted in this proceeding:

- Section 5.14 of the AFC (Docket No. 26373)
- Data Response, Set 1, No. 51 (Docket No. 27568)
- Data Response to CURE Data Request Set 3, Nos. 268-270 (Docket No. 27942)
- Data Response to CURE Data Request Set 4, No. 358 (Docket No. 28179)
- Preliminary Staff Assessment Comment Set 1, pertaining to Hazardous Materials (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Hazardous Materials. These conditions are HAZ-1 and HAZ-2, described on page 4.4-8 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Karen L. Parker, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Regulatory Compliance Specialist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Hazardous Materials for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed:

Karen L. P.

At: Sacramento, CA

# LAND USE

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## I. Introduction

### A. Name

Katy Carrasco

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Land Use sections of the following documents submitted in this proceeding:

- Section 5.8 and Appendix Q of the AFC (Docket No. 26373)
- Data Adequacy Supplement to the AFC, Comment No. LU-1 through LU-4 (Docket No. 26734)
- Data Response, Set 1, No. 52 (Docket No. 27568)
- Data Response to CURE Data Requests, Set 2, Nos. 178 through 183 (Docket No. 27775)
- Data Response, Set 3, Nos. 124 through 127 (Docket No. 27997)
- Data Response to CEC/CURE January 2003 Workshop Data Request, No. 178 (Docket No. 28044)
- Preliminary Staff Assessment Comment Set 1, pertaining to Land Use (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Land Use. These conditions are LAND-1 through LAND-7 and are described on pages 4.5-13 through 4.5-15 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Katy Carrasco, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Land Use for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: K.T. Carrasco

At: Sacramento, CA

# NOISE AND VIBRATION

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## I. Introduction

### A. Name

Mark J. Bastasch

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Noise and Vibration sections of the following documents submitted in this proceeding:

- Section 5.11 of the AFC (Docket No. 26373)
- Data Response to CURE Data Request, Set 2, Nos. 143-146 (Docket No. 27775)
- Data Response to CURE Data Request, Set 5, Nos. 399, 400, Attachment CDR-399 (Docket No. 28569)
- Preliminary Staff Assessment Comment Set 1, pertaining to Noise and Vibration (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Noise and Vibration. These conditions are NOISE-1 through NOISE-8 and are described on pages 4.6-18 through 4.6-21 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

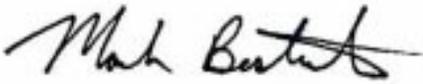
## Declaration

I, Mark J. Bastasch, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Project Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Noise and Vibration for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: 

At: San Antonio, Texas

# PALEONTOLOGICAL RESOURCES AND GEOLOGY

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## I. Introduction

### A. Name

Thomas A. Lae

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Paleontological Resources and Geology sections of the following documents submitted in this proceeding:

- Sections 5.2 and 5.7 and Appendices I and J of the AFC (Docket No. 26373)
- Amended Declaration and Exhibits for Geothermal Resource Availability Hearing on 11-29-02 (Docket No. 27456)
- Data Response, Set 1, Nos. 46-50 (Docket No. 27568)
- Data Response to CURE Data Request Set 2, Nos. 134 through 142 (Docket No. 27775)
- Preliminary Staff Assessment Comment Set 1 pertaining to geology and paleontology (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Paleontological Resources and Geology. These conditions are GEO-1, and PAL-1 through PAL-7 and are described on pages 5.2-10 through 5.2-16 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Thomas A. Lae, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Hydrogeologist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Paleontological Resources and Geology for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: 

At: Sacramento, CA

# PUBLIC HEALTH

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## I. Introduction

### A. Name

John A. Lowe

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Public Health sections of the following documents submitted in this proceeding:

- Section 5.15 and Appendix N of the AFC (Docket No. 26373)
- Data Response, Set 1, Nos. 53 through 56 (Docket No. 27568)
- Data Response to CURE Data Request Set 2, Nos. 162 through 171 (Docket No. 27775)
- Data Response to CURE Data Request, Set 3, CDR 265 (Docket No. 27939)
- Data Response to CURE Data Request Set 3, Nos. 265 through 267 (Docket No. 27942)
- Data Response to CURE Data Request Set 5, Nos. 388 and 389 (Docket No. 28569)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommended a Condition of Certification be adopted to address Public Health. This condition is Public Health-1 and is described on page 4.7-15 of the FSA. Project design and implementation of the Condition of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Condition of Certification set forth in the FSA and find it acceptable.

## Declaration

I, John A. Lowe, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Risk Assessor.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Public Health for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: \_\_\_\_\_



At: Dayton, OH

# SOCIOECONOMICS

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## I. Introduction

### A. Name

Fatuma I. Yusuf

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Socioeconomics sections of the following documents submitted in this proceeding:

- Section 5.9 of the AFC (Docket No. 26373)
- Volume I of the Salton Sea Unit 6 AFC Replacement Pages, pertaining to Socioeconomics (Docket No. 26491)
- Data Adequacy Supplement to the AFC, pertaining to Socioeconomics , Comments SOC-1 through SOC-3 (Docket No. 26734)
- Data Response, Set 1, Nos. 57 through 65 (Docket No. 27568)
- Preliminary Staff Assessment Comment Set 1, pertaining to Socioeconomics (Docket No. 28673)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends one Condition of Certification be adopted to address Socioeconomics. This condition is SOCIO-1 and is described on page 4.8-12 of the FSA. The implementation of the Condition of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Condition of Certification set forth in the FSA and find it acceptable.

## Declaration

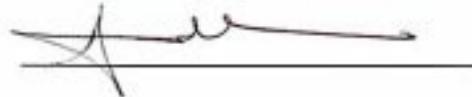
I, Fatuma I. Yusuf, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Economist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Socioeconomics for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed:



At: Sacramento, CA

# TRANSMISSION LINE SAFETY AND NUISANCE, TRANSMISSION SYSTEM ENGINEERING

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## I. Introduction

### A. Name

Bernard J. Raemy

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Transmission Line Safety and Nuisance and Transmission System Engineering sections of the following documents submitted in this proceeding:

- Section 4.0 and Appendices L and P of the AFC (Docket No. 26373)
- System Impact Study Report (Appendix P of the AFC) (Docket No. 26375)
- Data Adequacy Supplement to the AFC, TSE-1 through TSE-11 (Docket No. 26734)
- IID Transmission (Docket No. 27226)
- Data Response, Set2, Nos. 105 and 106 (Docket No. 27657)
- Data Responses to CURE Data Requests Set 2, No. 158 (Docket No. 27775)
- Letter dated 1/7/03 from Bernard Raemy to Robert Worl (Docket No. 27795)
- Supplemental Response to CEC Data Request Set 2, Nos. 105 and 106 (Docket No. 27796)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Transmission Line Safety and Nuisance and Transmission System Engineering. These conditions are TLSN-1 through TLSN-5, described on pages 4.11-13 through 4.11-14 and conditions TSE-1 through TSE-8, described on pages 5.5-9 through 5.5-14 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

### III. Declaration

I, Bernard J. Raemy, declare as follows:

1. I am presently employed by CE Obsidian Energy LLC. as a Project Development Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the testimony on Transmission Line Safety and Nuisance and Transmission System Engineering for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 10, 2003

Signed:

B. Raemy

At: Calipatria, CA

# TRAFFIC AND TRANSPORTATION

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## I. Introduction

### A. Name

Jeanne Acutanza, P.E., T.E.

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Traffic and Transportation sections of the following documents submitted in this proceeding:

- Section 5.10 and Appendices YYY of the AFC (Docket No. 26373)
- Data Adequacy Supplement to the AFC, TRA-1 through TRA-5 (Docket No. 26734)
- Data Response, Set 1, Nos. 91 and 92 (Docket No. 27568)
- Data Response, Set 3, Nos. 128 through 134 (Docket No. 27997)
- Preliminary Staff Assessment Comment Set 1, pertaining to Traffic and Transportation (Docket No. 28673)
- Preliminary Staff Assessment Workshop Responses, pertaining to Traffic and Transportation (Docket No. 28929)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Traffic and Transportation. These conditions are TRANS-1 through TRANS-7 and are described on pages 4.10-7 through 4.10-19 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

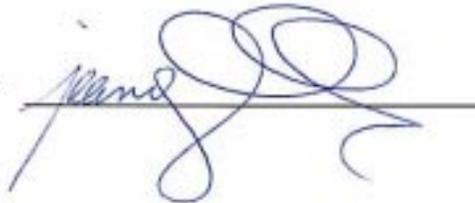
I, Jeanne Acutanza, P.E., T.E., declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Traffic Engineer/Project Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Traffic and Transportation for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: \_\_\_\_\_



At: Sacramento, CA

# VISUAL RESOURCES

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## I. Introduction

### A. Name

Thomas Priestley

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Visual Resources sections of the following documents submitted in this proceeding:

- Section 5.12 and Appendices YYY of the AFC (Docket No. 26373)
- Data Adequacy Supplement to the AFC, VIS-1 through VIS-5 (Docket No. 26734)
- Data Response, Set 1, Nos. 93 through 98 (Docket No. 27568)
- Data Response Set 1-CD, Nos. 97 (Docket No. 27594)
- Data Response to CURE Data Request Set 3, Nos. 271 through 273 (Docket No. 27942)
- Data Response Set 3, Nos. 135 through 139 (Docket No. 27997)
- Data Response to CEC/CURE January 2003 Workshop, No. 94 (Docket No. 28044)
- Data Response Set 4, Nos. 138, 141, 142 (Docket No. 28167)
- Data Response Set 4B, Nos. 136, 137, and 139 (Docket No. 28393)
- Preliminary Staff Assessment Comment Set 1, pertaining to Visual Resources (Docket No. 28673).
- Preliminary Staff Assessment Workshop, pp. 14 through 24 (Docket No. 28929)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Visual Resources. These conditions are VIS-1 through VIS-4 and are described on pages 4.12-35 through 4.12-38 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Thomas Priestley, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Senior Environmental Planner.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Visual Resources for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003 Signed:

Thomas J. Priestley

At: Oakland, California

# SOIL AND WATER RESOURCES

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## I. Introduction

### A. Name

Erik Jens Koford

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Soil and Water Resources sections of the following documents submitted in this proceeding:

- Sections 5.3 and 5.4 and Appendices O and S of the AFC (Docket No. 26373)
- Data Adequacy Supplement to the AFC, Soils-1 through Soils-3, and Water-1 through Water-18 (Docket No. 26734)
- Data Response to CURE Data Request Set 1, Nos. 75 through 98 (Docket No. 27713)
- Data Response to CURE Data Request Set 2, Nos. 99 through 133, 147 through 153, and 160 (Docket No. 27775)
- Data Response to CURE Data Request set 3, Nos. 274 and 275 (Docket No. 27942)
- Data Response Set 4, Nos. 143 through 147 (Docket No. 28167)
- Data Response to CURE Data Request Set 4, Nos. 315 and 333 (Docket No. 28179)
- Data Response to CURE Data Request Set 5, Nos. 401 through 407 (Docket No. 28569)
- Preliminary Staff Assessment Comments pertaining to Soil and Water Resources (Docket No. 28673)
- Preliminary Staff Assessment Workshop Responses, p. 6 (Docket No. 28929)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Water Resources. These conditions are SOIL & WATER-1 through SOIL & WATER-14 and are described on pages 4.9-32 through 4.9-36 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

### III. Declaration

I, EJ Koford, declare as follows:

1. I am presently employed by IEC Corporation as a Senior Biologist and Project Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the testimony for the Salton Sea Unit 6 project based on my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. In my opinion, I am personally familiar with the general facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 17, 2003 Signed: \_\_\_\_\_



\_\_\_\_\_

At: Sacramento, CA

# WASTE MANAGEMENT

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## I. Introduction

### A. Name

Karen Parker

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Waste Management sections of the following documents submitted in this proceeding:

- Section 5.13 and Appendices YYY of the AFC (Docket No. 26373)
- Data Response to CURE Data Request Set 1, Nos. 62 through 74 (Docket No. 27713)
- Data Response to CURE Data Requests, Set 2, Nos. 172 through 177 (Docket No. 27775)
- Data Response to CURE Data Requests, Set 4, Nos. 304 through 314 (Docket No. 28179)
- Data Response to CURE Data Requests, Set 5, Nos. 390 through 398 (Docket No. 28569)
- Preliminary Staff Assessment, comments pertaining to Waste Management (Docket No. 28673)
- Preliminary Staff Assessment Workshop Responses, pp. 25 through 29 (Docket No. 28929)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Waste Management. These conditions are WASTE-1 through WASTE-5 and are described on pages 4.13-10 through 4.13-12 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Karen Parker, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Regulatory Compliance Specialist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Waste Management for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: Karen H. P.

At: Sacramento, CA

# WORKER HEALTH AND SAFETY

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## I. Introduction

### A. Name

Patricia I. Danby

My qualifications are summarized in the attached resume (Appendix A).

### B. Prior Filings

This testimony includes by reference the Worker Health and Safety sections of the following documents submitted in this proceeding:

- Section 5.16 of the AFC (Docket No. 26373)

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

## II. Summary

The Final Staff Assessment (FSA) for the SSU6 project recommends that Conditions of Certification be adopted to address Worker Health and Safety. These conditions are WORKER SAFETY-1 through WORKER SAFETY-2 and are described on pages 4.14-10 and 4.14-11 of the FSA. Project design and implementation of the Conditions of Certification will ensure that the facility will be in compliance with the applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) and any potential impacts will be mitigated to a level of insignificance. I have reviewed the Staff's proposed Conditions of Certification set forth in the FSA and find them acceptable.

## Declaration

I, Patricia L. Danby, declare as follows:

1. I am presently employed by CH2M HILL Incorporated as a Regional Health and Safety Program Manager.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared or have evaluated the testimony on Worker Health and Safety for the Salton Sea Unit 6 Power Plant based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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

Dated: October 16, 2003

Signed: 

At: Sacramento, CA