

# Memorandum

**Date :** December 9, 2003  
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**To :** William J. Keese, Chairman, and Presiding Commissioner  
Robert Pernel, Associate Member **File:** **PMPD Comments**

**From :** **California Energy Commission** - Robert Worl  
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**Subject :** **Subject: ENERGY COMMISSION STAFF PMPD SUPPLEMENTAL TESTIMONY  
AND COMMENTS FOR SALTON SEA UNIT 6 (02-AFC-02)**

On November 14, 2003, the Committee assigned to review the Salton Sea Unit 6 project issued its Presiding Member's Proposed Decision (PMPD). On November 21, 2003 the committee issued notice of a December 10, 2003 Committee Conference on the PMPD requesting comments for the record of this proceeding, and posed five additional questions for staff and the applicant. Staff provides comments on the PMPD and answers the committee's questions on the topics of executive summary, project description, air quality, biology, geology/paleontology, hazardous materials, land use, noise, public health, socioeconomics, water and soils, reliability, and general conditions.

## **SALTON SEA UNIT 6 PRESIDING MEMBER'S PROPOSED DECISION: STAFF COMMENTS**

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On November 14, 2003 the Committee released the Presiding Member's Proposed Decision (PMPD) for the Salton Sea Unit 6 (SSU6) project. Staff has reviewed the PMPD and offers the following comments. Comments are offered on each section as appropriate from technical staff.

In addition, the November 21, 2003, Notice of Committee Conference for the Salton Sea PMPD issued five additional questions to staff and the applicant. The staff responses to these questions are included in the appropriate sections.

Please note that page references at the beginning of paragraphs refer to the PMPD.

### **EXECUTIVE SUMMARY**

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Page i, Land Use, second bullet: "Deed restriction" is a misleading description of the means of mitigating for the loss of agricultural lands. We recommend rephrasing this bullet as "The project will mitigate the loss of productive agricultural land through a contribution to an agricultural land conservation program ~~deed restriction~~." This more accurately describes the requirements of Condition LAND-6.

## **PROJECT DESCRIPTION**

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Page 3: Though the initial project design had a substation located within the boundaries of the main facility, the applicant and the Imperial Irrigation District determined that it would be more efficient to relocate the substation to the Bannister Road location, approximately 12.5 miles from the plant. The caption on the illustration at page 3 indicates a substation still located within the boundaries of the main plant facility, and may be misleading. The drawing and the caption should refer to plant switch gear, not a substation.

Page 4, second full paragraph: This paragraph describes an alternative route for one of the transmission lines. Staff analyzed the environmental impacts of this alternative route and recommended its approval along with the primary route. We recommend that a sentence be added to this paragraph to make it clear that this route is also approved and no further Commission approval is necessary for the applicant to use it and thereby avoid any future confusion.

Page 4, last paragraph: Mitigation was also recommended to other agencies regarding Air Quality (PMPD p. 21-22). Thus "Air Quality" should be added to the list of topic areas in this paragraph

## AIR QUALITY

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### **H<sub>2</sub>S SIGNIFICANCE**

Staff has no additional comment regarding the H<sub>2</sub>S emissions, except to note that its previously stated position is unchanged.

### **AMMONIA EMISSIONS/SECONDARY PM<sub>10</sub> SIGNIFICANCE AND AQ-C13**

#### Significance

Staff believes that the project's 2,750 tons per year (tpy) of ammonia emissions will create an increase in secondary PM<sub>10</sub> formation. The decision dismisses staff's argument as speculative because staff did not predict a specific percentage of the ammonia emissions that would convert to PM<sub>10</sub>. Staff did, however, testify that some conversion of ammonia to PM<sub>10</sub> would occur and calculated resulting PM<sub>10</sub> increases for various conversion percentages. Air Quality Table 29, FSA Part 2 p. 2.1-58, shows that, even at a low five percent conversion rate, 534 tons of PM<sub>10</sub> would be created annually. That additional PM<sub>10</sub> is significant in an air basin that is already in nonattainment of the federal and state PM<sub>10</sub> standards. Staff's inability to precisely quantify this conversion of ammonia to PM<sub>10</sub> does not make the impact insignificant. There is no feasible mitigation for the ammonia emissions, however, staff recommends findings of overriding consideration.

#### **AQ-C13**

Pages 7 and 13: As noted above, staff believes that the project's 2,750 tons/year of ammonia emissions are significant, and that if and when it is technically and economically feasible to control those emissions, they should be controlled. Therefore, staff believes condition AQ-C13 should require implementation of feasible ammonia control measures (which might be as simple as adjusting cooling tower water pH) when they become available. If actual operating experience shows that the project's ammonia emissions are substantially lower than the applicant has predicted, Staff might agree to amend or delete this condition. But 2,750 tons of annual ammonia emissions should not be ignored.

Page 9, Condition AQ-C3(a): Staff disagrees with the Committee's changes to AQ-C3(a). As proposed by staff, and agreed to by the applicant, it read:

All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet. The frequency of watering can be reduced or eliminated during periods of precipitation.

In the PMPD, it now reads:

All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet to comply with the dust mitigation objectives of AQ-C4.

AQ-C3 is a health protective condition and the effectiveness of the watering requirements, along with all other fugitive dust requirements, were intended to be measured against the effectiveness criteria described following AQ-C3 subsection (w) which specifies:

Observations of visual dust plumes would indicate that the existing mitigation measures are not resulting in effective mitigation. The AQCMM shall implement the following procedures for additional mitigation measures if the AQCMM determines that the existing mitigation measures are not resulting in effective mitigation:

I. The AQCMM shall direct more aggressive application of the existing mitigation methods within 15 minutes of making such a determination.

II. The AQCMM shall direct implementation of additional methods of dust suppression if step a) specified above, fails to result in adequate mitigation within 30 minutes of the original determination.

III. The AQCMM shall direct a temporary shutdown of the source of the emissions if step b) specified above fails to result in adequate mitigation within one hour of the original determination. The activity shall not be restarted until the implemented dust control mitigation is effective or, due to changed conditions, unnecessary. The owner/operator may appeal to the CPM any directive from the AQCMM ~~ACGMM~~<sup>1</sup> to shutdown a source, provided that the shutdown shall go into effect within one hour of the original determination unless overruled by the CPM before that time.

AQ-C4 sets a less protective standard:

No construction activities are allowed to cause visible emissions at or beyond the project site fenced property boundary. No construction activities are allowed to cause visible plumes that exceed 20 percent opacity at any location on the construction site. No construction activities are allowed to cause any visible plume in excess of 200 feet beyond the centerline of the construction of linear facilities, or cause visible plumes to occur within 100 feet upwind of any regularly occupied structures not owned by the project owner.

As revised by the Committee, then, AQ-C3(a) would require less stringent control of construction dust by watering roads and disturbed areas. Other control strategies specified in AQ-C3 also involve watering; they were not changed and remain subject to the stricter standard following subsection (w).<sup>2</sup> It is inconsistent to expressly tie one of the control measures to the standard in AQ-C4 and leave the others subject to the standard in AQ-C3. It may also be difficult to apply the bifurcated standards as it is not

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<sup>1</sup> We note this typographical error in AQ-Ciii, on page 12 of the PMPD,

<sup>2</sup> See AQ-C3 subsections (j), (l), (m), (q), (r) and (t).

always possible to identify the source of dust<sup>3</sup>. Furthermore, staff's modeling analysis and determination of less than significant impact is based on Condition AQ-C3 as originally written, not just requiring all activities to remain below 20% opacity. Staff's original language, which the applicant has agreed to, should be restored in AQ-C3(a); without that correction, staff cannot support a finding of insignificant construction PM<sub>10</sub> impacts and would recommend that findings of overriding considerations for those impacts be adopted as part of the Decision.

Page 12, Condition AQ-C3 iii: On the 5th line, "ACCMM" should be "AQCMM." This is reflected in the AQ-C3 iii above.

Page 16, Condition AQ-5: Table A third column, second and fourth row after header row. There is no separation between the offset source description for H2S and PM10. We suggest adding a period before PM10 in each case.

Page 17, Condition AQ-15: We suggest adding a header saying "Well Drilling" prior to AQ-15. This condition applies to well drilling engines, not standby engines.

Page 21-22, Recommendations for Other Agencies...: The numbering of the paragraphs should be clarified, and the verification designation removed, as follows, and a staff error/typo should be corrected for Recommendation 2:

The following conditions can and should be implemented by the appropriate responsible agencies approving the geothermal resource wells, pads and associated pipelines:

1. The well flow testing shall be completed as expeditiously as possible.
2. All future well ~~flow drilling~~ operations (i.e. post initial commissioning) shall be permitted and properly offset as required under District Rule 207[retain footnote included in PMPD].
3. All future well drilling operations shall be permitted and properly offset as required under applicable District rules and policies.
4. Well drilling activities shall use engines that meet or exceed the following EPA offroad engine emission standards:

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<sup>3</sup> Where a truck is hauling excavated soils from one part of the site to another, and there is visible dust but it can't be clearly determined if the dust is coming from the internal unpaved road (subject to the 20 percent opacity standard) or the soils in the truck bed (no visible dust allowed), what is the AQCMM to do and how is the CPM to judge whether he did it correctly?

**Date of Well Drilling Operation**

**EPA Offroad Engine Standard**

Prior to 2010

Tier 1

2010 to 2015

Tier 2

2015 to 2020

Tier 3

After 2020

Tier 4

**Verification:** Alternatively, prior to 2010, well drilling activities shall be controlled in accordance with the construction mitigation agreement made between CEOE and CURE (CEOE and CURE 2003) as follows:

All large drill rig engines, which have a rating of 100 hp or more, shall be equipped with catalyzed diesel particulate filters (soot filters) that achieve the maximum control efficiency commercially feasible, unless certified by engine manufacturers that the use of such devices is not practical for specific engine types.

5. By no later than 2006, well drilling diesel engines shall be required to use ultra-low (15 ppm) sulfur diesel fuel.

**ADDITIONAL COMMITTEE QUESTIONS**

(Note: the Committee is questioning the District's conditions not staff's verifications of those conditions. The following answers have the District's concurrence.)

**Question:** In Condition AQ-11, is it a correct reading that the diesel engine would be allowed to operate for its "standby" purposes in excess of the 100 hours for engine maintenance?

**Answer:** That is correct. The 100 hour limitation strictly relates to the discretionary periodic engine testing and maintenance activities and not to actual needed operation during outages or other upset periods where the engines are being used to deliver necessary standby power to the SSU6 facility.

**Question:** In Condition AQ-34, what is the purpose in reporting benzene mole concentrations?

**Answer:** For gases the mole concentration is the same as volume concentration, so this is essentially the same as saying "concentration (ppmv)" (as noted later as a requirement for reporting the monthly H2S test data) without specifying the magnitude of the concentration unit being reported (i.e. percent vs. ppm vs. ppb). The District would not have any problems if

the Committee wishes to change "benzene mole concentration" to "benzene concentration (ppmv)" or "benzene volume concentration" if the Committee believes that would improve the consistency of the condition; this change would not materially change the requirements of the condition.

## BIOLOGY

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### ADD RECOMMENDED CONDITIONS FOR BRINE WELLHEADS AND PIPELINES

Staff had several suggestions for mitigation measures relating only to the wellheads and brine pipelines which are permitted by Imperial County. Because staff is unable to impose the measures as Conditions of Certification, some measures were only included within the text of the FSA. A description of these measures is appropriate to provide a complete environmental analysis of the whole of the SSU6 project and to aid the County in its preparation of a final decision document.

We have suggested the wording for these conditions. These Conditions would be inserted after Condition of Certification BIO-26 with the heading “RECOMMENDATIONS FOR OTHER AGENCIES WITH JURISDICTION OVER WELL DRILLING/WELL FLOW ACTIVITIES” (which follows the format used in Air Quality). The references to these measures can be found in staff Final Staff Assessment within the text. The following table explains the recommended conditions:

<b>Recommendation for other Agencies</b>	<b>Location(s) in FSA</b>
Preventative Design Mitigation Features <b>BIO-C1</b>	Page 4.2-29, 1st paragraph, line 9  Page 4.2-36, last bulleted item on page  Page 4.2-40, 1st paragraph after bullet list, line 4
Construction and Operation Management to Avoid Harassment or Harm <b>BIO-C2</b>	Page 4.2-26 3rd full paragraph, line 9  Page 4.2-36, 9th bulleted item  Page 4.2-27, 2nd paragraph, line 7  Page 4.2-27, 2nd paragraph, line 16
Noise and Vibration Management to Avoid Harassment or Harm <b>BIO-C3</b>	Page 4.2-27, 1st paragraph, line 4

<b>Recommendation for other Agencies</b>	<b>Location(s) in FSA</b>
Survey and Provide Habitat Compensation for Impacts to Burrowing Owls <b>BIO-C4</b>	Page 4.2-28, 2nd paragraph, line 3
Provide Habitat Compensation for Permanent Disturbance to Burrowing Owl Habitat <b>BIO-C5</b>	Page 4.2-28, 2nd paragraph, line 3
Provide Habitat Compensation for Permanent Disturbance to Mountain Plover Habitat <b>BIO-C6</b>	Page 4.2-27, last paragraph, line 12 Page 4.2-40, 3rd bullet
Emergency Management to Avoid Harassment or Harm <b>BIO-C7</b>	Page 4.2-29, first full paragraph, line 13
Provide for Equitable Hunting Opportunities at OB1 and OB2 <b>BIO-C8</b>	Page 4.2-33, paragraph, line 6 to end
Compensate for Lea Act Land Losses <b>BIO-C9</b>	Page 4.2-40, 3rd paragraph following the bullets, line 2

## **RECOMMENDATIONS FOR OTHER AGENCIES WITH JURISDICTION OVER WELL DRILLING/WELL FLOW ACTIVITIES**

The following conditions can and should be implemented by the appropriate responsible agencies approving the geothermal resource wells, pads and associated pipelines:

### **Preventative Design Mitigation Features**

**BIO-C1** The project owner shall modify the project design to incorporate all feasible measures that avoid or minimize impacts to the local biological resources including:

1. Ensure the pipeline is built as described in CEC Data Response 24 and any materials provided to USFWS, and adopt the USFWS measure to construct outside the breeding season

2. Install only one shielded 500-watt fixture at the front of all well pads.
3. Construct well pad cellars to prevent wildlife entry or entrapment
4. Retain existing debris piles on Obsidian Butte until construction of OB3 is complete.

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

### **Construction and Operation Management to Avoid Harassment or Harm**

**BIO-C2** The project owner shall manage their construction site and perform operation functions in a manner to avoid or minimizes impacts to the local biological resources.

Typical measures are:

1. Plan construction at production wells OB1 and OB2 outside of the period when Yuma clapper rails are vocal and defending nest territories.
2. Plan maintenance activities related to well heads (e.g., coil cleaning or redrilling) during daylight hours and outside of the shorebird breeding season (March through July);
3. Schedule shut-down maintenance of production well OB3 outside of the shore-bird breeding season and monitor noise levels and manage construction activities to ensure noise levels do not exceed 78 dBA in sensitive habitats.
4. Take the prescribed actions found in an Emergency Response Plan (which should be reviewed by a qualified biologist and the interested agencies) when emergency repairs to production well OB3 are necessary.

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

### **Noise and Vibration Management to Avoid Harassment or Harm**

**BIO-C3** The project owner shall prepare a detailed Noise and Vibration Assessment and Abatement Plan based on the final design of the facility to determine the most practicable measures to reduce/mitigate construction noise and vibration impacts. At a minimum, the Noise and Vibration Assessment and Abatement Plan shall address measures to:

- attenuate the noise from construction, operations, and maintenance at wellhead OB1 and OB2 to less than 60 dBA at all Yuma Clapper rail habitat if maintenance actions take place during Yuma clapper mating and nesting season (February 15 to August 31), or require that all planned maintenance take place outside of this timeframe.

The project owner shall include a construction noise and vibration monitoring protocol. Other noise and vibration avoidance measures can be considered for approval by the CPM in consultation with involved agencies.

**Verification:** The project owner shall submit two copies of the Noise and Vibration Assessment and Abatement Plan to the CPM for review and approval and one copy to the CDFG, Refuge, USFWS for review and comment 90 days prior to start of any site (or related facilities) mobilization. The Noise and Vibration Assessment and Abatement Plan shall identify all noise and vibration sources by construction phase, the location of all biologically related sensitive receptors, and the noise and vibration levels expected after the implementation of mitigation. The CPM, in consultation with the CDFG, Refuge, USFWS and any other appropriate agencies, will determine the Noise and Vibration Assessment and Abatement Plan's acceptability within 45 days of receipt.

The noise measurements and any remedial actions taken shall be described in the MCR. All mitigation measures and their implementation methods shall be included in the BRMIMP.

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

**BIO-C4** The project owner shall survey for burrowing owl activities at the production and injection wellheads and along the pipeline routes 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 which require monitoring of burrowing owls, the monitoring must be done by a credentialed biologist approved by the CPM.

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 which 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. For example, if pre-construction surveys find 17 occupied owl burrows within the project's footprint, and monitoring determined 17 burrowing owl pairs 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 are valid only for 30 days.

Based on the number of burrowing owls identified as potentially 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.

### **Provide Habitat Compensation for Permanent Disturbance to Burrowing Owl Habitat**

**BIO-C5** Foraging habitat which is permanently destroyed shall be replaced at 0.5:1 (mitigation:impacts) and managed for the protection of burrowing owls. Based on these ratios, the project owner must protect and manage 68.25 acres of land for burrowing owls (13.1 acres for the production wells, 7.7 for the injection wells, and 47.45 acres for the brine pipelines). The mitigation amount can be reduced if mitigation land for the same burrowing owls is also being provided under Condition of Certification BIO-19.

**Verification:** 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. If burrowing owls are present where a permanent facility will be placed or within 300 feet of a permanent facility, the project owner shall identify the amount of land they intend 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 land protection proposal and management fund(s) shall be approved by the CPM and reviewed by CDFG. The project owner shall propose land for purchase or protection with a description of habitat types and propose a management and monitoring plan at least 90 days prior to commercial operation.

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 to 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 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 60 days prior to commercial operation. If funds 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.

### **Provide Habitat Compensation for Permanent Disturbance to Mountain Plover Habitat**

**BIO-C6** Calculate the habitat loss during well pad and pipeline construction (or as soon as final construction drawings are available) and offset these losses with actively managed lands (e.g., grazed or burned periodically) which are suitable for mountain plover. In calculating habitat loss, include a buffer around these facilities to account for wildlife avoidance of these features.

**Verification:** At least 15 days prior to site mobilization, the project owner shall provide the CPM, USFWS, Refuge, and CDFG with the mountain plover survey results. If Mountain plover habitat is present where a permanent facility will be placed, the project owner shall identify the amount of land they intend 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 land protection proposal and management fund(s) shall be approved by the CPM and reviewed by CDFG. The project owner shall propose

land for purchase or protection with a description of habitat types and propose a management and monitoring plan at least 90 days prior to commercial operation.

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 to 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 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 60 days prior to commercial operation. If funds 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.

### **Emergency Management to Avoid Harassment or Harm**

**BIO-C7** The project owner shall prepare and submit an agency notification list for emergency events which involve the rupture or spill of brine fluids from wellheads or brine pipelines. The project owner shall obtain and then follow the recommendations resulting from the agency notification for avoiding harassment or harm to biological resources.

**Verification:** The project owner shall provide the agency notification list to the CPM for approval at least 60 days prior to start of commercial operation. The agency notification list shall be incorporated into the BRMIMP. The project owner shall report in the annual compliance report any agency notifications and whether the agency recommendations were followed.

### **Provide for Equitable Hunting Opportunities at OB1 and OB2**

**BIO-C8** If the construction of production well pads OB1 and OB3 takes place during snow geese and widgeon hunting season, then the project owner shall provide alternative parking locations for hunters. If hunting will no longer be allowed on this parcel, in order to protect the proposed production pipeline or wellheads, then the project owner shall propose replacement of this parking and/or hunting opportunity at an alternative hunting location.

**Verification:** At least 15 days prior to site mobilization, the project owner shall provide the CPM with the proposed location of alternative parking for hunters. If the land will no longer be used for hunting, the project owner shall fund the acquisition and

long-term management of the compensation lands in a form acceptable to the CEC and Refuge (e.g., provide a letter of credit or establish an escrow account) 15 days prior to construction.

### **Compensate for Lea Act Land Losses**

**BIO-C9** The project owner shall locate and procure a lease of at least 19 acres of agricultural lands to compensate permanent habitat losses from production well pads OB1 and OB3 and their pipelines. The parcel shall be selected that facilitates management and enforcement by Sonny Bono National Wildlife staff.

**Verification:** At least 15 days prior to site mobilization, the project owner shall provide the CPM with evidence of consultation with the Refuge for impacts to Lea Act Lands. The location of the lands to compensate for Lea Act land losses shall be described in the annual compliance report.

### **RESTORE DISCUSSION OF IMPACTS FROM BRINE PIPELINES AND WELLHEADS**

Staff extensively covered potential impacts from construction and operation of the brine pipelines and wellheads beyond the impacts to wetland features. The heading “Linear Facilities” from the FSA was changed to “Transmission Line” in the PMPD and all discussion of brine pipeline and wellhead impacts was lost thereafter. Staff suggests inserting the following section into page 31 of the PMPD, just before the heading “Air Emissions”. The County’s conditions are shown in parenthesis for emphasis only.

#### **Brine Pipeline and Wellheads**

The construction of production wells OB1 and OB2 on lands north of the power plant site will place people and equipment within close proximity (200 feet) of wetlands known to contain Yuma Clapper rail, and which may contain black rail. The applicant has agreed to do construction at production wells OB1 and OB2 outside of the period when Yuma clapper rails are vocal and defending nest territories, and the County should incorporate this restriction into their permit. The construction of OB3 well head on Obsidian Butte would place people and equipment near (1000 feet) a California brown pelican loafing area, and an area that has been used for nesting. The applicant agreed to schedule shut-down maintenance of production well OB3 outside of the shore-bird breeding season.

The construction of the production and injection well pads and pipelines (except OB3 and its pipeline) would result in habitat losses to mountain plovers. The permanent loss from the proposed project is limited to the footings of the pipelines and the concrete cover on the well pad which removes both types of mountain plover habitat. The County should calculate this loss during well pad and pipeline construction (or as soon as final construction drawings are available) and require the applicant offset these losses with actively managed lands (e.g., grazed or burned periodically) which are suitable for mountain plover. The County should include a buffer around these facilities

to account for wildlife avoidance of these features in their impact calculations. The impact to burrowing owls would be the same as noted for the power plant site.

The construction of the production and injection well pads and pipelines (except OB3 and its pipeline) would result in habitat losses to burrowing owls. Several burrowing owls were detected near the injection well heads. The County should require pre-construction surveys and compensation for any losses in a manner that is consistent with Condition of Certification **BIO-19** and **BIO-25**.

#### **MITIGATION:**

- The project owner shall manage their construction, operations, and emergency response to limit impacts to biological resources. Conditions: **BIO-12, BIO-13, BIO-16, BIO-20 (and BIO-C1, BIO-C2, BIO-C3, AND BIO-C7)**
- 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. Condition: **BIO-19 (and BIO-C4)**.
- Foraging habitat which is permanently destroyed shall be replaced at 0.5:1 (ratio of mitigation acreage to impact acreage) and managed for the protection of burrowing owls. Condition: **BIO-25 (and BIO-C5)**.
- Impacts to mountain plover habitat, loss of hunting opportunities, and loss of Lea Act lands should be mitigated with equitable habitat in the County permit. Conditions: **BIO-C6, BIO-C8, BIO-C9**.

#### **RECOMMENDATION TO RESTORE CONDITION OF CERTIFICATION BIO-6 TO THE COMMITTEE DECISION AND ORDER**

In cases such as this where the biological resources are abundant, and where it appears that development will not destroy these features within the 30 years of operation, staff recommends a Biological Resource Element in the Closure Plan. The Biological Resources Element would consider several items, including the beneficial impacts from removal of transmission lines and above ground features. Salton Sea Unit 6 is a prime example of a power plant where careful consideration of its surrounding environment for biological resources prior to an unexpected or permanent closure is warranted.

The Presiding Members Proposed Decision includes General Conditions requesting a Closure Plan be submitted to the CPM (COM-12 and COM-13), and Condition of Certification BIO-6, as found in the Final Staff Assessment, also references a Closure Plan being submitted to the CPM. However, the General Conditions' Closure Plan measures do not require that biological resources be addressed unless necessary to "identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site." COM-12. Instead of simply analyzing the status quo of leaving the no longer active facilities on the project site, staff believes that in this case further analysis to determine whether actions such as the removal of the facilities and equipment would benefit the environment, should be

undertaken. This is not required by the general closure conditions but would be achieved by the imposition of Condition BIO-6.

We ask the Committee to consider reinstating Condition of Certification BIO-6 in the Commission Decision and Order to ensure that biological resource staff is alerted when a Closure Plan is submitted that the Plan includes a Biological Resource Element which considers beneficial impacts to biological resources.

Pages 31-32, Findings: We recommend the revision of the findings to address the new information and conditions from the Biological Opinion, as follows:

With the implementation of the Conditions of Certification, below, the project conforms with applicable laws, ordinances, regulations and standards related to biological resources, and all potential impacts to biological resources will be mitigated to a level of insignificance. To mitigate potential impacts to insignificance on matters not subject to our jurisdiction, the Commission recommends that, for wellhead, well pad, and pipeline permitting, Imperial County incorporate Conditions **BIO-C1, C2, C3, C4, C5, C6, C7, C8, C9, BIO-1, 2, 3, 4, 8, 9, 11, 13, 14, 15, 16, 18, 19 & , 20, 25 & 26**. For transmission line permitting, the Commission recommends and finds the BLM can and should incorporate Conditions **BIO-4, 13, 17, 18, 19- & 22, 25 & 26**.

## **CHANGES TO CONDITIONS OF CERTIFICATION AS A RESULT OF THE FEDERAL BIOLOGICAL OPINION**

Staff received the Federal Biological Opinion from the U.S. Fish and Wildlife Service (USFWS) on November 26, 2003. The USFWS reviewed the potential for “take” of California brown pelican and Yuma clapper rail and determined there may be incidental losses to both species. The Biological Opinion contains “Project Avoidance and Minimization Measures” and “Terms and Conditions” which prescribe how the applicant must conduct its construction and operations in order to be in compliance with the Federal Endangered Species Act. As noted at the Hearings on October 27, 2003, staff anticipated that the USFWS may be more restrictive than staff, and we were instructed to let the Committee know if any changes were necessary to our Conditions of Certification in order to make them compliant with the Federal Biological Opinion. The following Conditions of Certification should be modified to reflect the recently issued Federal Biological Opinion (#FWS-IMP-3191.6). Staff has modified the Biological Resources Conditions of Certification, BIO-12 through BIO-18, BIO-24 and added BIO-26, to include specific measures identified in the Biological Opinion. Condition BIO-14 now identifies the location of Yuma clapper rail habitat that must have federal protocol level surveys prior to site mobilization. Protocol level surveys are being required by the USFWS to establish a pre-construction baseline for the Yuma clapper rail in the specified survey areas. Protocol surveys for Yuma clapper rails must be conducted between March 15 and May 15. This pre-construction baseline would be used to determine impacts to the species. The Federal Biological Opinion requires several avoidance measures during transmission line maintenance and power plant operation which have been grouped into a new measure, Condition of Certification BIO-26. There are no changes to Conditions of Certification BIO-1 through BIO-11, BIO-19 through BIO-23, or BIO-25.

## **Preventative Design Mitigation Features**

- BIO-12** The project owner shall modify the project design to incorporate all feasible measures that avoid or minimize impacts to the local biological resources such as the following.
1. Design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources and preferentially use previous pull sites or already disturbed locations;
  2. Avoid wetland loss to the extent possible when placing facility features;
  3. Design, install, and maintain facilities to prevent brine spills from endangering adjacent properties and waterways that contain sensitive habitat;
  4. Schedule disposal of brine within brine ponds as expeditiously as possible;
  5. Design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat;
  6. Insulate production and injection well pipelines and flanges;
  7. Prescribe a road sealant that is non-toxic to wildlife and plants and use only fresh water when adjacent to wetlands, rivers, or drainage canals;
  8. Equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 74 dBA measured at a distance of 100 feet. Orient the silencer to maximize the noise reduction achieved in occupied Yuma clapper rail habitat to the north and northwest of the project site (i.e., Union Pond, McKendry Pond and Obisidean Butte).
  9. Shield pile driving equipment to maximize noise reduction in the occupied Yuma clapper rail habitat to the north and northwest of the project site (i.e., Union Pond, McKendry Pond and Obsidian Butte).
  10. Design, install, and maintain transmission lines and all electrical components to reduce the likelihood of electrocutions of large birds by following the Avian Power Line Interaction Committee (APLIC)'s *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996*; ~~and~~
  11. Route the reject reverse osmosis water to the service water pond in lieu of the brine ponds; and
  12. All mitigation measures and their implementation methods shall be included in the BRMIMP.

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

## **Construction Mitigation Management to Avoid Harassment or Harm**

- BIO-13** The project owner shall manage their construction site, and related facilities, in a manner to avoid or minimize impacts to the local biological resources.

Typical measures are:

1. Install a temporarily fence and provide wildlife escape ramps for construction areas that contain steep walled holes or trenches if outside of an approved, permanent exclusionary fence. The temporary fence shall be constructed of materials that are approved by USFWS and CDFG. The ramps shall be located at not greater than 1,000-foot intervals and shall be sloped less than 45 degrees. All animals discovered in trenches shall be allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, before construction activities resume, or be removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.
2. Make certain all food-related trash is disposed of in closed containers and removed at least once a week.
3. Prohibit feeding of wildlife by staff or contractors.
4. Prohibit non-security related firearms or weapons from being brought to the site.
5. Prohibit pets from being brought to the site.
6. Minimize use of rodenticides and herbicides in the project area.
7. Advise all employees, contractors, and visitors of the need to adhere to speed limits and to avoid any animals, including burrowing owls, which may be encountered on or crossing the roads to and from the project site. The maximum speed on unpaved roads or on paved roads within 300 feet of occupied sensitive species habitat (such as on McKendry Road west of Boyle road and Lack Road between Kuns and Lindsey Roads) shall be restricted 15 miles per hour or lower during construction.
8. Inspect all construction pipes, culverts, or similar structures with a diameter of four inches or greater for sensitive species (such as burrowing owls) prior to movement of pipe or pipe burial. Cap all pipes with a diameter of four inches or greater if they are to be left in trenches overnight or in storage areas outside of the construction laydown area.
9. For the section of pipeline between production well OB3 and the power plant site, empty the concrete-lined pipe at the power plant site. For all remaining sections, empty concrete lined pipe into designed evaporation and percolation ponds.
10. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to USFWS and CDFG and the project owner shall follow instructions that are provided by USFWS and CDFG. All incidences of wildlife injury or mortality resulting from project-related vehicle traffic on roads used to access the project shall be reported in the MCR.
11. Implement standard mitigation measures for the flat-tailed horned lizard detailed in the *Flat-tailed Horned Lizard Rangeland Management Strategy-Appendix 3* for work in flat-tailed horned lizard habitat.

12. Confine construction activities to the plant, well pad, or pipeline side of any existing or constructed barriers (such as roads or levees) to reduce the potential disruption associated with human presence within occupied sensitive species habitat.
13. Transmission line construction within 1 mile of the intersection of Lack and Lindsey Roads shall not be conducted at night or when wind speeds exceed 15 miles per hour.

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

### **Pre-Construction Monitoring to Avoid Harassment or Harm**

**BIO-14** The project owner shall provide a baseline survey proposal in the BRMIMP. The CPM, in consultation with the CDFG, Refuge, the USFWS and any other appropriate agencies, will determine the acceptability of the baseline survey protocol(s), the survey area(s) and the Designated Biologist's prescription(s) for potential impacts.

Prior to mobilization, the project owner shall conduct baseline surveys for special status species at a level that establishes the occurrence and abundance of species. In addition, mapping of suitable habitat types will be completed for any special status species that potentially occur, but are not present at the time of the baseline survey. Mapping of suitable habitat types will also be completed for any species that can not be surveyed for because of protocol restrictions. The baseline surveys shall cover appropriate habitats within one-mile of the plant site and within 1,000 feet of all linear facilities, unless other areas are deemed more appropriate. ~~If baseline surveys occur during a special status species mating or nesting season, then protocol level surveys in appropriate habitats within 1,000 feet of the plant site and within 1,000 feet of all linear facilities will be completed prior to mobilization.~~ Protocol level surveys for Yuma clapper rails shall be conducted by qualified individuals at Union Pond, McKendry Pond, and the adjacent parts of the Vail 5 drain prior to the start of any construction within 0.5 mile of these sites.

The Designated Biologist shall make recommendations to the project owner to avoid or minimize impacts to the special status species based on completed baseline surveys and any protocol level surveys.

**Verification:** The baseline survey proposal shall include a list of target species and the survey techniques to be used. The list of target species must, at a minimum, include California brown pelicans, mountain plover, burrowing owl, Yuma clapper rail, California black rail, and flat-tailed horned lizard. In addition, a proposal for mapping suitable habitats shall, at a minimum, include Yuma clapper rail and mountain plover habitat. The baseline survey proposal shall establish indices (e.g., propensity for flight) for comparison with other monitoring efforts. The baseline survey proposal shall include the survey locations and their distance from the site or linear facilities. The baseline survey proposal shall identify actions that can be taken to avoid or minimize impacts to the special status species (such as restricting construction to certain months or marking sensitive areas).

The project owner shall provide copies of agency-approved survey protocols in the BRMIMP. At a minimum, the project owner shall include a copy of the agency-approved survey protocol for California black rail and Yuma clapper rail in the event that the baseline surveys show these species are mating or nesting within 1,000 feet of the proposed project. The BRMIMP shall identify at least two southern California or western Arizona biologists that hold a USFWS permit for surveying these species and include their contact information.

Results of the baseline surveys must be submitted to the CPM, USFWS, CDFG and Refuge no later than thirty (30) days prior to the start of mobilization. ~~If protocol level surveys are required, then the~~ The protocol survey results shall be submitted to the CPM, USFWS, CDFG and Refuge no more than ten (10) days after completion and at least twenty (20) days prior to mobilization.

### **Construction Monitoring to Avoid Harassment or Harm**

**BIO-15** The project owner shall perform monitoring throughout construction to ensure construction-related impacts remain at or below levels of significance set forth in the BRMIMP. The monitoring results shall be compared to the pre-construction baseline surveys' indices and to other local population values.

The project owner shall provide a monitoring proposal and indices for comparison to pre-construction baseline survey work within the BRMIMP. Monitoring must include any sensitive species located during the pre-construction baseline survey and any areas identified as suitable habitat. ~~If a special status species mating or nesting season begins at any time during the construction period, then p~~ Protocol level surveys shall be completed for appropriate habitats within 1,000 feet of the plant site and within 1,000 feet of all linear facilities or within specified areas in the Salton Sea Basin during each year that construction is occurring and for the year following construction. The CPM, in consultation with the CDFG, Refuge, the USFWS and any other appropriate agencies, will determine the acceptability of the monitoring protocol(s) and survey area(s).

**Verification:** The project owner shall provide the results of the construction monitoring in the MCR or annual compliance reports as appropriate. Protocol survey results shall be compiled into a separate report and submitted within four (4) weeks of completion. The construction monitoring results shall be compared by the designated biologist in the MCR to pre-construction indices established in the BRMIMP (e.g., increased number of flights) and to other local population values collected by the project owner or other entities.

### **Noise and Vibration Management to Avoid Harassment or Harm**

**BIO-16** The project owner shall prepare a detailed Noise and Vibration Assessment and Abatement Plan based on the final design of the facility to determine the most practicable measures to reduce/mitigate construction noise and vibration impacts. At a minimum, the Noise and Vibration Assessment and Abatement Plan shall address measures to:

1. Reduce site grading and clearing, pile-driving and steam-blow noise levels to less than 85 dBA using measures that have the maximum sound attenuation effect practicable (e.g., beyond 78 dBA  $L_{eq}$ <sup>4</sup>) at the northern and western boundaries of the power plant site occupied habitat areas during the Yuma clapper rail mating and nesting season (March 1 to August 31);
2. Ensure overall noise levels at the power plant site during the mating and nesting season of Yuma clapper rails (March 1 to August 31 ~~February 15 to August 31~~), will not exceed ~~exceeded~~ the threshold of 60 dBA  $L_{eq}$  hourly at occupied habitat areas or propose a construction schedule which limits noise levels to less than 60 dBA around for one-half hour before and one hour after sunrise daybreak (morning civil twilight) and one hour before and one-half hour after sunset; and
3. Ensure site grading and clearing and pile-driving vibrations levels are equal or less than 72 VdB at the northern and western boundaries of the power plant site during the Yuma clapper rail nesting season (June 1 to August 31). ~~and~~

~~The project owner shall include a construction noise and vibration monitoring protocol. The project owner will conduct noise monitoring at the edge of project boundaries facing occupied listed species breeding habitat to verify compliance with any applicable noise restrictions.~~ Other noise and vibration avoidance measures can be considered for approval by the CPM in consultation with involved agencies.

**Verification:** The project owner shall submit two copies of the Noise and Vibration Assessment and Abatement Plan to the CPM for review and approval and one copy to the CDFG, Refuge, and USFWS for review and comment 60 days prior to start of any site (or related facilities) mobilization. The Noise and Vibration Assessment and Abatement Plan shall identify all noise and vibration sources by construction phase, the location of all biologically related sensitive receptors, and the noise and vibration levels expected after the implementation of mitigation. The CPM, in consultation with the CDFG, Refuge, USFWS and any other appropriate agencies, will determine the Noise and Vibration Assessment and Abatement Plan's acceptability within 45 days of receipt.

The project owner shall, at a minimum, appoint a person(s) to collect weekly noise measurements at the original Noise Measurement Locations ML2, ML3 and ML4 for a 1-hour period. The results shall be utilized as follows:

- If noise measurement is outside of Yuma clapper rail mating and nesting season (September 1 to February ~~28~~14) and exceeds 60 dBA  $L_{eq}$  hourly at the edge or within occupied habitat, it shall be highlighted in the data table for the MCR and the reasons for the noise level (if known) described.
- ~~If a noise measurement during the Yuma clapper rail mating and nesting season (March 1 to August 31) is 85 dBA or above, then the loudest and nearest noise~~

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<sup>4</sup> Energy Commission staff believes that the Biological Opinion used the metric "Lmax" where the metric "Leq" was intended. As of 12-8-03 the applicant is discussing this with USFWS verifying the correct metric for sound attenuation to be applied.

~~source(s) shall be immediately shut down until the noise level is again below 85 dBA. The restriction on noise levels above 85 dBA is in effect for 24 hours a day, 7 days a week from March 1 to August 31. Any incident over 85 dBA shall be highlighted in the data table for the MCR and the reasons for the noise level (if known) described.~~

- If a noise measurement is within Yuma clapper rail mating and nesting season (~~March 1 to May 31~~February 15 to August 31) and is ~~below 85 dBA~~ but exceeds 60 dBA L<sub>eq</sub> hourly at the edge or within occupied habitat, then pieces of construction equipment shall be stopped, moved, or quieted such that resultant noise levels are less than 60 dBA. Construction work need only be stopped or quieted for one-half hour before and 1 hour after morning civil twilight sunrise and 1 hour before and one-half hour after evening civil twilight sunset. If 24-hour construction is required, every person on the agency call list shall be notified as to the expected noise level, the equipment in use, and the remedial actions that are recommended (if any). The remedial action(s) should be implemented after approval by agency staff.

The noise measurements and any remedial actions taken shall be described in the MCR.

### **Overhead Transmission Line Monitoring to Avoid Harassment or Harm**

**BIO-17** The project owner shall install an agency-approved marker on the grounding wire of the proposed transmission lines. These markers shall be placed and maintained on the highest-bird-use portions of the proposed transmission lines (initially Mileposts ~~L0 to L6, M0 to M1, M3 to M6, and M8 to M9.5~~ M10 to L13). Monitoring of the entire 31 miles of proposed transmission line, and sections of unmarked but comparable transmission line in the study area, shall be implemented for the first two years of operation, and may continue for up to ten years (to determine effectiveness of remedies) if impacts are found to be excessive by a working group of interested agency personnel. Remedial actions to address collision deaths shall be included in a Bird Collision Deterrent Proposal and Monitoring Plan. The project owner must implement the CPM-approved remedial actions where ever high bird use and evidence of bird collisions are found during post-construction monitoring, and measure the effectiveness of the remedial measure for reducing impacts for at least one year following their implementation.

**Verification:** The project owner shall submit two copies of a Bird Collision Deterrent Proposal and Monitoring Plan (BCDM Plan) to the CPM for review and approval and one copy to the CDFG, Refuge, and USFWS for review and comment 60 days prior to start of transmission line mobilization. The BCDM Plan shall identify all Species of Concern, the threshold used for determining impacts, the proposed type and spacing of markers, the post-construction monitoring plan, and remedial actions. The first monitoring report shall be due to the CPM, Refuge, CDFG and USFWS three months after completion of the transmission line construction, and the second monitoring report shall be due to the same parties at six months. A two-year summary report which summarizes all actions taken, compiles all the monitoring data, and includes an evaluation of effectiveness of the markers is due two years after the completion of the

transmission line construction. A working group of interested agency personnel shall meet after submittal of the second monitoring report to determine if remedial actions need to be implemented and the timeline for their completion. The project owner must implement the CPM-approved remedial actions following the timelines set by the working group of interested agencies. The BCDM shall include remedial actions such as marking of unmarked transmission line segments that show high bird use and collisions during the post construction monitoring, decreasing the spacing of markers on marked lines, and alternative transmission line routes. Maintenance and replacement of markers for the life of the transmission line will be required for all areas determined in the two-year summary report to have high bird use and evidence of bird collisions. The CPM, in consultation with the CDFG, the Refuge, the USFWS and any other appropriate agencies, will determine the BCDM Plan's acceptability within 30 days of receipt.

### **Re-vegetation for Construction Impacts**

**BIO-18** The project owner shall contour all temporary disturbance areas and allow them to re-vegetate with pre-disturbance species. Invasive exotic species (as defined by the U.S. Department of Agriculture) shall be precluded from establishing themselves in the temporary disturbance areas through implementation of a three-year post-construction weed removal program. Every three years for a period of nine years following construction, the project owner shall evaluate the need for control of exotic species in areas disturbed by construction of the power plant and its associated facilities.

**Verification:** The project owner shall provide a brief report of temporary disturbance conditions at the end of the project construction in the BRMIMP Closure Report. Annual reporting of weed abatement shall be provided to the CPM in the annual reporting for ~~three~~ nine years post-construction, or until such time as the CPM determines it is no longer needed.

### **Conservation Easement for Wetland**

**BIO-24** The project owner shall submit copies of the fee title and/or conservation easement relating to the restoration and creation of wetland habitat, ~~if required by the U.S. Army Corps of Engineers permit conditions, prior to the~~ start of the first Yuma clapper rail breeding season which follows the initiation of fill operations along McKendry Road. The project owner shall provide an endowment to fund management of the land to achieve the targeted functions and values described in the U.S. Army Corps of Engineers permit.

**Verification:** Within 30 days ~~after~~ before the start of commercial operation, the project owner shall submit to the CPM two copies of the conservation easement and/or fee title, as recorded with the Imperial County Recorder and any related documents which discuss the types of habitat restored or created on the parcel.

### **Operational Management to Avoid Harassment or Harm**

**BIO-26** The operation of the power plant and transmission lines shall be conducted to avoid harassment and harm to sensitive biological resources. At a minimum, maintenance and operations personnel shall follow the following guidance:

1. Regular transmission line maintenance within 1 mile of the intersection of Lack and Lindsey Roads shall not be conducted at night or when wind speeds exceed 15 miles per hour;
2. The project owner shall develop a reporting procedure for observations by land owners along the transmission lines of bird strikes or the presence of carcasses that may have resulted from transmission line strikes.
3. The project owner and Imperial Irrigation District's maintenance personnel shall observe the areas under power transmission lines during the course of their duties to informally monitor for birds that have struck the transmission lines.
4. Advise all employees, contractors, and visitors of the need to adhere to speed limits. The maximum speed on unpaved roads or on paved roads within 300 feet of occupied sensitive species habitat (such as on McKendry Road west of Boyle road and Lack Road between Kuns and Lindsey Roads) shall be restricted 15 miles per hour or lower during operations.

**Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP. The project owner shall report in the annual compliance report any agency notifications and whether the agency recommendations were followed, and shall include a copy of any reports sent to the U.S. Fish and Wildlife Service in compliance with the Federal Biological Opinion.

## **COMMITTEE QUESTIONS**

**Question:** In Condition BIO-22, the amount of funding is not specified. Is it determinable, and how?

**Answer:** In the *Flat-tailed Horned Lizard Rangelwide Management Strategy-Appendix 4 (Appendix)*. The *Appendix* is used to determine if there is a multiplying factor for the acres disturbed by the project and prescribes that the project developer give funds to the agency that predominately manages the nearest management area. Using the *Appendix's* guidelines, staff expects the multiplying factor to be 1 and the funds to go to the Bureau of Land Management's El Centro Office. The Bureau of Land Management El Centro office indicates the current fees structure for land acquisition is \$230 per acre of disturbance (Gavin Wright, Bureau of Land Management, November 25, 2003). There is potentially 5.7 acres<sup>5</sup> of flat-tailed horned lizard habitat disturbed by transmission line construction, however since the final design has not been submitted the amount could change. The switching station was not assumed to impact flat-tailed horned lizard habitat since it is proposed for a previously disturbed location.

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<sup>5</sup> To make this estimate, staff assumed 15 towers with work areas of 200 feet square and a 1.5 mile of new access road with a 30 foot right-of-way.

## GEOLOGY

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### COMMITTEE QUESTIONS

**Question:** In Condition PAL-1, what is the rationale for requiring “California” experience versus experience, for example, with southwestern cultures?

**Answer:** Fossils are the preserved remains of organisms themselves or the impression of it made in the geologic sediments. The first organisms with hard parts, allowing fossils to become relatively common, appeared about 550 million years ago. Geological time is divided into Periods, usually named after the area in which the rocks from that period were first described. Typically, human remains and cultural artifacts are much younger than fossil mammals, invertebrates, pollens and plants common to California geology. Human remains and cultural information fall within the purview of archaeological and cultural resources management since they are from the Holocene or Recent Period (100,000 years ago and younger). In general, mammal fossils are considered rare, but are found in California and sometimes on power plant project sites.

It is important for a paleontologist (PRS and monitor) to be familiar with California geology because fossils are unique to the particular geologic setting of a site. For example, a paleontologist from Montana may be an expert with large mammal and dinosaur fossils, but might have difficulty recognizing the particular California geologic units and the relevant species (often extinct and possibly requiring micro-fossil sampling techniques). The paleontologist must know how to sample and what to look for and where, as well as be able to determine the significance or value of the organism in the context of the unique geologic history of the state. California paleontologists are familiar with the geologic units in which fossils are likely to be found and they are experienced in recognizing, retrieving and preparing important fossil material for curation.

For example on some sites monitored by the Energy Commission, Dr. Fisk has found some small mammal fossils, but more typically he may encounter a wide range of micro-fossils, pollens, and fossilized animal burrows on CEC project sites. Although, this may not sound exciting, this information provides:

- Important data on the evolutionary relationships and developmental trends among organisms, both living and extinct.
- They also provide the age of a rock unit or sedimentary stratum.
- Fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.

- They can demonstrate unusual or spectacular circumstances in the history of life; and/or;
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As Energy Commission staff, we feel that the use of experienced California paleontologists provides the best possible mitigation for this non-renewable California resource.

## HAZARDOUS MATERIALS

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Staff has reviewed the Hazardous Materials section and offers two clarifying and important suggestions:

Page 78, the first complete paragraph should read:

“To address the question of whether it is reasonable to rely on automatic shutdown valves to limit the duration of a release from the post-flash steam line to one-minute duration, an evaluation of the probability that the shutdown system might fail to operate properly if ever called upon was conducted by staff.”

Page 78, fourth complete paragraph, second to last sentence. This correct sentence with formula should read as follows:

“The resulting combined likelihood of all these combined events is ~~.05 x 10<sup>-12</sup>~~ 5 x 10<sup>-10</sup>, far below the CEC’s de minimus criterion of 1 x 10<sup>-6</sup>.”

## LAND USE

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### COMMITTEE QUESTIONS

**Question:** In the Verification to Condition **LAND-6**, is the fee to be paid by the project owner to an appropriate agricultural land trust solely for the purchase of acreage or potentially some other purpose?

**Answer:** The fee can be used to purchase land for permanent protection (Land Trust), or the funds can be used to purchase conservation easements which permanently limit the type and scope of development that can take place on the land.

Imperial County is currently in the initial stages of forming an agricultural land trust for purposes of agricultural land and open space preservation. Prior to the start of construction, if the Imperial County land trust is not adequately formed such that it could receive funds for purchase of land or conservation easements, the project owner shall provide funds to the American Farmland Trust or a similar agricultural land trust to be approved by the CPM. These funds shall be sufficient to purchase 96 acres of agriculturally productive land comparable in quality (as determined by the CPM after consultation with the Trust staff) to the agricultural land to be converted to infrastructure use through construction of the SSU6.

## NOISE

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Page 95, second checked box under the heading "Mitigation," this paragraph should end, "Condition: NOISE-6". Condition NOISE-7 deals with protecting power plant workers from noise.

Page 96, the first paragraph should end, "Conditions NOISE-1, 2, 3, 6 & 8".

Page 96, Condition of Certification NOISE-2, first bulleted paragraph refers to "the Noise Complaint Resolution Form (below)". The form, found on page 4.6-23 of the FSA, is missing from the PMPD.

Page 97: The USFWS Biological Opinion requires the following changes to NOISE-4:

### **STEAM BLOW AND PILE DRIVING MANAGEMENT**

**NOISE-4** The project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 74 dBA measured at a distance of 100 feet. The project owner may conduct steam blows continuously, 24 hours per day, until completed.

The project owner shall ensure that noise from pile driving, measured at the occupied Yuma clapper rail habitat at the northern and western boundaries of the power plant site, ~~does not exceed 85 dBA  $L_{eq}$  during the Yuma clapper rail mating and nesting season (March 1 to August 31)~~, and does not exceed 60 dBA  $L_{eq}$  hourly around one-half hour before and one hour after daybreak (morning civil twilight) and one hour before and one-half hour after sunset during the mating and breeding season (March 1 to May 31 February 15 through August 31). Alternatively, the project owner may schedule pile driving so that it does not occur during the mating and nesting season (from March 1 February 15 to August 31).

**Verification:** At least 15 days prior to the first steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, and a description of the steam blow schedule.

At least 15 days prior to first pile driving, the project owner shall submit to the CPM a description of the pile driving technique to be employed, including calculations showing its projected noise impacts at the northern and western boundaries of the power plant site. Alternatively, this submittal may entail a description of the pile driving schedule, demonstrating that it does not occur between March 1 and August 31.

--Page 97, Condition of Certification NOISE-5: The third paragraph should begin with the heading "**Verification**".

## **PUBLIC HEALTH**

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Staff has no additional comment regarding the H2S emissions, except to note that its previously stated position is unchanged.

Page 102 first (partial) paragraph: In addition to mentioning the *de minimis* level of one in a million, the discussion should mention the significance standard for cancer risk of ten in one million adopted by staff in its analysis (FSA, p. 4.7-4, Public Health Table 2, p. 4.7-11). Without this information, the reader might be confused about how a 2.88 in one million risk is found insignificant.

## SOCIOECONOMICS

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Page 107, **Employment**, paragraphs 2:

A total of 3,600 ~~construction workers~~ laborers are projected to be available within Imperial County. Other crafts such will be needed for the project such as steamfitters, etc. The applicant estimates that the average non-local component for construction may be 40 percent or 106 workers, and for operations non-local operators would be 10 percent or seven workers. ~~Since the number of construction workers required represents a small portion of the local available labor force ,~~ Most non-local construction workers would stay in hotels/temporary housing during the week returning to their families on weekends, and no in-migration is expected as a result of project-related construction activities.

Page 107, **Employment**, paragraphs 3:

Sixty nine (69) permanent employees would be required for operation of the proposed facility. CE Obsidian Energy LLC anticipates that all 62 permanent employees would be hired from the existing local labor force, resulting in ~~no~~ as few as seven operational employees ~~coming~~ would come from outside the local labor force. With year 2000's population of 142,361 in the Imperial County, any potential permanent employees drawn from outside the region would result in a negligible increase to the total population. Therefore, any potential population in-migration impacts resulting from the operational workforce would be insignificant. (AFC § 5.92.1.1; FSA Socioeconomics p. 4.8-4)

Page 107, **Housing**: At the end of the third sentence in this paragraph "106" is the number of non-local construction workers, not the amount of housing available.

Page 108, **Economy/Government/Finance**: paragraph 1, lines 8 and 9.

~~"The estimated indirect and induced employment within the region would be 570 jobs. These additional jobs result from \$17 million in local construction expenditures as well as \$47 million in spending by local construction workers."~~  
There are \$17 million in secondary (indirect and induced) local income impacts.

Page 109, top paragraph lines 5 and 6:

~~"The indirect and induced impacts from the additional 104 jobs would result from annual expenditures on payroll of \$9.5~~ 5.9 million, as well as ~~operations and maintenance~~ equipment and materials budget of ~~\$5.9~~ 17 million during operations."

Page 112: Legal staff advised that we not include Executive Order 12898 in the LORS table, revised below. While the Executive Order guides the staff's Environmental Justice analysis, it is not directly applicable to the project.

## LAWS, ORDINANCES, REGULATIONS & STANDARDS

### SOCIOECONOMICS

APPLICABLE LAW	DESCRIPTION
<b><i>FEDERAL</i></b>	
Executive Order 12898	Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The Order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low income populations.
<b><i>STATE</i></b>	
Stats. 1998, ch. 407, Sec. 23 as amended by SB50	This states that public agencies may not impose fees, charges or other financial requirements to offset the cost for school facilities.
California Government Code sec. 65995-65997	Includes provisions for levies against development projects in school districts. The local Unified School District will implement school impact fees based on new building square footage.
<b><i>LOCAL</i></b>	
None	

## **WASTE MANAGEMENT**

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Page 141, first (partial) paragraph, last sentence: “The remaining liquid wastes are cooling tower wash-down and blow-down, chemical feed area drainage, and general plant drainage”: The PMPD doesn’t explain how these wastes are disposed of. The FSA refers to the Soil and Water Resources analysis (see FSA, p. 4.9-20) and the PMPD could do the same by adding a sentence to the effect that the handling of these wastes is discussed in the Water Quality and Soils section of the Decision, page 148.

Page 143, Condition WASTE-3: The second paragraph should be labeled as the Verification portion of this condition.

## WATER QUALITY AND SOILS

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Page 148, second paragraph under WASTEWATER: As we discuss above, the WASTE MANAGEMENT section mentions “cooling tower wash-down and blow-down” without saying how it is disposed of. We recommend adding a cross-reference to this section of the Decision for a description of its disposal. To conform the terminology, this paragraph should be amended to read as follows:

One dedicated injection well would inject cooling tower washdown and blowdown, and another would inject liquids from the brine ponds. These wells would be designed to discharge those waste streams at depths between 1,200 and 2,250 feet.

Page 149, CUMULATIVE IMPACTS: The text refers to “NPDES stormwater requirements described above,” but we find no such description prior to this point.

Page 152, first paragraph: Staff believes that clarification would be helpful regarding water use. The primary source for cooling water will be condensed steam recovered after driving the turbine. This is stated on page 153 of the PMPD under the heading of Cooling Water Supply. However, the first paragraph on page 152 may imply to a reader that the project’s water use may be significantly less than that of a combined-cycle, wet-cooled plant. This is only true when considering the use of fresh water, which is used primarily to dilute the reinjected condensed steam. Staff suggests clarifying this by adding a reference to the fresh water supply to the first sentence on page 152:

In an average year, the project would require use of fresh water at approximately 1.6 acre-feet per MW of capacity, which is very water-efficient compared to nearly four to five times that for a standard combined-cycle, wet-cooled plant per megawatt of capacity.

Page 153, second paragraph: The PMPD states “However, Article X of the California Constitution states that the use of high quality fresh inland water for cooling, process water and other non-potable uses when recycled water is available is a waste or unreasonable use of fresh water.” This is not accurate. Article X, Section 2 speaks more generally about the fullest beneficial use of water resources and avoidance of unreasonable uses or methods of use of water. It is State Water Resources Control Board Policy 75-58 that speaks specifically about avoiding the use of fresh water for cooling when other water types are available. It would therefore be appropriate to cite that Policy as the source of the rule rather than Article X.

Page 158, third paragraph under Water Supply states: “Because the project increases existing fresh water resources in the project area, the project would not significantly contribute to cumulative impacts on fresh water supply.” The project would use less fresh water than the current agricultural uses on the project site but it does not create a new source or supply of water. We believe it more accurate to say that the project “reduces fresh water use on its parcel.”

## **FACILITY DESIGN**

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Page 178, sixth checked box under the heading "Conditions," this paragraph should end, "Condition: ELEC-1". Note that Condition ELEC-2 does not exist.

## RELIABILITY

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Staff offers the following suggested changes to add clarity and accuracy to the RELIABILITY section of the PMPD.

On page 195, add clarifying language to the first paragraph of Plant Availability:

### PLANT AVAILABILITY

The North American Electric Reliability Council (NERC) keeps industry statistics for availability factors. NERC continually polls utility companies throughout the North American continent on project reliability. In 1999, NERC reported an availability factor of 91.49 percent for combined cycle units of all sizes. NERC reports an availability factor of 91.00 percent for geothermal units for the years 1996 through 2000 (FSA Reliability, p. 5.4-6). The gas triple-pressure, condensing steam turbine technology turbines that will be employed planned for in the project have has been on the market for several many years, and can be expected to exhibit typically high availability. In fact, these new, large machines can be expected to outperform the fleet of various, mostly older and smaller, gas steam turbines that make up the NERC statistics. The brine handling and treatment technology to be employed in the project has been under development by CEOE and its predecessors for several decades, and has proven reliable.

Page 196, under the Natural Disaster heading, modify the second sentence to clarify that seiches are a potential hazard, and add a paragraph after the second paragraph addressing the nature of the threat from seiches:

### NATURAL DISASTERS

Natural forces can threaten the reliable operation of a power plant. High winds and tsunamis (tidal waves) will not likely represent a hazard for this project, but flooding, and seismic shaking (earthquake) and seiches (waves in inland bodies of water) present credible threats to reliable operation. Site elevation ranges from 232 feet below mean sea level to 227 feet below mean sea level.

Page 196, add this third paragraph:

A wave created by earthquake shaking in an enclosed body of water is called a seiche. The possibility may exist for a seiche to occur in the Salton Sea (FSA Reliability, p. 5.4-5). The proposed site is situated nearly at the Salton Sea level and approximately 1,000 feet southeast of the Salton Sea. Therefore, it is possible for flooding from a seiche to affect the site. However, there are no records of seiches occurring during recent earthquakes in the Imperial Valley. Because of the applicant's proposal to mitigate the possible impact of a seiche, such as raising the embankment height along the western side of the site and/or ground improvement (FSA Reliability, p. 5.4-5; AFC §§ 5.2.1.4.5, 5.2.4.4), concerns with the power plant functional reliability due to seiches events will be mitigated to less than significant.

## **GENERAL CONDITIONS**

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Page 226, COM-8, Construction Security Plan bullet 4 and Operations Security Plan bullet 3: The “public” should be included as a protected group along with “the facility, its employees or contractors.”

## **ADOPTION ORDER**

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Page 237, finding 6 should be revised by the addition of a sentence to address the requirements of Public Resources Code Section 21081(a)(2):

6. To ensure no significant impacts to the environment on matters not subject to our jurisdiction, the Commission recommends that Imperial County, the California Division of Oil, Gas, and Geothermal Resources, and the Bureau of Land Management incorporate in their respective permits the Conditions of Certification identified in this Decision. Those agencies can and should adopt the recommended measures.