Briefing Outline for
December 14, 2011 Business Meeting

SUTTER ENERGY CENTER 97-AFC-2C PETITION TO AMEND

Contact: Christine Stora

Time Needed: 10 minutes

Business Meeting Date: December 14, 2011

Background: The Sutter Energy Center is a 540 MW natural-gas fired combined-cycle power plant located approximately seven miles southwest of Yuba City and was certified by the Commission on April 14, 1999. The project became operational in July of 2001. Calpine request a petition to amend the project to service the Sutter Power Plant with a 2.8-mile, 6 inch natural gas pipeline (referred to as the Grimes Pipeline). This pipeline will allow the project to use natural gas from the Grimes natural gas field in the Sacramento Basin north and west of the project site. The Sutter Energy Center currently receives gas from Pacific Gas & Electric (PG&E) natural gas transmission system via the 20-inch Sutter Pipeline.

Staff proposes revisions to existing and new Conditions of Certification as follows: for air quality, Staff is recommending several mitigation measures **AQ-SC1** through **AQ-SC5**, biological resources (**BIO-1** through **BIO-13** and staff's new conditions, **BIO-2a, BIO-7a**, and **BIO-14**), cultural resources (**CUL-15**), paleontological resources revised conditions **PAL-1** and **PAL-8**, and waste management by adding condition **WASTE-4**.

Justification for Action Requested: With these changes to the Conditions of Certification, Staff recommends approval of the amendment.

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

DOCKET
97-AFC-2C
DATE Aug 16 2011
RECD. Aug 17 2011

DATE: August 16, 2011

TO: Interested Parties

FROM: Christine Stora, Compliance Project Manager

SUBJECT: **Sutter Energy Center Project (97-AFC-2C)**
Staff Analysis of Proposed Modifications to Install the Sutter Grimes Pipeline Biology Supplement

On March 7, 2011, Calpine Corporation filed a petition with the California Energy Commission to amend the Energy Commission Decision for the Sutter Energy Center Project. Staff prepared an analysis of this proposed change and a copy is enclosed for your information and review.

The Sutter Energy Center Project is a 540 MW natural-gas fired combined-cycle power plant located adjacent to Calpine's Greenleaf Unit #1 cogeneration power plant, approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The project was certified by the Energy Commission on April 14, 1999, and began commercial operation in July 2001.

The proposed modifications will allow Calpine to service the Sutter Power Plant with a 2.8-mile, 6 inch natural gas pipeline (referred to as the Grimes Pipeline). This pipeline will allow the project to use natural gas from the Grimes natural gas field in the Sacramento Basin north and west of the project site. The Sutter Energy Center currently receives gas from the Pacific Gas & Electric (PG&E) natural gas transmission system via the 20-inch Sutter Pipeline.

Energy Commission staff reviewed the petition and issued a Staff Analysis on August 11, 2011. On that same day, staff received a copy of the U.S. Army Corps of Engineers (Corps) authorization letter in which the Corps authorized the project owner to conduct work under Nationwide Permit Number 12. In this supplement staff provides changes to and **BIO-11** to ensure that the Conditions of Certification are consistent with the recently issued Nationwide Permit Number 12.

It is staff's opinion that, with the implementation of this additional revised condition, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

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

The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the October 19, 2011, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below prior to September 15, 2011.

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

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

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

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Biological Resources Staff Analysis
Prepared by: Amy Golden
August 15, 2011

INTRODUCTION

On August 11, 2011, staff received a copy of the U.S. Army Corps of Engineers (Corps) authorization letter in which the Corps authorized the project owner to conduct the proposed activities under Nationwide Permit Number 12. The authorization letter contains several conditions including a special permit condition for compensatory mitigation for impacts to jurisdictional waters of the U.S. In order to capture the conditions of this recently issued federal permit, staff has modified text accordingly in the Staff Analysis and **BIO-11**, the condition of certification from the original licensing of the Sutter Energy Center by the Energy Commission that relates to wetland protection and mitigation. Text modifications are noted in red below.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

No additional LORS have been identified since the Staff Analysis was published.

ANALYSIS

The following changes to the August 2011 Staff Analysis Biology Section are shown in red text below.

Biological Resources, page 8, paragraph 3

The project owner submitted the project's wetland delineation map and request for verification to the Corps of Engineers (Corps) on December 20, 2010 (ICF 2011, Appendix F). The Corps issued a preliminary jurisdictional determination for the project on January 12, 2011 and determined that approximately 292.13 acres of wetlands or water bodies in the project area may be jurisdictional waters of the U.S. and may be regulated under Section 404 of the federal Clean Water Act (ICF 2011, Appendix F). The project owner submitted a Preconstruction Notification Form for Nationwide Permit (NWP) 12 to the Corps on January 3, 2011. The Corps issued an authorization letter for the project's proposed activities under Nationwide Permit Number 12 on August 2, 2011 (USACE 2011).

Implementation of revised **BIO-7** (SAA and Biological Opinion Permit Conditions) which requires the implementation of several impact avoidance and minimization measures for state waters will also minimize the potential for impacts to Waters of the U.S. Some of these **BIO-7** measures include: no equipment operation in waterways; confining heavy equipment use to existing roadways; development and implementation of an agency-

approved Frac-out Plan; covering of spoil piles; and use of drip pans under vehicles and other sediment controls. Staff has included a requirement to incorporate all permit conditions in the Corps authorization letter (USACE 2011) for mitigating the project's impacts to Waters of the U.S. under NWP-12 into **BIO-11** (Wetland Protection Measures). Staff has also proposed a new condition, **BIO-7a**, which requires the project owner submit an agency-approved Frac-out Plan to prevent the escape of drilling mud during horizontal drilling activities and identify contingency measures in the event of a frac-out. Additionally**, BIO-12** (BRMIMP) requires that the project owner submit a revised BRMIMP that would include construction impact avoidance measures for jurisdictional waters including long-term monitoring and avoidance measures. With implementation of **BIO-1** through **BIO-4, BIO-7**, **BIO-11,** and **BIO-12,** the potential for impacts to federally jurisdictional waters would be reduced to less than significant levels.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

The following additions to the Staff Analysis Biology Section are shown in red text below.

Biological Resources, page 21, paragraph 3 insert the following:

BIO-11 The project owner shall ensure the following measures are implemented to mitigate or avoid project impacts to wetlands:

1) Provide in-kind replacement habitat at a location acceptable to USFWS for wetlands impacted by the project (BIO-13).

2) Establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.

3) Mark and avoid all wetlands on site that will not be directly taken by the power plant footprint and all wetlands along Hughes Road in the Sutter National Wildlife Refuge.

4) Protect on-site wetlands not taken by the power plant footprint in perpetuity or provide replacement habitat at a location and ratio acceptable to USFWS and establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.

5) Use an air-cooled condenser to eliminate wet cooling tower evaporation and incorporate drains designed to route contaminated runoff away from the remaining wetlands or develop and implement a monitoring program to ensure the wetlands remaining on-site are not degraded by project operations. The program shall include parameters acceptable to USFWS that monitor hydrologic quality and productivity, and identify and defend reference or control wetlands for comparative analysis. If it is determined that the on-site wetlands are being negatively impacted, propose remedial mitigation measures to be implemented. A report presenting the monitoring data and a discussion of the mitigation effectiveness shall be provided annually for the

life of the project. If it can be shown that the wetlands are not being negatively impacted, licensee has the option to request Staff to decrease the frequency or cease monitoring.

6) Place a construction cloth over all remaining wetlands located within 500 feet of construction and related roads during construction activities.

7) Place the pipeline under or in the shoulder of Hughes Road.

8) The project owner shall incorporate all special permit conditions identified in the Corps authorization letter dated August 2, 2011, specifically, the special condition to submit a check for $1,800.00 to the National Fish and Wildlife Foundation's (NFWF) Sacramento District Wetlands Conservation Fund to mitigate for the loss of 0.012-acre of riparian streambed.

Verification: At least 45 days prior to rough grading, the project owner shall provide to the project CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be accomplished by the licensee and specifying the procedural terms for implementing these measures. The wetland monitoring plan annual report shall be provided to the project CPM no later than July 1 for each year monitoring is completed.

At least 30 days prior to the start of any ground-disturbing activities, the project owner shall provide written verification to the CPM that payment for the loss of riparian streambed was made and received by NFWF.
The project owner shall notify the CPM with a copy to the Corps Sacramento Regulatory Division office of the start and completion dates for each phase of the authorized work 30 days prior to the initiation of construction activities within Waters of the U.S. and 30 days following completion of construction activities. All work activities that occur in Waters of the U.S. shall be described and summarized in each Monthly Compliance Report.

REFERENCES

USACE 2011 – U.S. Army Corps of Engineers, August 2, 2011. U.S. Army Engineer District, Sacramento. Regulatory Division (ID#SPK-2010-01485).

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5112

DOCKET	
97-AFC-2C	
DATE	AUG 11 2011
RECD.	AUG 11 2011

DATE: August 11, 2011

TO: Interested Parties

FROM: Christine Stora, Compliance Project Manager

SUBJECT: **Sutter Energy Center Project (97-AFC-2C)**
Staff Analysis of Proposed Modifications to Install the Sutter Grimes Pipeline

On March 7, 2011, Calpine Corporation filed a petition with the California Energy Commission to amend the Energy Commission Decision for the Sutter Energy Center Project. Staff prepared an analysis of this proposed change and a copy is enclosed for your information and review.

The Sutter Energy Center Project is a 540 MW natural-gas fired combined-cycle power plant located adjacent to Calpine's Greenleaf Unit #1 cogeneration power plant, approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The project was certified by the Energy Commission on April 14, 1999 and began commercial operation in July 2001.

The proposed modifications will allow Calpine to service the Sutter Power Plant with a 2.8-mile, 6 inch natural gas pipeline (referred to as the Grimes Pipeline). This pipeline will allow the project to use natural gas from the Grimes natural gas field in the Sacramento Basin north and west of the project site. The Sutter Energy Center currently receives gas from the Pacific Gas & Electric (PG&E) natural gas transmission system via the 20-inch Sutter Pipeline.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality and public health and safety, and proposes revisions to existing and new Conditions of Certification as follows: for air quality, Staff is recommending several mitigation measures **AQ-SC1** through **AQ-SC5**, biological resources (**BIO-1** through **BIO-13** and staff's new conditions, **BIO-2a, BIO-7a**, and **BIO-14**), cultural resources (**CUL-15**), land use (analysis only), hazardous materials management (analysis only), paleontological resources revised conditions **PAL-1** and **PAL-8**, soil and water resources (analysis only), and waste management is adding condition **WASTE-4**. It is staff's opinion that, with the implementation of revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

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

The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the October 19, 2011, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below prior to September 11, 2011.

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

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Enclosure: Staff Analysis

SUTTER ENERGY CENTER (97-AFC-2C)

Request to Amend Final Commission Decision
Air Quality Staff Analysis
Prepared by: Jacquelyn Leyva
July 25, 2011

INTRODUCTION

This analysis addresses project changes that would be associated with impacts to air quality from construction of the proposed Grimes Pipeline Project (Project). Only those aspects associated with the Project that affect staff's testimony for **Air Quality**, as contained in the Commission Decision (Decision) dated April 14, 1999 (CEC 1999), are examined. The technical scope of this analysis encompasses potential impacts to air quality during and after the pipeline construction. In March 2011, the Calpine Construction Finance Company, L.P. and CPN Pipeline Company (petitioners) filed a petition with the Energy Commission requesting to modify the Sutter Energy Center (SEC) to include for the construction and addition of the Grimes Pipeline Project to interconnect to the existing facility of SEC.

SEC is a 540 megawatt, natural gas-fired, combined cycle facility, consisting of two combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs) with duct burners and a steam turbine generator (STG). The Grimes Pipeline Project is a 2.8-mile long 6-inch diameter natural gas pipeline located along Hageman Road and Girdner Road in Sutter County, California. The entire Project (approximately 29 acres) encompasses land along the county roadways that will be used for constructing the Project components and accommodating temporary construction staging areas and temporary pipeline bore work areas. SEC is located adjacent to Calpine's Greenleaf Unit #1 cogeneration power plant, approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road. The project covers 10-12 acres of Calpine's existing 77-acre parcel (Sutter County Assessor's Parcel Number 21-230-25).

Project components consist of construction of a 0.22-acre gas metering facility (Grimes Station), the 2.8 mile long, 6 inch diameter natural gas pipeline, installation of natural gas meters at existing metering sites (Venoco Inc.'s Eastside MM and 32-33-3 MM sites) (ICF 2011d).

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

The project's proposed amendment is subject to all the LORS described in the original Preliminary Staff Assessment (PSA) and Final Staff Assessment (FSA) (CEC 1999). The original Commission Decision certifying the Sutter Energy Center and any and all amendments thereafter ensure that the project will remain in compliance with all applicable laws, ordinances, regulations and standards (LORS).

The proposed modifications would comply with all applicable LORS and will not result in significant environmental impacts including any changes to Conditions of Certification

necessary to accommodate the proposed modifications. **Air Quality Table 1** summarizes the currently applicable LORS for the facility.

Air Quality Table 1
Laws, Ordinances, Regulations, and Standards

Applicable LORS	Description
Federal	
Federal Clean Air Act Amendments of 1990 (CAAA), Title 40 Code of Federal Regulations (CFR) Part 50	National Ambient Air Quality Standards (NAAQS).
CAA 40 CFR 60 Appendix B and 40 CFR 75 Appendix F (Source Tests, RATA, and CEMS)	Requires Specifications and Test Procedures Continuous Monitoring Systems in Stationary Sources.
State	
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.
H&SC §41510	Permitting of source needs to be consistent with approved clean air plan.
Airborne Toxic Control Measure for Stationary Compression Ignition Engines (ATCM, 17 CCR §93115.6)	Establishes operating requirements and emission standards for emergency standby diesel-fueled CI engines [17 CCR 93115.6]. The emission standard is 0.15 g/bhp-hr diesel particulate matter for emergency engines (operated fewer than 50 hours per year for maintenance and engine testing).
Local (Feather River Air Quality Management District, FRAQMD)	
FRAQMD 3-6 – Fugitive Dust Emissions	To reasonably regulate operations that periodically may cause fugitive dust emissions into the atmosphere.

SETTING

Federal and state ambient air quality attainment status designations have changed since the 1999 Energy Commission Decision. **Air Quality Table 2** summarizes current area ambient air quality attainment status designations for the Feather River Air Quality Management District (FRAQMD).

Air Quality Table 2
Federal and State Attainment Status
Project Site Area within Sutter County

Pollutant	Attainment Status [a]	
	Federal	State
Ozone (1-hr and 8-hr)	Attainment [b]	Transitional Nonattainment*
CO	Attainment	Attainment
NO_2	Attainment [c]	Attainment
SO_2	Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment (As of Dec 14, 2010)	Attainment**

Source: http://www.fraqmd.org/2004%20Area%20Designations.htm
[a] Attainment = Attainment or Unclassified, where Unclassified is treated the same as Attainment for regulatory purposes.
[b] Attainment status for the site area only, not the entire Sacramento air basin.
[c] Nitrogen dioxide attainment status for the new federal 1-hour NO_2 standard is scheduled to be determined by January 2012.
*The District has been redesignated from Nonattainment to Nonattainment-Transitional for the State designation for ozone occurs by operation of law. The change was confirmed by the CARB Board of Directors on March 25, 2010. HSC Section 40925.5.
**The District has been redesignated to attainment for the annual PM2.5 State AAQS. The change was adopted on the March 25, 2010, by the California Air Resources Board.

ANALYSIS

The Grimes pipeline will allow SEC to be served by a new 2.8 mile 6 inch natural gas pipeline and will interconnect to the existing Sutter Pipeline, located west of the SEC site on Girdner Road and west of Hageman Road at the new Grimes Station. Construction activities associated with the Grimes Pipeline Project will generate emission such as volatile organic compounds (VOCs), oxides of nitrogen (NOx), carbon monoxide (CO), particulate matter 10 microns or less in diameter (PM10), and particulate matter 2.5 microns or less in diameter (PM2.5). The primary sources of these temporary construction related emissions include mobile and stationary construction equipment exhaust, employee vehicle exhaust, and site clearing activities. Construction related activities will be short in duration and will cease once the construction activities are completed after the 2-3 month period.

PROJECT CONSTRUCTION

The total duration of project construction for Grimes Pipeline is estimated to be approximately 2-3 months. The Grimes Station is on Girdner Road just west of Hageman Roads. The site is currently an agricultural field planted with row crops. The Grimes Station facility will be a 100-by-100 foot approximately 0.22 acre area with a 3-foot thick gravel pad.

Combustion emissions would result from the off-road construction equipment, including diesel construction equipment used for site grading, excavation, and construction of onsite structures; and on-road vehicles, including heavy duty diesel trucks used to

deliver materials, other on-road diesel trucks used during construction, and worker personal vehicles and pickup trucks used to transport workers to and from and around the construction site. Fugitive dust emissions would result from site grading/excavation activities; and vehicle travel on paved and unpaved roads.

Staff considers the unmitigated construction NOx, VOC, and PM emissions to be potentially CEQA significant and, therefore, staff is recommending that the NOx, VOC, and PM emission be mitigated pursuant to CEQA. Staff is recommending several mitigation measures (**AQ-SC1** through **AQ-SC5**), similar to what the applicant's stipulated construction mitigation measures, to limit exhaust emissions and fugitive dust emissions during project construction to the extent feasible. The CPN Pipeline Company has proposed the following mitigation strategies to control exhaust emissions for diesel-fueled construction equipment for the Grimes Project (ICF 2011, pages 6-7), which are similar to **AQ-SC5**:

- Limiting vehicle idling time and shutting down equipment when not in use;
- Performing regular preventative maintenance to manufacturer specifications;
- Using low-emitting diesel engines meeting federal emissions standards for construction equipment, whenever available; and,
- Using equipment that meeting the latest criteria emissions standards.

Therefore, while there would be adverse CEQA air quality impacts during construction they are expected to be less than significant after implementation of the applicant's stipulated and staff's recommended mitigation measures.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the amendment for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that the Project complies with LORS.

Construction of the Project is not likely to result in significant adverse impacts on air quality provided the new Staff Conditions of Certification are followed. The construction and operation of the Grimes Pipeline will conform to all applicable LORS related to air quality and will not result in significant air quality impacts.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Below is a list of the added Air Quality Staff Conditions of Certification, which were not contained in the Decision for SEC (Decision 1999). ~~Strikeout~~ is used to indicate deleted language and **underline and bold** is used for new language. This language is adapted from current Energy Commission staff construction mitigation measures to make them more applicable to this short-term, linear-facility construction project.

AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions AQ-SC3, AQ-SC4 and AQ-SC5 for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities

to one or more AQCMM delegates. The AQCMM and AQCMM delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the compliance project manager (CPM).

Verification: At least 15 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM delegates. The AQCMM and all delegates must be approved by the CPM before the start of ground disturbance.

AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide, for approval, an AQCMP that details the steps to be taken and the reporting requirements necessary to ensure compliance with conditions of certification AQ-SC3, AQ-SC4 and AQ-SC5.

Verification: At least 15 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 7 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.

AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each monthly compliance report (MCR) that demonstrates compliance with the following mitigation measures for purposes of preventing all fugitive dust plumes from leaving the project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

A. All unpaved roads and disturbed areas used for this project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4. The frequency of watering may be either reduced or eliminated during periods of precipitation.

B. No vehicle traveling on unpaved roads shall exceed a speed of 15 miles per hour.

C. Any construction site entrances shall be posted with visible speed limit signs.

D. All construction equipment vehicle tires shall be inspected and washed as necessary to be free of dirt prior to entering paved roadways.

E. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

F. **All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.**

G. **All construction vehicles shall enter the construction site through the treated entrance roadways unless an alternative route has been submitted to and approved by the CPM.**

H. **Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.**

I. **All paved roads used for construction shall be swept as needed on days when construction activity occurs to prevent the accumulation of dirt and debris.**

J. **All public roadways exiting the construction site shall be swept as needed on days when construction activity occurs or on any other day when dirt or run-off from the construction site is visible on the public roadways.**

K. **All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or treated with appropriate dust suppressant compounds.**

L. **All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks to provide at least two feet of freeboard.**

M. **Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.**

Verification: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition; (2) copies of any complaints filed with the air district in relation to project construction; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion, as approved by the CPM.

AQ-SC4 **Dust Plume Response Requirement: The AQCMM or an AQCMM delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes with the potential to be transported off the project site, 200 feet beyond the centerline of the construction of linear facilities, or within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not providing effective mitigation. The AQCMM**

or delegate shall then implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed.

Step 1: Within 15 minutes of making such a determination, the AQCMM or delegate shall direct more intensive application of the existing mitigation methods.

Step 2: If Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination, the AQCMM or delegate shall direct implementation of additional methods of dust suppression.

Step 3: If Step 2 specified above fails to result in effective mitigation within one hour of the original determination, the AQCMM or delegate shall direct a temporary shutdown of the activity causing the emissions. The activity shall not restart until the AQCMM or delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The project owner may appeal to the CPM any directive from the AQCMM or delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

Verification: The AQCMP shall include a section detailing how additional mitigation measures will be accomplished within the specified time limits.

AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the MCR, a construction mitigation report that demonstrates compliance with the following mitigation measures for purposes of controlling diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

A. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags, issued by the on-site AQCMM, showing that the engine meets the conditions set forth herein.

B. All construction diesel engines with a rating of 50 hp or higher shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, § 2423(b)(1), unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. This good faith effort shall be documented with signed written correspondence by the appropriate construction contractors, along with documented correspondence with at least two construction equipment rental firms. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50 hp, that equipment shall be equipped with a Tier 2 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels, unless certified by engine manufacturers or the

on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons:

1. **There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and either a Tier 1 engine or the highest level of available control is being used; or**
2. **The construction equipment is intended to be on site for five days or less.**
3. **The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not possible.**
4. **Equipment owned by specialty subcontractors may be granted an exemption, for single equipment items on a case-by-case basis, if it can be demonstrated that extreme financial hardship would occur if the specialty subcontractor had to rent replacement equipment, or if it can be demonstrated that a specialized equipment item is not available by rental.**

C. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and the AQCMM demonstrates that one of the following conditions exists:

1. **The use of the control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.**
2. **The control device is causing or is reasonably expected to cause significant engine damage.**
3. **The control device is causing or is reasonably expected to cause a significant risk to workers or the public.**
4. **Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.**

D. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

E. All diesel heavy construction equipment shall not idle for more than five minutes, to the extent practical.

F. Construction equipment will employ electric motors when feasible.

Verification: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition; (2) a list of all heavy

equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that the equipment has been properly maintained; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion, as approved by the CPM.

REFERENCES

CEC 1999 – California Energy Commission, Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

CPN 2011 – CPN Pipeline Company Grimes Pipeline Project, Phase I Environmental Site Assessment Report/ARCADIS. Submitted to CEC on 05/09/11.

ICF 2011a – ICF International, Grimes Pipeline Amendment to the Sutter Energy Center (97-AFC-02). Prepared for Calpine Construction Finance Company, LP. Prepared by: ICF. March 2011.

ICF 2011b - ICF International, Preconstruction Notification: Grimes Pipeline Project – PCN Revision. Dated 5/6/2011.

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Biological Resources Staff Analysis
Prepared by: Amy Golden
July 29, 2011

INTRODUCTION

Construction of the Grimes Pipeline Project (project) would result in direct and indirect impacts to several special-status wildlife species and regulated waters determined jurisdictional by the U.S. Army Corps of Engineers and California Department of Fish and Game (CDFG 2011). The project is a 2.8-mile long 6-inch diameter natural gas pipeline located along Hageman Road and Girdner Road in Sutter County, California. Project components consist of construction of a 0.22-acre gas metering facility (Grimes Station), the 2.8-mile long natural gas pipeline, and installation of two natural gas meters at existing metering sites.

Based on review of existing natural resource information, habitat assessments, and focused surveys performed for the project, the project area supports habitat for several special-status species primarily giant garter snake (*Thamnophis gigas*), Swainson's hawk (*Buteo swainsoni*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), tricolored blackbird (*Agelaius tricolor*), western pond turtle (*Emys marmorata*), among other wildlife species and two special-status plant species, Sanford's arrowhead (*Sagittaria sanfordii*) and woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*).

Staff prepared this biological resources analysis based on review of the following information: the Grimes Pipeline Amendment to the Sutter Energy Center (ICF 2011), Biological Resources Survey Report (ICF 2011, Appendix C), Section 7 Biological Assessment for the Grimes Pipeline Project (ICF 2011, Appendix E), a reconnaissance-level site visit performed with the project owner on April 4, 2011, and coordination with local resource agency staff including the California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (Corps).

Construction impacts to special-status wildlife species and jurisdictional waters are expected to be low primarily due to the short duration of construction (approximately three months), however, construction activities could result in direct crushing of individuals with vehicle traffic and equipment during construction, disruption of normal breeding or foraging patterns, and indirect impacts to water quality. Operation and maintenance along the Grimes pipeline is not expected to result in an increase of indirect effects to wildlife along access roads due to vehicle maintenance traffic. There will be no regular maintenance vehicle traffic along the Grimes pipeline. Once the pipeline is operational there will be weekly inspections of the Grimes Station for the first few months of operation. Long-term maintenance will include leak detection and cathodic protection surveys at the Grimes Station and the two Venoco metering sites once a year and a patrol of the pipeline route once a year. These surveys and pipeline patrol may be combined in a single maintenance trip (Pers. Comm. Kathleen Campbell). Due to minimal site visits required for maintenance, additional indirect impacts to wildlife

during operation such as disruption of foraging and breeding activities is not expected to occur.

Due to the California Energy Commission's exclusive, in-lieu state permitting authority over the project, staff has proposed revisions to six of the original Sutter Energy Center's biological conditions of certification (CEC 1999) as well as three new conditions of certification, largely due to the need to incorporate measures into the biological conditions that would be required as part of either of two state permits, a Section 2081 Incidental Take Permit or Section 1600 California Fish and Game Streambed Alteration Agreement. With implementation of **BIO-1** through **BIO-14**, construction and operation of the project would reduce the potential for biological impacts to less than significant levels.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

New or changed LORS have occurred since the Sutter Energy Center was originally licensed by the Energy Commission (CEC 1999) as described in **Biological Resources Table 1.**

Biological Resources Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description	Project Compliance with New or Changed LORS
Federal		
Permit for take under the Bald and Golden Eagle Protection Act, (Title 50, Code of Federal Regulations, section 22.26)	Authorizes limited take of bald eagles and golden eagles under the Bald and Golden Eagle Protection Act, where the taking is associated with, but not the purpose of the activity, and cannot practicably be avoided.	Golden eagle nests are not expected to occur in project area. The project would comply with LORS with implementation of **BIO-9** (Swainson's hawk and other MBTA-protected Bird Species Impact Avoidance and Minimization Measures).
Permit for take under the Bald and Golden Eagle Protection Act, (Title 50, Code of Federal Regulations, section 22.27)	Authorizes intentional take of eagle nests where: necessary to alleviate a safety hazard to people or eagles; necessary to ensure public health and safety; the nest prevents the use of a human-engineered structure; the activity, or mitigation for the activity, will provide a net benefit to eagles; and only allows inactive nests to be taken except in the case of safety emergencies.	Golden eagle nests are not expected to occur in project area. The project would comply with LORS with implementation of **BIO-9**.

ANALYSIS

Staff has reviewed the Grimes Pipeline Amendment (ICF 2011) for potential environmental effects and consistency with applicable LORS. Based on this review,

staff determined that construction and operation of the project has the potential to impact special-status plant and wildlife species and federal and state jurisdictional waters, the effects of which are discussed in detail below.

OVERVIEW OF HABITAT IMPACTS

As shown in **Biological Resources Table 2**, the project is estimated to impact a total of 29.3 acres of land, the majority of which are temporary impacts to agricultural lands.

Biological Resources Table 2 – Temporary and Permanent Land Disturbance Acreages Required to Construct and Operate the Project[1]

Component	Permanent (acres)	Temporary (acres)	Habitat Type	Total (acres)
Grimes Station	0.5	0.3	Row crop	0.8
Gas pipeline system	0.0	27.3	Rice, row crop, non-native grassland	27.3
Meter sites	0.0	0.0	Developed (existing gravel pad)	0.0
Tap site	0.0	0.2	Row crop	0.2
Temporary material and equipment staging	0.0	1.0	Row crop, gravel, rice	1.0
Total	0.5	28.8		29.3

PROJECT IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES

Giant Garter Snake

Giant garter snake (GGS) has a high potential to occur in the project construction area due to the project occurring within its known range, large established irrigation canals and presence of suitable habitat, and known California Natural Diversity Database (CNDDB) records in the immediate area. Based on the results of habitat assessments and coordination with the USFWS, the perennial irrigation canals, other drainages, and adjacent rice fields are potential aquatic habitat for giant garter snake; in addition, adjacent canal roads, fallow vegetated agricultural fields within 200 feet of aquatic habitat provide potential upland habitat for this species (ICF 2011). Construction of the project could result in direct crushing of individuals by vehicle traffic and equipment during construction and a disruption of movement between aquatic and upland habitats during the snake's active breeding season. Since the natural gas pipeline would be buried, backfilled, and then restored back to pre-project conditions, impacts to giant garter snake habitat from pipeline trenching would be temporary. Indirect impacts include a disruption of normal breeding and foraging behaviors and habitat use, or alteration of habitat from an increase in invasive plant species following construction

[1] This table was derived from Tables 2-1 and 3-1 in the Section 7 Biological Assessment prepared for the project (ICF 2011 Appendix E).

impacts. The project owner estimated that trenching for the natural gas pipeline would temporarily impact approximately 16.37 acres of giant garter snake habitat, comprising 15.9 acres of aquatic rice field habitat and 0.37 acre of upland habitat (ICF 2011, Appendix E).

Staff has proposed revisions to **BIO-8** (GGS Impact Avoidance and Minimization Measures) from the 1999 Energy Commission Final Decision on the Sutter Energy Project (CEC 1999) that incorporates all conditions from the project's Biological Opinion issued by the USFWS (USFWS 2011), the USFWS's Guidelines for Restoration and/or Replacement of Giant Garter Snake Habitat (USFWS Appendix A), CDFG's Final Streambed Alteration Agreement measures to protect GGS (CDFG 2011), and all conditions that would otherwise be incorporated into a Section 2081 Incidental Take Permit from CDFG. Measures incorporated into revised **BIO-8** include avoiding work within 200 feet of aquatic habitat; conducting work during the snake's active period; presence of a biological monitor when working within GGS habitat; and designating aquatic habitat with flagging as sensitive habitat areas to avoid. The USFWS construction guidelines require that construction activities be conducted during the GGS active period, May 1 through October 1, to minimize direct mortality because the snake is expected to actively move and avoid danger (USFWS Appendix C). Staff prepared this analysis with the assumption that construction would occur during the snake's active period from May 1 to October 1; if construction work is scheduled outside of the snake's active period, staff would need information in order to conduct further analysis such as additional GGS impact avoidance measures and possibly a habitat compensation plan to mitigate potential impacts to GGS. Implementation of staff's **BIO-1** (Designated Biologist Qualifications), **BIO-2** (Designated Biologist Duties), **BIO-2a** (Biological Monitor Selection and Duties) **BIO-3** (Designated Biologist Authority), **BIO-4** (Worker Environmental Awareness Program (WEAP)) and **BIO-12** (Biological Resources Mitigation Implementation Monitoring Plan (BRMIMP)) requires the project owner to identify a qualified Designated Biologist and Biological Monitor to monitor during construction activities and prepare and implement an agency-approved WEAP training for all site personnel and BRMIMP for long-term mitigation monitoring of the project. With the incorporation of **BIO-1** through **BIO-4, BIO-8**, and **BIO-12**, impacts to giant garter snake from the project would be reduced to less than significant levels.

Western Pond Turtle

Western pond turtle prefer open water habitats with moderate vegetative cover and upland basking sites. Some of the larger, more established perennial irrigation ditches in the project area provide suitable habitat for western pond turtle; therefore, this species has a low to moderate potential to occur in the project construction area.

The agricultural rice fields are not potential habitat for pond turtle mostly due to lack of regular flooding and standing water and regular disturbance due to farming. Therefore, western pond turtle is not likely to use the agricultural rice fields. Since the majority of aquatic habitat associated with the large irrigation ditches and drainages in the project construction areas would be avoided by horizontal drilling, the potential for impacts to western pond turtle is low. However, preconstruction surveys and other impact avoidance measures performed for GGS in revised **BIO-8** would also identify any western pond turtle in the construction areas. With implementation of staff's conditions

of certification **BIO-1** through **BIO-4, BIO-8,** and **BIO-12,** the potential for impacts to western pond turtle would be reduced to less than significant levels.

Swainson's Hawk and White-Tailed Kite

Swainson's hawks, a State threatened species, requires large areas of open landscape for foraging, including grasslands and agricultural lands that provide low-growing vegetation for hunting with high rodent prey populations. Swainson's hawks typically nest in large native trees such as valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), walnut (*Juglans hindsii*), and willow (*Salix* sp.), and occasionally in non-native trees, such as eucalyptus (*Eucalyptus* sp.) within riparian woodlands, roadside trees, trees along field borders, isolated trees, small groves, and on the edges of remnant oak woodlands (CDFG 1993). This hawk species is known to nest in the immediate project area, primarily within riparian habitat along the Sacramento River and adjacent agricultural fields. Swainson's hawk select nesting sites that are in close proximity to preferred foraging habitat consisting of grasslands, irrigated pasture, alfalfa and hay fields, and low-growing row and grain crops. The white-tailed kite is a year-round resident raptor throughout California. This raptor is commonly seen foraging above agricultural fields and open grasslands in the Central Valley.

The project owner performed a focused survey for Swainson's hawk within 0.50-mile of the gas pipeline corridor on April 29 and May 30, 2011, the majority of the survey involved inspecting suitable nest trees in the Sills Lake and Sacramento River riparian area south of the pipeline corridor. Several Swainson's hawks were observed foraging during the survey; however, no nests or evidence of breeding was observed in the survey area (ICF 2011b). Construction of the project is not expected to result in nest tree removal; it is estimated that one to three willow (*Salix* sp.) trees ranging in size from four to ten inches in diameter (ICF 2011a) would require removal along an irrigation ditch. Due to the small diameter and height, these trees are not suitable nest trees for raptors.

The project could result in indirect impacts to nesting birds including raptors such as a disruption in nesting or foraging behaviors, nest abandonment or other form of nest failure if construction were to occur in close proximity to a nest. Staff has proposed revisions to **BIO-9** (Swainson's Hawk and Other MBTA-Protected Birds Avoidance and Minimization Measures) from the 1999 Energy Commission Final Decision on the Sutter Energy Center (CEC 1999) that incorporate current survey guidance from CDFG for preconstruction Swainson's hawk surveys. In addition, with implementation of staff's conditions of certification **BIO-1** through **BIO-4**, and **BIO-12**, the potential for impacts to Swainson's hawk and other nesting raptors would be reduced to less than significant levels.

Tricolored Blackbird

This species nests in large colonies in the Central Valley within open freshwater marsh, irrigated pasture, ponds, and agricultural croplands. The project will avoid the majority of direct impacts to jurisdictional agricultural ditches that support freshwater marsh and suitable nesting habitat for tricolored blackbird by horizontal drilling and boring. The project owner calculated that 0.01 acre of emergent wetland vegetation in an agricultural ditch would be impacted by the installation of a 60-foot-wide culvert. The agricultural ditch identified as Riparian Drainage (RD)-10 is thought to be supported by

irrigation water and supports mature riparian trees and umbrella sedge (*Cyperus eragrostis*), Bermuda grass (*Cynodon dactylon*), and Dallis grass (*Paspalum dilatatum*) (ICF 2011). Staff does not consider this type of agricultural ditch and vegetation to be suitable tricolored blackbird habitat.

The project could result in indirect impacts to this species such as a disruption in nesting or foraging behaviors, nest abandonment or other form of nest failure if construction were to occur in close proximity to a nest. Implementation of staff's **BIO-1** through **BIO-4, BIO-9,** and **BIO-12** requires the project owner to identify a qualified Designated Biologist and Biological Monitor to monitor during construction activities, perform nesting bird preconstruction surveys, prepare and implement an agency-approved WEAP training for all site personnel, and prepare a BRMIMP for long-term mitigation monitoring of the project. With implementation of these conditions, impacts to tricolored blackbirds would be reduced to less than significant levels.

Golden Eagle

Golden eagles are typically year-round residents throughout most of their western United States range. They breed from late January through August with peak activity during March through July (Kochert et al. 2002). Migratory patterns are usually fairly local in California where adults are relatively sedentary, but dispersing juveniles sometimes migrate south in the fall. This species is generally considered to be more common in southern California than in the northern part of the state (USFS 2008). Habitats for this species typically include rolling foothills, mountain areas, and deserts. This species prefers to nest in rugged, open habitats with canyons and escarpments, with overhanging ledges and cliffs and large trees used as cover.

The status of golden eagle populations in the United States is not well known, though there are indications populations may be in decline (USFWS 2009b, Kochert et al. 2002). Accidental death from collision with man-made structures, electrocution, gunshot, and poisoning are the leading causes of mortality for this species, and loss and degradation of habitat from agriculture, development, and wildfire continues to put pressure on golden eagle populations (Kochert et al. 2002; USFWS 2009b).

There are no CNDDB records for this species in a nine-quadrangle search and no records within 10 miles of the project site; however, golden eagle nests are not commonly reported in the CNDDB due to the sensitivity of their nesting territories. There is only a single nesting record within a 20 to 30 mile radius of the project area and the likelihood of golden eagles nesting within 10 miles of the project area is low (ICF 2011d). **BIO-9** requires that a preconstruction nesting bird survey be conducted between March 15 through August 15 which would identify any bird nests, including golden eagles, within 0.50 mile of the natural gas pipeline route. Therefore, implementation of **BIO-9** would reduce the potential for impacts to golden eagle to less than significant levels.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is a wood-boring terrestrial invertebrate that is dependent on elderberry (*Sambucus* sp.) shrubs for its life cycle. The VELB is endemic to the Central Valley and is commonly found near riparian habitats where elderberry shrubs are most often found; however, its range does span the Sierra

Nevada and may reach elevations of 3,000 feet above sea level. Two elderberry shrubs occur in the project area; one shrub is located within riparian habitat along an irrigation canal north of Girdner Road and approximately 75 feet east of the proposed gas pipeline and the other shrub is in a developed area used for farm equipment staging and storage located approximately 325 feet east of the proposed Grimes Station site and proposed pipeline (ICF 2011, Appendix E). VELB exit holes were not observed in either shrub.

Both elderberry shrubs are located outside of construction areas and surrounding vegetation will not be disturbed. Implementation of **BIO-7** #16 (SAA and BO Permit Conditions) requires that vegetation removal be minimized to the amount needed. Staff has proposed a new condition of certification, **BIO-14**, which requires high visibility fencing be installed at least 20 feet from the dripline of the shrub that is located approximately 75 feet from the proposed pipeline. Lastly, implementation of staff's **BIO-1** through **BIO-4** and **BIO-12** requires the project owner identify a qualified Designated Biologist and Biological Monitor to monitor during construction activities and prepare and implement an agency-approved WEAP training for all site personnel and BRMIMP for long-term mitigation monitoring of the project. With implementation of these measures, the potential for direct and indirect impacts to VELB would be reduced to less than significant levels.

PROJECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES

Woolly rose-mallow is a List 2.2 (fairly threatened in California, more common elsewhere) species according to the California Native Plant Society (CNPS 2011) and occurs in freshwater marsh habitat associated with rivers and sloughs. Sanford's arrowhead is a List 1B.2 (fairly threatened in California and elsewhere) species according to CNPS and occurs in similar slough and sluggish stream habitat with silty soils (ICF 2011, Appendix C). The project owner performed surveys for special-status plant species during October, November, and December 2010 and none were observed; however, surveys were not performed during the optimum flowering and identification period for woolly rose-mallow and Sanford's arrowhead. The project owner performed an additional rare plant survey for Sanford's arrowhead and woolly rose-mallow on May 27, 2011 and focused on locations where drainage ditches would be crossed by horizontal drilling and boring; however, no special-status plant species were observed (ICF 2011c). This survey also included checking reference populations for these two species where both species were observed growing and identifiable at nearby locations. Staff believes that based on these survey results, woolly rose-mallow, Sanford's arrowhead, and other special-status plant species do not occur in the project area and no additional mitigation measures are necessary.

PROJECT IMPACTS: CALIFORNIA DEPARTMENT OF FISH AND GAME JURISDICTIONAL WATERS OF THE STATE

The project owner submitted a Section 1600 Lake or Streambed Alteration Agreement (SAA) application to CDFG on January 14, 2011 (ICF 2011a). The project owner estimated the project would disturb approximately 29.3 acres of mapped state waters including 0.5-acre of permanent impact and 28.8 acres of temporary impacts. A 60-foot-wide culvert would be placed in an agricultural ditch (mapped as Riparian Drainage-10) under the proposed access road to the proposed Grimes Station. Habitats and land use types that would be impacted include row crops, rice fields, non-native grassland, and

gravel pads. Approximately three willow trees (4 to 10 inches in diameter) would be removed along the agricultural ditch from installation of the culvert (ICF 2011a).

The CDFG issued a Final SAA (CDFG 2011) for the project and staff has incorporated the conditions of this permit into revised **BIO-7** (SAA and Biological Opinion Permit Conditions) including (in-part) the following: identifying a stream zone construction work period of May 1 to October 1 during low stream flow and dry weather; presence of a biological monitor; equipment use restrictions; and environmental awareness training. Staff prepared this analysis with the assumption that construction would be occurring during the dry season from May 1 to October 1; if construction work is scheduled to occur outside of the dry season, staff would need information in order to conduct further analysis such as additional avoidance measures to protect water quality, fish, and wildlife resources. Staff has proposed a new condition, **BIO-7a**, which requires the project owner submit an agency-approved Frac-out Plan to prevent the escape of drilling mud during horizontal drilling activities and identify contingency measures in the event of a frac-out. Staff believes that with the incorporation of CDFG's SAA permit conditions into revised **BIO-7** and implementation of these measures during project construction and operation, impacts to state jurisdictional waters including streambed, bank, and riparian habitat would be reduced to less than significant levels.

PROJECT IMPACTS: U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL WATERS OF THE U.S.

The project owner delineated approximately 292.13 acres of waters of the U.S. within the project site including wetlands and other waters of the U.S:

- 2.57 acres of wetland drainage;
- 0.34 acre of riparian drainage;
- 281.02 acres of rice field wetland; and
- 8.20 acres of other waters drainage

The project owner submitted the project's wetland delineation map and request for verification to the Corps on December 20, 2010 (ICF 2011, Appendix F). The Corps issued a preliminary jurisdictional determination for the project on January 12, 2011 and determined that approximately 292.13 acres of wetlands or water bodies in the project area may be jurisdictional waters of the U.S. and may be regulated under Section 404 of the Clean Water Act (ICF 2011, Appendix F). The project owner submitted a Preconstruction Notification Form for Nationwide Permit (NWP) 12 to the Corps on January 3, 2011. The Corps has indicated that the project meets the requirements of NWP-12 and the Corps will be issuing an authorization letter to the owner (Personal Comm. Chandra Jenkins); however, to date an authorization letter has not been issued for the project from the Corps.

Implementation of revised **BIO-7** (SAA and Biological Opinion Permit Conditions) which requires the implementation of several avoidance and minimization measures for state waters, will also minimize the potential for impacts to Waters of the U.S. Some of these **BIO-7** measures include: no equipment operation in waterways; confining heavy equipment use to existing roadways; development and implementation of an agency-approved Frac-out Plan; covering of spoil piles; use of drip pans under vehicles and other sediment controls. Any impact minimization measures for Waters of the U.S. in

the subsequent Corps' authorization letter under NWP-12 would also be incorporated into **BIO-7**. Staff has also proposed a new condition, **BIO-7a**, which requires the project owner submit an agency-approved Frac-out Plan to prevent the escape of drilling mud during horizontal drilling activities and identify contingency measures in the event of a frac-out. Additionally**, BIO-12** (BRMIMP) requires that the project owner submit a revised BRMIMP that would include construction avoidance measures for jurisdictional waters including long-term monitoring and avoidance measures. With implementation of **BIO-1** through **BIO-4, BIO-7**, and **BIO-12,** the potential for impacts to federally jurisdictional waters would be reduced to less than significant levels.

CUMULATIVE IMPACTS

A number of ongoing activities could take place in the regional project area primarily agricultural activities and levee maintenance. Since the project is anticipated to impact approximately 29 acres of rice farmland of which 28 acres would be temporarily impacted by the proposed natural gas pipeline and less than one acre permanently impacted by construction of the metering station, staff believes the project's incremental contribution to cumulative impacts in the regional project area is less than significant. The relatively short construction timeline of the project is also not expected to result in significant impacts to sensitive wildlife or habitats in the project area. Any short-term construction impacts attributable to the project would be mitigated to less than significant levels with implementation of **BIO-1** through **BIO-14**. Therefore, staff believes that the project would not contribute to cumulative impacts to biological resources.

CONCLUSIONS AND RECOMMENDATIONS

Based on review of existing natural resource information, habitat assessments, and focused surveys, the project area supports habitat and could result in direct and indirect impacts to several special-status wildlife species, as well as state and federally jurisdictional waters. Construction impacts are expected to be temporary and minimal due to a short duration for activities, for approximately three to four months. The potential for operational impacts for maintenance of the new pipeline, two metering sites, and metering station are also expected to be minimal since only annual inspection surveys would be necessary for long-term maintenance of the pipeline and metering stations. With the implementation of biological conditions of certification **BIO-1** through **BIO-13** from the Energy Commission Final Decision and revised here by staff, and staff's new conditions, **BIO-2a**, **BIO-7a**, and **BIO-14**, impacts to sensitive biological resources would be reduced to less than significant levels. Implementation of these conditions would also ensure the project's compliance with all applicable state and federal LORS.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff has proposed modifications to six biological conditions of certification and has developed three new biological conditions of certification. In the following section, deleted text is indicated in ~~strikethrough~~ and new text is indicated with **bold** and <u>underline</u>. Staff has added **BIO-2a** (Biological Monitor) to aid and assist the Designated Biologist with biological construction monitoring. Staff removed **BIO-5** (CESA

Memorandum of Understanding) since all permit conditions that would be required as part of a California Endangered Species Act Section 2081 Incidental Take Permit have been incorporated into staff's revised biological conditions, specifically **BIO-7** (Streambed Alteration Agreement and Biological Opinion Permit Conditions) and **BIO-8** (GGS Impact Avoidance and Minimization Measures). Staff has also proposed a new condition, **BIO-7a** (Frac-out Plan), which requires the project owner submit an agency-approved Frac-out Plan to prevent and prepare a contingency plan in the event of an escape of drilling mud during horizontal drilling activities. **BIO-14** (Valley Elderberry Longhorn Beetle) is a new condition of certification since the original licensing of the Sutter Energy Center by the Energy Commission due to the occurrence of two elderberry shrubs in the construction area.

BIO-2 Designated Biologist Duties

The project owner shall assign at least one Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist(s), with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS. The Designated Biologist shall remain the contact for the project owner and the CPM.

The CPM-approved **D**~~d~~esignated **B**~~b~~iologist shall perform the following duties:

1) advise the project owner's supervising construction or operations engineer on the implementation of the biological resource Conditions of Certification;

2) supervise or conduct mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species;

3) **direct access and construction activities that occur within 200 feet of giant garter snake habitat. The Designated Biologist shall conduct WEAP training (BIO-4), preconstruction surveys for giant garter snake (BIO-8), survey open excavations and trenches every morning prior to start of work, and be present during all work with special attention to excavations, spoil placement, backfilling, and silt fence/snake fence installation and removal; and**

4) notify the project owner and the CPM of any non-compliance with any Condition.

Verification: No fewer than 30 days prior to construction-related ground disturbance, the project owner shall submit the names of the Designated Biologists(s) and submit it to the CPM and USFWS for review and final approval. No construction-related ground disturbance, grading, boring, or trenching shall commence until an approved Designated Biologist is available to be on site. If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. The **D**~~d~~esignated **B**~~b~~iologist shall maintain written records of the tasks described above, and

summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM.

BIO- 2a Biological Monitor Selection and Duties

The Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitor(s) to the CPM. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, and WEAP. The Biological Monitors shall assist the Designated Biologist in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, fencing, grading, boring, trenching and reporting.

Verification: The project owner shall submit the specified information to the CPM for approval of Biological Monitors at least 30 days prior to the start of any site mobilization or construction-related ground disturbance, grading, boring and trenching. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional Biological Monitors are needed during construction the specified information shall be submitted to the CPM and for approval at least 10 days prior to their first day of monitoring activities. The Biological Monitor shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources compliance activities.

BIO-4 Worker Environmental Awareness Program

The project owner shall develop and implement a Worker Environmental Awareness Program **(WEAP)** in which each of its own employees, **monitors, inspectors,** ~~as well as employees of~~ contractors and subcontractors who work on the project site ~~or related facilities (including any access roads, storage areas, transmission lines, water and gas lines)~~ during construction and operation, **shall be required to take the WEAP training to become** ~~are~~ informed about biological resource sensitivities associated with the project. ~~**(see General Conditions of Compliance).**~~

The Worker Environmental Awareness Program:

1) shall be developed by the **D**esignated **B**iologist and consist of an on-site or classroom presentation in which supporting written material is made available to all participants;

2) must discuss the locations and types of sensitive biological resources on the project site and adjacent areas **specifically training workers to recognize giant garter snakes, their habitat(s), nature and purpose of protection measures, the need to report all sightings of giant garter snakes, consequences of not complying with permit conditions and measures,**

and the terms and conditions of any permit applicable to the project. The Designated Biologist must identify giant garter snake habitat areas and indicate to all site personnel that they are Environmentally Sensitive Areas in the WEAP training;

3) must present the reasons for protecting these resources;

4) must present the meaning of various temporary and permanent habitat protection measures; and

5) must identify who to contact if there are further comments and questions about the material discussed in the program.

The specific program **shall** ~~can~~ be administered **by the Designated Biologist** ~~a competent individual(s) acceptable to the designated biologist.~~

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program material. Each statement shall also be signed by the person administering the Worker Environmental Awareness Program.

The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. Signed statements for active operational personnel shall be kept on file by the project owner for the duration of their employment and for six months after their termination.

Verification: At least 30 days prior to the start of **any ground-disturbing activities** ~~rough grading~~, the project owner shall provide copies of the **draft** Worker Environmental Awareness Program and all supporting written materials prepared by the **D**~~d~~esignated **B**~~b~~iologist **to the CPM for review and comment**~~. and the name and qualifications of the person(s) administering the program to the CPM for approval.~~ **Within 10 days prior to the start of any ground-disturbing activities, a final approved WEAP with agency comments addressed shall be submitted to the CPM.**

The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

~~**BIO-5** CESA Memorandum of Understanding~~

~~Prior to the start of any ground disturbance activities, the project owner shall enter into an Endangered Species Memorandum of Understanding (MOU) with the California Department of Fish and Game (CDFG) (per Section 2081 of the California Endangered Species Act) and implement the terms of the agreement.~~

~~**Verification:** At least 60 days prior to the start of rough grading, the project owner shall submit to the CPM a copy of the final CDFG Endangered Species MOU.~~

BIO-7 Streambed Alteration Agreement and Biological Opinion Permit Conditions

The project owner shall ~~acquire either a Streambed Alteration Agreement or written verification that this permit is not necessary from the California Department of Fish and Game for project impacts to drainages, and implement the terms of the agreement.~~ **implement the terms and conditions outlined in CDFG's Final Lake or Streambed Alteration Agreement (SAA, CDFG 2011) and the USFWS's Biological Opinion (BO, USFWS 2011), both which have been issued for the Sutter Grimes pipeline project. Giant garter snake-specific impact avoidance measures that are included in the final SAA and BO are covered separately in BIO-8 (GGS Impact Avoidance and Minimization Measures).**

Avoidance and Minimization Measures to Protect Fish and Wildlife Resources:

To avoid or minimize adverse impacts to fish and wildlife resources identified above, the project owner shall implement each measure listed below.

1. **WORK PERIOD. The time period for completing the work within the stream zone shall be restricted to periods of low stream flow and dry weather and shall be confined to the period of May 1 to October 1. Construction activities shall be timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the stream zone shall cease until all reasonable erosion control measures, inside and outside of the stream zone, have been implemented prior to all storm events. Revegetation, restoration and erosion control work is not confined to this time period.**

2. **WORK PERIOD EXTENSIONS. At the CPM's discretion based on consultation with the CDFG, the work period may be extended based on the extent of the work remaining, on site conditions and reasonably anticipated future conditions. If the project owner finds more time is needed to complete the authorized activity, the project owner shall submit a written request for a work period time extension to the CPM with a copy to CDFG. The work period extension request shall provide the following information: 1) Describe the extent of work already completed; 2) Provide specific detail of the activities that remain to be completed within the stream zone; and 3) Detail the actual time required to complete each of the remaining activities within the stream zone. The work period extension request should consider the effects of increased stream conditions, rain delays, increased erosion control measures, limited access due to saturated soil conditions, and limited growth of erosion control grasses due to cool weather. Photographs of the work completed and the proposed work areas are helpful in assisting CDFG in its evaluation. Time extensions are issued at the discretion of the CPM based on consultation with CDFG. The CPM upon consultation with CDFG, reserves the right to require additional measures designed to protect natural resources.**

3. NO EQUIPMENT SHALL WORK IN THE WATER.

4. ESCAPE RAMP IN EXCAVATION PITS. At the end of each work day, an escape ramp shall be placed at each end of the open excavation to allow any animals that may have become entrapped in the trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

5. BIOLOGICAL MONITOR. The project owner shall provide a Designated Biologist or Biological Monitor with qualifications, roles, and responsibilities specified in BIO-1, BIO-2, BIO-2a, and BIO-3.

6. ENVIRONMENTAL AWARENESS TRAINING. All construction personnel shall receive WEAP training as specified in BIO-4.

7. COVER OPEN PIPES. Open ends of pipes, conduits and similar materials shall be covered to exclude wildlife. Such materials shall be checked for signs of wildlife prior to disturbance.

8. GARBAGE STORAGE AND REMOVAL. Food wrappers and construction-related garbage shall be contained in covered garbage cans and removed from the site.

9. NO PETS, FIREARMS OR CAMPFIRES. Workers will not be allowed to bring pets or firearms to the project area nor light campfires within the project area.

10. HEAVY EQUIPMENT CONFINED TO EXISTING ROADS. Construction activities that occur within suitable giant garter snake upland habitat will be minimized. When possible, movement of heavy equipment shall be confined to existing roadways to minimize disturbance.

11. RESTORATION OF WORK SITE/EXCAVATED SOIL REMOVAL OR DISTRIBUTION. After completion of construction activities, temporary fill and construction debris shall be removed and disturbed areas shall be restored to pre-project conditions, see BIO-8 #15. Excavated soil shall either be removed from work site or backfilled into excavations. With approval from the CPM, some excess excavated soil may be distributed over the existing work area.

12. COVER SPOIL PILES. The project owner's contractor shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.

13. EQUIPMENT OVER DRIP PANS. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream/lake shall be positioned over drip pans.

14. **CHECK VEHICLES/EQUIPMENT DAILY. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life, wildlife, or riparian habitat.**

15. **CONTROL DRILLING MUD. At no time shall drill cuttings, drilling mud, and/or materials or water contaminated with bentonite or any other substance deemed deleterious to fish or wildlife be allowed to enter the stream or be placed where they may be washed into the stream. Any contaminated water/materials from the drilling and/or project activities shall be pumped or placed into a holding facility and removed for proper disposal.**

16. **VEGETATION REMOVAL. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. No native trees shall be removed or damaged without prior consultation and approval of the CPM and a CDFG representative. Using hand tools (clippers, chain saw, etc.), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation shall be removed out of the riparian/stream zone.**

17. **SEDIMENT CONTROL. Precautions to minimize turbidity/siltation shall be taken into account during project planning and implementation. This may require the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures shall be taken. The sediment barrier(s) shall be maintained in good operating condition throughout the construction period and the following rainy season . Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Products with plastic monofilament or jute netting (such as found in straw wattles/fiber rolls and some erosion control blankets) shall not be allowed. Wildlife-friendly erosion control and sediment control products that will not entangle snakes and other wildlife shall be used instead. Special provisions shall be included in the bid solicitation package that prohibit the use of monofilament or jute netting. If this is not possible, the contractors, subcontractors and anyone performing erosion or sediment control work on this project, shall be specifically instructed that these products are not allowed on the work site. The project owner is responsible for the removal of non-biodegradable silt barriers after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season). Upon the CPM's determination that turbidity/siltation levels resulting from project-related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective CPM-approved (based**

on consultation with CDFG) control devices are installed or abatement procedures are initiated.

18. POLLUTION CONTROL. Utilize Best Management Practices to prevent spills and leaks into water bodies. If maintenance or refueling of vehicles or equipment must occur on-site, use a designated area and/or a secondary containment, located away from drainage courses to prevent the runoff of storm water and the runoff of spills. Ensure that all vehicles and equipment are in good working order (no leaks). Place drip pans or absorbent materials under vehicles and equipment when not in use. Ensure that all construction areas have proper spill cleanup materials (absorbent pads, sealed containers, booms, etc.) to contain the movement of any spilled substances. Any substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake by the project owner or any party working under contract or with the permission of the project owner, shall be removed immediately. The CPM and CDFG shall be notified immediately by the project owner of any spills and shall be consulted regarding clean-up procedures.

Verification: ~~At least 45 days prior to the start of rough grading, the project owner shall provide the CPM with a copy of the California Department of Fish and Game Streambed Alternation Agreement or written verification that this permit is not necessary for this project.~~

The project owner shall notify the CPM in writing at least two working days before beginning work and at least one working day before ending work. The project owner shall also notify CDFG at the contact info below; however, email notification to CDFG is preferred:

Department of Fish and Game
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Attn: Lake and Streambed Alteration Program -Sandra Jacks
Notification #1600-2011-0011 R2
Fax: 916-358-2912
sjacks@dfg .ca.gov

Upon completion of the project activities, the project owner shall digitally photograph the work area within the stream zone and document photos in the final Monthly Compliance Report and submit to the CPM. A copy of the final Monthly Compliance Report with final site work photographs shall also be submitted to CDFG at the address above.

The project owner shall notify the CPM and CDFG within two (2) business days in the event of any spills into state waters regarding clean-up procedures.

All mitigation measures and their implementation methods shall be included in the BRMIMP. All work activities that occur in the stream zone shall be described and summarized in each Monthly Compliance Report. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

BIO-7a Frac-out Plan

The project owner shall revise the draft *Grimes Pipeline Project Frac-out Contingency Plan* based on review and comments provided by the CPM in consultation with CDFG and re-submit to CPM for review and approval. Prior to the commencement of construction activities, the project owner shall submit to the CPM with copy to CDFG a final, approved Frac-out Plan with agency comments incorporated.

Verification: At least 30 calendar days prior to the start of any ground-disturbing activities, the project owner shall submit a revised Frac-out Plan to CDFG for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to CDFG requesting review and comment.

At least 10 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters from CDFG, along with any changes to the final Frac-out Plan, to the CPM for review and approval. All modifications to the final plan shall be made only after approval by the CPM, in consultation with CDFG.

BIO-8 Giant Garter Snake Impact Avoidance and Minimization Measures

The project owner shall ensure the following measures are implemented to avoid or mitigate project impacts to giant garter snakes **during construction in accordance with CDFG's Final Lake or Streambed Alteration Agreement (CDFG 2011), USFWS's Biological Opinion issued for the project (USFWS 2011), and USFWS's Guidelines for Restoration and/or Replacement of Giant Garter Snake Habitat (USFWS Appendix A):**

1) Avoid trenching or auguring activities within 200 feet of giant garter snake habitat from October 2 through April 30. **Avoided giant garter snake habitat shall be designated as Environmentally Sensitive Areas and will be flagged by the Designated Biologist or approved Biological Monitor as areas to be avoided by construction personnel and equipment.**

2) ~~Have the designated biologist on site during construction activities that occur between October 1 and May 1. The designated biologist shall possess a permit as required under Section 10(a)1(A) of the federal Endangered Species Act to capture or relocate snakes.~~

An agency-approved Designated Biologist will be onsite during all construction activities within 200 feet of aquatic habitat for GGS. The Designated Biologist will ensure that all measures related to GGS are followed and have the authority to stop construction if they are not. Any open trenches will be inspected daily for trapped snakes.

3) ~~Within 24 hours prior to commencement of construction activities, the site shall be inspected for snakes by the designated biologist. Observed snakes should be reported and cleared to an area that will not be affected by construction within the next 24 hours. If a snake is encountered during construction activities, the designated biologist should be contacted and take appropriate measures to ensure the snake will not be harmed.~~

   Preconstruction Surveys for GGS. No more than 24 hours prior to construction activities, the Designated Biologist shall survey the work areas within potential giant garter snake habitat for giant garter snakes. Surveys of work areas shall be repeated if a lapse in construction activity of 48 hours or greater has occurred. The results of this preconstruction survey shall be reported to the CPM, USFWS, and CDFG, even if no snakes are observed.

4) Avoid obstructing the flow of water through the canals (dewatering). Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and 15 consecutive days prior to excavating or filling dewatered habitat.

5) Prevent runoff from construction activities from entering giant garter snake habitat.

6) Restrict vegetation clearing to the minimal area necessary to facilitate construction activities. ~~Mark and avoid giant garter snake habitat in or adjacent to the project that will not be directly affected by construction activities.~~

7) Provide replacement habitat at a location acceptable to USFWS and CDFG to compensate for habitat lost (BIO-13).

8) Mow, rather than disk, to control vegetation on-site. Mower blades should be raised to at least 6 inches during the snake's active period of May 1 to October 1.

9) Conduct activities to clear vegetation in the irrigation canals as necessary to minimize disturbance to snake habitat and in accordance with methods approved by CDFG and USFWS.

10) Eliminate wastewater discharge as described in Condition **SOILS&WATER-2**.

11) Check for Snakes Under Vehicles. The Designated Biologist as well as all construction personnel shall visually check for snakes under parked vehicles and equipment within giant garter snake habitat area prior to

moving them. If snakes or other listed species are observed by crews, construction personnel will contact the Designated Biologist.

12) Snake fencing/Silt fencing. If excavation pits will be left open for multiple days, silt fencing (geotextile filter fabric on wooden stakes) or an agency-approved alternative shall be installed (and partially buried per standard specifications) on the ditch side of the excavation pits to keep snakes and other wildlife from entering the pits. The Designated Biologist or approved Biological Monitor shall inspect any open trenches daily within 200 feet of aquatic habitat for trapped snakes.

13) Spoil Placement. To prevent burying, trapping, or crushing giant garter snakes , spoil from project operations shall not be placed on or near the canal banks where there is a risk of covering rodent burrows or bank-top soil crevices.

14) Giant Garter Snake Encounters. If a giant garter snake is encountered during construction or preconstruction surveys, activities shall cease at that work area until the appropriate corrective measures have been completed, the animal has moved out of the work area on its own, or it has been determined that the snake will not be harmed. Sightings, work stoppage, and any incidental take will be immediately reported to the CPM, USFWS at (916) 414-6600, and CDFG's Lake or Streambed Alteration Program contact listed previously. A California Natural Diversity Database field form shall be submitted to CDFG for all giant garter snake sightings. Sightings shall also be documented in Monthly Compliance Reports.

15) Site Restoration. All exposed/disturbed areas (comprising approximately 16.37 acres of temporary impacts to aquatic rice field and upland habitat) and access points within the stream zone left barren of vegetation as a result of the construction activities shall be restored to pre-project conditions using locally native grass seeds, locally native grass plugs and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw and/or jute netted (monofilament erosion blankets are not authorized). The project owner shall conduct quarterly monitoring surveys of all restored habitat for one year from the date construction is completed and provide an annual monitoring report (following USFWS Appendix D guidelines) to the CPM, USFWS, and CDFG including pre- and post-photographs.

16) Speed Limits. Where practical and safe to do so and to minimize the effects of increased traffic in the construction area, vehicle speed within giant garter snake habitat areas of the project shall be limited to 15 mph on unimproved access routes and roadways to avoid running over snakes.

Speed limit signs will be posted on all project-controlled roads leading to construction areas.

Verification: ~~At least 45 days prior to rough grading, the project owner shall provide to the CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be or have been accomplished by the licensee and specifying the procedures used or that will be used to implement these measures.~~

Within 10 days of completing the GGS pre-construction survey, the project owner shall submit a letter report documenting results of the survey to the CPM with copies to the USFWS and CDFG.

Within 10 days prior to the start of any ground-disturbing activities, the project owner shall provide documentation to the CPM that the avoided aquatic giant garter snake habitat in the immediate construction zone has been flagged as Environmentally Sensitive Area(s).

The project owner shall report any GGS sightings, work stoppage, and any incidental take to the CPM, USFWS at (916) 414-6600, and CDFG's Lake or Streambed Alteration Program contact listed previously within two (2) business days of the event. A California Natural Diversity Database field form shall be submitted to CDFG for all giant garter snake sightings within 10 days of GGS sighting within the construction area.

Within 30 days of completing the fourth quarter monitoring survey of temporarily disturbed/restored habitat areas, the project owner shall submit an annual monitoring report (USFWS Appendix D) to the CPM, USFWS, and CDFG including pre- and post-photographs.

All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

BIO-9 Swainson's hawk **and Other Migratory Bird Treaty Act-protected Bird Species**

Within 30 days prior to the start of construction activities, the **D**esignated **B**iologist shall conduct **a** preconstruction survey~~s~~ **if construction is to occur during anytime from** March **15** through **August 15** ~~June during construction years~~ to determine if an active **Swainson's hawk** nest site is **within the project construction area or** within a 0.5-mile **buffer area** of construction activities. **If an active Swainson's hawk nest is found, the Designated Biologist shall monitor construction activities that occur within 0.50-mile of an active nest site between March 1 and August 15 or until fledglings are no longer dependent on the nest tree. The Designated Biologist shall also conduct a pre-construction survey in all riparian or marsh habitat associated with irrigation ditches located within 200 feet of construction activities for active bird nests or nesting bird activity. No trees or shrubs**

that contain active bird nests shall be disturbed until all eggs have hatched and young birds have fledged. If active nests or suspected active songbird nests are found within 200 feet of construction areas, the Designated Biologist shall consult with CDFG on the need for a buffer zone (protected area around the nest where construction activities are not allowed).

~~2) Design the project to avoid removal of nest trees and to avoid placement of the transmission line within 0.1 mile of nest trees.~~

~~3) The designated biologist shall monitor construction activities that occur within 0.5 mile of an active nest site between March 1 and August 15 or until fledglings are no longer dependent on the nest tree. The monitoring plan shall be acceptable to CDFG.~~

~~4) Provide replacement habitat at a location acceptable to CDFG to compensate for the loss of habitat (BIO-13).~~

~~5) Protect on-site Swainson's hawk foraging habitat not taken by the power plant foot print in perpetuity or provide replacement habitat at a location and ratio acceptable to CDFG and establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.~~

Verification: ~~At least 45 days prior to rough grading, the project owner shall provide to the project CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be accomplished by the applicant and specifying the procedures used or that will be used to implement these measures.~~

Within 10 days of completing the preconstruction Swainson's hawk and nesting bird survey, the Designated Biologist shall submit a letter report to the CPM with copy to CDFG documenting the results of the nesting bird survey including a figure with nest locations (if found) and implemented avoidance buffers.

If a Swainson's hawk nest is identified within 0.50-mile of project construction areas, the project owner shall notify the CPM and CDFG North Central Region office within two (2) business days.

If any nests are identified during the preconstruction nesting bird survey, all mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of nest monitoring measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

BIO-12 Biological Resources Mitigation Implementation and Monitoring Plan

The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan. The Biological Resources Mitigation Implementation and Monitoring Plan shall identify:

1. all sensitive biological resources to be impacted, avoided, or mitigated by project construction and operation;
2. all conditions agreed to in the USFWS Biological Opinion ~~and CDFG Endangered Species Memorandum of Understanding;~~
3. all mitigation, monitoring and compliance conditions included in the Commission's Final Decision;
4. all conditions agreed to in the USACE Clean Water Act Permits;
5. all conditions specified in the CDFG Streambed Alteration Permit, **including the following administrative procedures identified in the Final SAA:**

   - **DOCUMENTATION AT PROJECT SITE. Included as an appendix to the BRMIMP, the project owner shall make the SAA, any extensions and amendments to the SAA, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to the CPM, CDFG, USFWS, or personnel from another state, federal, or local agency upon request. The project owner shall provide copies of the SAA and any extensions and amendments to the SAA to all persons who will be working on the project site on behalf of the project owner, including but not limited to contractors, subcontractors, inspectors, and monitors.**
   - **NOTIFICATION OF CONFLICTING PROVISIONS. While preparing the BRMIMP, the project owner shall notify the CPM with copy to CDFG if the project owner determines or learns that a provision in the SAA might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, the CPM shall contact the project owner to resolve any conflict.**
   - **PROJECT SITE ENTRY. The project owner agrees that the CPM and personnel from the USFWS and CDFG may enter the project site at any time to verify compliance with the SAA or BO. This shall be stated in the BRMIMP.**

~~if required;~~

6. required mitigation measures for each sensitive biological resource;
7. required habitat compensation, including provisions for acquisition, enhancement and management, for any loss of sensitive biological resources;
8. a detailed plan for protecting the existence and monitoring the integrity of the wetlands remaining on-site;
9. a detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
10. all locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

11. aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
12. monitoring duration for each type of monitoring and a description of monitoring methodologies and frequency;
13. performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. all remedial measures to be implemented if performance standards are not met; and
15. a process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least **30** ~~45~~ days prior to **any ground disturbing activities** ~~rough grading~~, the project owner shall provide the CPM with **a draft** ~~the final~~ version of the Biological Resources Mitigation Implementation and Monitoring Plan for this project **for review and comment. The CPM shall coordinate as necessary with USFWS and CDFG on any biological monitoring issues. Within 10 days prior to the start of ground disturbing activities, the project owner shall provide the CPM with a final copy of the approved BRMIMP with agency comments incorporated.**~~, and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan.~~

The project owner shall notify the CPM within five working days before implementing any modifications to the Biological Resource Mitigation Implementation and Monitoring Plan.

Within 30 days after completion of construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the Biological Resource Mitigation Implementation and Monitoring Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which condition items are still outstanding.

BIO-14 Valley Elderberry Longhorn Beetle

The project owner shall install high visibility fencing at least 20 feet from the dripline of the single elderberry shrub which occurs approximately 75 feet from the proposed pipeline alignment, within Riparian Drainage #10. The Designated Biologist or approved Biological Monitor shall monitor the shrub and fencing at least weekly during construction to be sure equipment is not impacting the shrub and to ensure the fencing is staying intact.

Verification: At least 10 days prior to the start of any ground-disturbing activities, the project owner shall provide photographic documentation to the CPM that the fencing has been installed around the shrub. Implementation of this measure including monitoring of the shrub during construction shall be reported in the Monthly Compliance Reports by the Designated Biologist or Biological Monitor.

REFERENCES

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CDFG 2011 – California Department of Fish and Game. May 2011. Final Lake or Streambed Alteration Agreement Notification Number 1600-2011-0011-R2 Grimes Pipeline Project.

CEC 1999 – Final Energy Commission Decision approving the Sutter Power Plant Project. April 14, 1999.

CNPS 2011 – California Native Plant Society (CNPS) 2011. Inventory of Rare and Endangered Plants (online edition, v7-11july). California Native Plant Society. Sacramento, CA. Accessed on Wed, Jul. 27, 2011 from http://www.cnps.org/inventory.

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ICF 2011a – ICF International, Notification of Streambed Alteration for the Grimes Pipeline Project, Sutter County, California. Submitted to CDFG, Lake or Streambed Alteration Program. January 14, 2011.

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ICF 2011d – ICF International. Response to Data Request #8, Biological Resources.

Kochert et al 2002 – Kochert, M.N., K. Steenhof, C.L. Mcintyre, and E.H. Craig. 2002. Golden Eagle (Aquila chrysaetos), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Available at: http://bna.birds.cornell.edu/bna/species/684doi:bna.684.

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USFWS Appendix A – U.S. Fish and Wildlife Service. Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California. Appendix A, Guidelines for Restoration and/or Replacement of GGS Habitat.

USFWS Appendix C - U.S. Fish and Wildlife Service. Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California. Appendix C, Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake Habitat.

USFWS Appendix D - Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California. Appendix D, Information to Include in a Monitoring Report for Giant Garter Snake.

USFWS 2009b - Final Environmental Assessment – Proposal to Permit Take Provided Under the Bald and Golden Eagle Protection Act. Last accessed online February 1, 2010: http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/FEA_EagleTakePermit_Final.pdf

USFWS 2011 – U.S. Fish and Wildlife Office. Biological Opinion for the Grimes Pipeline Project Amendment 97-AFC-02; Programmatic Formal Section 7 Consultation on the Proposed Grimes Pipeline Project (Corps File No. SPK-2010-01485), Sutter County, California. USFWS, Sacramento Fish and Wildlife Office.

PERSONAL COMMUNICATIONS:

Email communication between Kathleen Campbell (Calpine) and Amy Golden (CEC). April 27, 2011.

Phone conversation between Chandra Jenkins (U.S. Army Corps of Engineers) and Amy Golden (CEC). June 2, 2011

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Cultural Resources Staff Analysis
Prepared by: Michael D. McGuirt
August 10, 2011

INTRODUCTION

On March 3, 2011, the California Energy Commission (Energy Commission) received a petition from Calpine Corporation (Calpine or CCFC) to amend the Energy Commission's April 1999 Final Decision for the Sutter Power Plant project, now known as the Sutter Energy Center (SEC), to construct the proposed Grimes Pipeline project. The primary component of the project, the proposed 2.8 mile-long, 6 inch-diameter pipeline, would allow the SEC to directly access local natural gas from the Grimes natural gas field in the Sacramento Basin to the north and west of the SEC. To facilitate deliveries from local natural gas field suppliers, the Grimes Pipeline project will also include the construction of a new gas-metering station, Grimes Station, with related facilities near its southern terminus (ICF 2011, p. 1).

The construction of the major Grimes Pipeline project components, the pipeline and the metering station, would entail significant disturbance of the ground surface and significant and moderately deep subsurface disturbance. The overall width of the construction easement along the surface of the pipeline alignment would be 70 feet, which includes a 20-foot permanent right-of-way (ROW) for the pipeline and a 50-foot temporary construction easement. The construction easement would be cleared of vegetation prior to trench excavation. The pipeline trench itself would be excavated to an average width of 36 inches and an average depth of 6 feet. The construction of Grimes Station would primarily result in disturbance to the ground surface over an area of approximately 0.8 acre, which includes the 0.5 acre site for the station and a 0.3 acre additional temporary construction easement. The composite construction site would first be cleared of vegetation, and then graded. Once the site is leveled, Calpine would build a gravel pad on which the Grimes Station's equipment would be installed (ICF 2011, pp. 1-5 and 1-6).

Energy Commission staff (staff) concludes that the potential effects that the proposed amendment would have on historical resources would not constitute a significant effect on the environment if the project owner were to implement staff's newly proposed Condition of Certification **CUL-15**, which provides for the reinstatement of cultural resources personnel and their incorporation into the construction team, development and implementation of an archaeological research design and updated formal archaeological monitoring and discovery protocols, and preparation of a summary report on the above activity following completion of construction. **CUL-15** is a stand-alone condition of certification that incorporates updated elements of several of the extant license conditions. The updated elements reflect the reduced scope of the Grimes Pipeline project, the fact that the Western Area Power Administration is less involved in this project amendment, and changes in professional standards in the cultural resource management industry since the issuance of the original license.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS) COMPLIANCE

At the time of certification, the LORS applicable to cultural resources were identified in the Energy Commission Final Decision (Decision). Those LORS would continue to apply to the amended project, and no new LORS or changes to LORS pertinent to this project have been identified.

ANALYSIS

The construction of the Grimes Pipeline project would appear, on the basis of the available data, to pose a marginal threat to cultural resources. The research conducted for the original SEC siting case was able to identify one cultural resource on the surface of the SEC project area, a 12-acre plant site and associated linear infrastructure, and concluded that buried archaeological deposits had the potential to be present in the portions of the project area nearer the Sacramento River, in what was referred to in the Final Staff Assessment (FSA) as the “natural river levee zone” (CEC 1998). Staff recommended the one resource that was identified in the project area, a historical archaeological site which was not described in the FSA, as not eligible for inclusion in the National Register of Historic Places, and, despite the implementation of a monitoring program during project construction, no buried archaeological resources appear to have been found in the near-river portions of the project area.

The results of the new research conducted for the proposed amendment corroborate the results of the original siting case research on the surface archaeology of the area around the SEC project, and provide a coarse resolution assessment, based on examination of an earthen ditch paralleling a portion of the pipeline alignment, of the potential presence of buried archaeological deposits along the pipeline alignment. The results of a new pedestrian cultural resources survey found no cultural resources on the surface of the subject alignment. Staff concluded, on the basis of other aspects of the research, that there is some potential for encountering buried archaeological deposits along the proposed pipeline alignment. Consultation with a number of local Native American tribes, chiefly, though not exclusively, with the Cortina Indian Rancheria, Mechoopda Indian Tribe, and Shingle Springs Rancheria, did not reveal any known cultural resources significant to those groups. Appendix G (ICF 2011) of the SEC Petition to Amend, p.3.2, documents that tribal representatives from the Cortina Indian Rancheria, Mechoopda Indian Tribe, and Shingle Springs Rancheria met with ICF International (ICF) cultural resources manager, Gabriel Roark, and representatives from CCFC on January 20, 2011. A memorandum drafted by Mr. Roark relates that the Mechoopda Indian Tribe and Shingle Springs Rancheria appear to have agreed at the meeting that a tribal representative should monitor construction-related ground disturbing activities at the proposed Grimes Station, the connection between the Grimes Pipeline and the existing Sutter Pipeline, and within the U-shaped tree line that surrounds the Grimes Station. Mechoopda Indian Tribe and Shingle Springs Rancheria appear further to have agreed that Cortina Indian Rancheria would be the best tribe to provide a monitor during construction, owing to their proximity to and historical association with the project vicinity. The report also notes that CCFC and CPN Pipeline Company (CPN) has agreed to tribal monitoring as described above and included tribal

monitoring in the proposed conditions of certification provided in the Petition to Amend (ICF 2011:Chapter 4). The only evidence for the record, of which staff is aware, of the Native American perspective on the appropriate scope of Native American monitoring for the subject project, is a January 21, 2011 email from Mike DeSpain of the Mechoopda Indian Tribe of Chico Rancheria which requests that "a funded Tribal Monitor be on site during all ground breaking activities." Although the information in Appendix G on tribal monitoring variously supports the Native American monitoring component of staff's recommended Condition of Certification **CUL-15**, no discussion of Native American concerns or mention of tribal monitoring was included in the actual Cultural Resources analysis or revised conditions of certification included in the SEC Petition to Amend

Collective results of past and recent research reveal there are no *known* resources on or below the surface along the proposed pipeline alignment or in the near vicinity. However, these collective results do not negate the possibility that intact buried archaeological deposits may be found during pipeline construction. The geologic units along and in the vicinity of the pipeline alignment appear to be young enough in age and represent low-enough-energy depositional environments to have facilitated the burial and preservation of archaeological deposits.

Based on the raw data provided by the project owner and previous staff assessments of the project area, staff concludes that the construction of the Grimes Pipeline project would have no effect on any known cultural resources along the surface of the proposed alignment and recommends the addition of Condition of Certification **CUL-15** to the license conditions for SEC, which would afford reasonable means to reduce any damage that project construction may cause to unknown buried archaeological resources to a less than significant level. The recommended condition also provides for the participation of Native Americans in the monitoring process in acknowledgement of staff's belief that any subsurface archaeological resources found during construction would probably represent prehistoric to protohistoric Native American life.

CUMULATIVE IMPACTS

A cumulative impact under CEQA refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects and can result from individually minor, but collectively significant actions taking place over a period of time. Cumulative impacts to cultural resources in the vicinity of SEC could occur if any other existing or proposed project would also impact the same or related cultural resources as the proposed Grimes Pipeline project.

The original SEC project had no known impacts on cultural resources, and other nearby past projects, assessed under CEQA, were subject to conditions that mitigated any impacts to cultural resources to a less than significant level.

Staff has identified no impacts to known cultural resources from the Grimes Pipeline project and implementation of cultural resources Condition of Certification **CUL-15**,

along with existing conditions of certification, would reduce any project-related impacts to a less than significant level.

There are no foreseeable projects in the area that would impact cultural resources. However, all future projects would be subject to CEQA and would be required to mitigate all impacts to cultural resources to a less than significant level or conform to state and federal laws that accomplish the same goal.

Since the impacts from the Grimes Pipeline project would be mitigated to a less than significant level by the project's compliance with **CUL-15** and it is reasonable to assume that similar protocols would be applied to other projects in the area, consistent with the requirements of CEQA, staff does not expect any impacts to cultural resources from the Grimes Pipeline project to result in a significant cumulative impact, when viewed in conjunction with other known or reasonably foreseeable projects.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the Grimes Pipeline project amendment petition for the SEC for potential effects on cultural resources and consistency with applicable LORS. Staff has determined that the proposed amendment would have no impact on known cultural resources, as no cultural resources has been identified to date in the SEC project area.

If the construction of the proposed Grimes Pipeline were to unexpectedly encounter historically significant, buried archaeological resources during the construction of the pipeline, the implementation of the **CUL-15** protocols would reduce any effect to such resources to a less than significant level. Staff has further determined that the construction of the proposed pipeline would comply with all applicable LORS.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Energy Commission cultural resources conditions of certification identified in the Decision for the SEC are unchanged, but apply primarily to construction of the original project. Staff recommends the addition of **CUL-15** to the Cultural Resources Conditions of Certification for SEC, as shown below, to specifically address the proposed Grimes Pipeline Amendment. Bold and Underlined text represents inserted language.

CUL-15 CONSTRUCTION OF GRIMES PIPELINE PROJECT

CUL-15.1. CULTURAL RESOURCES PERSONNEL

> **Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) for the Grimes Pipeline project, the project owner shall obtain the services of a Cultural Resources Specialist (CRS) and may, in addition, obtain the services of one or more CRS alternates. The project owner shall submit the resumes and qualifications for the CRS, and any CRS alternates or technical specialists to the CPM for review and approval.**

The CRS or any subsequent CRS alternate shall, on behalf of the project owner, have the sole responsibility for the implementation of the Cultural Resources Conditions of Certification (Conditions) (CUL-1–CUL-15) in a manner that is consistent with the terms of those conditions and with the terms of the General Conditions. The CRS or any subsequent CRS alternate may elect to obtain the services of Cultural Resources Monitors (CRMs) or other technical specialists, as needed, to assist in the implementation of the Conditions. The project owner shall ensure that the CRS or any subsequent CRS alternate makes recommendations on the California Register of Historical Resources (CRHR) eligibility of any new cultural resources that are found during the construction of the Grimes Pipeline project, or on any known cultural resources that the CRS or any subsequent CRS alternate determines to have the potential to be affected in an unanticipated manner. No ground disturbance related to the Grimes Pipeline project shall occur prior to Compliance Project Manager (CPM) approval of the CRS and alternates, unless such activities are specifically approved by the CPM.

Approval of a CRS or CRS alternate may be denied or revoked for reasons including, but not limited to, a demonstrable history of difficulty complying with license conditions for other Energy Commission power projects. After all ground disturbance related to the Grimes Pipeline project has been completed, and the CRS has fulfilled all responsibilities specified in this condition, the project owner may discharge the CRS, upon the approval of the CPM. With the discharge of the CRS, this cultural resources condition would no longer apply to the routine operation and maintenance of the constructed pipeline.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) for prehistoric archaeology. In addition, the CRS shall have the following qualifications:

- **The CRS's qualifications shall include demonstrated professional experience in ethnology, anthropological archaeology, public history, and architectural history;**
- **At least three years of field experience variably identifying, evaluating the historical significance of, and salvaging representative datasets from archaeological resources in California; and**
- **At least one year of supervisory experience in California as a regulatory archaeologist where such experience has demonstrably provided the training and knowledge necessary to make informed**

and reasoned recommendations on the historical significance of the types of archaeological resources that may be found in the project area for the Grimes Pipeline project.

The resumes of the CRS and CRS alternates shall include the names and telephone numbers of contacts familiar with the work of the CRS and any proposed CRS alternates on referenced projects and demonstrate to the satisfaction of the CPM that the CRS and CRS alternates have sufficient training and experience to effectively implement the Conditions.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

- **A BS or BA degree in anthropology, archaeology, or a related field, and one year of archaeological monitoring experience in California; or**
- **An AS or AA degree in anthropology, archaeology, or a related field, and four years of archaeological monitoring experience in California; or**
- **Enrollment in upper division classes pursuing an undergraduate degree in the fields of anthropology, archaeology, or a related field, and two years of archaeological monitoring experience in California.**

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any proposed additional technical specialist(s), such as historical archaeologists, historians, architectural historians, or physical anthropologists, shall be submitted to the CPM for review and approval. [V15.1-1–V15.1-6]

CUL-15.2. CULTURAL RESOURCES INFORMATION FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, the Grimes Pipeline project amendment, data responses, confidential cultural resources reports, any supplements, the Staff Analysis (SA) for the amendment, and the cultural resources section of the Final Decision on the amendment, including all cultural resources Conditions of Certification, for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprints of the power plant, all linear facility routes, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2400 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review map submittals and, in consultation with the CRS, approve

those that are appropriate for use in cultural resources planning activities. Project construction shall not commence prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM.

If construction of the project would proceed in phases, maps and drawings not previously provided shall be provided to the CRS and CPM prior to the start of each phase. Written notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

Weekly, until project construction is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where project construction will occur during that week.

The project owner shall notify the CRS and CPM of any changes to the proposed scheduling of the construction phases. [V15.2-1–V15.2-5]

CUL-15.3. CULTURAL RESOURCES MONITORING AND MITIGATION PLAN FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, the project owner shall submit a Cultural Resources Monitoring and Mitigation Plan (CRMMP) for the subject project, as prepared by or under the direction of the CRS, to the CPM for review and approval. The CRMMP shall follow the content and organization of the draft model CRMMP, provided by the CPM, and the authors' name(s) shall appear on the title page of the CRMMP. The CRMMP shall identify measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each CRM, and the project owner's on-site construction manager. No project construction shall commence prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures:

1. **The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions of Certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A."**
2. **A proposed general research design that includes a discussion of archaeological research questions and testable hypotheses**

specifically applicable to the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research design. The research design will specify that the preferred treatment strategy for any buried archaeological deposits is avoidance. A specific mitigation plan shall be prepared for any unavoidable impacts to any CRHR-eligible (as determined by the CPM) resources. A prescriptive treatment plan may be included in the CRMMP for limited data types.

3. **Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground–disturbance analysis phases of the project.**
4. **Identification of the person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.**
5. **A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.**
6. **A description of all impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation, and identification of areas where these measures are to be implemented. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related effects.**
7. **A statement that all encountered cultural resources over 50 years old shall be recorded on Department of Parks and Recreation (DPR) 523 forms and mapped and photographed. In addition, all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.**
8. **A statement that the project owner will pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.**
9. **A statement demonstrating when and how the project owner will comply with Health and Human Safety Code 7050.5(b) and Public Resources Code 5097.98(b) and (e).**

10. **A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are encountered during ground disturbance and cannot be treated prescriptively.**

11. **A description of the contents, format, and review and approval process of the final Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines. [V15.3-1–V15.3-4]**

CUL-15.4. SUPPLEMENT TO THE FINAL CULTURAL RESOURCES REPORT FOR THE GRIMES PIPELINE PROJECT

The project owner shall submit a Supplement to the Final Cultural Resources Report (SCRR) to the CPM for review and approval. The SCRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The SCRR shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, DPR 523 forms, geoarchaeological final reports, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the SCRR.

If the project owner requests a suspension of ground disturbance and/or construction activities, then a draft SCRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft SCRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final SCRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request. [V15.4-1–V15.4-3]

CUL-15.5. EMPLOYEE TRAINING PROGRAM FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction the project owner shall ensure that the CRS develops and conducts a new employee training program for the Grimes Pipeline Project. The new program shall follow the direction set out in CUL-5 and CUL-6 above, except that the Western Area Power Administration (Western) is no longer required to be a party to the employee training process. [V15.5-1]

CUL-15.6. ARCHAEOLOGICAL MONITORING FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, the project owner shall notify the CPM of the date on which ground disturbance will ensue. The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor, full time, all ground disturbance along the pipeline alignment,

and at laydown areas, roads, and other ancillary areas, to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of ground-disturbing activities in the areas specified in the paragraph immediately above, for as long as the activities are ongoing. Where excavation equipment is actively removing dirt and hauling the excavated material farther than fifty feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.

The project owner shall obtain the services of one or more Native Americans to monitor all ground disturbance related to project construction. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area where the project is located, but the project owner shall make a reasonable and good faith effort to accommodate equally all groups expressing the desire to monitor. If efforts to obtain the services of at least one qualified Native American monitor, acceptable to all groups that want monitoring, are unsuccessful, the project owner shall immediately inform the CPM. The CPM may either identify potential monitors or allow ground disturbance to proceed without a Native American monitor.

The research design in the CRMMP developed under CUL-15.3 shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM. [V15.6-1–V15.6-6]

CUL-15.7. CULTURAL RESOURCE DISCOVERY AND THE GRIMES PIPELINE PROJECT

The project owner shall grant authority to halt ground disturbance to the CRS, alternate CRS, and the CRMs in the event of a discovery. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event that a cultural resource over 50 years of age is found (or if younger, and determined exceptionally significant by the CPM), or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. If the discovery includes human remains, the project owner shall comply with the requirements of Health and Safety Code, section 7050.5(c) and Public Resources Code, section 5097.98, and shall notify the CPM and the NAHC of the discovery of human remains. Monitoring and daily reporting, as provided in other conditions, shall continue during the project's ground-disturbing activities elsewhere. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred:

1. **The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if**

the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of CRHR eligibility, and recommendations for data recovery from any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made.

2. **If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery.**
3. **The CRS has completed field notes, measurements, and photography for a DPR 523 "Primary" form. Unless the find can be treated prescriptively, as specified in the CRMMP, the "Description" entry of the DPR 523 "Primary" form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM.**
4. **The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.**

Ground disturbance may resume only with the approval of the CPM. [V15.7-1 –V15.7-3]

VERIFICATIONS:

CUL-15.1 CULTURAL RESOURCES PERSONNEL

V.15.1-1 At least 45 days prior to the start of project construction, the project owner shall submit the resumes for the CRS, and any CRS alternate(s) if desired, to the CPM for review and approval.

V.15.1-2. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS, if different from the CRS alternate, to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If no CRS alternate is available to assume the duties of the CRS, the project owner shall designate a CRM to serve in place of a CRS for a maximum of 3 days. If cultural resources are discovered, project construction will remain halted until there is a CRS or CRS alternate to make a recommendation regarding significance.

V.15.1-3. At least 20 days prior to the start of project construction, the CRS shall provide a letter naming CRMs and attesting that the identified CRMs

meet the minimum qualifications for cultural resources monitoring required by this condition.

V.15.1-4. At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide letters to the CPM identifying the new CRMs and attesting to their qualifications.

V.15.1-5 At least 10 days prior to any technical specialists, other than CRMs, beginning tasks, the resume(s) of the specialists shall be provided to the CPM for review and approval.

V15.1-6. At least 10 days prior to the start of project construction, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions.

CUL-15.2 CULTURAL RESOURCES INFORMATION FOR THE GRIMES PIPELINE PROJECT

V.15.2-1. At least 40 days prior to the start of project construction, the project owner shall provide the AFC, the Grimes Pipeline project amendment, data responses, confidential cultural resources reports, any supplements, the Staff Analysis (SA) for the amendment, and the cultural resources section of the Final Decision on the amendment, including all cultural resources Conditions of Certification, for the project to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

V15.2-2. At least 15 days prior to the start of project construction, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS and CPM.

V.15.2-3. At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS and CPM.

V.15.2-4. Weekly, during project construction, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.

V.15.2-5. Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.

CUL-15.3. CULTURAL RESOURCES MONITORING AND MITIGATION PLAN FOR THE GRIMES PIPELINE PROJECT

V.15.3-1. Upon approval of the CRS proposed by the project owner, the CPM will provide to the project owner an electronic copy of the draft model CRMMP for the CRS.

V.15.3-2. At least 30 days prior to the start of project construction, the project owner shall submit the CRMMP to the CPM for review and approval.

V.15.3-3. At least 30 days prior to the start of project construction, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials generated or collected as a result of the archaeological investigations (survey, testing, data recovery).

V.15.3-4. Within 90 days after completion of project construction (including landscaping), if cultural materials requiring curation were generated or collected, the project owner shall provide to the CPM a copy of an agreement with, or other written commitment from, a curation facility that meets the standards stated in the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, to accept the cultural materials from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.

CUL-15.4. SUPPLEMENT TO THE FINAL CULTURAL RESOURCES REPORT FOR THE GRIMES PIPELINE PROJECT

V.15.4-1. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft SCRR to the CPM for review and approval.

V.15.4-2. Within 90 days after completion of project construction (including landscaping), the project owner shall submit the final SCRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included as an appendix.

V.15.4-3. Within 10 days after CPM approval of the SCRR, the project owner shall provide documentation to the CPM confirming that copies of the final SCRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.

CUL-15.5. EMPLOYEE TRAINING PROGRAM FOR THE GRIMES PIPELINE PROJECT

V.15.5-1. The project owner shall adhere to the verifications for CUL-5 and CUL-6, above, as the relate to the construction of the Grimes Pipeline project and with the caveat that Western is not required to be a part of the new employee training program.

CUL-15.6. ARCHAEOLOGICAL MONITORING FOR THE GRIMES PIPELINE PROJECT

V.15.6-1. At least 30 days prior to the start of project construction, the CPM will notify all Native Americans with whom the Energy Commission

communicated during the project review of the date on which the project's project construction will begin.

V.15.6-2. At least 30 days prior to the start of project construction, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.

V.15.6-3. Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP.

V.15.6-4. At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.

V.15.6-5. Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail or in some other form of communication acceptable to the CPM.

V.15.6-6. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.

CUL-15.7. CULTURAL RESOURCE DISCOVERY AND THE GRIMES PIPELINE PROJECT

V.15.7-1. At least 30 days prior to the start of project construction, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt project construction in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

V.15.7-2. Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during project construction shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

V.15.7-3. Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the

event of such a discovery, and the CRS must inform the CPM when the notifications are complete.

REFERENCES

CEC 1998 – Final Staff Assessment/Draft Environmental Impact Statement, Sutter Power Project, Application for Certification (97-AFC-2), Sutter County, California. November 17, 1998.

ICF 2011 – ICF International, Grimes Pipeline Amendment to the Sutter Energy Center (97-AFC-02). Prepared for Calpine Construction Finance Company, LP. Prepared by: ICF. March 2011.

SUTTER ENERY CENTER AMENDMENT (97-AFC-02)

Request to Amend Final Commission Decision
Land Use Staff Analysis
Prepared by: Christina Snow
August 2, 2011

INTRODUCTION

Calpine Construction Finance Company, L.P. (CCFC) and CPN Pipeline Company, both wholly owned subsidiaries of Calpine Corporation are seeking approval to amend the Sutter Energy Center (SEC) to allow the Sutter Energy Center to be served by a new 2.8 mile 6-inch natural gas pipeline. The Grimes Pipeline Project (GPP), which would flow gas from north to south, would interconnect to the existing Sutter Pipeline west of the SEC site on Girdner Road just west of Hageman Road at the new Grimes Station.

To facilitate deliveries from the local gas field suppliers, the GPP includes a new gas metering station with related facilities near its southern terminus to be called "Grimes Station". The Grimes Station will include a 100 feet by 100 feet concrete pad (0.22 acre), a 30 foot wide driveway, an aboveground 100 gallon barrel drain tank, a filter separator and associated electrical components.

The 540-megawatt Sutter Energy Center was certified by the Energy Commission on April 14, 1999. The SEC is located in Sutter County, adjacent to Calpine's Greenleaf Unit #1 cogeneration power plant, approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

At the time of certification, LORS applicable to Land Use were indentified in the Commission Decision: Application for Certification for the Sutter Power Plant Project (Docket No. 97- AFC-2), adopted April 14, 1999 and docketed April 28, 1999 (Decision). Approval of the Sutter Energy Center amendment would not require inclusion of any new LORS.

ANALYSIS

Staff has reviewed the Grimes Pipeline Amendment to the Sutter Energy Center (97-AFC-02) for potential impacts to land use and consistency with applicable land use LORS. The GPP would include a new 2.8 mile 6-inch natural gas pipeline and a metering station that would allow the SEC to directly access local natural gas from the Grimes natural gas field in the Sacramento Basin to the north and west of the proposed project site. Based on this review, staff determined that the GPP would not have significant impacts.

PIPELINE AND GRIMES STATION CONSTRUCTION

As stated in the petition to amend, the conventional trench sections of the pipeline would be buried a minimum of five feet within the pipeline easement. Pipeline under roads, canals, and drainage ditches would be buried 10 to15 feet. A 20-foot-wide permanent easement would be obtained from the landowners plus an additional 50-foot-wide temporary easement for use during construction would be necessary to bore under irrigation ditches and roads.

Trenching and excavation would be necessary to install the pipeline. Once the installation is completed, the soil would be backfilled into the trenches and the surface would be returned to its original grade to ensure consistency with surrounding undisturbed agricultural soil. To avoid any interference with agricultural operations, there would be no fencing constructed along the pipeline right-of-way. A total of 28.2 acres of farmland would be temporarily impacted by the construction of the Grimes Pipeline.

The Grimes Pipeline crosses through agricultural fields that are predominately actively farmed rice lands. The existing site where the proposed Grimes Station would be built is currently an agricultural field planted with row crops. The Grimes Station would temporarily impact 0.58 acre and permanently impact 0.22 acre due to the construction of the 100-by-100 foot concrete gravel pad (3-feet thick) and associated 30-foot wide access driveway off of Girdner Road. The perimeter of the Grimes Station would be fenced to separate it from agricultural activities.

The Sutter County General Plan (adopted March 29, 2011) land use designations for the proposed GPP route and Grimes Station are AG-80 (Agriculture–80 Acre Minimum Parcel Size). The zoning designation is General Agricultural (AG). Staff reviewed the Sutter County Code (December 2010) and found that communication or utility substations, gas storage and transmission lines are allowed in the General Agricultural zone with a use permit. Staff contacted Sutter County requesting input on requirements that may be necessary for the GPP and no specific requests or development standards were identified or provided. However, Sutter County staff did indicate that if a Conditional Use Permit were filed they would be concerned if a significant amount of land was being taken out of agricultural production.

WILLIAMSON ACT LANDS

The Grimes Station site and a section of the pipeline right-of-way would be located on lands that are under Williamson Act contracts. The Grimes Station would be built in a field planted with row crops; the pipeline would cross cultivated rice fields.

Approximately 16.3 acres of Williamson Act Contract lands would be temporarily impacted by the pipeline construction and an additional 0.58 acre of temporary impacts to Williamson Act contract lands would occur as a result of construction of the Grimes Station. Only 0.22 acre of Williamson Act contract land would be permanently impacted to construct the Grimes Station. Further, the California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP), administered by the Division of Land Resource Conservation, is responsible for mapping and monitoring Important Farmlands for most of the state's agricultural areas. The DOC's latest

farmland map (2008) for Sutter County indicates that the GPP is within land identified as Prime Farmland. Ultimately, only 0.22 acre of Prime Farmland would be converted due to construction of the Grimes Station.

An underground natural gas pipeline and the Grimes Station because of its similarity to a utility substation are a compatible uses under Government Code Sections 51238 (a) (1) and 51238.1 of the Williamson Act. These uses are further specified by the county or city who administers the Williamson Act contracts. Sutter County has determined that "utility substation, gas storage and transmission lines" are compatible uses, which are allowed on lands under a Williamson Act contract with a use permit (Sutter County Zoning Code, Division 14, Section 1500-1412).

The proposed amendment would not require a cancellation of any Williamson Act contracts as most of the impacts would be temporary in nature and the lands would be restored to agricultural production once the pipeline is constructed. The placement of the pipeline at a minimum depth of five feet would ensure that long-term agricultural operations would not be impacted. Although 0.22 acre of land under Williamson Act Contracts and designated as Prime Farmland would be permanently impacted by the construction of the Grimes Station, this does not represent a significant loss of agricultural land. The Grimes Station would be fenced and have access via an existing road, preventing further impacts to agricultural activities.

OTHER LAND USE CONSIDERATIONS

Energy Commission staff assessed the petition to amend for potential impacts to land use and LORS compliance. To ensure adequate protection to the environment and the public, the **Hazardous Materials Management** section of this document addresses the compliance with the federal Pipeline and Hazardous Materials Safety Administration (PHMSA), which is a branch of the U.S. Department of Transportation (USDOT). The pipeline would be built in strict compliance with the regulations found in 49 Code of Federal Regulations (CFR) parts 190 – 192 and ASME B31.8. The regulations specify minimum safety standards regarding materials, design, construction, training of construction workers and operators, corrosion control, operations, and maintenance for pipeline facilities and the transportation of natural gas. Part 192 includes the requirement to establish a written plan governing operations and maintenance activities.

As discussed in the **Hazardous Materials Management** section of this document, the project construction drawings, specification, and standards will comply with the PHMSA code and will be approved by the Engineer of Record. They will include all necessary permitting stipulations, mitigation measures, and conditions of compliance. These documents would form the construction bid documents and would be made a part of the construction contract for this job. These plans will also be reviewed and approved by the Energy Commission's delegate Chief Building Officer (CBO) for the project.

Calpine will provide full time on-site inspection personnel with the primary responsibility for ensuring the installation is in strict compliance with the project drawings, standards, and specifications. Should any non-compliance issues occur, they will be immediately communicated and resolved with the Engineer of Record. The inspection reports and test records will be made available for CBO review. Continuous monitoring of the pipeline will be required per Federal Regulations.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff has reviewed the General Plan and Zoning Code and has confirmed that the proposed project is consistent with the Sutter County General Plan and Zoning Code designation, which allows for gas storage and pipelines to be constructed on lands identified as General Agriculture within the GPP area.

Although the lands within the project area are identified as Prime Farmland and several parcels are also under Williamson Act Contracts, the Williamson Act allows for such uses and no revisions or cancellations of Williamson Act Contracts would be required.

The majority of impacts are temporary in nature allowing for continued agricultural uses on the easements. Additionally, the pipeline would be buried at a minimum of five feet, and in some instances 10 to 15 feet, both of which will allow for active agricultural operations.

A total of 0.22 acre of permanent impacts from the construction of the Grimes Station would occur as a result of the GPP. Staff has determined that this is not a significant impact because the amount of farmland converted is minimal and the area would be fenced and direct access would be available from an existing road ensuring that existing agricultural operations will not be impacted.

Based on this review, staff determined that the amendment as proposed would be consistent with the LORS identified in the Commission Decision: Application for Certification for the Sutter Power Plant Project (Docket No. 97- AFC-2), adopted April 14, 1999 and docketed April 28, 1999 (Decision), and would be compatible with the County of Sutter 2011 General Plan and Division 14, Section 1500-1412 of the Sutter Zoning Code, and would not have a significant impact on land use.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

The Grimes Pipeline Amendment to the Sutter Energy Center would not require modifications to the existing Conditions of Certification.

REFERENCES

California Government Code, Title 5, Division 1, Part 1, Chapter 7, Article 2.5, Section 51238.1

CEC 1999 – California Energy Commission Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

Calpine 2011 – Calpine Construction Finance Company, the Grimes Pipeline Amendment to Sutter Energy Center /McBride (tn 59910). Submitted to CEC/C. Snow on 01/21/11.

County of Sutter, 2011 General Plan (adopted March 29, 2011).

County of Sutter, Zoning Code (adopted December 2010).

Steve Geiger. Sutter County Community Services. Email correspondence with Kristin Ford, Planner I. Correspondence regarding Sutter Grimes Pipeline Amendment consistency with Sutter County Zoning and General Plan. June 14, 2011.

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Hazardous Materials Management Staff Analysis
Prepared by: Geoff Lesh, P.E.
July 27, 2011

INTRODUCTION

The proposed Sutter Grimes Pipeline (Grimes Pipeline) project is an amendment to the Sutter Power Plant Project, and its ancillary 14-mile natural gas interconnection pipeline approved in 1999. The proposed 2.8-mile long 6-inch diameter pipeline is located along a section of Hageman Road and Girdner Road in Sutter County, California, and connects approximately at the midpoint of the existing 14-mile 20-inch diameter Calpine natural gas pipeline that serves the Sutter Power Plant. The proposed pipeline will convey natural gas from local wells and gathering facilities to Sutter's interconnection pipeline. The new pipeline is surrounded by land predominately used for agriculture. The entire Project (approximately 29 acres) encompasses land along the county roadways that will be used for constructing the Project components and accommodating temporary construction staging areas and temporary pipeline bore work areas.

Project components consist of construction of a 0.22-acre gas metering facility (Grimes Station), the 2.8 mile long, 6 inch diameter natural gas pipeline, installation of natural gas meters at existing metering sites (Venoco Inc.'s Eastside MM and 32-33-3 MM sites (Calpine 2011).

The natural gas pipeline will cross cultivated agricultural fields, pass beneath two Sutter county roads (Wilbur and Hageman near their intersections with Girdner Road) and 11 drainages. Most of the natural gas pipeline will be installed into an open trench, then buried approximately 6 feet beneath the ground surface. Portions of the pipeline that cross features such as roads and canals, will be installed 10-15 feet below those features by using horizontal drilling (Calpine 2011).

This analysis addresses the proposed Sutter Grimes Pipeline project and elements that would be associated with construction and operation of the pipeline, and any hazardous materials usage and storage. Only those aspects associated with the Grimes Pipeline Project that have changed because of the proposed amendment and that affect staff's testimony for **Hazardous Materials Management** as contained in the Commission Decision (Decision) dated April 14, 1999 (CEC 1999), are examined. The technical scope of this analysis encompasses hazardous materials used during the pipeline construction and natural gas contained within the pipeline one it is operational. Hazardous waste is fully discussed in the **Waste Management** section of this document.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

No LORS applicable to the project have changed since the Commission Decision was published in April 1999.

ANALYSIS

Staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. The Grimes Pipeline would be owned by Calpine Pipeline, and as such, falls under the jurisdiction of the federal Pipeline and Hazardous Materials Safety Administration (PHMSA)[2] and not the California Public Utilities Commission. The CPUC does not have regulatory oversight for the Grimes Pipeline because the gas pipeline system serves only Calpine and does not sell or send gas to the public.

The pipeline will be built in strict compliance with the latest regulations found in 49 Code of Federal Regulations (CFR) parts 190 – 192 and ASME B31.8. PHMSA conducts regular audits of operations and maintenance records of operators.

The regulations specify minimum safety standards regarding materials, design, construction, training of construction workers and operators, corrosion control, operations, and maintenance for pipeline facilities and the transportation of natural gas. They also require an integrity management plan governing the operations and maintenance activities. The operator must establish an emergency plan that minimizes hazards in the event of a pipeline emergency.

Using new steel pipeline materials and fittings conforming to the latest codes, the proposed pipeline will be built to a design pressure or Maximum Allowable Operating Pressure (MAOP), of 1,440 pounds-force per square inch gage (psig). Normal operating pressures are expected to be in the range of 600 – 800 psig. The pipeline route is determined to be a Class 1 location (lowest rated population density) for this rural agricultural location. The pipeline however, will be designed for a higher Class 3 classification, giving the pipeline a higher than required safety factor. The pipeline will be buried to a minimum depth of 60 inches where installed by trenching, and will be 10 – 15 feet below the bottom of features it crosses, such as roads, canals, and drainage ditches. The minimum Code requirement is 36 inches burial depth. At an operating pressure of 800 psig, the potential impact radius for a rupture of this 6-inch diameter pipeline is 117 feet. The nearest sensitive receptor is approximately 1,000 feet from the pipeline.

The pipeline segments will be welded together using approved procedures. All welds will be confirmed by x-ray or other approved method, and visually inspected. Welding operators and inspectors will be tested and qualified. The pipeline will receive a fusion-bonded epoxy coating to prevent outside corrosion before being buried, and will have secondary cathodic protection during operations. It will be hydrostatically pressure tested to a minimum pressure of 2,160 psig with water for 8 hours before being put into service.

The project construction drawings, specification, and standards will comply with the PHMSA code and will be approved by the Engineer of Record. They will include all necessary permitting stipulations, mitigation measures, and conditions of compliance. These documents will form the construction bid documents and made a part of the

[2] A branch of the U.S. Department of Transportation (USDOT).

construction contract for this job. These plans will also be reviewed and approved by the project Chief Building Officer (CBO).

Calpine will provide full time on-site inspection personnel with the primary responsibility for ensuring the installation is in strict compliance with the project drawings, standards, and specifications. Should any non-compliance issues occur, they will be immediately communicated and resolved with the Engineer of Record. The inspection reports and test records will be made available for CBO review.

The owner will employ continuous monitoring of the gas pipeline. The Grimes pipeline will be integrated into the CPN Gas Control system. This is a Supervisory Control and Data Acquisition (SCADA) system that operates 24/7. It is used to monitor pipeline conditions such as flow and pressure and will notify pipeline operations in the event conditions deviate from normal operational tolerances. The Grimes pipeline will be installed so that both maintenance pigging and inspection tools can be run through the pipeline. Pig trap valves are installed on each end of the pipeline so that portable pig traps can be easily installed when/if pigging is required. The pipeline design meets the requirements (bend radius, full port tees, barred tees, etc.) for pig passage.

The pipeline operator is required to conduct foot patrol leak surveys annually, and aerial surveys for leak detection monthly. The Grimes pipeline will be registered with Underground Service Alert (USA). Anyone attempting to dig or penetrate the earth is required to call 811 for Underground Service Alert (USA) at least two working days in advance. USA will notify the pipeline operator so that appropriate action can be taken if necessary.

Pipeline markers identifying the location of the pipeline will be placed at regular intervals and at road crossings. The markers will identify a toll-free number to report emergencies and also provide the 811 number that needs to be called prior to any excavation occurring near the pipeline (Calpine 2011a).

CONCLUSIONS AND RECOMMENDATIONS

Given the low probability of failure of pipelines built and operated to modern codes and standards, and the low consequences likely to result from any failure of this pipeline, staff believes that the potential for significant impact on the public is insignificant.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Existing Conditions of Certification will be sufficient to provide adequate protection to the environment and the public and to reduce potential impacts from the proposed amendment to a less than significant level.

REFERENCES

Calpine 2011 – Calpine Construction Finance Company, the Grimes Pipeline Amendment to Sutter Energy Center /McBride (tn 59910). Submitted to CEC/C. Snow on 01/21/11.

CEC 1999 – California Energy Commission Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

Calpine 2011a – Responses to Data Requests Nos. 6 – 7, May 5, 2011

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Paleontological Resources Staff Analysis
Prepared by: Casey Weaver, CEG
July 14, 2011

INTRODUCTION

This analysis addresses project changes that would be associated with impacts to paleontological resources from construction of the proposed Grimes Pipeline Project (Project). Only those aspects associated with the Project that affect staff's testimony for **Paleontological Resources**, as contained in the Commission Decision (Decision) dated April 14, 1999 (CEC 1999), are examined. The technical scope of this analysis encompasses potential impacts to paleontological resources during and after the pipeline construction.

The Project is a 2.8-mile long 6-inch diameter natural gas pipeline located along Hageman Road and Girdner Road in Sutter County, California. The Project area consists of relatively flat agricultural lands primarily used for rice farming. The entire Project (approximately 29 acres) encompasses land along the county roadways that will be used for constructing the Project components and accommodating temporary construction staging areas and temporary pipeline bore work areas.

Project components consist of construction of a 0.22-acre gas metering facility (Grimes Station), the 2.8 mile long, 6 inch diameter natural gas pipeline, installation of natural gas meters at existing metering sites (Venoco Inc.'s Eastside MM and 32-33-3 MM sites) (ICF 2011d).

The Grimes Station will be built on an elevated gravel fill pad three feet thick that will occupy a portion of an agricultural field currently planted with row crops near the intersection of Girdner and Hageman Roads (ICF 2011c). A temporary 0.8 acre laydown area will be constructed next to the raised gravel pad. A culvert, approximately 30 feet long, will be placed within the seasonal agricultural drainage ditch along Girdner Road and covered with gravel to allow vehicle access to the Grimes Station and laydown area.

The natural gas pipeline will cross cultivated agricultural fields, pass beneath two Sutter county roads (Wilbur and Hageman near their intersections with Girdner Road) and 11 drainages. The natural gas pipeline will be installed primarily in an open trench approximately 6 feet deep (ICF 2011c). Sand or other bedding material will be used as backfill in the bottom of the trench to support the pipeline. The remainder of the trench will be backfilled with excavation spoils. The roads and nine of the drainages will be avoided by bore drilling beneath them. Two drainages will be affected by open trench construction (ICF 2011d).

The meters installed on existing metering sites Venoco Eastside MM and Venoco 32-33-3 MM will not require pad extensions and will occupy portions of the previously constructed metering sites (ICF 2011d).

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

No LORS related to paleontological resources that are applicable to the amendment have changed since the Commission Decision was published in April 1999.

ANALYSIS

Project construction will include the excavation of a pipeline trench approximately 2 feet wide, 6 feet deep and 2.8 miles long. Paleontological resources may exist in the area which will be disturbed by Project construction.

The Project is underlain by alluvial sediments belonging to the Modesto and Riverbank formations. A Pleistocene-age bison was found in sediments referable to the Modesto Formation, and a Pleistocene-age horse was found in sediments referable to the Riverbank Formation at sites near Yuba City (Sutter 2010). The University of California Museum of Paleontology (UCMP) collections includes records of numerous vertebrate fossil localities referable to either the Modesto or the Riverbank formations in the greater Central Valley, including specimens of ground sloth, saber-toothed cat, bison, camel, coyote, horse, sloth, mammoth, and several types of plants. Fossil specimens from sediments referable to the Modesto Formation have been reported at numerous locations throughout the San Joaquin Valley, including fish, turtles, snakes, birds, moles, gophers, mice, wood rats, voles, jackrabbits, coyote, red fox, grey fox, badger, horse, camel, pronghorn antelope, elk, deer, and bison. The occurrence of recorded vertebrate fossil remains in sediments referable to these two formations elsewhere in the Central Valley suggests there is a potential for uncovering additional similar fossil remains during construction-related earth-moving activities within the Project area.

The project owner has proposed to replace the existing Conditions of Certification with two conditions specific to the proposed Project. The project owner's proposed changes to the Conditions are insufficient to adequately protect paleontological resources. For instance, in the proposed Conditions, there is no provision for responding to the possibility that they would encounter a paleontological resource. An adequate procedure to respond to an encounter must be developed and approved by the CPM.

Staff understands the existing Conditions of Certification were developed for the initial project which included considerable excavation and earthmoving, and that the proposed project will disturb significantly less area. However, the potential for encountering paleontological resources during construction of the proposed Project remain and must be addressed. Staff has proposed changes to the Conditions of Certification so this potential impact can be adequately addressed.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the amendment for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that the Project complies with LORS.

Construction of the Project is not likely to result in significant adverse impacts on paleontological resources provided the existing Conditions of Certification, with modifications presented below, are followed.

PAL-8 specifies that the designated paleontological resource specialist (PRS) be present at all times. Staff understands the burden of full time representation by the PRS on the project owner. Therefore, staff recommends that excavations be viewed by a paleontological resource monitor (PRM) that is in direct communication with the PRS. To achieve this goal, staff recommends revisions to Conditions of Certification **PAL-1** and **PAL-8** for the proposed amendment.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Existing Conditions of Certification and modifications to **PAL-1** and **PAL-8** listed below will be sufficient to reduce potential impacts from the proposed amendment to a less than significant level.

PAL-1 ~~Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name(s) and qualifications of its designated paleontologic resources specialist and mitigation team members.~~

~~The designated paleontologic resources specialist shall be responsible for implementing all the Conditions of Certification and for using qualified personnel to assist him or her in project-related field surveys; monitoring; fossil stabilization, removal, and transport; data collection and mapping; direction and implementation of mitigation procedures; matrix sampling, screen washing, and other micro-fossil recovery techniques; preparation and analysis of recovered fossils and data; identification and inventory of recovered fossils; preparation of recovered fossils for delivery and curation; and report preparation.~~

~~After CPM approval of the Paleontologic Resources Monitoring and Mitigation Plan, described below in Condition PAL-4, the designated paleontologic resources specialist and team shall be available to implement the mitigation plan prior to, and throughout construction of the project.~~

~~Protocol: The project owner shall provide the CPM with a resume or statement of qualifications for its designated paleontologic resources specialist and mitigation team members. The resume(s) shall include the following information:~~

~~1) The resume for the designated paleontologic resource specialist shall demonstrate that the specialist meets the following minimum qualifications: a~~

~~graduate degree in paleontology or geology, or paleontologic resource management; at least three years of paleontologic resource mitigation and field experience in California, including at least one year's experience leading paleontologic resource field surveys; leading site mapping and data recording; marshalling and use of equipment necessary for fossil recovery, sampling, and screen washing; leading fossil recovery operations; preparing recovered materials for analysis and identification; recognizing the need for appropriate sampling and/or testing in the field and in the lab; directing the analyses of mapped and recovered fossil materials; completing the identification and inventory of recovered fossil materials; and the preparation of appropriate reports to be filed with the receiving curation repository, the University Museum of Paleontology at Berkeley, all appropriate regional information center(s), and the Commission.~~

~~2) The resume for the designated paleontologic resource specialist shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.~~

~~3) If additional personnel will be assisting the designated paleontologic resources specialist in project-related field surveys, monitoring, data and fossil recovery, mapping, mitigation, fossil analysis, or report preparation, the project owner shall also provide names, addresses, and resumes for these paleontology resource team members.~~

~~4) If the CPM determines that the qualifications of the proposed paleontologic resources specialist are not in concert with the above requirements, the project owner shall submit another individual's name and qualifications for consideration.~~

~~5) If the previously approved, designated paleontologic resources specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontologic resources specialist by submitting the name and qualifications of the proposed replacement to the CAM, at least ten (10) days prior to the termination or release of the preceding designated paleontologic resources specialist.~~

~~Verification: At least ninety (90) days prior to the start of construction on the project, the project owner shall submit the name and resume for its designated paleontologic resources specialist, to the CPM for review and approval. The CPM shall provide written approval or disapproval of the proposed paleontologic resources specialist.~~

~~Thirty (30) days prior to start of construction, the project owner shall confirm in writing to the CPM that the previously approved, designated paleontologic resources specialist and the team of assistants are prepared to implement the monitoring and mitigation measures for paleontologic resources, as described in the CPM-approved Paleontologic Resources Monitoring and Mitigation Plan, prepared per Condition PAL-4, below.~~

~~At least ten (10) days prior to the termination or release of a designated paleontologic resource specialist, the project owner shall obtain CPM approval of the new designated paleontologic resource specialist by submitting to the CPM the name and resume of the proposed replacement specialist.~~

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. **institutional affiliations, appropriate credentials, and college degree;**
2. **ability to recognize and collect fossils in the field;**
3. **local geological and biostratigraphic expertise;**
4. **proficiency in identifying vertebrate and invertebrate fossils; and**
5. **at least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities.**

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontologic Resource Monitors (PRMs) shall have the equivalent of the following qualifications:

BS or BA degree in geology or paleontology and one year of experience monitoring in California; or AS or AA in geology, paleontology, or biology and two years' experience monitoring in California; or enrollment in upper division classes pursuing a degree in the fields of geology or paleontology.

Monitors with lesser experience levels may be approved by the CPM, on a case-by-case basis, provided the proposed monitor will be working under the direct supervision of an approved monitor with the required credentials.

Verification: (1) At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for onsite work.

(2) At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning onsite duties.

(3) Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-8 The designated paleontologic resource ~~specialist~~ **monitor** shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in areas where remnant river terrace deposits have been found.

These terrace remnants have been generally correlated with soils of the Conejo-Tisdale group and Pleistocene-age fossil materials may be present. ~~Project areas where the terrace deposits may be found include the power plant site, the Sutter Bypass switching station site, portions of the 16-inch natural gas pipeline route, and the electric transmission line route. Using the mile posts and boundary stakes placed by the project owner, the designated paleontologic resource specialist shall monitor the route of the 16-inch natural gas pipeline, between Mile Post (MP) 0.00 to MP 2.07; MP 3.58 to MP 3.70; and MP 4.10 to MP 4.50. For the route of the 4.0-mile electric transmission line, areas to be monitored full-time are MP 0.00 to MP 1.40; and MP 1.80 to MP 2.60.~~

Other sections of the linear facility routes may be monitored as deemed necessary by the designated paleontologic resources specialist.

Verification: The project owner shall include in the Monthly Compliance Reports to the CPM, a summary of the daily logs prepared by the designated paleontologic resource specialist.

REFERENCES

CEC 1999 – California Energy Commission, Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

CPN 2011 – CPN Pipeline Company Grimes Pipeline Project, Phase I Environmental Site Assessment Report/ARCADIS. Submitted to CEC on 05/09/11.

ICF 2011a – ICF International, Grimes Pipeline Amendment to the Sutter Energy Center (97-AFC-02). Prepared for Calpine Construction Finance Company, LP. Prepared by: ICF. March 2011.

ICF 2011b - ICF International, Preconstruction Notification: Grimes Pipeline Project – PCN Revision. Dated 5/6/2011.

ICF 2011c - ICF International, Grimes Pipeline Project Amendment to the Sutter Energy Center (97-AFC-02), Cultural Resources Monitoring and Mitigation Plan. Dated June 2011.

ICF 2011d - ICF International, Draft Technical Memorandum: Supplement to the Sutter Energy Center (97-AFC-02) Biological Resources Mitigation Implementation and Monitoring Plan for the Grimes Pipeline Project, Sutter County, California. Dated June 2011.

Sutter 2010 – County of Sutter General Plan, DRAFT EIR, Section 6.8, Geology, Seismicity, and Mineral Resources, September 2010.

SVP 1995 - Society for Vertebrate Paleontology, *Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontologic Resources: Standard Procedures.*

UCMP 2009 - University of California Museum of Paleontology, Paleontology Collection Locality Records Website: http://ucmpdb.berkeley.edu/.

Valley 2009 - Valley Environmental Consulting, LLC., Storm Water Pollution Prevention Plan for: Grimes Natural Gas Pipeline, Girdner Road to Moroni Road. Dated November 3, 2009. Amended April 6, 2011.

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Soil and Water Staff Analysis
Prepared by: Casey Weaver, CEG
July 27, 2011

INTRODUCTION

This analysis addresses project changes that would be associated with impacts to soil and water resources from construction of the proposed Grimes Pipeline Project (Project). Only those aspects associated with the Project that affect staff's testimony for **Soil & Water**, as contained in the Commission Decision (Decision) dated April 14, 1999 (CEC 1999), are examined. The technical scope of this analysis encompasses water resources and erosion/sedimentation hazards during and after the pipeline construction. Impacts to water courses (drainages) are more fully discussed in the **Biological Resources** section of this document.

The proposed Sutter Grimes Pipeline (Grimes Pipeline) project is an amendment to the Sutter Power Plant Project, and its ancillary 14-mile natural gas interconnection pipeline approved in 1999. The pipeline, 2.8-miles long and 6-inch in diameter, is located along a section of Hageman Road and Girdner Road in Sutter County, California, and connects approximately at the midpoint of the existing 14-mile 20-inch diameter Calpine natural gas pipeline that serves the Sutter Power Plant. The proposed pipeline will convey natural gas from local wells and gathering facilities to the Sutter power plant's interconnection pipeline. The Project area consists of relatively flat agricultural lands primarily used for rice farming. The entire Project (approximately 29 acres) encompasses land along the county roadways that will be used for constructing the Project components and accommodating temporary construction staging areas and temporary pipeline bore work areas.

Project components consist of construction of a 0.22-acre gas metering facility (Grimes Station), the 2.8 mile long, 6 inch diameter natural gas pipeline, installation of natural gas meters at existing metering sites (Venoco Inc.'s Eastside MM and 32-33-3 MM sites) (ICF 2011d).

The Grimes Station will be built on an elevated gravel fill pad three feet thick that will occupy a portion of an agricultural field currently planted with row crops near the intersection of Girdner and Hageman Roads (ICF 2011c). A temporary 0.8 acre laydown area will be constructed next to the raised gravel pad. A culvert, approximately 30 feet long, will be placed within the seasonal agricultural drainage ditch along Girdner Road and covered with gravel to allow vehicle access to the Grimes Station and laydown area.

The natural gas pipeline will cross cultivated agricultural fields, pass beneath two Sutter County roads (Wilbur and Hageman near their intersections with Girdner Road) and 11 drainages. The natural gas pipeline will be installed primarily in an open trench approximately 6 feet deep (ICF 2011c). Sand or other bedding material will be used as backfill in the bottom of the trench to support the pipeline. The remainder of the trench

will be backfilled with excavation spoils. The roads and nine of the drainages will be avoided by bore drilling beneath them. Two drainages will be affected by open trench construction (ICF 2011d).

The meters installed on existing metering sites Venoco Eastside MM and Venoco 32-33-3 MM will not require pad extensions and will occupy portions of the previously constructed metering sites (ICF 2011d).

Water used during construction would be obtained from a private well at Clark Construction yard in Colusa and from Meridian Irrigation District and delivered to the Project via tanker truck (see Table 1 below).

No water will be consumed during Operations of the Project.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

The standards for development and implementation of a construction Storm Water Pollution Prevention Plan (General Order 2009-0009-DWQ) have been revised since the Commission Decision was published in April 1999. Staff analysis of the project requirements to comply with this revised order are discussed below.

ANALYSIS

WATER SUPPLY

The Project will require water for dust control, soil compaction, concrete mixing and pipeline hydrotesting. The project owner proposes to obtain 900,100 gallons (about 2.8 acre-feet) of water for dust control, soil compaction and concrete mixing from the local Meridian Farms Water Company (Meridian). For the hydrotest of the pipeline, which requires water of higher quality than that provided by Meridian, water would be obtained from a private water well owned by Clark Construction. This private well is located at Clark Construction's yard in Colusa (See **Table 1**).

Expected consumption of water due to construction is presented in the following table:

Table 1
ESTIMATED WATER CONSUMPTION FOR CONSTRUCTION ACTIVITIES

Construction Activity	Daily Peak Volume (gallons)	Total Project Consumption (gallons)	Water Source	Comment
Hydrotest	22,000	22,000	Private water well at Clark Construction yard in Colusa	Hydrotest includes the 2.8 mile, 6” pipeline.
Dust Suppression (to	21,000	840,000	Meridian Farms Water	Maximum water usage based on 3

be performed only if necessary)			Co.	trucks twice a day @ 3,500 gal. each. Assumes two month construction period.
Soil Compaction	60,000	60,000	Meridian Farms Water Co.	Water use assumes 3 water trucks per lift. Water source will be from local Meridian Irrigation District.
Concrete Pour	100	100	Meridian Farms Water Co.	Concrete will arrive to the site pre-mixed. Water will be used at concrete washout station.
Fire Suppression	N/A	N/A	N/A	Project will use hand held fire extinguishers to put out small fires. The local Fire Department will be called out in the event of a major fire.
TOTAL	103,100	1,120,100		

Source: Calpine Corporation (7/11/2011) personal communication with Kathleen Campbell

Meridian has committed to supplying the project with 1,120,078 gallons of water, delivered at a peak rate of 103,078 gallons per day (Meridian 2011). Meridian states that the water comes from existing surface water sources are available for the project and will not impact the resource or existing users of that resource. Staff believes that since Meridian farms would be delivering water in accordance with their legal entitlement and would not affect other users, the limited use of this supply would have no significant impacts.

The total volume of water expected to be drawn from the private well located at Clark Construction is less than would be required to fill a swimming pool. Based on staff knowledge of the groundwater resources and aquifer characteristics in this region, staff believes that any local drawdown impacts to other users nearby wells would be short term and insignificant. In addition, the total volume is insignificant and would not affect the local supply.

WATER QUALITY

Mitigation of erosion and sedimentation hazards of the initial project were addressed in the Final Decision, Condition of Certification **SOIL&WATER-4** which required preparation of a Construction Storm Water Pollution Prevention Plan (SWPPP). A Construction SWPPP typically includes provisions for installation of silt fencing, fiber rolls, and other physical measures employing Best Management Practices (BMPs) to minimize erosion and sedimentation hazards cause by site disturbance during

construction. To address the erosion and sedimentation hazards, a SWPPP was prepared by the project owner for the gas pipeline linear extending from Girdner Road to Moroni Road (Valley 2009). The SWPPP was initially prepared in November 2009 for the approved Sutter Energy Center project. The proposed amended SWPPP for this Project was prepared on April 6, 2011. The amendments to the original SWPPP that are pertinent to erosion and sedimentation hazards include: SWPPP Amendment No. 2, construction of gravel pad at Grimes Station facility; SWPPP Amendment No. 3, drawing revisions to reflect changes in pipeline alignment, access roads, and locations of staging areas. BMPs have been revised accordingly; and SWPPP Amendment No. 4, entire replacement of Section 600.1 to conform to current (General Order 2009-0009-DWQ) monitoring requirements (Valley 2009).

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that the Project complies with LORS, will not consume a significant amount of water for construction, and is subject to erosion and sedimentation hazards that can be mitigated to a level less than significant.

Staff recommends that Project construction be conducted in accordance with the existing Conditions of Certification presented in the Final Decision and with the amendments presented in the amended Construction SWPPP.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff does not propose modifications to the existing Conditions of Certification. The Conditions remain adequate to assure the Project is constructed in a manner sufficient to reduce potential impacts to a less than significant level.

REFERENCES

CEC 1999 – California Energy Commission, Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

CPN 2011 – CPN Pipeline Company Grimes Pipeline Project, Phase I Environmental Site Assessment Report/ARCADIS. Submitted to CEC on 05/09/11.

ICF 2011a – ICF International, Grimes Pipeline Amendment to the Sutter Energy Center (97-AFC-02). Prepared for Calpine Construction Finance Company, LP. Prepared by: ICF. March 2011.

ICF 2011b - ICF International, Preconstruction Notification: Grimes Pipeline Project – PCN Revision. Dated 5/6/2011.

ICF 2011c - ICF International, Grimes Pipeline Project Amendment to the Sutter Energy Center (97-AFC-02), Cultural Resources Monitoring and Mitigation Plan. Dated June 2011.

ICF 2011d - ICF International, Draft Technical Memorandum: Supplement to the Sutter Energy Center (97-AFC-02) Biological Resources Mitigation Implementation and Monitoring Plan for the Grimes Pipeline Project, Sutter County, California. Dated June 2011.

Meridian 2011 – Meridian Farms Water Company Supply to the Calpine Grimes Pipeline Project (97-AFC-02). Letter to Christina Stora (CEC) from Andy Duffy (Meridian), Dated July 20, 2011

Valley 2009 - Valley Environmental Consulting, LLC., Storm Water Pollution Prevention Plan for: Grimes Natural Gas Pipeline, Girdner Road to Moroni Road. Dated November 3, 2009. Amended April 6, 2011.

PERSONAL COMMUNICATIONS:

Email communication between Kathleen Campbell (Calpine) and Casey Weaver (CEC). July 11, 2011

SUTTER ENERGY CENTER (97-AFC-2C)
Request to Amend Final Commission Decision
Waste Management Staff Analysis
Prepared by: Ellen Townsend-Hough, REA
July 22, 2011

INTRODUCTION

The proposed Sutter Grimes Pipeline project is an amendment to the Sutter Power Plant Project, and its ancillary 14-mile natural gas pipeline approved in 1999. The proposed pipeline is located along a 2.8-mile long section of Hageman Road and Girdner Road in Sutter County, California, and connects to the 450-foot gas pipeline interconnection and to the existing 20-inch diameter Calpine natural gas pipeline that serves the Sutter Power Plant. The proposed pipeline is surrounded by land predominately used for agriculture. The project also includes two approximately 1-acre construction laydown areas situated at Venoco GOU 4-14 and GOU 32-33-16 natural gas well stations and the 0.22-acre proposed Grimes Station located adjacent to Girdner Road (CPN 2011).

This analysis addresses the proposed Sutter Grimes Pipeline project and elements that would be associated with managing waste generated from construction of the pipeline, and any hazardous or non-hazardous wastes already existing on-site. Only those aspects associated with the Grimes Pipeline Project that have changed because of the proposed amendment and that affect staff's testimony for **Waste Management**, as contained in the Commission Decision (Decision) dated April 14, 1999 (CEC 1999), are examined. The technical scope of this analysis encompasses solid wastes existing and those generated during the pipeline construction. Wastewater is more fully discussed in the **Soil and Water Resources** section of this document.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

No LORS applicable to the project have changed since the Commission Decision was published in April 1999.

ANALYSIS

Staff has reviewed the petition for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that given the presence of waste materials along the pipeline route, as evidenced in the Phase I ESA dated May 9, 2011, potentially contaminated soil may be encountered during site characterization, excavation, or grading, as evidenced by the land being used for predominantly agricultural purposes since the 1950s. To address this concern, Staff has included Conditions of Certification **WASTE-4** that would require the applicant to develop a Soil Management Plan and demonstrate how the site would be managed in order to protect human health and the environment.

A Phase I Environmental Site Assessment (ESA) dated May 9, 2011 was prepared by ARCADIS U.S., Inc. The ESA was completed in accordance with the American Society for Testing and Materials Standard Practice E 1527-05 for ESAs. The ESA did identify one potential recognized environmental condition (REC) associated with the proposed project site. A REC is considered to be the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicated an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property. The ESA identified septic tanks and leach fields near the residential houses and possible concentrations of herbicides and pesticides from spraying operations typically associated with agricultural land. The Phase I ESA identified one potential REC. The REC identified was a potential release of produced water from the wells or aboveground storage tanks on the natural gas well stations. De minimis conditions exist, such as the possible presence of residual soil concentrations of herbicides and pesticides applied during past agricultural use. The ESA also suggests that the groundwater beneath the Site may be impacted by discharge from the leach fields (CPN 2011).

In the event that construction excavation, grading or trenching activities for the proposed project encounter potentially contaminated soils, specific handling, disposal, and other precautions may be necessary pursuant to hazardous waste management LORS. Staff believes that proposed Conditions of Certification **WASTE-4** would be adequate to address any soil contamination contingency that may be encountered during construction of the project and would ensure compliance with LORS. Absent any unusual circumstances, staff considers project compliance with LORS to be sufficient to ensure that no significant impacts would occur as a result of project waste management activities.

CONCLUSIONS AND RECOMMENDATIONS

Staff recommends that Condition of Certification **WASTE-4** be added to the conditions of certification for the proposed amendment. **WASTE-4** would require that prior to initiating any earthwork on the project site; the project owner shall prepare and submit to the Energy Commission Compliance Project Manager (CPM) for approval, a Soils Management Plan to assure the proper handling, storage and disposal of contaminated soils.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Existing Conditions of Certification and the addition of **WASTE-4** will be sufficient to reduce potential impacts from the proposed amendment to a less than significant level.

WASTE-4 **Prior to initiating any earthwork on the project site, the project owner shall prepare and submit to the Compliance Project Manager (CPM) for approval, a Soils Management Plan (SMP). The SMP should include but is not limited to the following:**

- **Land use history, including description and locations of known contamination;**

- **An earthwork schedule;**

- **The project owner shall describe methods which will be used to properly handle and/or dispose of soil which may be classified as hazardous or contain contaminants at levels of potential concern, including the identification of legal discharge areas;**

- **The SMP shall discuss, as necessary, the reuse of soil on site in accordance with applicable criteria to protect construction workers or future workers on site;**

- **A SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed.**

Verification: **At least 20 days prior to any earthwork, including those earthwork activities associated with the site mobilization, ground disturbance, or grading as defined in the general conditions of certification the project owner shall submit the Soils Management Plan to the CPM for approval.**

REFERENCES

Calpine 2011 – Calpine Construction Finance Company, the Grimes Pipeline Amendment to Sutter Energy Center /McBride (tn 59910). Submitted to CEC/C. Snow on 01/21/11.

CEC 1999 – California Energy Commission Final Energy Commission Decision approving the Sutter Power Plant Project (Publication Number P800-99-010) dated 04/14/99.

CPN 2011 – CPN Pipeline Company Grimes Pipeline Project Phase I Environmental Site Assessment Report/ARCADIS. Submitted to CEC on 05/09/11

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DOCKET
97-AFC-2C
DATE Sept 08 2011
RECD. Sept 09 2011

September 8, 2011

Ms. Christina Stora
Compliance Project Manager
California Energy Commission
1516 9th Street
Sacramento, CA 95614

RE: Grimes Pipeline Project Amendment 97-AFC-02
Comments on Staff Assessment

Dear Ms. Stora:

On behalf of Calpine Construction Finance Company, L.P. and CPN Pipeline Company, please find comments on the California Energy Commission's (CEC) Staff Assessment, posted for public comment on August 11, 2011.

These comments include requests for clarification of information provided in the Staff Analysis and discussions addressing the applicability of certain proposed modifications to conditions of certification for biological, cultural and paleontological resources.

We would like to meet with you at your convenience to discuss our comments and conditions applicable to the Grimes Pipeline Project.

Please contact me at (925) 557-2238 to set up a meeting date.

Sincerely,

Barbara McBride
Western Regional Director, Environmental Health and Safety

Attachment

Calpine Construction Finance Company, L.P. and CPN Pipeline Company Comments on the California Energy Commission's Staff Assessment for the Sutter Energy Center Project (97-AFC-2C) Proposed Modifications to Install the Sutter Grimes Pipeline

I. INTRODUCTION

Calpine Construction Finance Company and CPN Pipeline, hereinafter "Petitioner," provide the following comments to the Staff Analysis of Proposed Modifications to Install the Sutter Grimes Pipeline and the supplement thereto, hereinafter "Staff Assessment," issued August 11, 2011 and August 16, 2011, respectively. Petitioner is in substantive agreement with the majority of the Staff Assessment's analyses and conditions, but suggests the following few corrections and clarifications.

We note that some of the proposed conditions are new conditions drafted to specifically apply to the construction and operation of the Grimes Pipeline Project, while other conditions are revisions to conditions which apply to the original powerplant. We recommend that conditions applicable to the Grimes Pipeline Project be drafted and numbered with a "GP" to indicate that they apply specifically to this project. We believe that revising existing conditions will create unnecessary confusion regarding whether the revision is intended to apply only to the pipeline or whether it is intended to apply to the existing powerplant, and propose a meeting to review the applicability of the 1999 conditions of certification to Grimes Pipeline Project.

Requested minor modifications to the Staff Assessment's proposed conditions of certification are provided in Section II, and requested clarifications to language in staff analyses are provided in Section III. All recommended changes to language to the Staff Assessment are provided in bold text in the sections below.

Petitioner's proposed set of conditions of certification specific to the Grimes Pipeline Project will be submitted to the California Energy Commission under separate cover.

II. COMMENTS ON CONDITIONS OF CERTIFICATION

A. Biological Resources

BIO-2 Designated Biologist Duties

We propose clarifying that the Designated Biologist or his designee (Biological Monitor) may perform daily activities set forth in this condition including preconstruction monitoring and daily surveys of open excavations and trenches prior to start of work and be present during all work with special attention to excavations, spoil placement, backfilling and silt fence/snake fence installation and removal upon approval by the CPM.

- BIO-2:

BIO- 2 Designated Biologist Duties

The project owner shall assign at least one Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist(s), with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS. The Designated Biologist shall remain the contact for the project owner and the CPM.

The CPM-approved Designated Biologist shall perform the following duties:

1) advise the project owner's supervising construction or operations engineer on the implementation of the biological resource Conditions of Certification;

2) supervise or conduct mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species;

3) direct access and construction activities that occur within 200 feet of giant garter snake habitat. The Designated Biologist shall conduct WEAP training (BIO-4), preconstruction surveys for giant garter snake (BIO-8), survey open excavations and trenches every morning prior to start of work, and be present during all work with special attention to excavations, spoil placement, backfilling, and silt fence/snake fence installation and removal; and

4) notify the project and the CPM of any non-compliance with any Condition.

The Designated Biologist may delegate onsite monitoring duties to a Biological Monitor with approval from the CPM as described below.

BIO-2a Biological Monitor Selection of Duties

We believe one approved biologist (either the Designated Biologist or Biological Monitor acting for the Designated Biologist) can perform all the necessary duties described in conditions Bio-2 and Bio-2a. The pipeline is relatively short and accessible from local paved or gravel roads, the Designated Biologist will have direct phone contact with the Compliance Project Manager, and all workers will be trained to contact the Designated Biologist if a snake is found. We therefore believe that it is appropriate that BIO-2a be revised to clarify that the Designated Biologist may be assisted by a Biological Monitor(s) when needed, and make the following suggestion.

- BIO-2a:

  BIO- 2a Biological Monitor Selection and Duties

  > The Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitor(s) to the CPM. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, and WEAP. The Biological Monitor(s) ~~shall~~ **may** assist the Designated Biologist in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, fencing, grading, boring, trenching and reporting.

  Verification: The project owner shall submit the specified information to the CPM for approval of Biological Monitors at least 30 days prior to the start of any site mobilization or construction-related ground disturbance, grading, boring and trenching. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional Biological Monitors are needed during construction the specified information shall be submitted to the CPM and for approval at least 10 days prior to their first day of monitoring activities. The Biological Monitor shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources compliance activities.

BIO-4 Worker Environmental Awareness Program

Consistent with practice in construction of previously licensed projects, BIO-4 should provide that Worker Environmental Awareness Program ("WEAP") training include electronic media. .

- BIO-4 Worker Environmental Awareness Program

  The project owner shall develop and implement a Worker Environmental Awareness Program (WEAP) in which each of its own employees, monitors, inspectors, ~~as well as employees of~~ contractors and subcontractors who work on the project site ~~or related facilities (including any access roads, storage areas, transmission lines, water and gas lines)~~ during construction and operation, shall be required to take the WEAP training to become ~~are~~

informed about biological resource sensitivities associated with the project. ~~(see General Conditions of Compliance).~~

The Worker Environmental Awareness Program:

1) shall be developed by the Designated Biologist and consist of an on-site or classroom presentation in which supporting written material **and electronic media** is made available to all participants;

2) must discuss the locations and types of sensitive biological resources on the project site and adjacent areas specifically training workers to recognize giant garter snakes, their habitat(s), nature and purpose of protection measures, the need to report all sightings of giant garter snakes, consequences of not complying with permit conditions and measures, and the terms and conditions of any permit applicable to the project. The Designated Biologist must identify giant garter snake habitat areas and indicate to all site personnel that they are Environmentally Sensitive Areas in the WEAP training;

3) must present the reasons for protecting these resources;

4) must present the meaning of various temporary and permanent habitat protection measures; and

5) must identify who to contact if there are further comments and questions about the material discussed in the program.

The specific program shall ~~can~~ be administered by the Designated Biologist ~~a competent individual(s) acceptable to the designated biologist.~~

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program material. Each statement shall also be signed by the person administering the Worker Environmental Awareness Program.

The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. Signed statements for active operational personnel shall be kept on file by the project owner for the duration of their employment and for six months after their termination.

Verification: At least 30 days prior to the start of any ground-disturbing activities ~~rough grading~~, the project owner shall provide copies of the draft Worker Environmental Awareness Program and all supporting written materials prepared by the D~~d~~esignated B~~b~~iologist to the CPM for review and comment~~. and the name and qualifications of the person(s) administering the program to the CPM for approval.~~ Within 10 days prior to the start of any ground-disturbing activities, a final approved WEAP with agency comments addressed shall be submitted to the CPM.

The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

B. Cultural Resources

CUL-15.6 Archaeological Monitoring for the Grimes Pipeline Project

As described in the Amendment, a literature search revealed no prehistoric or historic sites recorded in the project vicinity. Field investigations including surface and a subsurface investigation of an existing exposed earthen drainage showed no archeological deposits or materials.

As described in the Amendment, the majority soil type (Capay silty clay) within the project vicinity is not sensitive for the presence of buried archaeological deposits, owing to its situation on basin deposits, which are not generally favorable locales for human habitation. Additionally, buried soil horizons have not been identified in Capay soil units in the project vicinity.

Our field investigation, as reported in the Amendment, indicates that the probability of the pipeline construction intersecting a buried archaeological feature is small. As reported in the Amendment, the Petitioner's cultural resources expert, ICF International ("ICF"), examined the bottom and sidewalls of a dry, earthen drain that parallels the southern 20 percent of the alignment, including those areas considered sensitive by tribal consultants and that have some buried site potential (Shanghai soil series). This examination showed that the earth drain did not contain archaeological materials or buried soil horizons in the examined sidewalls and ditch bottom. Furthermore, the soil data for the project vicinity indicates that buried soil horizons in the project area are likely to occur (if present) between 0.7 and 1.6 meters below ground surface. Given that no archaeological materials or buried soil horizons were discovered along the bottom and sides of the existing exposed earthen ditch for the entire length that traversed Shanghai series soils to a depth of 1.8 meters, and the maximum excavation depth will be 1.8–2.1 meters below ground surface, the probability of intersecting a buried archaeological seems small. (Amendment, Appendix G, "Cultural Resources Inventory Report" by ICF International 2011b:1-5, 2-1, 2-2, 3-2, 3-3, Table 1.) Indeed, the CEC deems the project "to pose a marginal threat to cultural resources" (McGuirt 2011:2).

Accordingly, we request that Condition 15.6 be modified to allow the Cultural Resources Specialist ("CRS") to be on call during ground disturbing activities. The CRS would be called to the project site if a potential unidentified find is encountered by the construction crew or supervisors who have been trained by the CRS to stop work if a potential archeological find is encountered. The CRS would then implement the Cultural Resources Monitoring and Mitigation Plan.

Also, because the depth of particular soil horizons varies over horizontal distance and tribal cultural resource specialists have remarked that the vicinity of the proposed Grimes Station is sensitive for the presence of Native American resources, monitoring by a Native American Monitor in the vicinity of Grimes Station is prudent and has been recommended by Petitioner. (Amendment, Appendix G, ICF International 2011b:3-2, 2011c:15).

However, we believe there is little benefit in requiring both a tribal monitor and an archaeologist to monitor the Grimes Station pad site and vicinity where Petitioner can

obtain a tribal monitor that meets the CRM qualifications described in condition CUL-15.1, and the Native American monitor can commit to monitoring during ground disturbing activities at the Grimes Station pad and work under the supervision of the CRS.

Based on the foregoing, we request the following modifications to CUL-15.6.

- CUL-15.6:

Prior to the start of project construction, the project owner shall notify the CPM of the date on which ground disturbance will ensue. The project owner shall ensure that the CRS, alternate CRS, or CRMs **implement a full-time** monitor**ing program at the proposed Grimes Station and the surrounding area encircled by drainage ditches and the eucalyptus windbreak.**~~, full time, all ground disturbance along the pipeline alignment, and at laydown areas, roads, and other ancillary areas,~~ to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. **In addition, the CRS, alternate CRS, or CRMs will be on-call in the event that a potential unidentified find is encountered, and will track (as described in CUL-15.1 and CUL-15.2) all ground disturbance along the pipeline alignment, and at laydown areas, roads, and other ancillary areas.**

Full-time archaeological monitoring **by a tribal CRM at the proposed Grimes Station** ~~for this project~~ shall be the archaeological monitoring of ground-disturbing activities in the areas specified in the paragraph immediately above, for as long as the activities are ongoing. **If two or more excavations transpire simultaneously more than fifty feet apart at the proposed Grimes Station, the CRS, alternate CRS, or CRMs will add monitoring staff as needed to observe excavation as it happens.** ~~Where excavation equipment is actively removing dirt and hauling the excavated material farther than fifty feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.~~

The project owner shall obtain the services of one or more Native Americans to monitor all ground disturbance related to project construction. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from he Native American Heritage Commission. Preference in selecting a monitor shall be given to native Americans with traditional ties to the area where the project is located, but the project owner shall make a reasonable and good faith effort to accommodate equally all groups expressing the desire to monitor. If efforts to obtain the services of at least one qualified Native American monitor, acceptable to all groups that want monitoring, are unsuccessful, the project owner shall immediately inform the CPM. The CPM may either identify potential monitors or allow ground disturbance to proceed without a Native American monitor.

C. Paleontological Resources

The Staff Assessment states that the project is "underlain by alluvial sediments belonging to the Modesto and Riverbank formations," and notes that these formations have previously yielded Pleistocene-aged discoveries near Yuba City (Weaver 2011:2). Whereas these two Pleistocene-aged, sometimes-fossil-bearing formations may underlie the project, it is very unlikely that project excavation would intersect Pleistocene-aged sediments because the surface geology of the project is mapped as Quaternary stream channel deposits. The explanatory data that accompany this geologic map further characterize these stream channel deposits as Recent in age, which is to say belonging to the Holocene Epoch (ca. 11,000 years ago to present) (Burnett and Jennings 1962; ICF International 2011b:2-1). Holocene aged sediments in the middle of the Central Valley are up to 200 feet thick (ICF International 2011b:2-1; Poland and Evenson 1966:Table 1). Indeed, Holocene-aged deposits can be expected to be thick along the Sacramento River: archaeological investigations along the river between Colusa and Princeton, also mapped as Quaternary stream channel deposits, yielded Holocene-vintage radiocarbon dates at depths of 5 feet below current grade (Westwood 2005:44–45; White 2003:218–219). As such, it is difficult to imagine that the deep sediments of the Sacramento River alluvial plain and basins in the project vicinity contain Pleistocene sediments just 1 foot deeper. Therefore, it is unlikely that construction of the Grimes Pipeline Project will disturb Pleistocene sediments.

In light of the high improbability of encountering Pleistocene geologic formations during project construction, the possibility of intersecting paleontological resources appears remote. Given the low sensitivity of the project area for paleontological resources, we believe conditions for certification PAL-1 (as revised by the Staff Assessment) and PAL-2 are adequate to protect potential paleontological resources in an area that has been determined to have little potential for the occurrence of such resources. Also, because of the unlikely potential for the occurrence of paleontological resources as a result of project construction, we believe a paleontologist monitor during ground disturbance is not needed, and request that PAL-8 be deleted.

- PAL-8:

~~The designated paleontologic resource specialist **monitor** shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in areas where remnant river terrace deposits have been found.~~

~~These terrace remnants have been generally correlated with soils of the Conejo-Tisdale group and Pleistocene-age fossil materials may be present.~~

~~Project areas where the terrace deposits may be found include the power plant site, the Sutter Bypass switching station site, portions of the 16-inch natural gas pipeline route, and the electric transmission line route. Using the mile posts and boundary stakes placed by the project owner, the designated paleontologic resource specialist shall monitor the route of the 16-inch natural gas pipeline, between Mile Post (MP) 0.00 to MP 2.07; MP 3.58 to MP 3.70; and MP 4.10 to MP 4.50. For the route of the 4.0-mile electric transmission line, areas to be monitored full-time are MP 0.00 to MP 1.40; and MP 1.80 to MP 2.60.~~

~~**Other sections of the linear facility routes may be monitored as deemed necessary by the designated paleontologic resources specialist.**~~

~~**Verification:** The project owner shall include in the Monthly Compliance Reports to the CPM, a summary of the daily logs prepared by the designated paleontologic resource specialist.~~

References Cited

Burnett, J. L., and C. W. Jennings. *Geologic Map of California: Chico Sheet.* 1:250,000 scale. Sacramento, CA: Division of Mines and Geology, Department of Conservation.

ICF International. 2011a. *Amendment to the Application for Certification for the Sutter Energy Center Project (97-AFC-02).* Administrative draft. January. Prepared by ICF International, Sacramento, CA. (ICF 00776.10.) Prepared for Calpine Construction Finance Company.

———. 2011b. *Cultural Resources Inventory Report for the Grimes Pipeline Project, Sutter County, California.* January. Prepared by ICF International, Sacramento, CA. (ICF 00776.11.) Prepared for CPN Pipeline Company, Rio Vista, CA. Submitted to California Energy Commission, Sacramento, CA.

———. 2011c. *Grimes Pipeline Project Technical Memorandum to the Sutter Eergy Center (97-AFC-02) Cultural Resources Monitoring and Mitigation Plan.* Draft. June. Prepared by ICF International, Sacramento, CA. (00776.10) Prepared for Calpine Construction Finance Company, L.P. and CPN Pipeline Company.

McGuirt, M. D. 2011. Cultural Resources Staff Analysis for Sutter Energy Center (97-AFC-2C), Request to Amend Final Commission Decision. August 10. Prepared by California Energy Commission, Sacramento, CA.

Poland, J. F., and R. E. Evenson. 1966. Hydrogeology and Land Subsidence, Great Central Valley, California. In Chapter V of *Geology of Northern California,* edited by E. H. Bailey, pp. 239–248. Bulletin 190. San Francisco, CA: California Division of Mines and Geology.

Weaver, C. 2011. Paleontological Resources Staff Analysis for Sutter Energy Center (97-AFC-2C), Request to Amend Final Commission Decision. July 14. Prepared by California Energy Commission, Sacramento, CA.

Westwood, L. D. 2005. *Cultural Resource Investigation for the Colusa Subreach Planning, Volume I of II, Glenn and Colusa Counties, California.* January 14. Reports 52. Prepared by Archaeological Research Program, California State University, Chico. Prepared for The Nature Conservancy, Chico, CA.

White, G. G. 2003. *Testing and Mitigation at Four Sites on the Level(3) Long Haul Fiber Optic Alignment, Colusa County, California.* May 15. Report 42. Prepared by Archaeological Research Program, California State University, Chico. Prepared for Kiewit Pacific, Concord, CA.

III. PROPOSED CHANGES TO ANALYSES

A. Description of Grimes Station Permanent and Temporary Construction Acreage

The Grimes Station Pad construction area totals 0.8 acres and will be one continuous site. Construction of the Grimes Station will result in disturbance to the ground surface over an area of approximately 0.8 acre, which includes the 0.22 acre gravel pad site for the Grimes Station and approximately 0.58 acre additional construction easement. The Grimes Station pad was reduced to 0.22 acre at the request of the landowner and as described in the letter to the CEC dated May 5, 2011. The Staff Assessment includes varying descriptions of the Grimes Station site construction area and Grimes Station pad; therefore, we suggest the following modifications.

- Biological Resources, p. 3:

Biological Resources Table 2 – Temporary and Permanent Land Disturbance Acreages Required to Construct and Operate the Project

Component	Permanent	Temporary	Habitat Type	Total
Grimes Station	~~0.5~~ **0.22**	~~0.3~~ **0.58**	Row crop	0.8
Gas pipeline system	0.0	27.3	Rice, row crop, non-native grassland	27.3
Meter sites	0.0	0.0	Developed (existing gravel pad)	0.0
Tap site	0.0	0.2	Row crop	0.2
Temporary material and equipment staging	0.0	1.0	Row crop, gravel, rice	1.0
Total	0.5	28.8		29.3

- Cultural Resources, p. 1:

  The construction of Grimes Station would primarily result in disturbance to the ground surface over an area of approximately 0.8 acre, which includes the ~~0.5~~ **0.22** acre site for the station and a ~~0.3~~ **0.58** acre additional temporary construction easement.

- Paleontology, p. 1 and Soil & Water, p. 1:

  A temporary ~~0.8~~ **0.58** acre laydown area will be constructed next to the raised gravel pad.

B. Cultural Resources

The Staff Assessment states:

> The only evidence for the record, of which staff is aware, of the Native American perspective on the appropriate scope of Native American monitoring for the subject project, is a January 21, 2011 email from Mike DeSpain of the Mechoopda Indian Tribe of Chico Rancheria which requests that 'a funded Tribal Monitor be on site during all ground breaking activities.' Although the information in Appendix G on tribal monitoring variously supports the Native American monitoring component of staff's recommended Condition of Certification CUL-15, no discussion of Native American concerns or mention of tribal monitoring was included in the actual Cultural Resources analysis or revised conditions of certification included in the SEC Petition to Amend

(McGuirt 2011:3.)

The Amendment's cultural resources analysis states that the consulted tribes find a particular portion of the project area to "be sensitive for Native American resources. (Amendment, Appendix G, "Cultural Resources Inventory Report," ICF International 2011a:19). Appendix G to the Amendment, describes Native American concerns via summary text and presentation of correspondence from tribes and the Native American Heritage Commission ("NAHC"), and indicates that the tribes and the NAHC are concerned about the timing of consultation and the sensitivity of the project area for cultural resources. Correspondence attached to Appendix G includes two emails from the Mechoopda Indian Tribe (Mike DeSpain), a letter from the NAHC, and detailed notes from the January 20, 2011 consultation meeting, which outline Native American concerns. (Appendix G, ICF International 2011b:3-1, 3-2, Appendix C.) The Amendment did not propose a specific condition for tribal monitoring during construction as Petitioner and ICF International determined that the appropriate vehicle for identifying and describing this important component of compliance monitoring and resource protection was an amendment to the SEC's Cultural Resources Mitigation and Monitoring Plan ("CRMMP"). Accordingly, the amended CRMMP proposed for this project contains the tribal monitoring requirement (Appendix G, ICF International 2011c:15).

Based on the discussion in the Amendment, and the correspondence provided with Appendix G to the Amendment, we suggest the following modification to the Cultural Resources staff analysis.

- Staff Analysis, p. 3:

  .... The ~~only~~ evidence ~~for~~ **in** the record~~, of which staff is aware,~~ of the

  Native American perspective on the appropriate scope of Native American monitoring for the subject project, ~~is~~ **includes** a January 21, 2011 email from Mike DeSpain of the Mechoopda Indian Tribe of Chico Rancheria which requests that "a funded Tribal Monitor be on site during all ground breaking activities." ~~Although t~~**T**he information in Appendix G on tribal monitoring **also**

~~variously~~ supports the Native American monitoring component of staff's recommended Condition of Certification CUL-15. ~~no discussion of Native American concerns or mention of tribal monitoring was included in the actual Cultural Resources analysis or revised conditions of certification included in the SEC Petition to Amend~~

C. Hazardous Material Management

Per 49 CFR Part 192.905, pipelines that are located in a High Consequence Area (HCA) must be part of an Integrity Management Program. The Grimes Pipeline Project (as well as the Sutter Pipeline) is not located in an HCA and therefore will not be part of the Integrity Management Program maintained by CPN Pipeline Company. The discussion in the analysis appears to imply that the Grimes Pipeline requires an integrity management plan. To clarify that Petitioner does not need to incorporate the Grimes Pipeline in an integrity management program, we suggest the following change:

- Staff Analysis, p. 2:

  The regulations specify minimum safety standards regarding materials, design, construction, training of construction workers and operators, corrosion control, operations, and maintenance for pipeline facilities and the transportation of natural gas. They also require an integrity management plan governing the operations and maintenance activities **for High Consequence Areas, which the Grimes Pipeline Project does not occupy**. The operator must establish an emergency plan that minimizes hazards in the event of a pipeline emergency.

Also, the analysis section contains a typographical error, and should read as follows:

- Staff Analysis, p. 1:

  The technical scope of this analysis encompasses hazardous materials used during the pipeline construction and natural gas contained within the pipeline once it is operation.

NYSE CPN

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September 16, 2011

DOCKET
97-AFC-2C
DATE Sept 16 2011
RECD. Sept 16 2011

Ms. Christine Stora
Compliance Project Manager
California Energy Commission
1516 9th Street
Sacramento, CA 95614

RE: Grimes Pipeline Project Amendment 97-AFC-02
Sutter Energy Center Conditions of Certification and Proposed Conditions of Certification for the Grimes Pipeline Project

Dear Ms. Stora:

As Calpine Construction Finance Company, L.P. and CPN Pipeline Company indicated in our comments on the California Energy Commission's (CEC) Staff Assessment on the Grimes Pipeline Project Amendment dated September 11, 2011, please find attached our proposed set of conditions of certification specific to the Grimes Pipeline Project (Grimes Project).

The attached table summarizes what we believe are the applicable April 1999 Conditions of Certification issued as part of the Commission's Decision for the Sutter Energy Center (SEC) and the proposed conditions of certification set forth in the Staff Assessment. The purpose of this table is to clarify what conditions will be required for the Grimes Project so that Calpine Construction Finance Company, L.P. and CPN Pipeline Company can comply in a timely manner as we proceed toward construction of the Project.

We would like to meet with you at your convenience to discuss the conditions of certification that are applicable to the Grimes Pipeline Project.

Please contact me at (925) 557-2238 to set up a meeting date.

Sincerely,
Barbara McBride
Western Regional Director, Environmental Health and Safety

Attachment

PROPOSED ENVIRONMENTAL ASSESSMENT CONDITIONS OF CERTIFICATION APPLICABLE

TO THE GRIMES PIPELINE PROJECT

Resource	Condition of Certification	General Description of Condition of Certification	1999 Staff Assessment Citation	Applicability to Grimes Project
Air Quality	AQ-1	City/County of Sutter approved erosion and sediment control plan	Page 45	Applicable
	AQ-SC1	Air Quality Construction Mitigation Plan	N/A	New Condition for Grimes Pipeline Project
	AQ-SC2	Air Quality Construction Mitigation Plan	N/A	New Condition for Grimes Pipeline Project
	AQ-SC3	Construction Fugitive Dust Control	N/A	New Condition for Grimes Pipeline Project
	AQ-SC4	Dust Plume Response Requirement	N/A	New Condition for Grimes Pipeline Project
	AQ-SC5	Diesel-Fueled Engine Control	N/A	New Condition for Grimes Pipeline Project
Socioeconomics	SOCIO-1	Procurement of personnel and materials and supplies within Sutter County first	Page 95	Applicable
	SOCIO-2	Agreement and funding with Sutter County Fire Department regarding hazardous materials handling and fire protection	Page 96	Applicable
Biological Resources	BIO-1	Designated biologist	Page 141	Applicable
	BIO-2	Designated biologist duties	Page 142	Applicable as revised by CEC
	BIO-2a	Biological Monitor Selection and Duties	N/A	New Condition for Grimes Pipeline Project
	BIO-3	Notifications regarding non-compliance and corrective actions	Page 143	Applicable
	BIO-4	Worker Environmental Awareness Program	Page 143	Applicable as

Resource	Condition of Certification	General Description of Condition of Certification	1999 Staff Assessment Citation	Applicability to Grimes Project
Biological Resources Cont'd	BIO-4 Cont'd	Worker Environmental Awareness Program	Page 143	revised by CEC
	BIO-5	Endangered species MOU	Page 145	Deleted
	BIO-6	Section 7 Biological Opinion	Page 145	Applicable
	BIO-7	Streambed Alteration Agreement	Page 145	Applicable as revised by CEC
	BIO-7a	Frac-Out Plan	N/A	New Condition for Grimes Pipeline Project
	BIO-8	Measures to protect giant garter snake	Page 145	Applicable as revised by CEC
	BIO-9	Swainson's Hawk	Page 147	Applicable as revised by CEC
	BIO-11	Wetlands mitigation measures	Page 149	Applicable as revised by CEC
	BIO-12	BRIMMP, including Endangered species MOU	Page 150	Applicable as revised by CEC
	BIO-14	Valley Elderberry Longhorn Beetle	N/A	New Condition for Grimes Pipeline Project
Visual Resources	VIS-1	Treatment of project structures, buildings and tanks visible to the public with non-reflective colors	Page 117	Applicable
	VIS-2	Any fencing for the project shall be non-reflective	Page 119	Applicable
Noise	NOISE-1	Notification of residents within one mile of site	Page 158	Applicable
	NOISE-2*	Noise complaints resolution	Page 159	Applicable
	NOISE-3	Noise Control Program to reduce employee exposure to high noise	Page 160	Applicable
Traffic and Transportation	TRANS-1	Compliance with CALTRANS and Sutter County limitations on vehicle sizes and weights	Page 170	Applicable
	TRANS-2	Encroachment permits	Page 170	Applicable
	TRANS-3	Compliance with federal and state regulations for hazardous waste transport	Page 170	Applicable
	TRANS-6	Traffic control plan	Page 171	Applicable

Resource	Condition of Certification	General Description of Condition of Certification	1999 Staff Assessment Citation	Applicability to Grimes Project
Traffic and Transportation Cont'd	TRANS-7	Repair roads damaged during construction	Page 171	Applicable
Waste Management	WASTE-1	Obtain hazardous waste generator ID no. prior to generating hazardous waste	Page 188	Applicable
	WASTE-2	Notification of waste management related enforcement action	Page 189	Applicable
	WASTE-3*	Submit construction and operations waste management plan to Sutter County and CEC for approval	Page 189	Applicable
	WASTE-4	Prepare and submit Soils Management Plan	N/A	New Condition for Grimes Pipeline Project
Worker Safety and Protection	SAFETY-1	Submit to CPM Project Construction Safety and Health Program	Page 193	Applicable
	SAFETY-2	Submit to CPM Project Operations Safety and Health Program	Page 193	Applicable
Cultural Resources	CUL-15.1	Cultural Resources Personnel	N/A	New Condition for Grimes Pipeline Project
	CUL-15.2	Cultural Resources Information for the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project
	CUL-15.3	Cultural Resources Monitoring and Mitigation Plan for the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project
	CUL-15.4	Supplement to the Final Cultural Resources Report for the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project
	CUL-15.5	Employee Training Program for the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project
	CUL-15.6	Archaeological Monitoring for the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project
	CUL-15.7	Cultural Resource Discovery and the Grimes Pipeline Project	N/A	New Condition for Grimes Pipeline Project

Resource	Condition of Certification	General Description of Condition of Certification	1999 Staff Assessment Citation	Applicability to Grimes Project
Soil & Water	SOIL & WATER-3	Submit erosion control and revegtation plan for staff approval	Page 178	Applicable
	SOIL & WATER-4	Submit NOI for construction activities to SWRCB and prepare SWPPP	Page 179	Applicable
Paleontological Resources	PAL-1	Designated Paleo resources specialist	Page 213	Applicable as revised
	PAL-2	Provide information to Paleo resources specialist prior to construction	Page 216	Applicable
	PAL-3	Prepare draft Paleo Resources Monitoring Mitigation Plan	Page 216	Applicable
	PAL-5	Environmental Awareness Training Program	Page 220	Applicable
	PAL-6	Provide Environmental Awareness Training to all workers, supervisors	Page 221	Applicable
	PAL-7	Provide current schedule to PALEO resources specialist	Page 221	Dependent upon PAL-8 deletion
	PAL-8	Paleontological monitor on site	Page 222	Revised by Staff Assessment; Calpine requested deletion
	PAL-9	Data collection of finds	Page 222	Applicable
	PAL-10	Prepare Preliminary Paleontologic Resources Report	Page 223	Applicable
	PAL-11	Prepare Final Paleontologic Resources Report	Page 223	Applicable
	PAL-12	Submit Final Paleo Resources Report to Institution	Page 224	Applicable
	PAL-13	Deliver for curation any paleontologic resource materials found	Page 225	Applicable

*Conditions of Certification reported in Sutter Energy Center's Annual Report to the California Energy Commission.

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DOCKET
97-AFC-2C
DATE OCT 14 2011
RECD. OCT 31 2011

October 14, 2011

Ms. Christine Stora
Compliance Project Manager
California Energy Commission
1516 9th Street
Sacramento, CA 95614

RE: Grimes Pipeline Project Amendment 97-AFC-02
Staff Assessment Proposed Conditions of Certification

Dear Ms. Stora:

At our September 27, 2011 meeting, Calpine Construction Finance Company, L.P. and CPN Pipeline Company ("Project Owner') discussed with Staff the Staff Analysis of Proposed Modifications to Install the Sutter Grimes Pipeline. One of the matters discussed was possible revision to the Staff's proposed conditions of certification that would allow the Project Owner the option of conducting a geoarchaeological assessment of the Grimes Pipeline Project and tailoring the archaeological and paleontological monitoring programs to focus on those areas that have the potential to contain buried archaeological or paleontological deposits.

Upon further review of the Staff Analysis, we believe that Staff's proposed conditions currently provide the CPM with the authority to approve such an approach, without the need to further revise the Staff's proposed conditions. Proposed CUL-15.6 provides, "[i]n the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring."

Therefore, under the currently proposed condition, the CPM would have the authority to approve a change to a lesser level of monitoring where the Project Owner adequately justifies the proposed change in the level of monitoring. At our recent meeting, Staff and Applicant agreed that the results of a properly performed geoarchaeological assessment could provide justification for a change in the level of monitoring. As such, we believe that the CPM has the authority to proceed under the currently proposed CUL-15.6 to review and approve a geoarchaeological assessment and approve any changes in monitoring levels accordingly.

The Staff's proposed paleontological resources condition PAL-8 allows the designated paleontological resource monitor ("PRM") to monitor only those areas where remnant river terrace deposits have been found, and Sutter Condition PAL-3 gives the PRM the authority to discontinue monitoring in a location where it is determined that the likelihood of encountering fossil resources is slight. A geoarchaeological assessment would determine those areas where remnant river terrace deposits are found, and therefore also support a PRM decision to reduce monitoring to less than full-time.

Under the geoarchaeological assessment approach, the Project Owner would contract with qualified archaeologists to conduct a geoarchaeological assessment of the Grimes Pipeline Project. The geoarchaeological assessment would build on the information contained in Appendix G of the Grimes Pipeline Amendment via three tasks: 1) expanded literature review, 2) excavation and field documentation of trenches, and 3) preparation and review of a geoarchaeological assessment report. The literature review would examine pertinent soil survey data, geologic mapping, archaeological and paleontological studies, and geotechnical reports. This review would enable the investigative team to site trenches with maximum efficiency and aid in the interpretation of field observations. Several trenches would be excavated via backhoe to a depth of seven feet below ground surface and of sufficient length to characterize soil and geomorphic conditions along the Grimes Pipeline Project. A Native American monitor would accompany the archaeologists during field investigations. The archaeologists and Native American monitor would rake through sediments excavated from the trench to detect archaeological materials. Stratigraphic and other observations would be made from within and outside the trenches via photography, soil texture and color characterization, drawn profiles, and visual search for archaeological materials. Additionally, sufficient soil organic matter or wood samples would be collected for radiocarbon assays, so that the age of stratigraphic units can be determined. The geoarchaeological assessment report would document the methods and findings of the investigation. We anticipate that the assessment would be completed prior to the start of construction.

Should the geoarchaeological assessment determine that little or no potential exists in the project area for buried archaeological or paleontological deposits, and the CPM and PRM agrees, then full-time archaeological and paleontological monitoring should not be required. Instead, the cultural resource specialist and PRM would remain on-call in the event that an inadvertent archaeological discovery occurs.

If you agree that the Staff's currently proposed conditions would grant you the authority to discontinue full-time cultural monitoring, and supports a determination by the designated paleontological resource specialist to discontinue monitoring, under the aforementioned conditions, then no further revisions to the Staff's proposed conditions are necessary and this Petition, under the terms set forth in the Staff Assessment, should be scheduled for adoption by the Commission at its next Business Meeting.

Please contact me at (925) 557-2238 if you have any questions.

Sincerely,

Barbara McBride
Western Regional Director, Environmental Health and Safety

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5112

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:	)	**Docket No. 97-AFC-2C**
SUTTER ENERGY CENTER	)	
	)	
	)	**Order No.**
	)	
	)	**ORDER APPROVING a Petition**
Calpine Corporation	)	**to Modify the Sutter Energy Center**
	)	**to install the Grimes Natural Gas Pipeline**
	)	

On March 7, 2011, Calpine Corporation (Calpine), the owner of the Sutter Energy Center Project, submitted a petition requesting to service the power plant with a 2.8-mile, 6-inch natural gas pipeline referred to as the Grimes Pipeline. The modification will allow the Project Owner to use natural gas from the Grimes natural gas field in the Sacramento Basin north and west of the project site. The Sutter Energy Center currently receives gas from Pacific Gas & Electric (PG&E) natural gas transmission system via the 20-inch Sutter Pipeline.

STAFF RECOMMENDATION

Energy Commission staff reviewed the petition and finds that it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations and recommends approval of Calpine's petition to modify the Sutter Energy Center Project and amend related Conditions of Certification.

ENERGY COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impacts to public health and safety, or the environment. The Energy Commission finds that:

- The petition meets all the filing criteria of Section 1769(a) concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Final Decision pursuant to Section 1755;
- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25525;
- The Change will be beneficial to Calpine Corporation by allowing the project to use natural gas from the Grimes natural gas field in the Sacramento Basin north and west of the project site. The Sutter Energy Center currently receives gas from the Pacific Gas & Electric (PG&E) natural gas transmission system via the 20-inch Sutter Pipeline; and,

- The change is based on information that was not available to the parties prior to Commission certification because at the time of the license PG&E was the only supplier of natural gas that could provide the quantity of natural gas needed for the project. Now Venoco Inc. is offering an alternative to PG&E's natural gas supply and the new pipeline will allow the project to directly access the local natural gas supply from Venoco Inc.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts Staff's recommendations and approves the following changes to the Commission Decision for the Sutter Energy Center Project. New language is shown as **bold and underlined**, and deleted language is shown in ~~strikeout~~.

CONDITIONS OF CERTIFICATION

AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions AQ-SC3, AQ-SC4 and AQ-SC5 for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM delegates. The AQCMM and AQCMM delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the compliance project manager (CPM).

Verification: At least 15 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM delegates. The AQCMM and all delegates must be approved by the CPM before the start of ground disturbance.

AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide, for approval, an AQCMP that details the steps to be taken and the reporting requirements necessary to ensure compliance with conditions of certification AQ-SC3, AQ-SC4 and AQ-SC5.

Verification: At least 15 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 7 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.

AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each monthly compliance report (MCR) that demonstrates compliance with the following mitigation measures for purposes of preventing all fugitive dust plumes from leaving the

project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

A. All unpaved roads and disturbed areas used for this project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4. The frequency of watering may be either reduced or eliminated during periods of precipitation.

B. No vehicle traveling on unpaved roads shall exceed a speed of 15 miles per hour.

C. Any construction site entrances shall be posted with visible speed limit signs.

D. All construction equipment vehicle tires shall be inspected and washed as necessary to be free of dirt prior to entering paved roadways.

E. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

F. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

G. All construction vehicles shall enter the construction site through the treated entrance roadways unless an alternative route has been submitted to and approved by the CPM.

H. Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.

I. All paved roads used for construction shall be swept as needed on days when construction activity occurs to prevent the accumulation of dirt and debris.

J. All public roadways exiting the construction site shall be swept as needed on days when construction activity occurs or on any other day when dirt or run-off from the construction site is visible on the public roadways.

K. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or treated with appropriate dust suppressant compounds.

L. All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks to provide at least two feet of freeboard.

M. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

Verification: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition; (2) copies of any complaints filed with the air district in relation to project construction; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion, as approved by the CPM.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes with the potential to be transported off the project site, 200 feet beyond the centerline of the construction of linear facilities, or within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not providing effective mitigation. The AQCMM or delegate shall then implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed.

Step 1: Within 15 minutes of making such a determination, the AQCMM or delegate shall direct more intensive application of the existing mitigation methods.

Step 2: If Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination, the AQCMM or delegate shall direct implementation of additional methods of dust suppression.

Step 3: If Step 2 specified above fails to result in effective mitigation within one hour of the original determination, the AQCMM or delegate shall direct a temporary shutdown of the activity causing the emissions. The activity shall not restart until the AQCMM or delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The project owner may appeal to the CPM any directive from the AQCMM or delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

Verification: The AQCMP shall include a section detailing how additional mitigation measures will be accomplished within the specified time limits.

AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the MCR, a construction mitigation report that demonstrates compliance with the following mitigation measures for purposes of controlling

diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

A. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags, issued by the on-site AQCMM, showing that the engine meets the conditions set forth herein.

B. All construction diesel engines with a rating of 50 hp or higher shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, § 2423(b)(1), unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. This good faith effort shall be documented with signed written correspondence by the appropriate construction contractors, along with documented correspondence with at least two construction equipment rental firms. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50 hp, that equipment shall be equipped with a Tier 2 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels, unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons:

1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and either a Tier 1 engine or the highest level of available control is being used; or

2. The construction equipment is intended to be on site for five days or less.

3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not possible.

4. Equipment owned by specialty subcontractors may be granted an exemption, for single equipment items on a case-by-case basis, if it can be demonstrated that extreme financial hardship would occur if the specialty subcontractor had to rent replacement equipment, or if it can be demonstrated that a specialized equipment item is not available by rental.

C. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and the AQCMM demonstrates that one of the following conditions exists:

1. **The use of the control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.**
2. **The control device is causing or is reasonably expected to cause significant engine damage.**
3. **The control device is causing or is reasonably expected to cause a significant risk to workers or the public.**
4. **Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.**

D. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

E. All diesel heavy construction equipment shall not idle for more than five minutes, to the extent practical.

F. Construction equipment will employ electric motors when feasible.

Verification: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition; (2) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that the equipment has been properly maintained; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion, as approved by the CPM.

BIO-2 Designated Biologist Duties

The project owner shall assign at least one Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist(s), with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS. The Designated Biologist shall remain the contact for the project owner and the CPM.

The CPM-approved **D**~~d~~esignated **B**~~b~~iologist shall perform the following duties:

1) advise the project owner's supervising construction or operations engineer on the implementation of the biological resource Conditions of Certification;

2) supervise or conduct mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species;

3) **direct access and construction activities that occur within 200 feet of giant garter snake habitat. The Designated Biologist shall conduct WEAP training (BIO-4), preconstruction surveys for giant garter snake (BIO-8), survey open excavations and trenches every morning prior to start of work, and be present during all work with special attention to excavations, spoil placement, backfilling, and silt fence/snake fence installation and removal; and**

4) notify the project owner and the CPM of any non-compliance with any Condition.

Verification: No fewer than 30 days prior to construction-related ground disturbance, the project owner shall submit the names of the Designated Biologists(s) and submit it to the CPM and USFWS for review and final approval. No construction-related ground disturbance, grading, boring, or trenching shall commence until an approved Designated Biologist is available to be on site. If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. The **D**~~d~~esignated **B**~~b~~iologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM.

BIO- 2a Biological Monitor Selection and Duties

The Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitor(s) to the CPM. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, and WEAP. The Biological Monitors shall assist the Designated Biologist in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, fencing, grading, boring, trenching and reporting.

Verification: The project owner shall submit the specified information to the CPM for approval of Biological Monitors at least 30 days prior to the start of any site mobilization or construction-related ground disturbance, grading, boring and trenching. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional Biological Monitors are needed during construction the specified information shall be submitted to the CPM and for approval at least 10 days prior to their first day of monitoring activities. The Biological Monitor shall submit in the Monthly Compliance Report to the CPM

copies of all written reports and summaries that document biological resources compliance activities.

BIO-4 Worker Environmental Awareness Program

The project owner shall develop and implement a Worker Environmental Awareness Program **(WEAP)** in which each of its own employees, **monitors, inspectors,** ~~as well as employees of~~ contractors and subcontractors who work on the project site ~~or related facilities (including any access roads, storage areas, transmission lines, water and gas lines)~~ during construction and operation, **shall be required to take the WEAP training to become** ~~are~~ informed about biological resource sensitivities associated with the project. ~~**(see General Conditions of Compliance).**~~

The Worker Environmental Awareness Program:

1) shall be developed by the **D**esignated **B**iologist and consist of an on-site or classroom presentation in which supporting written material is made available to all participants;

2) must discuss the locations and types of sensitive biological resources on the project site and adjacent areas **specifically training workers to recognize giant garter snakes, their habitat(s), nature and purpose of protection measures, the need to report all sightings of giant garter snakes, consequences of not complying with permit conditions and measures, and the terms and conditions of any permit applicable to the project. The Designated Biologist must identify giant garter snake habitat areas and indicate to all site personnel that they are Environmentally Sensitive Areas in the WEAP training;**

3) must present the reasons for protecting these resources;

4) must present the meaning of various temporary and permanent habitat protection measures; and

5) must identify who to contact if there are further comments and questions about the material discussed in the program.

The specific program **shall** ~~can~~ be administered **by the Designated Biologist** ~~a competent individual(s) acceptable to the designated biologist.~~

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program material. Each statement shall also be signed by the person administering the Worker Environmental Awareness Program.
The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. Signed statements for active operational personnel shall be kept on file by the project owner for the duration of their employment and for six months after their termination.

Verification: At least 30 days prior to the start of **any ground-disturbing activities** ~~rough grading~~, the project owner shall provide copies of the **draft** Worker Environmental Awareness Program and all supporting written materials prepared by the **D**~~d~~esignated **B**~~b~~iologist **to the CPM for review and comment**~~. and the name and qualifications of the person(s) administering the program to the CPM for approval.~~ **Within 10 days prior to the start of any ground-disturbing activities, a final approved WEAP with agency comments addressed shall be submitted to the CPM.**

The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

~~**BIO-5** CESA Memorandum of Understanding~~

~~Prior to the start of any ground disturbance activities, the project owner shall enter into an Endangered Species Memorandum of Understanding (MOU) with the California Department of Fish and Game (CDFG) (per Section 2081 of the California Endangered Species Act) and implement the terms of the agreement.~~

~~**Verification:** At least 60 days prior to the start of rough grading, the project owner shall submit to the CPM a copy of the final CDFG Endangered Species MOU.~~

BIO-7 Streambed Alteration Agreement and Biological Opinion Permit Conditions

The project owner shall ~~acquire either a Streambed Alteration Agreement or written verification that this permit is not necessary from the California Department of Fish and Game for project impacts to drainages, and implement the terms of the agreement.~~ **implement the terms and conditions outlined in CDFG's Final Lake or Streambed Alteration Agreement (SAA, CDFG 2011) and the USFWS's Biological Opinion (BO, USFWS 2011), both which have been issued for the Sutter Grimes pipeline project. Giant garter snake-specific impact avoidance measures that are included in the final SAA and BO are covered separately in BIO-8 (GGS Impact Avoidance and Minimization Measures).**

AVOIDANCE AND MINIMIZATION MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

To avoid or minimize adverse impacts to fish and wildlife resources identified above, the project owner shall implement each measure listed below.

1. **WORK PERIOD. The time period for completing the work within the stream zone shall be restricted to periods of low stream flow and dry weather and shall be confined to the period of May 1 to October 1. Construction activities shall be timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the stream zone shall cease until all reasonable erosion control measures, inside and outside of the stream zone, have been**

implemented prior to all storm events. Revegetation, restoration and erosion control work is not confined to this time period.

2. WORK PERIOD EXTENSIONS. At the CPM's discretion based on consultation with the CDFG, the work period may be extended based on the extent of the work remaining, on site conditions and reasonably anticipated future conditions. If the project owner finds more time is needed to complete the authorized activity, the project owner shall submit a written request for a work period time extension to the CPM with a copy to CDFG. The work period extension request shall provide the following information: 1) Describe the extent of work already completed; 2) Provide specific detail of the activities that remain to be completed within the stream zone; and 3) Detail the actual time required to complete each of the remaining activities within the stream zone. The work period extension request should consider the effects of increased stream conditions, rain delays, increased erosion control measures, limited access due to saturated soil conditions, and limited growth of erosion control grasses due to cool weather. Photographs of the work completed and the proposed work areas are helpful in assisting CDFG in its evaluation. Time extensions are issued at the discretion of the CPM based on consultation with CDFG. The CPM upon consultation with CDFG, reserves the right to require additional measures designed to protect natural resources.

3. NO EQUIPMENT SHALL WORK IN THE WATER.

4. ESCAPE RAMP IN EXCAVATION PITS. At the end of each work day, an escape ramp shall be placed at each end of the open excavation to allow any animals that may have become entrapped in the trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

5. BIOLOGICAL MONITOR. The project owner shall provide a Designated Biologist or Biological Monitor with qualifications, roles, and responsibilities specified in BIO-1, BIO-2, BIO-2a, and BIO-3.

6. ENVIRONMENTAL AWARENESS TRAINING. All construction personnel shall receive WEAP training as specified in BIO-4.

7. COVER OPEN PIPES. Open ends of pipes, conduits and similar materials shall be covered to exclude wildlife. Such materials shall be checked for signs of wildlife prior to disturbance.

8. GARBAGE STORAGE AND REMOVAL. Food wrappers and construction-related garbage shall be contained in covered garbage cans and removed from the site.

9. NO PETS, FIREARMS OR CAMPFIRES. Workers will not be allowed to bring pets or firearms to the project area nor light campfires within the project area.

10. HEAVY EQUIPMENT CONFINED TO EXISTING ROADS. Construction activities that occur within suitable giant garter snake upland habitat will be minimized. When possible, movement of heavy equipment shall be confined to existing roadways to minimize disturbance.

11. RESTORATION OF WORK SITE/EXCAVATED SOIL REMOVAL OR DISTRIBUTION. After completion of construction activities, temporary fill and construction debris shall be removed and disturbed areas shall be restored to pre-project conditions, see BIO-8 #15. Excavated soil shall either be removed from work site or backfilled into excavations. With approval from the CPM, some excess excavated soil may be distributed over the existing work area.

12. COVER SPOIL PILES. The project owner's contractor shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.

13. EQUIPMENT OVER DRIP PANS. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream/lake shall be positioned over drip pans.

14. CHECK VEHICLES/EQUIPMENT DAILY. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life, wildlife, or riparian habitat.

15. CONTROL DRILLING MUD. At no time shall drill cuttings, drilling mud, and/or materials or water contaminated with bentonite or any other substance deemed deleterious to fish or wildlife be allowed to enter the stream or be placed where they may be washed into the stream. Any contaminated water/materials from the drilling and/or project activities shall be pumped or placed into a holding facility and removed for proper disposal.

16. VEGETATION REMOVAL. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. No native trees shall be removed or damaged without prior consultation and approval of the CPM and a CDFG representative. Using hand tools (clippers, chain saw, etc.), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation shall be removed out of the riparian/stream zone.

17. SEDIMENT CONTROL. Precautions to minimize turbidity/siltation shall be taken into account during project planning and implementation. This may require the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures shall be taken. The sediment barrier(s) shall be maintained in good operating condition throughout the construction period and the following rainy season . Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Products with plastic monofilament or jute netting (such as found in straw wattles/fiber rolls and some erosion control blankets) shall not be allowed. Wildlife-friendly erosion control and sediment control products that will not entangle snakes and other wildlife shall be used instead. Special provisions shall be included in the bid solicitation package that prohibit the use of monofilament or jute netting. If this is not possible, the contractors, subcontractors and anyone performing erosion or sediment control work on this project, shall be specifically instructed that these products are not allowed on the work site. The project owner is responsible for the removal of non-biodegradable silt barriers after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season). Upon the CPM's determination that turbidity/siltation levels resulting from project-related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective CPM-approved (based on consultation with CDFG) control devices are installed or abatement procedures are initiated.

18. POLLUTION CONTROL. Utilize Best Management Practices to prevent spills and leaks into water bodies. If maintenance or refueling of vehicles or equipment must occur on-site, use a designated area and/or a secondary containment, located away from drainage courses to prevent the runoff of storm water and the runoff of spills. Ensure that all vehicles and equipment are in good working order (no leaks). Place drip pans or absorbent materials under vehicles and equipment when not in use. Ensure that all construction areas have proper spill cleanup materials (absorbent pads, sealed containers, booms, etc.) to contain the movement of any spilled substances. Any substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake by the project owner or any party working under contract or with the permission of the project owner, shall be removed immediately. The CPM and

CDFG shall be notified immediately by the project owner of any spills and shall be consulted regarding clean-up procedures.

Verification: ~~At least 45 days prior to the start of rough grading, the project owner shall provide the CPM with a copy of the California Department of Fish and Game Streambed Alternation Agreement or written verification that this permit is not necessary for this project.~~

The project owner shall notify the CPM in writing at least two working days before beginning work and at least one working day before ending work. The project owner shall also notify CDFG at the contact info below; however, email notification to CDFG is preferred:

Department of Fish and Game
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Attn: Lake and Streambed Alteration Program -Sandra Jacks
Notification #1600-2011-0011 R2
Fax: 916-358-2912
sjacks@dfg .ca.gov

Upon completion of the project activities, the project owner shall digitally photograph the work area within the stream zone and document photos in the final Monthly Compliance Report and submit to the CPM. A copy of the final Monthly Compliance Report with final site work photographs shall also be submitted to CDFG at the address above.

The project owner shall notify the CPM and CDFG within two (2) business days in the event of any spills into state waters regarding clean-up procedures.

All mitigation measures and their implementation methods shall be included in the BRMIMP. All work activities that occur in the stream zone shall be described and summarized in each Monthly Compliance Report. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

BIO-7a Frac-out Plan

The project owner shall revise the draft *Grimes Pipeline Project Frac-out Contingency Plan* based on review and comments provided by the CPM in consultation with CDFG and re-submit to CPM for review and approval. Prior to the commencement of construction activities, the project owner shall submit to the CPM with copy to CDFG a final, approved Frac-out Plan with agency comments incorporated.

Verification: At least 30 calendar days prior to the start of any ground-disturbing activities, the project owner shall submit a revised Frac-out Plan to CDFG for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to CDFG requesting review and comment.

At least 10 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters from CDFG, along with any changes to the final Frac-out Plan, to the CPM for review and approval. All modifications to the final plan shall be made only after approval by the CPM, in consultation with CDFG.

BIO-8 Giant Garter Snake Impact Avoidance and Minimization Measures

The project owner shall ensure the following measures are implemented to avoid or mitigate project impacts to giant garter snakes **during construction in accordance with CDFG's Final Lake or Streambed Alteration Agreement (CDFG 2011), USFWS's Biological Opinion issued for the project (USFWS 2011), and USFWS's Guidelines for Restoration and/or Replacement of Giant Garter Snake Habitat (USFWS Appendix A):**

1) Avoid trenching or auguring activities within 200 feet of giant garter snake habitat from October 2 through April 30. **Avoided giant garter snake habitat shall be designated as Environmentally Sensitive Areas and will be flagged by the Designated Biologist or approved Biological Monitor as areas to be avoided by construction personnel and equipment.**

2) ~~Have the designated biologist on site during construction activities that occur between October 1 and May 1. The designated biologist shall possess a permit as required under Section 10(a)1(A) of the federal Endangered Species Act to capture or relocate snakes.~~

   An agency-approved Designated Biologist will be onsite during all construction activities within 200 feet of aquatic habitat for GGS. The Designated Biologist will ensure that all measures related to GGS are followed and have the authority to stop construction if they are not. Any open trenches will be inspected daily for trapped snakes.

3) ~~Within 24 hours prior to commencement of construction activities, the site shall be inspected for snakes by the designated biologist. Observed snakes should be reported and cleared to an area that will not be affected by construction within the next 24 hours. If a snake is encountered during construction activities, the designated biologist should be contacted and take appropriate measures to ensure the snake will not be harmed.~~

   Preconstruction Surveys for GGS. No more than 24 hours prior to construction activities, the Designated Biologist shall survey the work areas within potential giant garter snake habitat for giant garter snakes. Surveys of work areas shall be repeated if a lapse in construction activity of 48 hours or greater has occurred. The results of this

preconstruction survey shall be reported to the CPM, USFWS, and CDFG, even if no snakes are observed.

4) Avoid obstructing the flow of water through the canals (dewatering). Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and 15 consecutive days prior to excavating or filling dewatered habitat.

5) Prevent runoff from construction activities from entering giant garter snake habitat.

6) Restrict vegetation clearing to the minimal area necessary to facilitate construction activities. ~~Mark and avoid giant garter snake habitat in or adjacent to the project that will not be directly affected by construction activities.~~

7) Provide replacement habitat at a location acceptable to USFWS and CDFG to compensate for habitat lost (BIO-13).

8) Mow, rather than disk, to control vegetation on-site. Mower blades should be raised to at least 6 inches during the snake's active period of May 1 to October 1.

9) Conduct activities to clear vegetation in the irrigation canals as necessary to minimize disturbance to snake habitat and in accordance with methods approved by CDFG and USFWS.

10) Eliminate wastewater discharge as described in Condition **SOILS&WATER-2**.

11) Check for Snakes Under Vehicles. The Designated Biologist as well as all construction personnel shall visually check for snakes under parked vehicles and equipment within giant garter snake habitat area prior to moving them. If snakes or other listed species are observed by crews, construction personnel will contact the Designated Biologist.

12) Snake fencing/Silt fencing. If excavation pits will be left open for multiple days, silt fencing (geotextile filter fabric on wooden stakes) or an agency-approved alternative shall be installed (and partially buried per standard specifications) on the ditch side of the excavation pits to keep snakes and other wildlife from entering the pits. The Designated Biologist or approved Biological Monitor shall inspect any open trenches daily within 200 feet of aquatic habitat for trapped snakes.

13) Spoil Placement. To prevent burying, trapping, or crushing giant garter snakes , spoil from project operations shall not be placed on or near the canal banks where there is a risk of covering rodent burrows or bank-top soil crevices.

14) Giant Garter Snake Encounters. If a giant garter snake is encountered during construction or preconstruction surveys, activities shall cease

at that work area until the appropriate corrective measures have been completed, the animal has moved out of the work area on its own, or it has been determined that the snake will not be harmed. Sightings, work stoppage, and any incidental take will be immediately reported to the CPM, USFWS at (916) 414-6600, and CDFG's Lake or Streambed Alteration Program contact listed previously. A California Natural Diversity Database field form shall be submitted to CDFG for all giant garter snake sightings. Sightings shall also be documented in Monthly Compliance Reports.

15) Site Restoration. All exposed/disturbed areas (comprising approximately 16.37 acres of temporary impacts to aquatic rice field and upland habitat) and access points within the stream zone left barren of vegetation as a result of the construction activities shall be restored to pre-project conditions using locally native grass seeds, locally native grass plugs and/or a mix of quick growing sterile non-native grass with locally native grass seeds. Seeded areas shall be covered with broadcast straw and/or jute netted (monofilament erosion blankets are not authorized). The project owner shall conduct quarterly monitoring surveys of all restored habitat for one year from the date construction is completed and provide an annual monitoring report (following USFWS Appendix D guidelines) to the CPM, USFWS, and CDFG including pre- and post-photographs.

16) Speed Limits. Where practical and safe to do so and to minimize the effects of increased traffic in the construction area, vehicle speed within giant garter snake habitat areas of the project shall be limited to 15 mph on unimproved access routes and roadways to avoid running over snakes.

Speed limit signs will be posted on all project-controlled roads leading to construction areas.

Verification: ~~At least 45 days prior to rough grading, the project owner shall provide to the CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be or have been accomplished by the licensee and specifying the procedures used or that will be used to implement these measures.~~

Within 10 days of completing the GGS pre-construction survey, the project owner shall submit a letter report documenting results of the survey to the CPM with copies to the USFWS and CDFG.

Within 10 days prior to the start of any ground-disturbing activities, the project owner shall provide documentation to the CPM that the avoided aquatic giant garter snake habitat in the immediate construction zone has been flagged as Environmentally Sensitive Area(s).

The project owner shall report any GGS sightings, work stoppage, and any incidental take to the CPM, USFWS at (916) 414-6600, and CDFG's Lake or Streambed Alteration Program contact listed previously within two (2) business

days of the event. A California Natural Diversity Database field form shall be submitted to CDFG for all giant garter snake sightings within 10 days of GGS sighting within the construction area.

Within 30 days of completing the fourth quarter monitoring survey of temporarily disturbed/restored habitat areas, the project owner shall submit an annual monitoring report (USFWS Appendix D) to the CPM, USFWS, and CDFG including pre- and post-photographs.

All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

BIO-9 Swainson's hawk and Other Migratory Bird Treaty Act-protected Bird Species

Within 30 days prior to the start of construction activities, the **D**esignated **B**iologist shall conduct **a** preconstruction survey~~s~~ **if construction is to occur during anytime from** March **15** through **August 15** ~~June during construction years~~ to determine if an active **Swainson's hawk** nest site is **within the project construction area or** within a 0.5-mile **buffer area** of construction activities. **If an active Swainson's hawk nest is found, the Designated Biologist shall monitor construction activities that occur within 0.50-mile of an active nest site between March 1 and August 15 or until fledglings are no longer dependent on the nest tree. The Designated Biologist shall also conduct a pre-construction survey in all riparian or marsh habitat associated with irrigation ditches located within 200 feet of construction activities for active bird nests or nesting bird activity. No trees or shrubs that contain active bird nests shall be disturbed until all eggs have hatched and young birds have fledged. If active nests or suspected active songbird nests are found within 200 feet of construction areas, the Designated Biologist shall consult with CDFG on the need for a buffer zone (protected area around the nest where construction activities are not allowed).**

~~2) Design the project to avoid removal of nest trees and to avoid placement of the transmission line within 0.1 mile of nest trees.~~

~~3) The designated biologist shall monitor construction activities that occur within 0.5 mile of an active nest site between March 1 and August 15 or until fledglings are no longer dependent on the nest tree. The monitoring plan shall be acceptable to CDFG.~~

~~4) Provide replacement habitat at a location acceptable to CDFG to compensate for the loss of habitat (BIO-13).~~

~~5) Protect on-site Swainson's hawk foraging habitat not taken by the power plant foot print in perpetuity or provide replacement habitat at a location and ratio acceptable to CDFG and establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.~~

Verification: ~~At least 45 days prior to rough grading, the project owner shall provide to the project CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be accomplished by the applicant and specifying the procedures used or that will be used to implement these measures.~~

Within 10 days of completing the preconstruction Swainson's hawk and nesting bird survey, the Designated Biologist shall submit a letter report to the CPM with copy to CDFG documenting the results of the nesting bird survey including a figure with nest locations (if found) and implemented avoidance buffers.

If a Swainson's hawk nest is identified within 0.50-mile of project construction areas, the project owner shall notify the CPM and CDFG North Central Region office within two (2) business days.

If any nests are identified during the preconstruction nesting bird survey, all mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of nest monitoring measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

BIO-11 The project owner shall ensure the following measures are implemented to mitigate or avoid project impacts to wetlands:

1) Provide in-kind replacement habitat at a location acceptable to USFWS for wetlands impacted by the project (BIO-13).
2) Establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.
3) Mark and avoid all wetlands on site that will not be directly taken by the power plant footprint and all wetlands along Hughes Road in the Sutter National Wildlife Refuge.
4) Protect on-site wetlands not taken by the power plant footprint in perpetuity or provide replacement habitat at a location and ratio acceptable to USFWS and establish an endowment account adequate to provide funds for the perpetual maintenance and management of the replacement habitat.
5) Use an air-cooled condenser to eliminate wet cooling tower evaporation and incorporate drains designed to route contaminated runoff away from the remaining wetlands or develop and implement a monitoring program to ensure the wetlands remaining on-site are not degraded by project operations. The program shall include parameters acceptable to USFWS that monitor hydrologic quality and productivity, and identify and defend reference or control wetlands for comparative analysis. If it is determined

that the on-site wetlands are being negatively impacted, propose remedial mitigation measures to be implemented. A report presenting the monitoring data and a discussion of the mitigation effectiveness shall be provided annually for the life of the project. If it can be shown that the wetlands are not being negatively impacted, licensee has the option to request Staff to decrease the frequency or cease monitoring.

6) Place a construction cloth over all remaining wetlands located within 500 feet of construction and related roads during construction activities.

7) Place the pipeline under or in the shoulder of Hughes Road.

8) The project owner shall incorporate all special permit conditions identified in the Corps authorization letter dated August 2, 2011, specifically, the special condition to submit a check for $1,800.00 to the National Fish and Wildlife Foundation's (NFWF) Sacramento District Wetlands Conservation Fund to mitigate for the loss of 0.012-acre of riparian streambed.

Verification: At least 45 days prior to rough grading, the project owner shall provide to the project CPM for review and approval written documentation (BRMIMP, BIO-12) that the above measures will be accomplished by the licensee and specifying the procedural terms for implementing these measures. The wetland monitoring plan annual report shall be provided to the project CPM no later than July 1 for each year monitoring is completed.

At least 30 days prior to the start of any ground-disturbing activities, the project owner shall provide written verification to the CPM that payment for the loss of riparian streambed was made and received by NFWF.

The project owner shall notify the CPM with a copy to the Corps Sacramento Regulatory Division office of the start and completion dates for each phase of the authorized work 30 days prior to the initiation of construction activities within Waters of the U.S. and 30 days following completion of construction activities. All work activities that occur in Waters of the U.S. shall be described and summarized in each Monthly Compliance Report.

BIO-12 Biological Resources Mitigation Implementation and Monitoring Plan

The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan. The Biological Resources Mitigation Implementation and Monitoring Plan shall identify:

1. all sensitive biological resources to be impacted, avoided, or mitigated by project construction and operation;

2. all conditions agreed to in the USFWS Biological Opinion ~~and CDFG Endangered Species Memorandum of Understanding;~~

3. all mitigation, monitoring and compliance conditions included in the Commission's Final Decision;

4. all conditions agreed to in the USACE Clean Water Act Permits;

5. all conditions specified in the CDFG Streambed Alteration Permit, **including the following administrative procedures identified in the Final SAA:**

   - **DOCUMENTATION AT PROJECT SITE. Included as an appendix to the BRMIMP, the project owner shall make the SAA, any extensions and amendments to the SAA, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to the CPM, CDFG, USFWS, or personnel from another state, federal, or local agency upon request. The project owner shall provide copies of the SAA and any extensions and amendments to the SAA to all persons who will be working on the project site on behalf of the project owner, including but not limited to contractors, subcontractors, inspectors, and monitors.**

   - **NOTIFICATION OF CONFLICTING PROVISIONS. While preparing the BRMIMP, the project owner shall notify the CPM with copy to CDFG if the project owner determines or learns that a provision in the SAA might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, the CPM shall contact the project owner to resolve any conflict.**

   - **PROJECT SITE ENTRY. The project owner agrees that the CPM and personnel from the USFWS and CDFG may enter the project site at any time to verify compliance with the SAA or BO. This shall be stated in the BRMIMP.**

~~if required;~~

6. required mitigation measures for each sensitive biological resource;

7. required habitat compensation, including provisions for acquisition, enhancement and management, for any loss of sensitive biological resources;

8. a detailed plan for protecting the existence and monitoring the integrity of the wetlands remaining on-site;

9. a detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;

10. all locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

11. aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;

12. monitoring duration for each type of monitoring and a description of monitoring methodologies and frequency;

13. performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. all remedial measures to be implemented if performance standards are not met; and
15. a process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least **30** ~~45~~ days prior to **any ground disturbing activities** ~~rough grading~~, the project owner shall provide the CPM with **a draft** ~~the final~~ version of the Biological Resources Mitigation Implementation and Monitoring Plan for this project **for review and comment. The CPM shall coordinate as necessary with USFWS and CDFG on any biological monitoring issues. Within 10 days prior to the start of ground disturbing activities, the project owner shall provide the CPM with a final copy of the approved BRMIMP with agency comments incorporated.**~~, and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan.~~

The project owner shall notify the CPM within five working days before implementing any modifications to the Biological Resource Mitigation Implementation and Monitoring Plan.

Within 30 days after completion of construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the Biological Resource Mitigation Implementation and Monitoring Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which condition items are still outstanding.

BIO-14 Valley Elderberry Longhorn Beetle

The project owner shall install high visibility fencing at least 20 feet from the dripline of the single elderberry shrub which occurs approximately 75 feet from the proposed pipeline alignment, within Riparian Drainage #10. The Designated Biologist or approved Biological Monitor shall monitor the shrub and fencing at least weekly during construction to be sure equipment is not impacting the shrub and to ensure the fencing is staying intact.

Verification: At least 10 days prior to the start of any ground-disturbing activities, the project owner shall provide photographic documentation to the CPM that the fencing has been installed around the shrub. Implementation of this measure including monitoring of the shrub during construction shall be reported in the Monthly Compliance Reports by the Designated Biologist or Biological Monitor.

CUL-15 CONSTRUCTION OF GRIMES PIPELINE PROJECT

CUL-15.1. CULTURAL RESOURCES PERSONNEL

Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) for the Grimes Pipeline project, the project owner shall obtain the services of a Cultural Resources Specialist (CRS) and may, in addition, obtain the services of one or more CRS alternates. The project owner shall submit the resumes and qualifications for the CRS, and any CRS alternates or technical specialists to the CPM for review and approval.

The CRS or any subsequent CRS alternate shall, on behalf of the project owner, have the sole responsibility for the implementation of the Cultural Resources Conditions of Certification (Conditions) (CUL-1–CUL-15) in a manner that is consistent with the terms of those conditions and with the terms of the General Conditions. The CRS or any subsequent CRS alternate may elect to obtain the services of Cultural Resources Monitors (CRMs) or other technical specialists, as needed, to assist in the implementation of the Conditions. The project owner shall ensure that the CRS or any subsequent CRS alternate makes recommendations on the California Register of Historical Resources (CRHR) eligibility of any new cultural resources that are found during the construction of the Grimes Pipeline project, or on any known cultural resources that the CRS or any subsequent CRS alternate determines to have the potential to be affected in an unanticipated manner. No ground disturbance related to the Grimes Pipeline project shall occur prior to Compliance Project Manager (CPM) approval of the CRS and alternates, unless such activities are specifically approved by the CPM.

Approval of a CRS or CRS alternate may be denied or revoked for reasons including, but not limited to, a demonstrable history of difficulty complying with license conditions for other Energy Commission power projects. After all ground disturbance related to the Grimes Pipeline project has been completed, and the CRS has fulfilled all responsibilities specified in this condition, the project owner may discharge the CRS, upon the approval of the CPM. With the discharge of the CRS, this cultural resources condition would no longer apply to the routine operation and maintenance of the constructed pipeline.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) for prehistoric archaeology. In addition, the CRS shall have the following qualifications:

- **The CRS's qualifications shall include demonstrated professional experience in ethnology, anthropological archaeology, public history, and architectural history;**
- **At least three years of field experience variably identifying, evaluating the historical significance of, and salvaging representative datasets from archaeological resources in California; and**
- **At least one year of supervisory experience in California as a regulatory archaeologist where such experience has demonstrably provided the training and knowledge necessary to make informed and reasoned recommendations on the historical significance of the types of archaeological resources that may be found in the project area for the Grimes Pipeline project.**

The resumes of the CRS and CRS alternates shall include the names and telephone numbers of contacts familiar with the work of the CRS and any proposed CRS alternates on referenced projects and demonstrate to the satisfaction of the CPM that the CRS and CRS alternates have sufficient training and experience to effectively implement the Conditions.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

- **A BS or BA degree in anthropology, archaeology, or a related field, and one year of archaeological monitoring experience in California; or**
- **An AS or AA degree in anthropology, archaeology, or a related field, and four years of archaeological monitoring experience in California; or**
- **Enrollment in upper division classes pursuing an undergraduate degree in the fields of anthropology, archaeology, or a related field, and two years of archaeological monitoring experience in California.**

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any proposed additional technical specialist(s), such as historical archaeologists, historians, architectural historians, or physical anthropologists, shall be submitted to the CPM for review and approval. [V15.1-1–V15.1-6]

CUL-15.2. CULTURAL RESOURCES INFORMATION FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, the Grimes Pipeline project amendment, data

responses, confidential cultural resources reports, any supplements, the Staff Analysis (SA) for the amendment, and the cultural resources section of the Final Decision on the amendment, including all cultural resources Conditions of Certification, for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprints of the power plant, all linear facility routes, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2400 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review map submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. Project construction shall not commence prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM.

If construction of the project would proceed in phases, maps and drawings not previously provided shall be provided to the CRS and CPM prior to the start of each phase. Written notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

Weekly, until project construction is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where project construction will occur during that week.

The project owner shall notify the CRS and CPM of any changes to the proposed scheduling of the construction phases. [V15.2-1–V15.2-5]

CUL-15.3. CULTURAL RESOURCES MONITORING AND MITIGATION PLAN FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, the project owner shall submit a Cultural Resources Monitoring and Mitigation Plan (CRMMP) for the subject project, as prepared by or under the direction of the CRS, to the CPM for review and approval. The CRMMP shall follow the content and organization of the draft model CRMMP, provided by the CPM, and the authors' name(s) shall appear on the title page of the CRMMP. The CRMMP shall identify measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each CRM, and the project owner's on-site construction manager. No project construction shall commence prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures:

1. **The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions of Certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A."**
2. **A proposed general research design that includes a discussion of archaeological research questions and testable hypotheses specifically applicable to the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research design. The research design will specify that the preferred treatment strategy for any buried archaeological deposits is avoidance. A specific mitigation plan shall be prepared for any unavoidable impacts to any CRHR-eligible (as determined by the CPM) resources. A prescriptive treatment plan may be included in the CRMMP for limited data types.**
3. **Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground–disturbance analysis phases of the project.**
4. **Identification of the person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.**
5. **A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.**
6. **A description of all impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation, and identification of areas where these measures are to be implemented. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related effects.**
7. **A statement that all encountered cultural resources over 50 years old shall be recorded on Department of Parks and Recreation (DPR) 523 forms and mapped and photographed. In addition, all archaeological materials retained as a result of the archaeological**

investigations (survey, testing, data recovery) shall be curated in accordance with the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.

8. **A statement that the project owner will pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.**
9. **A statement demonstrating when and how the project owner will comply with Health and Human Safety Code 7050.5(b) and Public Resources Code 5097.98(b) and (e).**
10. **A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are encountered during ground disturbance and cannot be treated prescriptively.**
11. **A description of the contents, format, and review and approval process of the final Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines. [V15.3-1–V15.3-4]**

CUL-15.4. SUPPLEMENT TO THE FINAL CULTURAL RESOURCES REPORT FOR THE GRIMES PIPELINE PROJECT

The project owner shall submit a Supplement to the Final Cultural Resources Report (SCRR) to the CPM for review and approval. The SCRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The SCRR shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, DPR 523 forms, geoarchaeological final reports, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the SCRR.

If the project owner requests a suspension of ground disturbance and/or construction activities, then a draft SCRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft SCRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final SCRR shall be submitted to the CPM for

review and approval at the same time as the withdrawal request. [V15.4-1–V15.4-3]

CUL-15.5. EMPLOYEE TRAINING PROGRAM FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction the project owner shall ensure that the CRS develops and conducts a new employee training program for the Grimes Pipeline Project. The new program shall follow the direction set out in CUL-5 and CUL-6 above, except that the Western Area Power Administration (Western) is no longer required to be a party to the employee training process. [V15.5-1]

CUL-15.6. ARCHAEOLOGICAL MONITORING FOR THE GRIMES PIPELINE PROJECT

Prior to the start of project construction, the project owner shall notify the CPM of the date on which ground disturbance will ensue. The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor, full time, all ground disturbance along the pipeline alignment, and at laydown areas, roads, and other ancillary areas, to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of ground-disturbing activities in the areas specified in the paragraph immediately above, for as long as the activities are ongoing. Where excavation equipment is actively removing dirt and hauling the excavated material farther than fifty feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.

The project owner shall obtain the services of one or more Native Americans to monitor all ground disturbance related to project construction. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area where the project is located, but the project owner shall make a reasonable and good faith effort to accommodate equally all groups expressing the desire to monitor. If efforts to obtain the services of at least one qualified Native American monitor, acceptable to all groups that want monitoring, are unsuccessful, the project owner shall immediately inform the CPM. The

CPM may either identify potential monitors or allow ground disturbance to proceed without a Native American monitor.

The research design in the CRMMP developed under CUL-15.3 shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM. [V15.6-1–V15.6-6]

CUL-15.7. CULTURAL RESOURCE DISCOVERY AND THE GRIMES PIPELINE PROJECT

The project owner shall grant authority to halt ground disturbance to the CRS, alternate CRS, and the CRMs in the event of a discovery. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event that a cultural resource over 50 years of age is found (or if younger, and determined exceptionally significant by the CPM), or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. If the discovery includes human remains, the project owner shall comply with the requirements of Health and Safety Code, section 7050.5(c) and Public Resources Code, section 5097.98, and shall notify the CPM and the NAHC of the discovery of human remains. Monitoring and daily reporting, as provided in other conditions, shall continue during the project's ground-disturbing activities elsewhere. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred:

1. **The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of CRHR eligibility, and recommendations for data recovery from any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made.**
2. **If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery.**
3. **The CRS has completed field notes, measurements, and photography for a DPR 523 "Primary" form. Unless the find can be treated prescriptively, as specified in the CRMMP, the "Description" entry of the DPR 523 "Primary" form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM.**
4. **The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.**

Ground disturbance may resume only with the approval of the CPM. [V15.7-1 –V15.7-3]

VERIFICATIONS:

CUL-15.1 CULTURAL RESOURCES PERSONNEL

V.15.1-1 At least 45 days prior to the start of project construction, the project owner shall submit the resumes for the CRS, and any CRS alternate(s) if desired, to the CPM for review and approval.

V.15.1-2. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS, if different from the CRS alternate, to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If no CRS alternate is available to assume the duties of the CRS, the project owner shall designate a CRM to serve in place of a CRS for a maximum of 3 days. If cultural resources are discovered, project construction will remain halted until there is a CRS or CRS alternate to make a recommendation regarding significance.

V.15.1-3. At least 20 days prior to the start of project construction, the CRS shall provide a letter naming CRMs and attesting that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this condition.

V.15.1-4. At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide letters to the CPM identifying the new CRMs and attesting to their qualifications.

V.15.1-5 At least 10 days prior to any technical specialists, other than CRMs, beginning tasks, the resume(s) of the specialists shall be provided to the CPM for review and approval.

V15.1-6. At least 10 days prior to the start of project construction, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions.

CUL-15.2 CULTURAL RESOURCES INFORMATION FOR THE GRIMES PIPELINE PROJECT

V.15.2-1. At least 40 days prior to the start of project construction, the project owner shall provide the AFC, the Grimes Pipeline project amendment, data responses, confidential cultural resources reports, any supplements, the Staff Analysis (SA) for the amendment, and the cultural resources section of the Final Decision on the amendment, including all cultural resources Conditions of Certification, for the project to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation

with the CRS and approve maps and drawings suitable for cultural resources planning activities.

V15.2-2. At least 15 days prior to the start of project construction, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS and CPM.

V.15.2-3. At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS and CPM.

V.15.2-4. Weekly, during project construction, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.

V.15.2-5. Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.

CUL-15.3. CULTURAL RESOURCES MONITORING AND MITIGATION PLAN FOR THE GRIMES PIPELINE PROJECT

V.15.3-1. Upon approval of the CRS proposed by the project owner, the CPM will provide to the project owner an electronic copy of the draft model CRMMP for the CRS.

V.15.3-2. At least 30 days prior to the start of project construction, the project owner shall submit the CRMMP to the CPM for review and approval.

V.15.3-3. At least 30 days prior to the start of project construction, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials generated or collected as a result of the archaeological investigations (survey, testing, data recovery).

V.15.3-4. Within 90 days after completion of project construction (including landscaping), if cultural materials requiring curation were generated or collected, the project owner shall provide to the CPM a copy of an agreement with, or other written commitment from, a curation facility that meets the standards stated in the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, to accept the cultural materials from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.

CUL-15.4. SUPPLEMENT TO THE FINAL CULTURAL RESOURCES REPORT FOR THE GRIMES PIPELINE PROJECT

V.15.4-1. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft SCRR to the CPM for review and approval.

V.15.4-2. Within 90 days after completion of project construction (including landscaping), the project owner shall submit the final SCRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included as an appendix.

V.15.4-3. Within 10 days after CPM approval of the SCRR, the project owner shall provide documentation to the CPM confirming that copies of the final SCRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.

CUL-15.5. EMPLOYEE TRAINING PROGRAM FOR THE GRIMES PIPELINE PROJECT

V.15.5-1. The project owner shall adhere to the verifications for CUL-5 and CUL-6, above, as the relate to the construction of the Grimes Pipeline project and with the caveat that Western is not required to be a part of the new employee training program.

CUL-15.6. ARCHAEOLOGICAL MONITORING FOR THE GRIMES PIPELINE PROJECT

V.15.6-1. At least 30 days prior to the start of project construction, the CPM will notify all Native Americans with whom the Energy Commission communicated during the project review of the date on which the project's project construction will begin.

V.15.6-2. At least 30 days prior to the start of project construction, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.

V.15.6-3. Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP.

V.15.6-4. At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.

V.15.6-5. Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age

were discovered" to the CPM as an e-mail or in some other form of communication acceptable to the CPM.

V.15.6-6. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.

CUL-15.7. CULTURAL RESOURCE DISCOVERY AND THE GRIMES PIPELINE PROJECT

V.15.7-1. At least 30 days prior to the start of project construction, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt project construction in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

V.15.7-2. Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during project construction shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

V.15.7-3. Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery, and the CRS must inform the CPM when the notifications are complete.

~~**PAL-1** Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name(s) and qualifications of its designated paleontologic resources specialist and mitigation team members.~~

~~The designated paleontologic resources specialist shall be responsible for implementing all the Conditions of Certification and for using qualified personnel to assist him or her in project-related field surveys; monitoring; fossil stabilization, removal, and transport; data collection and mapping; direction and implementation of mitigation procedures; matrix sampling, screen washing, and other micro-fossil recovery techniques; preparation and analysis of recovered fossils and data; identification and inventory of recovered fossils; preparation of recovered fossils for delivery and curation; and report preparation.~~

~~After CPM approval of the Paleontologic Resources Monitoring and Mitigation Plan, described below in Condition PAL-4, the designated paleontologic resources specialist and team shall be available to implement the mitigation plan prior to, and throughout construction of the project.~~

~~Protocol: The project owner shall provide the CPM with a resume or statement of qualifications for its designated paleontologic resources specialist and mitigation team members. The resume(s) shall include the following information:~~

1) ~~The resume for the designated paleontologic resource specialist shall demonstrate that the specialist meets the following minimum qualifications: a graduate degree in paleontology or geology, or paleontologic resource management; at least three years of paleontologic resource mitigation and field experience in California, including at least one year's experience leading paleontologic resource field surveys; leading site mapping and data recording; marshalling and use of equipment necessary for fossil recovery, sampling, and screen washing; leading fossil recovery operations; preparing recovered materials for analysis and identification; recognizing the need for appropriate sampling and/or testing in the field and in the lab; directing the analyses of mapped and recovered fossil materials; completing the identification and inventory of recovered fossil materials; and the preparation of appropriate reports to be filed with the receiving curation repository, the University Museum of Paleontology at Berkeley, all appropriate regional information center(s), and the Commission.~~

2) ~~The resume for the designated paleontologic resource specialist shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.~~

3) ~~If additional personnel will be assisting the designated paleontologic resources specialist in project-related field surveys, monitoring, data and fossil recovery, mapping, mitigation, fossil analysis, or report preparation, the project owner shall also provide names, addresses, and resumes for these paleontology resource team members.~~

4) ~~If the CPM determines that the qualifications of the proposed paleontologic resources specialist are not in concert with the above requirements, the project owner shall submit another individual's name and qualifications for consideration.~~

5) ~~If the previously approved, designated paleontologic resources specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontologic resources specialist by submitting the name and qualifications of the proposed replacement to the CAM, at least ten (10) days prior to the termination or release of the preceding designated paleontologic resources specialist.~~

~~Verification: At least ninety (90) days prior to the start of construction on the project, the project owner shall submit the name and resume for its designated~~

~~paleontologic resources specialist, to the CPM for review and approval. The CPM shall provide written approval or disapproval of the proposed paleontologic resources specialist.~~

~~Thirty (30) days prior to start of construction, the project owner shall confirm in writing to the CPM that the previously approved, designated paleontologic resources specialist and the team of assistants are prepared to implement the monitoring and mitigation measures for paleontologic resources, as described in the CPM-approved Paleontologic Resources Monitoring and Mitigation Plan, prepared per Condition PAL-4, below.~~

~~At least ten (10) days prior to the termination or release of a designated paleontologic resource specialist, the project owner shall obtain CPM approval of the new designated paleontologic resource specialist by submitting to the CPM the name and resume of the proposed replacement specialist.~~

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. **institutional affiliations, appropriate credentials, and college degree;**
2. **ability to recognize and collect fossils in the field;**
3. **local geological and biostratigraphic expertise;**
4. **proficiency in identifying vertebrate and invertebrate fossils; and**
5. **at least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities.**

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems

necessary on the project. Paleontologic Resource Monitors (PRMs) shall have the equivalent of the following qualifications:

BS or BA degree in geology or paleontology and one year of experience monitoring in California; or AS or AA in geology, paleontology, or biology and two years' experience monitoring in California; or enrollment in upper division classes pursuing a degree in the fields of geology or paleontology.

Monitors with lesser experience levels may be approved by the CPM, on a case-by-case basis, provided the proposed monitor will be working under the direct supervision of an approved monitor with the required credentials.

Verification:

(1) At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for onsite work.

(2) At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning onsite duties.

(3) Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-8 The designated paleontologic resource ~~specialist~~ **monitor** shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in areas where remnant river terrace deposits have been found.

These terrace remnants have been generally correlated with soils of the Conejo-Tisdale group and Pleistocene-age fossil materials may be present. ~~Project areas where the terrace deposits may be found include the power plant site, the Sutter Bypass switching station site, portions of the 16-inch natural gas pipeline route, and the electric transmission line route. Using the mile posts and boundary stakes placed by the project owner, the designated paleontologic resource specialist shall monitor the route of the 16-inch natural gas pipeline, between Mile Post (MP) 0.00 to MP 2.07; MP 3.58 to MP 3.70; and MP 4.10 to MP 4.50. For the route of the 4.0-mile electric transmission line, areas to be monitored full-time are MP 0.00 to MP 1.40; and MP 1.80 to MP 2.60.~~

Other sections of the linear facility routes may be monitored as deemed necessary by the designated paleontologic resources specialist.

Verification: The project owner shall include in the Monthly Compliance Reports to the CPM, a summary of the daily logs prepared by the designated paleontologic resource specialist.

WASTE-4 Prior to initiating any earthwork on the project site, the project owner shall prepare and submit to the Compliance Project Manager (CPM) for approval, a Soils Management Plan (SMP). The SMP should include but is not limited to the following:

- **Land use history, including description and locations of known contamination;**
- **An earthwork schedule;**
- **The project owner shall describe methods which will be used to properly handle and/or dispose of soil which may be classified as hazardous or contain contaminants at levels of potential concern, including the identification of legal discharge areas;**
- **The SMP shall discuss, as necessary, the reuse of soil on site in accordance with applicable criteria to protect construction workers or future workers on site;**
- **A SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed.**

Verification: At least 20 days prior to any earthwork, including those earthwork activities associated with the site mobilization, ground disturbance, or grading as defined in the general conditions of certification the project owner shall submit the Soils Management Plan to the CPM for approval.

IT IS SO ORDERED.

Date: _____

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

_____
HARRIET KELLEMEYN
Secretariat