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CALIFORNIA ENERGY COMMISSION

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DATE: February 13, 2015

TO: Interested Parties

FROM: Dale Rundquist, Compliance Project Manager

**SUBJECT: Panoche Energy Center (06-AFC-5C)
Staff Analysis of Amendment Proposal to Install Wastewater Storage
Tanks**

On October 13, 2014, the Panoche Energy Center, LLC (PECL), filed a petition with the California Energy Commission (Energy Commission) requesting to amend the Final Decision for the Panoche Energy Center (PEC). The modification proposed in the petition would temporarily resolve wastewater disposal difficulties encountered during project operations. Staff prepared an analysis of this proposed change that can be reviewed on the Energy Commission website for this facility (see below).

The simple-cycle, natural gas-fired, 400-megawatt facility was certified by the Energy Commission in its Decision on December 19, 2007, and began commercial operation on July 1, 2009. The facility is located in an unincorporated area approximately 15 miles southwest of the city of Mendota in western Fresno County, California.

Energy Commission staff (staff) reviewed the petition and assessed the impacts of this proposal on environmental quality and on public health and safety. In the Staff Analysis, staff proposes revised Land Use Condition of Certification LAND-1. It is staff's opinion that, with the implementation of the existing conditions of certification in the Energy Commission Decision and this revised condition, the facility would remain in compliance with applicable laws, ordinances, regulations, and standards, and the proposed changes to conditions of certification would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (20 Cal. Code of Regs., § 1769). Energy Commission staff intends to recommend approval of the petition at the March 11, 2015, Business Meeting of the Energy Commission.

The Energy Commission's webpage for this facility, <http://www.energy.ca.gov/sitingcases/panoche/>, has a link to the petition and the Staff Analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. After the Energy Commission decision, the Energy Commission's Order regarding this petition will also be available on the same webpage.

This notice has been mailed to the Commission's list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about

this facility is e-mailed to parties who have subscribed. To subscribe, go to the Commission's webpage for this facility, cited above, scroll down the right side of the project webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis should submit their comments by 5:00 p.m., Monday March 9, 2015. To use the Energy Commission's electronic commenting feature, go to the Energy Commission's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 06-AFC-5C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and become publically accessible on the Energy Commission's webpage for the facility.

If you have questions about this notice, please contact Dale Rundquist, Compliance Project Manager, at (916) 651-2072, or by fax to (916) 654-3882, or via e-mail to dale.rundquist@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, please call the Public Adviser at (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

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**PANOCHÉ ENERGY CENTER (06-AFC-5C)
PETITION TO AMEND
THE CALIFORNIA ENERGY COMMISSION DECISION FOR THE
PANOCHÉ ENERGY CENTER (06-AFC-5C)
Executive Summary
Dale Rundquist**

INTRODUCTION

On October 13, 2014, the Panoche Energy Center, LLC (PECL), filed a petition with the California Energy Commission (Energy Commission) requesting to amend the Final Decision for the Panoche Energy Center (PEC). The modification proposed in the petition would allow for the construction of a wastewater storage facility to temporarily store excess wastewater for later injection into the existing wastewater injection wells.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modification would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (20 Cal. Code Regs., § 1769).

On September 9, 2009, Panoche Energy Center, L.L.C. (PECL), owner of the PEC, filed a petition with the Energy Commission requesting approval to construct and use unlined wastewater surface impoundments (UWSIs) to percolate PEC wastewater into an unusable aquifer as a result of inadequate performance of the four onsite wastewater injection wells. The 2009 petition request is still under review by Energy Commission staff.

The current proposal to amend the 2007 Final Decision requests approval for the construction and operation of the Enhanced Wastewater System on a 3.5-acre portion of the combined 9.18-acre former PEC construction laydown area and pomegranate orchard. According to the 2014 Petition, this proposal is an alternative solution to PEC wastewater disposal difficulties and does not seek to replace or rescind the 2009 Petition. The 2014 Petition also states that the proposed Enhanced Wastewater System is currently the most efficient alternative for providing a reliable option for wastewater disposal during the 2015 peak season should the performance of the injection wells continue to decline and the 2009 Petition is not approved and/or implemented within a timely fashion.

Energy Commission staff (staff) has completed its review of all materials received. The Staff Analysis below is staff's assessment of the project owner's proposal.

PROJECT LOCATION AND DESCRIPTION

PEC, a simple-cycle, natural gas-fired, 400-megawatt facility, was certified by the Energy Commission in its Decision on December 19, 2007, and began commercial operation on July

1, 2009. The facility is located in an unincorporated area approximately 15 miles southwest of the city of Mendota in western Fresno County, California.

DESCRIPTION OF PROPOSED MODIFICATIONS

The proposed changes consist of enhanced design measures to accommodate and secure the operational capacity of the existing PEC wastewater injection process. PECL proposes to install three (3) storage tanks, ranging from 250,000 gallons to 500,000 gallons. The storage tanks would temporarily store wastewater during operational periods where the net wastewater production exceeds the injection well capacity (approximately 250 gallons per minute [gpm]). The excess wastewater would be stored for later injection when wastewater production ceased (i.e., when the turbines are offline). The proposed changes also include construction and operation of a permanent stand-by treatment system.

The approximate capacity and dimensions of the Enhanced Wastewater System structures are as follows:

- 500,000-gallon Blowdown Collection Tank: 60 feet diameter by 24 feet high;
- 500,000-gallon Wastewater (RO Reject) Collection Tank: 60 feet diameter by 24 feet high;
- 250,000-gallon Permeate Collection Tank: 48 feet diameter by 20 feet high; and
- Enhanced Wastewater System Building: 120 feet long by 70 feet wide and approximately 20 feet high.

Construction of the Enhanced Wastewater System is projected to begin in early 2015 and last for approximately 14 weeks. The workforce would vary depending on the month of construction and weather conditions. Major construction activities would include site preparation and minor grading, trenching for underground pipelines, installation of equipment, erection of above grade storage tanks and a structure to house treatment equipment.

NECESSITY FOR THE PROPOSED MODIFICATIONS

PECL was permitted to design, construct and operate six wastewater injection wells. Four wells have been constructed and are in operation. However, the four wells have not demonstrated the capacity to accept discharged wastewater during peak full summer operation of PEC.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical area sections contained in this Staff Analysis include staff-recommended changes to an existing condition of certification. Staff believes the changes that the amendment proposes would be consistent with the LORS identified in the Energy Commission's 2007 Decision, and that the project would have no significant land use impacts.

Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Energy Commission technical staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff has determined that current conditions of certification in the technical or environmental areas of Paleontological Resources and Transmission System Engineering will ensure that the project will remain in compliance with all applicable LORS. No revisions or new conditions of certification in these areas are needed to ensure the project remains in compliance.

Staff has also determined that in the technical or environmental areas of Cultural Resources, Facility Design, Hazardous Materials Management, Industrial Safety and Fire Protection, Noise and Vibration, Public Health, and Transmission Line Safety and Nuisance there is no possibility that the modifications may have a significant effect on the environment and ...the modification will not result in a change or deletion of a condition adopted by the commission in the final decision or make changes that would cause the project not to comply with any applicable LORS (Section 1769(a)(2)).

Energy Commission staff in the environmental and technical areas of Air Quality, Biological Resources, Soil and Water Resources, and Waste Management prepared analyses that are attached.

Socioeconomics staff found that although the proposed Amendment would require construction workers, there would not be a significant impact on socioeconomic criteria because project construction would be short in duration (14 weeks) and would not require a large construction workforce. The proposed Amendment would not require any permanent employees. Also, there is a more than adequate supply of workers within the Fresno Metropolitan Statistical Area to fulfill workforce needs for this project. Therefore, the proposed Amendment would not induce substantial population growth in the area, either directly or indirectly; displace substantial numbers of people and/or existing housing, necessitating the construction of replacement housing elsewhere; or adversely impact acceptable levels of service for police protection, schools, and parks and recreation. Lastly, the proposed Amendment would comply with applicable LORS.

The proposed Amendment would have no significant socioeconomic impacts and would not affect the Socioeconomics Condition of Certification in the December 2007 Energy Commission Final Decision for the Panoche Energy Center. Because a covered and enclosed industrial building comprising 8,400 square feet would be constructed, Condition of Certification **SOCIO-1** (The project owner shall pay the one-time statutory school development fee to the Mendota Unified School District as required by Education Code Section 17620.) will apply to the Amendment. At least 30 days prior to the start of project construction, the project owner shall provide the Compliance Project Manager (CPM) proof of payment of the statutory development fee.

As there would be no significant socioeconomic impacts from the Amendment, there would be no significant socioeconomic impact on the environmental justice population in the six-mile buffer of the project site, as identified in **Executive Summary Figure 1** (attached).

Traffic and Transportation staff reviewed the proposed petition to amend which proposes to construct and operate up to three new permanent wastewater storage tanks and associated wastewater treatment equipment. The Enhanced Water System (EWS) will resolve wastewater disposal difficulties encountered during project operations. The key tasks involve minor grading and delivery/assembly of new permanent wastewater tanks and treatment facility. The EWS construction would not result in the construction of additional roads or require improvement in any existing roads. An estimated 88 large truck trips per day during weeks three to six would be needed for the project modifications during a 14 week installation period. The existing roadway circulation system has sufficient capacity to handle construction truck traffic. Worker parking and equipment staging will be located within the existing PEC and EWS footprint. The estimated filter cake disposal during operation will average one to two trucks per week, or eight trucks per month, and would not degrade the Level of Service A (LOS A) along West Panoche Road to Interstate 5.

Visual Resources staff found that the new wastewater tanks would range in size from 250,000 to 500,000 gallons and would be 60 feet wide and approximately 24 feet high. The tanks would be located in the middle of the southern portion of the PEC site. The EWS would be contained in a building approximately 120 feet long by 70 feet wide and 20 feet high and would be located on the southwestern edge of the PEC site. The new building would be visually consistent with the existing PEC facility and would be screened from motorists using West Panoche Road by other project structures. The Petition to Amend (PTA) notes that the EWS would be located adjacent to Davidson Road but traffic counts are low and travelers would have short viewing durations and are accustomed to the industrial character of the PEC. The EWS would need to comply with Conditions of Certification **VIS-1** (surface treatment), **VIS-2** (construction lighting), and **VIS-3** (permanent exterior lighting) contained in the 2007 PEC Energy Commission decision. Condition of Certification **VIS-4** (plume formation) would not apply to the EWS. There would be no visual resources impacts.

Staff determined, however, that the technical area of Land Use would be affected by the proposed project changes and has proposed modifications to Condition of Certification **LAND-1** in order to assure compliance with LORS and to reduce potential environmental impacts to a less than significant level. The proposed Condition of Certification **LAND-1** is provided in the Land Use Staff Analysis (attached).

**Executive Summary Table 1
Summary of Impacts for Each Technical Area**

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality		X		
Biological Resources		X		
Cultural Resources		X		
Facility Design		X		
Hazardous Materials Management		X		
Land Use			X	X
Noise & Vibration		X		
Paleontological Resources		X		
Public Health		X		
Socioeconomics		X		
Soil & Water Resources		X		
Traffic & Transportation		X		
Transmission Line Safety & Nuisance		X		
Transmission System Engineering		X		
Visual Resources		X		
Waste Management		X		
Worker Safety & Fire Protection		X		

*There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (20 Cal. Code Regs., § 1769 (a)(2)).

ENVIRONMENTAL JUSTICE

Environmental justice communities are commonly identified as those where residents are predominantly minorities or low-income; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices,

and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

An environmental justice analysis is composed of three parts:

1. identification of areas potentially affected by various emissions or impacts from a proposed project;
2. a determination of whether there is a significant population of minority persons or persons below the poverty level living in an area potentially affected by the proposed project; and
3. a determination of whether there may be a significant adverse impact on a population of minority persons or persons below the poverty level caused by the proposed project alone, or in combination with other existing and/or planned projects in the area.

CALIFORNIA RESOURCES AGENCY

California law defines environmental justice as “the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Gov. Code §65040.12; Pub. Resources Code, §72000). All departments, boards, commissions, conservancies and special programs of the Resources Agency must consider environmental justice in their decision-making process if their actions have an impact on the environment, environmental laws, or policies. Such actions that require environmental justice consideration may include:

- adopting regulations;
- enforcing environmental laws or regulations;
- making discretionary decisions or taking actions that affect the environment;
- providing funding for activities affecting the environment; and
- interacting with the public on environmental issues.

DEMOGRAPHIC SCREENING ANALYSIS

As part of its CEQA analysis for the Petition to Amend the Panoche Energy Center (PEC) Final Decision, Energy Commission staff used demographic screening to determine whether a low-income and/or minority population exists within the potentially affected area of the PEC project site¹. The demographic screening is based on information contained in two documents: Environmental Justice: Guidance Under the National Environmental Policy Act (CEQ, December, 1997) and Guidance for Incorporating Environmental Justice Concerns in EPA’s Compliance Analyses (U.S. EPA, April, 1998), which provides staff with information on outreach and public involvement. The Council on Environmental Quality document defines minority individuals as members of the following groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

¹ Demographic screening data is presented in the end of this section.

Based on the 2010 Census data presented in **Executive Summary Figure 1**, the total population within the six-mile buffer of the project site was 208 persons, with a minority population of 190 persons, or 91.3 percent of the total population. As the minority population is greater than fifty percent, this population constitutes an environmental justice population as defined by Environmental Justice: Guidance Under the National Environmental Policy Act, and would trigger further scrutiny for purposes of an environmental justice analysis.

Staff's demographic screening also identifies a large presence of below-poverty-level population within the County Census Division (CCD) in which the six-mile buffer lies. Staff determined that the poverty data at the CCD level is the lowest level available through the US Census Bureau American Community Survey that retains reasonable accuracy. Given the large minority population within the six-mile buffer, staff believes that the large below-poverty-level rate of the CCD is representative of the six-mile buffer area, in terms of poverty. The Council on Environmental Quality and the U.S. Environmental Protection Agency guidance documents identify a fifty percent threshold to determine whether minority populations are considered environmental justice populations, but do not provide a discrete threshold for below-poverty-level populations.

Using census data staff compares the below-poverty-level population in the Mendota CCD to other appropriate reference geographies. Approximately 5,424 persons, or 44.2 percent of the population within the CCD live below the federal poverty level, which is much greater than the below-poverty-level population in the comparison geographies of the project site. The poverty level in this area is approximately 20 percent greater than the poverty level for Fresno County and almost 30 percent greater than the poverty level for California. When Socioeconomics technical staff identifies the presence of an environmental justice population, staffs from the thirteen technical areas² then consider the potential for disproportionate impacts on the environmental justice population.

Energy Commission staff concludes that mitigation measures for short-term construction impacts described above are expected to greatly reduce or eliminate the potential for significant adverse impacts on the environmental justice population within the potential affected area of the proposed site.

² The thirteen technical staff/areas are Air Quality, Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water Resources, Water Supply, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Cultural Resources, and Waste Management.

PROJECT DEMOGRAPHIC SCREENING DATA

Table 1
Minority Populations within the Project Area Plus Fresno County

	Six-Mile Buffer of Project Site	Mendota CCD*	Fresno County	California
Total	208	12,551	930,450	37,253,956
Not Hispanic or Latino: White alone	18	327	304,522	14,956,253
Minority	190	12,224	625,928	22,297,703
Percent Minority	91.3	97.4	67.3	59.9

Notes: Bold text- minority population is greater than 50 percent, * CCD- Census County Division. **Source:** US Census Bureau 2010

Table 2
Poverty Data within the Project Area Plus Fresno County

Area	Total			Income in the past 12 months below poverty level			Percent below poverty level		
	Estimate*	MOE	CV (%)	Estimate	MOE	CV (%)	Estimate	MOE	CV (%)
Census County Division Used to Determine Poverty Status: Mendota CCD	12,278	+/-278	1.38	5,424	+/-821	9.20	44.2	+/-6.6	9.08
Comparison Geographies									
Fresno County	913,669	+/-815	.05	226,967	+/-5,782	1.55	24.8	+/-0.6	1.47
California	36,575,460	+/-3,416	.01	5,590,100	3+/-8,396	.42	15.3	+/-0.1	.40

Notes: * Population for whom poverty status is determined; MOE – Margin of Error; CV – Coefficient of Variation (For data reliability, a CV greater than 15 is generally considered unreliable.).

Source: US Census Bureau 2012.

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

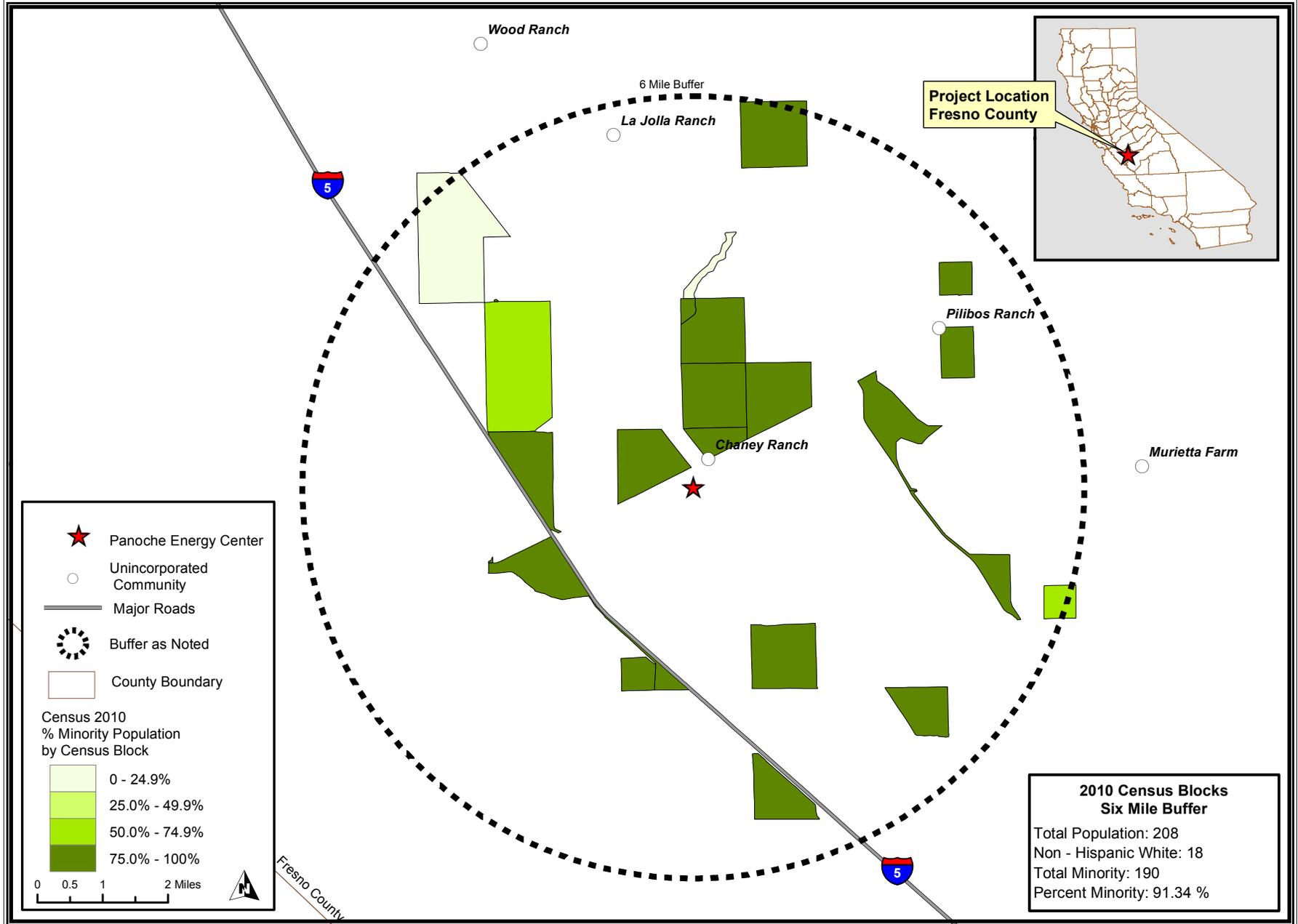
- The proposed modification would not change the findings in the Energy Commission’s Decision pursuant to Title 20, California Code of Regulations, section 1755;
- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification;
- The facility would remain in compliance with all applicable laws, ordinances, regulations, and standards;
- The modification proposed in the petition would allow PECL to treat and store wastewater on-site until the injection wells could process it;
- The proposed modification would be beneficial to the applicant, because the wastewater tanks will provide a solution to replace the current temporary treatment system with a permanent, reliable system to adequately dispose of project wastewater; and
- The proposed modification is justified because there has been a substantial change in circumstances since the Energy Commission certification, in that of the six permitted wastewater injection wells, four have been built but have shown to be unable to perform as envisioned by the project owner. None of the four wells have demonstrated an ability to accept discarded wastewater during peak summer load periods.

REFERENCES

- CEQ 1997 – Council on Environmental Quality. *Environmental Justice: Guidance Under the National Environmental Policy Act*. December 10, 1997, <http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_ceq1297.pdf>.
- US Census Bureau 2010 – United States Census Bureau. P2: Hispanic or Latino, and Not Hispanic or Latino by Race, Universe: Total population, 2010 Census Redistricting Data (Public Law 94-171) Summary File. <<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>>.
- US Census Bureau 2012 – US Census S1701 Poverty Status in the Past 12 Months 2008-2012 American Community Survey 5-Year Estimates, <<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>>.
- US EPA 1998 – United States Environmental Protection Agency, *Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analyses*. April 1998. <http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_epa0498.pdf>.

EXECUTIVE SUMMARY - FIGURE 1

Panoche Energy Center 2014 Petion to Amend - Census 2010 Minority Population by Census Block - Six Mile Buffer



EXECUTIVE SUMMARY

PANOCHÉ ENERGY CENTER (06-AFC-5C)

Petition to Install Wastewater Storage tanks and Wastewater Treatment Facility

Air Quality Analysis

Joseph Hughes

INTRODUCTION

The Panoche Energy Center (PEC) is a 400-megawatt project that was certified by the California Energy Commission (Energy Commission) on December 19, 2007. The generating facility includes four General Electric LMS100 natural gas-fired combustion turbine generators, a 5-cell cooling tower, and support equipment. The project site is located in the San Joaquin Valley, approximately 50 miles west of the City of Fresno, within the San Joaquin Valley Air Pollution Control District (SJVAPCD).

On October 13, 2014, PECL filed an additional petition requesting approval to install and operate three wastewater storage tanks and a wastewater treatment facility, referred to herein as Enhanced Wastewater System, as an alternative option to the UWSIs.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

The PEC remains in compliance with all applicable laws, ordinances, regulations, and standards (LORS), and the proposed Enhanced Wastewater System would not trigger any additional air quality LORS. The operational phase of the Enhanced Wastewater System would not require additional permits from the SJVAPCD because there would be no associated stationary sources of air pollutants.

SETTING

Since the Final Commission Decision approving the PEC, the SJVAPCD area designation remains the same for all criteria pollutants, with the exception of the federal PM10 standard. On September 25, 2008, the Environmental Protection Agency re-designated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

PROJECT DESCRIPTION

The proposed changes consist of enhanced design measures to accommodate and secure the operational capacity of the existing PEC wastewater injection process. PECL proposes to install three (3) storage tanks, ranging from 250,000 gallons to 500,000 gallons. The storage tanks would be able to temporarily store wastewater during operational periods where the net wastewater production exceeds the injection well

capacity (approximately 250 gallons per minute [gpm]). The excess wastewater would be stored for later injection when wastewater production ceased (i.e., when the peaker units are offline). The proposed changes also include construction and operation of a permanent stand-by treatment system, which would be used to recover water from the PEC facility wastewater stream to be reused in the PEC process water flow (PECL 2014, Section 3.4).

The approximate capacity and dimensions of the Enhanced Wastewater System structures are as follows:

- 500,000-gallon Blowdown Collection Tank: 60 feet diameter by 24 feet high;
- 500,000-gallon Wastewater (RO Reject) Collection Tank: 60 feet diameter by 24 feet high;
- 250,000-gallon Permeate Collection Tank: 48 feet diameter by 20 feet high; and
- Enhanced Wastewater System Building: 120 feet long by 70 feet wide and approximately 20 feet high.

Construction of the Enhanced Wastewater System is projected to begin in early 2015 and last for approximately 14 weeks. The workforce would vary depending on the month of construction and weather conditions. Major construction activities would include site preparation and minor grading, trenching for underground pipelines, installation of equipment, erection of above grade storage tanks and a structure to house treatment equipment.

ANALYSIS

CRITERIA POLLUTANT AND GREENHOUSE GAS EMISSIONS

Criteria pollutant and greenhouse gas emissions would be generated both onsite and offsite as a result of constructing the Enhanced Wastewater System. Onsite emissions would occur from onsite equipment exhaust, onsite motor vehicle exhaust, and onsite fugitive dust generated from vehicles and equipment travel, and earth moving activities. Offsite emissions would occur from offsite vehicle exhaust and offsite vehicle fugitive dust emissions. Once construction is completed, negligible onsite and offsite criteria pollutant and greenhouse gas emissions would be generated during operation of the Enhanced Wastewater System from material delivery and pick-up (e.g., filter cake transfer), and maintenance vehicle travel.

It is expected that there would be less criteria pollutant and greenhouse gas emissions generated during construction of the Enhanced Wastewater System than emissions that were generated during the PEC construction, because less onsite equipment would be required during these activities, and the activities would be completed in a shorter amount of time (14 weeks compared to 78 weeks). In addition, it is expected less earth

moving and grading activities would be required for the Enhanced Wastewater System than was required for the PEC, resulting in less onsite fugitive dust emissions. It is expected that dispersion modeling to evaluate the Enhanced Wastewater System impacts would result in lower predicted impacts than those previously analyzed and approved in the Energy Commission's Final Decision for the PEC (PECL 2014, Section 5.2.2). Greenhouse gas emissions are expected to be negligible during construction of the Enhanced Wastewater System.

PROPOSED MITIGATION

Construction emissions would be reduced to the minimum feasible levels by the project owner's compliance with construction mitigation measures set forth in Conditions of Certification **AQ-SC3** and **AQ-SC4**, which implement control strategies to greatly reduce fugitive dust impacts and prevent fugitive dust plumes from leaving the project boundary.

In addition, the project owner's compliance with the California Air Resources Board's (ARB's) Statewide Portable Equipment Registration Program (PERP) would greatly reduce equipment exhaust impacts. The PERP is designed to ensure that portable equipment meets certification tier levels and respective emission standards.

Taking into account this mitigation and that the construction impacts are relatively short-term, staff and the applicant believe that they do not constitute significant environmental impacts.

ENVIRONMENTAL JUSTICE

Ambient air quality standards (AAQS) are designed to protect people who are most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The ambient air quality standards are also set to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings.

The mitigation measures for short-term construction impacts described herein are expected to greatly reduce or eliminate the potential for significant adverse air quality impacts relative to these AAQS, regardless of whether or not a minority population or low-income population exists within the potential affected area of the proposed site.

CONCLUSIONS AND RECOMMENDATIONS

The project would continue to comply with applicable air quality and greenhouse gas laws, ordinances, regulations, and standards. The short-term, unavoidable fugitive dust impacts due to construction would be less than significant with the implementation of **AQ-SC3** and **AQ-SC4**. Additionally, using portable equipment that meets the

certification tier levels and respective emission standards as required by the ARB Portable Equipment Registration Program (PERP) would mitigate emissions from equipment exhausts. The proposed modification would not adversely affect any environmental justice populations. The proposed project modification would not require changes to any air quality conditions of certification. Staff is recommending approval of the Enhanced Wastewater System amendment.

REFERENCES

CEC 2007—California Energy Commission (TN 42395), Final Staff Assessment for the Panoche Energy Center Project (06-AFC-5), September 14, 2007.

PECL 2014—Panoche Energy Center, L.L.C, Petition to Amend to Install 3 Wastewater Storage Tanks and Wastewater Treatment Facility, October 13, 2014.

PANOCHÉ ENERGY CENTER (06-AFC-5C)
Petition to Construct and Operate an Enhanced Wastewater System
Biological Resources Analysis
Ann Crisp

INTRODUCTION

On October 13, 2014, Panoche Energy Center, L.L.C. (PECL), owner of the Panoche Energy Center (PEC), filed a petition with the California Energy Commission (Energy Commission) requesting to amend the Energy Commission Final Decision (Final Decision) for the project. PECL proposes to construct and operate an Enhanced Wastewater System that includes three new permanent storage tanks and a new stand-by wastewater treatment facility. The proposed new project features would be constructed entirely within a 3.05-acre portion of the former PEC construction laydown area and would increase the project facility's existing 12.82-acre permanent footprint to 15.87 acres. Construction of three new permanent wastewater storage tanks and associated wastewater treatment equipment has the potential to impact biological resources, including the state and federally listed San Joaquin kit fox (*Vulpes macrotis mutica*; state threatened and federal endangered).

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

Staff has reviewed the LORS identified in the Final Decision for the PEC (CEC 2007). Since publication of the Final Decision, there have been no changes in the applicable LORS relevant to Biological Resources. In addition, no new LORS have been adopted since the licensing of the PEC that would have an effect on the scope of this analysis. The County of Fresno Public Works and Planning Department has proposed revisions to policies in the Fresno County General Plan (2000). The Draft Revised General Plan Policy Document is out for public review as of September 2014. Upon completion of the public review of the goals, policies, and programs, the Fresno County Board of Supervisors will adopt the revisions as an amendment to the General Plan (FRES 2014). None of the proposed changes to the Open Space and Conservation Element of the General Plan would have an effect on the scope of this analysis, if adopted.

ANALYSIS

As described in the Final Staff Assessment (FSA) for the PEC, agricultural production is the predominant land use near the proposed site for the Enhanced Wastewater System, with other mixed uses including urban areas, industrial, and commercial facilities. The existing PEC site is located adjacent to the northwest corner of the existing Panoche Substation and two existing power plants. The Enhanced Wastewater System would require physical changes to the PEC site boundary and require an additional 3.05 acres of permanent disturbance. Construction would take place within an area adjacent to the south boundary of the existing PEC site that was previously cleared of vegetation and used as temporary laydown during construction of the PEC.

Construction would require minor grading to level the site and for construction of the foundations. The temporary laydown area for this work would be located both within the southern portion of the existing PEC site boundary and within the additional 3.05-acre area. Underground piping would require excavation of trenches approximately 3 feet deep and 2 feet wide. During construction and following initial excavation, a security fence would be erected around the perimeter of the Enhanced Wastewater System area and would be integrated into the existing PEC fence to form one continuous fence line and secured area (PECL 2014).

The FSA addressed special-status species that were historically present or had the potential to be present within the vicinity of the PEC site. Based on a review of the literature, including a search of the California Native Plant Society (CNPS) Inventory of Rare Plants Database and the California Natural Diversity Database (CNDDDB), no additional species have been listed as special-status by a state or federal agency that could be present or have the potential to be present within the vicinity of the PEC site since publication of the FSA. In addition, based on a review of the literature no additional information on the range or distribution of currently listed species has become available within the vicinity of the site since publication of the FSA.

The project owner conducted biological resource surveys in 2008 in support of the Unlined Wastewater Surface Impoundments amendment submitted in 2009 (PECL 2014). The survey area included the 3.05 acres that would be permanently disturbed for the current amendment. Based on the results of these past surveys, the Enhanced Wastewater System site was determined to provide limited habitat for plant species due to being developed/disturbed and no native vegetation was determined to be present. No special-status plant species have the potential to occur in the project area due to the high-level of disturbance and the resulting lack of suitable environmental conditions to support these species. In addition, no special aquatic resource areas (e.g., Waters of the United States, wetlands, Waters of the State, sensitive riparian or riverine habitats) were located within the site or on adjacent lands that could be affected by the proposed amendment.

No special-status wildlife species were detected during the surveys conducted in 2008. Although not observed in the project area, several special status wildlife species are known to utilize agricultural areas in the region. As stated in the FSA, these species include but are not limited to Swainson's hawk (*Buteo swainsoni*), California horned lark (*Eremophila alpestris actia*), San Joaquin kit fox (*Vulpes macrotis mutica*), burrowing owl (*Athene cunicularia*), and short-eared owl (*Asio flammeus*). Of these, only San Joaquin kit fox is expected to occur in the project area. Wildlife species detected historically at or near the proposed amendment site include non-sensitive species such as coyote (*Canis latrans*) and a variety of bird species including, but not limited to, house finch (*Carpodacus mexicanus*), northern mocking bird (*Mimus polyglottus*), mourning dove (*Zenaida macroura*), brown-headed cowbird (*Molothrus ater*), as well as killdeer (*Charadrius vociferous*). Many of these species are typically found in disturbed habitats.

Since surveys were conducted in 2008, the 3.05-acre amendment site has been graveled and is currently used for temporary frac tanks and some equipment storage. Staff reviewed current photographs of the site, taken by the project owner on January 12, 2015, and determined that suitable habitat for most wildlife species is not present on the site because it is a highly disturbed, graveled area and primarily devoid of vegetation. In addition, a qualified biologist conducted a clearance survey on January 20, 2015 of the 3.05-acre site and a 200-foot buffer, following the methods included in the USFWS *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011), to determine if any potential San Joaquin kit fox dens were present (PECL 2015). No dens, small mammal burrows, kit fox tracks or other sign were detected in the survey area. Although the nearest CNDDDB record of San Joaquin kit fox is approximately three miles from the proposed site, the site is within the eastern boundary of the northern core San Joaquin kit fox population (USFWS 1998). While kit fox are unlikely to use the proposed site or adjacent areas for breeding or foraging, the species could potentially use the area as a movement corridor.

As part of the original PEC, consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA) resulted in a Biological Opinion (BO) for the project (USFWS 2007). Staff consulted with a representative of the USFWS to determine whether construction of the proposed amendment would require reinitiation of consultation with USFWS. The USFWS representative determined that based on the current level of disturbance of the proposed site as well as in the PEC project area, the proposed amendment would likely not have an impact on denning or foraging San Joaquin kit fox that would require issuance of a BO (Leeman, 2015). In addition, staff consulted with California Department of Fish and Wildlife (CDFW) representatives and determined that an Incidental Take Permit, as part of the Energy Commission's in-lieu permitting authority, for San Joaquin kit fox would not be required for this proposed amendment due to lack of suitable habitat in the project area for denning kit fox (Hulbert, 2015). Staff concurs with the agencies determination and does not recommend additional habitat compensation for the proposed amendment as was required for the original PEC by Condition of Certification **BIO-10** (Habitat Compensation) in the Final Decision. However it should be noted that the BO issued for the licensed PEC would not cover the activities related to this proposed amendment. Although unlikely, if a San Joaquin kit fox den is discovered within the site during construction of the Enhanced Wastewater System, the project owner would not have federal take authorization and would not be able to collapse the den without initiating formal consultation with the USFWS under Section 10 of the ESA.

Although the potential is low for kit fox to den or forage in the project area, the species could potentially use the project area as a movement corridor. Therefore protective measures should be in place to avoid potential impacts to kit fox from open trenches and other wildlife pitfalls associated with excavations. The project owner must also ensure that all food-related trash, such as wrappers, cans, bottles, and food scraps, is properly disposed of by workers as there is a risk that kit fox and other wildlife could be attracted to the site. Implementation of the following conditions of certification from the

Commission Decision would avoid and mitigate potentially significant impacts to San Joaquin kit fox to less than significant levels: **BIO-1** (Designated Biologist Selection), **BIO-2** (Designated Biologist Duties), **BIO-3** (Biological Monitor Qualifications), **BIO-4** (Designated Biologist and Biological Monitor Authority), **BIO-5** (Worker Environmental Awareness Program or WEAP), **BIO-6** (Biological Resources Mitigation Implementation and Monitoring Plan or BRMIMP), **BIO-8** (Impact Avoidance Mitigation Features), and **BIO-9** (Mitigation Management to Avoid Harassment or Harm).

Condition of Certification **BIO-9** (Mitigation Management of Avoid Harassment or Harm) requires the project owner to implement measures to avoid or minimize impacts to the local biological resources. Some of the measures were adopted from the 1999 USFWS document *Standardized Recommendations for Protection of San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 1999). Because USFWS updated this guidance document in 2011, staff recommends that the project owner update the WEAP (**BIO-5**) and the BRMIMP (**BIO-6**) as appropriate, as follows:

- All excavated, steep-walled holes or trenches more than 2-feet deep shall be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed.
- If at any time a trapped or injured kit fox is discovered, USFWS, CDFW, and the Compliance Project Manager (CPM) shall be contacted.
- If night-time construction occurs, the speed limit restriction specified in BIO-9, #8 shall be reduced to 10 mph.
- New sightings of kit fox shall be reported to the CNDDDB. A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the CPM and USFWS.

Although, the BO issued for the PEC would not apply to the proposed amendment, staff recommends that all conservation measures from the BO included in the current BRMIMP as Table 4.1 should be implemented unless revised as recommended above. The contact information for any agency contact should be updated to reflect the changes included in the USFWS 2011 guidance for kit fox. In addition, staff recommends that the BRMIMP be updated to reflect the changes to the PEC footprint. Prior to starting construction of the Enhanced Wastewater System, the project owner should submit the updated WEAP and BRMIMP to the CPM for approval.

The proposed amendment site would provide limited suitable nesting habitat for breeding birds. Birds such as killdeer could nest within graveled or dirt areas of the former temporary laydown area, and birds such as house finch could nest on equipment or other materials left dormant at the site. Therefore, staff recommends implementation of the avoidance and minimization measures proposed by the project owner for the licensed PEC and included in the current BRMIMP if construction activities take place during the nesting season (March through August). However, the conservation measures from the BO included in the BRMIMP as Table 4.1, which detail the survey methods for birds, should be modified so that the survey report is also submitted to the

CPM. If nests are detected then a minimum avoidance buffer shall be established and no take or destruction of nests or eggs of birds that are protected under any federal, state, or local regulation shall occur. Implementation of these measures would mitigate potentially significant impacts to nesting birds.

Adjacent agricultural areas may provide foraging habitat and marginally suitable nesting habitat for a variety of common bird species. Noise from construction activities has the potential to disrupt the nesting, roosting, or foraging activities of wildlife. As stated above, if nests are detected then a minimum avoidance buffer shall be established and no take or destruction of nests or eggs of birds that are protected under any federal, state, or local regulation shall occur. However, construction activities would not likely affect breeding birds in the nearby orchard because the orchard is over 500 feet from the construction area. In addition, as discussed in the FSA for the PEC, existing energy facilities, traffic on West Panoche Road and intensive agricultural operations in the immediate vicinity of the PEC site create an elevated ambient noise level to which local wildlife species (including San Joaquin kit fox) have acclimated. As such, construction noise from the proposed amendment would have a less than significant impact on biological resources.

Nighttime construction would occur during weekdays, over a period of approximately 14 weeks. All construction lighting would be required to comply with Condition of Certification **VIS-2**, including the specification that lighting must be directed to avoid obtrusive light beyond the construction area and illumination of the night sky. In addition, Condition of Certification **BIO-8** requires that the project owner design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat. Therefore, with implementation of existing conditions of certification impacts to biological resources from a temporary increase in lighting would be less than significant.

Operation of the Enhanced Wastewater System would have no effect on the overall sounds levels of the approved PEC and no significant increase in lighting at the project site. There are no other potential operational impacts to biological resources from the proposed PEC amendment. Therefore, staff concludes that there would not be any significant impacts from operation of the Enhanced Wastewater System.

CONCLUSIONS AND RECOMMENDATIONS

Without mitigation, the proposed PEC amendment would result in potentially significant impacts to biological resources. The proposed site is within the eastern boundary of the northern core San Joaquin kit fox population. Although, reinitiation of consultation with the USFWS under the Endangered Species Act is not necessary as take would be unlikely, avoidance and minimization measures should be implemented to ensure no significant impacts occur to kit fox or other wildlife during construction of the Enhanced Wastewater System. The following conditions of certification in the Final Commission Decision for the PEC are necessary to mitigate impacts to biological resources to less than significant levels: **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, **BIO-6**, **BIO-8**, and **BIO-9**. Staff recommends that the project owner update the WEAP (**BIO-5**) and the BRMIMP

(BIO-6) to reflect the proposed changes to the PEC footprint and to include the general protective measures from the most recent USFWS guidance for San Joaquin kit fox discussed in this analysis. Prior to starting construction of the Enhanced Wastewater System, the project owner should submit the updated WEAP and BRMIMP to the CPM for approval. With implementation of these measures, direct, indirect, and cumulative impacts to biological resources would be less than significant and the project would continue to be in compliance with all relevant federal, state, and local LORS.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

None proposed

REFERENCES

California Energy Commission (CEC) 2007, Final Commission Decision, Panoche Energy Center Project (06-AFC-5), December 2007.

FRES 2014 — Fresno County 2014, Fresno County 2000 General Plan Review – Fresno County Department of Public Works and Planning, Draft Revised General Plan Policy Document (September 2014 Version).

Hulbert 2015 — Hulbert, Steven, Environmental Scientist, Project Planning and Permitting, California Department of Fish and Wildlife, Central Region, Personal communication with Ann Crisp of California Energy Commission, January 20, 2015.

Leeman 2015 — Leeman, Thomas, San Joaquin Valley Branch Chief, U.S. Fish and Wildlife Service, Sacramento Office, Personal communication with Ann Crisp of California Energy Commission, January 12, 2015.

PECL 2014 — Panoche Energy Center, L.L.C., A. Johnson (tn: 203188). Panoche Energy Center Petition to Amend Final Commission Decision for Enhanced Wastewater System, submitted to the California Energy Commission on October 14, 2014.

_____ 2015, Panoche Energy Center Project Kit Fox Clearance Survey Memorandum, dated January 26, 2015.

USFWS 1998 — U.S. Fish and Wildlife Service, Recovery Plan for the Upland Species of the San Joaquin Valley, California, U.S. Fish and Wildlife Service, Portland, Oregon.

_____ 1999, Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance, U.S. Fish and Wildlife Service, Sacramento, California.

_____ 2007, Biological Opinion, Formal Consultation Regarding the Panoche Energy Center, Fresno County, California, submitted to the California Energy Commission on August 24, 2007.

_____ 2011, Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, U.S. Fish and Wildlife Service, Sacramento, California.

PANOCHÉ ENERGY PROJECT (06-AFC-5C)
Petition to Amend Final Commission Decision
LAND USE Staff Analysis
Prepared by: Jeff Juarez

INTRODUCTION

Panoche Energy Center, LLC (PECL), the owner of the Panoche Energy Center (PEC), seeks to amend the California Energy Commission's (Energy Commission) 2007 Final Decision for the PEC by installing up to three wastewater storage tanks and a wastewater treatment building (Enhanced Wastewater System) within a 3.5-acre portion of the former PEC construction laydown area. The 3.5-acre area lies within the same 22-acre parcel as the PEC facility. The 22-acre parcel is identified by Assessor Parcel Number 027-060-815.

The 400-megawatt project was certified by the Energy Commission on December 19, 2007. Full commercial status began on July 1, 2009. The PEC site is located southeast of the intersection of West Panoche Road and Davidson Avenue, about 2 miles east of Interstate 5, and 14 miles west of Highway 33.

The PEC was permitted to construct and operate six wastewater injection wells, four of which have been built and are in operation. However, the injection wells have shown to be unable to perform as envisioned by the project owner; none of the four wells have demonstrated an ability to accept discarded wastewater during peak summer load periods. A temporary water treatment system is in place to reduce overall wastewater volume. The project owner intends to replace the current temporary treatment system with a permanent, reliable system to adequately dispose of project wastewater.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

At the time of certification, laws, ordinances, regulations, and standards (LORS) applicable to Land Use were identified in Energy Commission Staff's (staff) Final Staff Assessment (FSA). Approval of the amendment would not require analysis or inclusion of any new LORS.

ANALYSIS

The petition to amend is a request to construct the Enhanced Wastewater System. Energy Commission staff reviewed the petition and assessed the impacts of this amendment on land use.

The 2007 Final Decision noted that the project site and surrounding parcels are zoned AE-20 (Exclusive Agriculture, 20-acre minimum parcel size) and the Fresno County General Plan designation for the site and surrounding lands is Agriculture. The PEC is a compatible use within this area, and the proposed Enhanced Wastewater System is consistent with the land use and zoning designations.

The current proposal to amend the 2007 Final Decision requests approval for the construction and operation of the Enhanced Wastewater System on a 3.5-acre portion of the combined 9.18-acre former PEC construction laydown area and pomegranate orchard.

Should the project under this petition be approved, the project owner would mitigate the loss of the 3.5 acres of farmland associated with the Enhanced Wastewater System by paying an additional fee to a land trust, per Condition of Certification **LAND-1**. All the farmland mitigation for the PEC involves Agricultural Land Conservation Contract No. 367.

PECL has mitigated for the loss of prime farmland associated with the construction and operation of the PEC and has complied with 2007 Final Decision Condition of Certification **LAND-1**, which required the applicant to pay a fee to an agricultural land trust to purchase 15.3 acres (12.82 acres and an additional 2.5 acres on property separate from the 22-acre PEC facility for an off-site substation) of prime farmland as a conservation easement in Fresno County or adjacent Central Valley counties. The project owner has mitigated for the loss of prime farmland associated with the construction and operation of an expanded substation, and has complied with a 2008 Petition to Amend the 2007 Final Decision Condition of Certification **LAND-1**, which required the applicant to pay a fee to an agricultural land trust to purchase an additional 6.5 acres (21.8 acres total for the PEC expanded substation) of prime farmland as a conservation easement in Fresno County or adjacent Central Valley counties.

The project modification is consistent with the 2007 Final Decision Condition of Certification **LAND-2**, which requires that the project owner shall design and construct the project to the applicable development standards in Sections 816.5 of the Fresno County Ordinance Code and Site Plan Review No 7586, as issued by Fresno County on March 26, 2007. As proposed, the wastewater treatment building and the water tank structures would not exceed the height restriction of 35 feet nor encroach upon the required 35-foot front yard and 20-foot side yard setbacks of the project site, in accordance with Section 816.5. In addition, the proposed amendment would not be required to provide additional parking spaces, as the project proposes only temporary workers and not additional permanent employees. To ensure the proposed amendment will comply with Condition of Certification **LAND-2**, the project owner shall, at least sixty days prior to start of construction, submit to the Compliance Project Manager (CPM) written documentation including evidence of review by Fresno County that the project conforms to the standards in Section 816.5 and 843 of the Fresno County Ordinance Code.

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 amendment as proposed would be consistent with the LORS identified in staff's 2007 FSA, and that the project would have no significant land use impacts. The amendment would be consistent with 2007 Final Decision Condition of Certification **LAND-2**, as PECL would design and construct the project to the applicable development standards of Sections

816.5 of the Fresno County Ordinance Code and Site Plan Review No 7586. The amendment is in compliance with Condition of Certification **LAND-3**, as PECL has submitted the required Final Certificate of Cancellation issued by Fresno County. To mitigate the loss of an additional 3.5 acres of prime farmland, staff proposes the modification of Condition of Certification **LAND-1**, as shown below.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff proposes a modification to the Condition of Certification **LAND USE-1** in the March 25, 2009 Energy Commission Order approving the PECL's previous petition to modify the PEC substation. ~~Strikethrough~~ is used to indicate deleted language, and **bold** and underlined is used for new language.

LAND-1 The project owner shall mitigate for the loss of ~~21.8~~ **25.3** acres of prime farmland at a one-to-one ratio.

Verification: The project owner shall provide a mitigation fee payment to an agricultural land trust such as the San Joaquin River Parkway and Conservation Trust or any other land trust that has been previously approved by the Compliance Project Manager (CPM) at least 30 days prior to the start of construction.

The fee payment will be determined by an independent appraisal conducted on available, comparable, farmland property on behalf of the agricultural land trust. The project owner shall pay all costs associated with the appraisal. The project owner shall provide documentation to CPM that the fee has been paid and that the ~~21.8~~ **25.3** acres of prime farmland and/or easements shall be purchased within three years of start of operation as compensation for the ~~21.8~~ **25.3** acres of prime farmland to be converted by the PEC. The documentation also shall guarantee that the land/easements purchased by the trust will be located in Fresno County and will be farmed in perpetuity. If no available land or easements can be purchased in Fresno County, then the purchase of lands/easements in other Central Valley Counties is acceptable. The project owner shall provide to the CPM updates in the Annual Compliance Report on the status of farmland/easement purchase(s).

REFERENCES

California Energy Commission. 2007. California Energy Commission (Docket No. 06-AFC-05)/TN43847). Final Commission Decision for Panoche Energy Center dated December 21, 2007. Submitted to CEC/Dockets Unit on December 21, 2007.

Stoel Rives LLP/M. Foster. 2009. California Energy Commission (Docket No. 06-AFC-05C/TN53283). Panoche Energy Center Project 2009 Petition to Amend – Urgent Action Requested. Submitted to CEC/Dockets Unit on September 21, 2009.

PANOCHÉ ENERGY CENTER (06-AFC-05C)
Petition to Amend
SOIL & WATER RESOURCES
Abdel-Karim Abulaban, P.E.

INTRODUCTION

On October 13, 2014, Panoche Energy Center, LLC (PECL) filed a Petition to Amend (PTA or Petition) to construct and operate three new permanent storage tanks and a new stand-by wastewater treatment facility, which would replace the existing temporary storage and treatment facilities used by the project (PEC 2014). The new system, identified as the 'Enhanced Wastewater Treatment System' is intended to provide flexibility to regulate and control the rate of wastewater injection for disposal. The storage and treatment system would be used to store wastewater during periods when the capacity of the injection wells used to inject process wastewater into the subsurface formation is less than the wastewater discharge rate from the project. Additionally, the treatment system would treat the wastewater before injection to reduce the volume of wastewater and to recover useable water. Treated water would be recycled back to the cooling tower, thereby reducing the amount of pumped groundwater as well as reducing the volume of wastewater to be injected into the subsurface formation.

Staff reviewed the project owner's October 13, 2014 petition to identify potential environmental impacts to soil and water resources and for consistency with applicable laws, ordinances, regulations and standards (LORS). Following are staff's analysis of the proposed amendments and staff's recommendations.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

Staff has reviewed the LORS identified in the Final Decision for the PEC (CEC 2007a). Since publication of the Final Decision, there have been no changes in the applicable LORS in relation to Soil and Water Resources. In addition, no new LORS have been adopted since the licensing of this project that would have an effect on the scope of the analysis. Therefore, all LORS referred to in the Final Decision remain applicable.

PROJECT DESCRIPTION AND BACKGROUND

Panoche Energy Center (PEC) is a 400-megawatt simple-cycle, peaking power plant that was certified by the Energy Commission on December 19, 2007, and attained commercial status on July 1, 2009. PEC uses four injection wells to inject process wastewater into deep subsurface formations. PEC operators have encountered difficulties with the capacity of the injection wells not being sufficient to handle peak wastewater rates. Specifically, the operating injection wells, as they were designed, permitted, and built, have not proven to have the capacity to accept PEC's summer peak load wastewater flow rates.

In an effort to remediate the injection wells' capacity limitations, PECL, the owner of PEC, implemented a temporary treatment system to reduce the wastewater volumes sent to the wells. Wastewater from the cooling tower blowdown and the reverse osmosis system that would normally go to the wastewater injection tank and wells are being diverted, in part or in total, to a temporary water treatment system. The treatment system consists of a coarse filter to remove the dirt and large particles from wastewater as a first step of the treatment. The water then goes through an ultra filter which cleans the water further, lowers the total suspended solids (TSS), and lowers the electrical conductivity (EC). After the ultra filter, the diverted wastewater is sent through a mixed bed polisher which removes silica and other minerals through an ion exchange process. The treated wastewater is sent to the wastewater injection tank for deep well injection.

Currently, the injection wells have the capacity to handle approximately 70 to 90 gpm in total, which is less than the flow produced for disposal. During operational periods when the net wastewater production exceeds injection well capacity, the excess wastewater is being stored on-site for later injection when wastewater production levels decline. Peak wastewater discharge rates are currently about 515 gpm, which are expected to be reduced to about 115 gpm with the use of the proposed enhanced wastewater treatment system.

PECL has undertaken a number of efforts to improve the capacity of the four existing injection wells. In 2011 and 2012, PECL conducted a well deepening program for injection wells IW3 and IW4. In June 2013 and 2014, the project owner completed fracture stimulations to enhance the injection capacity of injection wells IW3 and IW4. The fracture stimulation program also identified the location and orientation of prominent fractures in the injection zone and provided recommendations for possible future injection well improvement projects.

The current performance levels of the injection wells cannot be assured, nor can well improvements be assumed. Therefore, deep well wastewater injection cannot be considered a reliable method for future wastewater disposal. Since the temporary system has proven to be helpful in the management of the wastewater generated by the project PECL has submitted the current petition to replace the temporary system with a permanent one.

ANALYSIS OF IMPACTS

Staff evaluated the potential for impacts to soil and water resources from stormwater runoff and flooding due to construction and operation of the proposed amendment. New ground disturbance has the potential to increase erosion and sedimentation if stormwater is not adequately controlled. Construction and operation of the amended project could also intercept existing drainages, which could result in on- and off-site flooding. Staff also evaluated whether there would be any impacts to the water supply from changes in operation and disposal of wastewater from the treatment system.

Disturbed Areas

The Energy Commission's Final Decision (CEC 2007) found that potential adverse impacts caused by erosion and storm water flows during construction and operation of the approved project would be mitigated with the development and implementation of an effective stormwater pollution prevention plan for construction and industrial activities (as required by **SOIL&WATER-1** and **-3**) and a drainage, erosion, and sediment control plan (as required by **SOIL&WATER-2**).

The proposed amendment is expected to cause the same effect to agriculture and soils as the licensed PEC. Any additional effects caused by the changes would not increase the impact of PEC as a whole above the present level of significance. No modifications or additions to existing agriculture and soils conditions of certification are necessary.

The proposed amendment would include trenching activities for pipeline installation, which would increase the potential impacts of soil erosion during the estimated 14-week construction period. Under **SOIL&WATER-1**, the licensed PEC is required to prepare and implement a construction SWPPP to mitigate impacts to water resources from construction activities. PECL stated that the proposed construction activities would be included in a new or modified construction stormwater pollution prevention plan (SWPPP) that PECL would prepare before construction commences. The Petition states that PECL would implement sedimentation control measures along with best management practices (BMPs) for standard housekeeping, erosion, sedimentation, and dust control to reduce water resources impacts related to stormwater runoff from the project site. BMPs implemented for the Construction SWPPP would also provide protection from accidental spills. Staff believes that requirements of **SOIL&WATER-1** would be adequate for the amended project.

The proposed project would be constructed in a previously disturbed area that was originally used as the staging area for the licensed project. Therefore, impacts related to construction of the proposed project are expected to be insignificant. Also, staff believes that **SOIL&WATER-2** in the Commission's Final Decision would further ensure there are no stormwater runoff impacts from both project construction and operation. The owner would be required to update the DESCP required in this condition and implement the appropriate management practices to ensure there would be no significant water resource impacts due to the new disturbance. Because industrial activities during operations of the proposed amendment would be similar to the certified project, the approved **SOIL&WATER-3** is also sufficient to ensure LORS conformance and no impacts from stormwater generated during project operation.

Flooding

At an elevation of 420 feet above mean sea level the PEC project site is outside the 500-year flood area and hence is well above the local valleys. As mentioned above, the proposed modification is estimated to result in 3.5 acres of total disturbed area during the 14-week period for pipeline installation. Because construction would likely occur during the warmer summer months and activities for the proposed amendment would occur in areas outside the 500-year flood zone, staff believes that potential impacts due to flooding would be less than significant.

Industrial Wastewater

The proposed amendment would significantly reduce the volume of wastewater that must be disposed in the injection wells during peak periods when the water treatment system is in operation. The proposed treatment system would include a reverse osmosis (RO) unit that would extract clean water from the waste stream and recycle it back to the cooling towers. The reject from the RO system would be disposed of in the injection wells. The treatment system would also include a micro filter (MF) that removes suspended solids as well as precipitates from the waste stream. Wastes from the MF units (filtered suspended solids and precipitates) would be concentrated as sludge and then sent to a filter press to produce cake sludge with 20 to 40 percent solids content. The rate of production of the filter cake would be less than 1 gpm, which is estimated to fill about two roll-off containers per week (Johnson 2014). The filter cake would be transported for disposal offsite. An analysis of potential impacts from this waste stream is provided in the **Waste Management** section of the amendment analysis.

Water Supply

Since the proposed modification is intended to treat process wastewater and recycle some of it back to the cooling towers, the proposed modification is not expected to increase the amount of water the project pumps out of the ground for its operations. Rather, the proposed modification is expected to reduce the amount of pumped water as some water would be recovered from the process wastewater stream to be used in the cooling tower. The proposed modification is expected to result in a reduction of as much as 25 percent in the peak water demand for the project from the present 1600 gpm to about 1200 gpm (Johnson 2014). Consequently, the treatment of the process wastewater and recycling of a portion of it back to the cooling tower would also result in a reduction in the volumes of wastewater to the injection wells. According to PECL, in a typical year (with 4,000 facility total engine-hour operation), use of the proposed treatment system would result in a reduction in groundwater pumping of 7 acre-ft. However, if the project runs for the maximum permitted hours (20,000 facility total engine hours) the reduction in annual groundwater pumping is estimated at about 144 acre-ft (Johnson 2014).

Enhanced wastewater treatment compared to the USWI alternative

PECL has considered several alternatives to deal with the problem of the inability of the injection wells to handle all the wastewater generated by the project and arrived at either the proposed enhanced treatment system or the construction of USWIs, which is the subject of another PTA that was submitted in 2009. Although the analysis of the USWI PTA has not been completed, staff notes that the enhanced wastewater treatment system appears to be the environmentally superior alternative. Use of the treatment system would reduce the use of groundwater in an area of the San Joaquin Valley where water levels are currently in decline due to increased pumping as a result of reductions in surface water deliveries due to drought conditions that the state has experienced. For example, the groundwater level in a project well has reportedly dropped about 75 feet based on the first water level reading in the fall of 2014 after 5

years of operation (Burkard 2014). In addition, recent maps from the US Geological Survey show that the project site is in an area where significant recent subsidence from groundwater overdraft is occurring (Sneed et. al, 2013). Reductions in groundwater pumping that could be achieved by use of the proposed treatment system could reduce the irreversible physical impacts due to the land subsidence occurring in the basin.

Furthermore, draft waste discharge requirements (WDR) issued by the Central Valley Regional Water Quality Control Board (CV RWQCB 2012) point out that there are high levels of arsenic, boron, and sodium that would require treatment prior to discharge to the USWI. The WDR requires pretreatment of the wastewater prior to discharge to mitigate any potential impacts to groundwater quality. The use of the enhanced wastewater treatment system could reduce or eliminate the need to mitigate these potential impacts. Typically, there are also potential biological resource impacts that are associated with USWI. For example, birds could be lured to the ponded water that may be toxic for them.

CONCLUSIONS AND RECOMMENDATIONS

After analyzing the proposed modifications, staff believes that they will not result in additional significant environmental impacts in terms of soil and water resources in comparison with the original analysis for the approved project and subsequent approved amendment. In fact, the proposed amendment would have some beneficial impacts on water consumption since it has the potential to reduce the amount of groundwater pumped by the project from an aquifer that has been experiencing falling water levels in the past several years. The proposed activities will not result in a change or deletion of a condition adopted by the commission (in the Final Decision and subsequent approved amendments) or make changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards.

Staff's recommendation is to process this as a staff approved project modification.

PROPOSED CHANGES OR MODIFICATION TO CONDITIONS OF CERTIFICATION

The existing conditions of certification are adequate to ensure there will be no unmitigated significant impacts. However, staff does recommend the Drainage, Erosion, and Sediment Control Plan required in **SOIL&WATER-2** be updated to include the proposed activities with necessary BMPs.

REFERENCES

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PANOCHÉ ENERGY CENTER (06-AFC-5C)
Petition for Project Modification
WASTE MANAGEMENT
Ellen Townsend-Hough

INTRODUCTION

The Panoche Energy Center (PEC) project owner has filed a Petition for Project Modification (Petition) to construct and operate an Enhanced Wastewater Treatment System. The Enhanced Wastewater Treatment system would consist of three new permanent storage tanks and a new stand-by wastewater treatment facility for the control of wastewater injection. Four wastewater injection wells were constructed and are in operation at PEC. The injection wells are unable to accept discharged wastewater at designed and permitted flow rates during peak summer loads. The purpose of this analysis is to determine whether construction or operation of PEC's proposed Enhanced Wastewater Treatment System would require new or modified conditions of certification.

BACKGROUND

On December 19, 2007, the California Energy Commission granted a license for the construction and operation of PEC. September 2009, the project owner filed a petition to amend the project to implement a wastewater disposal change to dispose of wastewater to surface impoundments. The wastewater would be disposed by percolating it into an underlying highly degraded and unusable shallow groundwater. This Petition will not replace the 2009 petition but will provide an alternative solution to the inadequate performance of the four onsite wastewater injection wells.

SCOPE OF ANALYSIS

The Enhanced Wastewater Treatment project will generate non-hazardous and hazardous waste during construction and operation (Johnson 2014a). The evaluation of the proposed waste management plan and the mitigation measures are intended to reduce the risks and environmental impacts associated with handling, storing and disposing of waste. It also includes a review of whether these wastes would significantly impact available treatment and disposal sites.

ANALYSIS OF IMPACTS

The construction and operation of the Enhanced Wastewater Treatment system would generate non-hazardous and hazardous waste. During construction the waste produced would include but is not limited to: excess packing materials, basic building materials and empty containers. The hazardous materials generated during construction would include welding material and dried paint.

Most of the waste produced for this Petition would be generated during operation. During operation filter cake sludge would be generated at approximately one gallon per

minute. The sludge was analyzed at a California laboratory for bench scale testing. The laboratory analysis determined that the representative sludge was non-hazardous according to both State of California and Federal Regulations. Condition of certification **WASTE-5** requires that the project owner provide a Construction and Operation Waste Management Plan. The project owner would identify and provide a list of waste generated, the type of waste generated, and the method in which the waste would be disposed. Staff would review the plan and ensure the waste is disposed of appropriately.

The amount of sludge generated from the Enhanced Wastewater Treatment system would fill one to two roll-off containers per week when the system is in operation. The Enhanced Wastewater Treatment system would operate when the Panoche plant operates more than ten hours per day. It is estimated that the plant would operate 10 hours per day fifty percent of the time. Staff estimated that if the project owner filled 40 cubic yard containers, twice a week, for 26 weeks, the system could produce 1,040 cubic yards per year of sludge (Johnson 2014a). The Fairmead Landfill in Madera County has a remaining capacity of 5,552,895 cubic yards¹. If the project produced sludge for 30 years the project would use less than one percent of the Fairmead Landfill's capacity. Staff concludes there would be no impact due to the volume of waste that would be disposed.

CONCLUSIONS AND RECOMMENDATIONS

After analyzing the proposed modifications, staff believes that they would not result in any additional environmental impacts in terms of waste management in comparison with the original analysis for the approved project and subsequent approved amendment. The proposed activities will not result in a change or deletion of a condition adopted by the commission (in the Final Decision and subsequent approved amendment) or make changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards.

PROPOSED CHANGES OR MODIFICATION TO CONDITIONS OF CERTIFICATION

There are no proposed changes or modifications to the Waste Management Conditions of Certification. The existing conditions of certification are adequate to ensure there would be no unmitigated significant impacts.

1. ¹ <http://www.calrecycle.ca.gov/SWFacilities/Directory/20-AA-0002/Detail/>

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