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Project Title:	Compliance - Application for Certification for SMUD's Campbell Soup Cogeneration Project
TN #:	241405
Document Title:	Campbell PTA Staff Analysis
Description:	SACRAMENTO FINANCING AUTHORITY'S CAMPBELL POWER PLANT (93-AFC-03C) Staff Analysis of Petition to Amend the Final Commission Decision
Filer:	susan fleming
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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DATE: February 4, 2022

TO: Interested Parties

FROM: Mary Dyas, Compliance Project Manager

SUBJECT: **SACRAMENTO FINANCING AUTHORITY'S CAMPBELL POWER PLANT (93-AFC-03C)**

Staff Analysis of Petition to Amend the Final Commission Decision

On March 15, 2021, the Sacramento Power Authority, owner at that time, filed a post certification petition (TN 237173) with the California Energy Commission (CEC) requesting to amend the Campbell Power Plant (CPP) Final Commission Decision (Final Decision). The project owner is seeking approval to increase the cooling tower volatile organic compounds (VOC) emission rate to allow the project to resume operations using recycled water, in compliance with all applicable laws, ordinances, regulations, and standards (LORS). For purposes of this analysis, and ease of reference, staff refers to the proposed change as the "Cooling Tower Recycled Water Supply Project," though no physical modification to the actual cooling tower is being proposed.

Changes to the following conditions of certification (COCs) in the Final Commission Decision are being proposed by staff:

- AQ-7, AQ-8, AQ-SC2, AQ-CT2, and AQ-CT4 through AQ-CT7 and the corresponding air quality permit conditions from the Sacramento Metropolitan Air Quality Management District (SMAQMD or District).

The CPP is a 158-megawatt cogeneration facility located in Sacramento County at 3215 47th Avenue, east of the corner of 47th Avenue and Franklin Boulevard, approximately 1 mile west of Highway 99. The facility was certified by the CEC in November 1994 and began commercial operation in October 1997.

On September 8, 2021, the CEC approved a petition changing ownership of the facility from the Sacramento Power Authority to the Sacramento Municipal Utility District Financing Authority and the name of the project from Sacramento Power Authority's Campbell Cogeneration Project to Campbell Power Plant.

CEC staff has reviewed the petition pursuant to Title 20, California Code of Regulations, section 1769(a) (Changes in Project Design, Operation, or Performance) and assessed the impacts of this proposal on the environment and the project's compliance with applicable LORS. Based on staff's analysis, contained below, staff recommends

modifications to air quality conditions of certification for CPP so the project can operate using recycled water and stay within the VOC emission limits.

Staff concludes that, with adoption of the recommendations in the analysis below, and with the implementation of the revised COCs, the project would remain in compliance with applicable LORS, and the proposed changes to the project would not result in any significant adverse direct, indirect, or cumulative impacts to the environment (Cal. Code of Regs., tit. 20, § 1769). Staff intends to recommend approval of the petition at the March 9, 2022, Business Meeting of the CEC.

The CEC's webpage for this facility, https://www.energy.ca.gov/powerplant/combined-cycle/campbell-power-plant 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. If approved, the CEC's Order approving this petition will also be available from the same webpage.

This letter has been mailed to the CEC's list of interested parties and property owners adjacent to the facility site. It has also been emailed to the Siting list serve. The list serve is an automated CEC email system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the CEC's webpage for this facility, cited above, scroll down the right side of the project's 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 are asked to submit their comments by March 7, 2022. To use the CEC's electronic commenting feature, go to the CEC's webpage for this facility, cited above, click on the "Submit e-Comment" link and follow the instructions in the online form. Be sure to include the facility name in your comments. Once submitted, the CEC Docket Unit reviews and posts your comments, and you will receive an email with a link to them.

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

California Energy Commission
Docket Unit, MS-4
Docket No. 93-AFC-03C
715 P Street
Sacramento, CA 95814-5512

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

If you have questions about this notice, please contact Mary Dyas, Office of Compliance Monitoring and Enforcement, Compliance Project Manager, at (916) 628-5418, or via email at mary.dyas@energy.ca.gov.

For information on participating in the CEC's review of the petition, call the CEC Public Advisor's Office, at (916) 654-4489 or (800) 822-6228 (toll-free in California) or send your email to publicadvisor@energy.ca.gov.

News media inquiries should be directed to the CEC Media Office at (916) 654-4989, or by email to mediaoffice@energy.ca.gov.

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STAFF ANALYSIS

CAMPBELL POWER PLANT
(93-AFC-03C)

Post Certification Petition to Amend
The Commission Final Decision

CAMPBELL POWER PLANT (93-AFC-03C)

PETITION TO AMEND THE COMMISSION FINAL DECISION
STAFF ANALYSIS

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CAMPBELL POWER PLANT (93-AFC-03C)
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EXECUTIVE SUMMARY

Mary Dyas

INTRODUCTION

On March 15, 2021, the Sacramento Power Authority filed a post certification petition to amend (TN 237173) with the California Energy Commission (CEC) requesting to modify the Campbell Cogeneration Project to increase the cooling tower volatile organic compound (VOC) emission rate contained in Condition of Certification (COC) AQ-7 and the corresponding air quality permit condition from the Sacramento Metropolitan Air Quality Management District (SMAQMD) to allow the project to resume operations using recycled water, in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Staff has completed its review of all materials received.

On September 8, 2021, the CEC approved a petition changing ownership (TN 239697) of the project from the Sacramento Power Authority to the Sacramento Municipal Utility District (SMUD) Financing Authority and the name of the project from Sacramento Power Authority's Campbell Cogeneration Project to Campbell Power Plant (CPP).

The purpose of the CEC's review process is to review and analyze whether the proposed petition would have a significant impact on the environment or cause the project to not comply with applicable LORS (Cal. Code Regs., tit. 20, § 1769).

The scope of the analysis conducted by staff under Section 1769 is limited to an evaluation of the incremental impacts, if any, of the proposed changes to the project on the environment, as well as a determination of the consistency of the proposed changes with the applicable LORS. The analysis of the proposed changes must be consistent with the requirements of California Environmental Quality Act Guidelines Section 15162, which limits additional environmental review to any substantial changes that either are proposed in the project or occur with respect to the circumstances under which the project is undertaken and that will require major revisions to the previous environmental analysis due to new significant environmental effects or an increase in the severity of previously identified significant effects, or new information of substantial importance becomes available that meets one of several narrow criteria. Under Section 15162, the CEC may rely on the previous environmental analysis, in this case the Commission Final Decision (Decision), for areas that will not have substantial changes. For this petition, staff has concluded that the proposed modifications to the project do not include any substantial changes that would result in any new significant environmental impacts or a substantial increase in the severity of previously identified significant effects that would require additional analysis.

PROJECT LOCATION AND DESCRIPTION

The nominal 158-megawatt (MW) facility is located in Sacramento County at 3215 47th Avenue, east of the corner of 47th Avenue and Franklin Boulevard, approximately 1 mile west of Highway 99. The facility consists of a Siemens V84.2 natural-gas-fired combustion turbine generator, a steam turbine generator, and associated equipment. The facility was certified by the CEC in November 1994 and began commercial operation in October 1997.

The CPP was licensed as a natural gas-fired combined-cycle power plant, operating as a cogeneration facility, providing electricity for SMUD and providing steam to the then existing Campbell Soup Supply Company (CSSC) manufacturing facility.

In May 2013, the CSSC facility closed, shutting down all steam systems and ceased receiving steam from the CPP. In November 2013, the CEC approved a petition eliminating COC EFF-1, which had allowed the CPP to provide steam when there was a suitable steam host available.

DESCRIPTION OF PROPOSED CHANGES

The changes proposed in this petition to amend include the following:

- To increase the cooling tower VOC emission rate contained in COC AQ-7, AQ-8, AQ-SC2, AQ-CT2, and AQ-CT4 through AQ-CT7 and the corresponding air quality permit condition from the SMAQMD to allow the CPP to resume operations using recycled water, in compliance with all applicable LORS.

NECESSITY FOR THE PROPOSED CHANGES

The primary purpose and need for this petition to amend is to operate the CPP in compliance with applicable LORS with the beneficial use of recycled water.

STAFF'S ASSESSMENT OF THE PROPOSED PETITION

Title 20, California Code of Regulations, section 1769 states that a project owner shall petition the CEC for approval of any change it proposes to the project design, operation, or performance requirements of a certified facility.

CEC technical staff (staff) reviewed the post certification petition for potential environmental effects and consistency with applicable LORS. A summary of staff's conclusions reached in each technical area are summarized in **Executive Summary Table 1**.

Executive Summary Table 1
Summary of Conclusions for all Technical and Environmental Areas

Technical Areas Reviewed	CEQA				Conforms with applicable LORS
	Potentially Significant Impact	Less Than Significant Impact with Mitigation (with Revised or New COCs)	Less Than Significant Impact (with or without Existing COCs)	No Impact	
Air Quality		X			X
Biological Resources				X	
Cultural Resources				X	
Efficiency				X	
Facility Design					X
Geological and Paleontological Resources				X	
Hazardous Materials Management				X	
Land Use				X	
Noise and Vibration				X	
Public Health			X		X
Reliability					
Socioeconomics				X	
Soil and Water Resources				X	
Traffic and Transportation				X	
Transmission Line Safety and Nuisance				X	
Transmission System Engineering					
Visual Resources				X	
Waste Management				X	
Worker Safety and Fire Protection				X	

Areas shown in gray are not subject to CEQA consideration or have no applicable LORS the project must comply with.

Staff determined that the technical area of air quality would be affected by the proposed project changes and has proposed new and revised conditions of certification in order to ensure compliance with LORS or to reduce potential environmental impacts to a less than significant level. The details of the proposed changes to COCs can be found under the air quality and public health section in this staff analysis.

For the remaining environmental and technical areas, staff has determined the project would continue to comply with applicable LORS and would not result in any significant adverse environmental impacts or require a change to the COCs. The bases for each of staff's conclusions are provided below:

- **Biological Resources**

  No physical changes to the site or facility are proposed. Increase in VOCs would not affect biological resources.

- **Cultural Resources**

  The proposed project changes do not include any construction or groundbreaking activities at the project site and would not result in any cultural resource impacts beyond those analyzed in the decision or subsequent amendments to the decision.

- **Efficiency**

  Increasing the VOC emissions rate as described in this petition would result in no impact to the thermal efficiency of the power plant.

- **Facility Design**

  Increasing the VOC emissions rate described in the petition would result in no impact to facility design. No construction is required, and no ground disturbance is necessary.

- **Geological and Paleontological Resources**

  The proposed project changes do not include any construction or groundbreaking activities at the project site and would not result in any geological or paleontological resource impacts beyond those analyzed in the decision or subsequent amendments to the decision.

- **Hazardous Materials Management**

  The proposed change would allow the project owner to increase the VOCs limit under the air quality permit. It would not use any hazardous materials and the increase would not have a significant impact on the environment.

- **Land Use**

  The proposed project change does not include any construction or groundbreaking activities at the project site and would not result in any land use impacts beyond those analyzed in the decision or subsequent amendments to the decision.

- **Noise and Vibration**

  Increasing the VOC emissions rate as described in this petition would result in no impact to noise. There would be no construction activities and operational noise would not increase.

- **Socioeconomics**

  The proposed project change does not include any construction or ground-disturbing activities at the project site and will not result in any impacts to population, housing, employment patterns, community services (law enforcement, fire services, and parks and recreation).

- **Soil and Water Resources**

  The proposed project change does not include construction or ground-disturbing activities at the project site. Additionally, the proposed change would not result in an increase in potable or recycled water consumption. Therefore, the proposed change would not result in adverse impacts on soil and water resources.

- **Traffic and Transportation**

  The proposed project change does not include any additional construction or ground-disturbing activities at the project site. Therefore, there will be no impacts to transportation.

- **Transmission Line Safety and Nuisance**

  The proposed project change would not impact the transmission line. Therefore, there would be no transmission line safety and nuisance impacts.

- **Transmission System Engineering**

  The proposed project change does not include activities with the transmission lines or within the project switchyard and would not impact the transmission grid. Therefore, there would be no impacts to transmission system engineering.

- **Visual Resources**

  There are no additional construction or ground-disturbing activities proposed at the project site and the proposed project change would not result in any visual impacts from construction or operation.

- **Waste Management**

  The proposed project change does not include any construction or ground-disturbing activities at the project site and would not result in the creation of new solid waste streams.

- **Worker Safety and Fire Protection**

  The proposed change would allow the project owner to increase the VOCs limit under the air quality permit. It would not use any hazardous materials and the increase would not have a significant impact on the environment.

ENVIRONMENTAL JUSTICE

Environmental Justice – Figure 1 shows 2010 census blocks in the six-mile radius of the Campbell Power Plant with a minority population greater than or equal to 50 percent. The population in these census blocks represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. Staff conservatively obtains demographic data within a six-mile radius around a project site based on the parameters for dispersion modeling used in staff's air quality analysis. Air quality impacts are generally the type of project impacts that extend the furthest from a project site. Beyond a six-mile radius, air emissions have either settled out of the air column or mixed with surrounding air to the extent the potential impacts are less than significant. The area of potential impacts would not extend this far from the project site for most other technical areas included in staff's EJ analysis.

Based on California Department of Education data in the **Environmental Justice – Table 1**, staff concluded that the percentage of those living in the Sacramento City Unified and Washington Unified school districts (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are considered an EJ population based on low income as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. **Environmental Justice – Figure 2** shows where the boundaries of the school district are in relation to the six-mile radius around the Campbell Power Plant site.

Environmental Justice – Table 1
Low Income Data within the Project Area

SACRAMENTO COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	**Enrollment Used for Meals**	**Free or Reduced-Price Meals**	
Elk Grove Unified	64,480	34,036	52.8%
Sacramento City Unified	46,657	33,027	70.8%
REFERENCE GEOGRAPHY			
Sacramento County	249,542	150,025	60.1%
YOLO COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	**Enrollment Used for Meals**	**Free or Reduced-Price Meals**	
Washington Unified	8,334	5,276	63.3%
REFERENCE GEOGRAPHY			
Yolo County	30,569	14,993	49.0%

Source: CDE 2020. California Department of Education, DataQuest, Free or Reduced-Price Meals, District level data for the year 2019-2020, <http://dq.cde.ca.gov/dataquest/>.

The following technical areas (if affected) consider impacts to EJ populations: Air Quality, Cultural Resources (indigenous people), Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Waste Management, and Worker Safety and Fire Protection.

Environmental Justice Conclusions

For the technical areas affected by the proposed project changes – Air Quality and Public Health – staff concludes that impacts would be less than significant, and thus would be less than significant on the EJ population represented in **Environmental Justice – Figure 1**, **Figure 2**, and **Table 1**. In the Air Quality analysis, staff proposes revised and new COCs to mitigate potentially significant impacts on the environment. Staff has determined that by adopting the proposed revised and new COCs, the proposed project changes would not cause significant impacts for any population in the project's six-mile radius, including the EJ population. Impacts to the EJ population are less than significant.

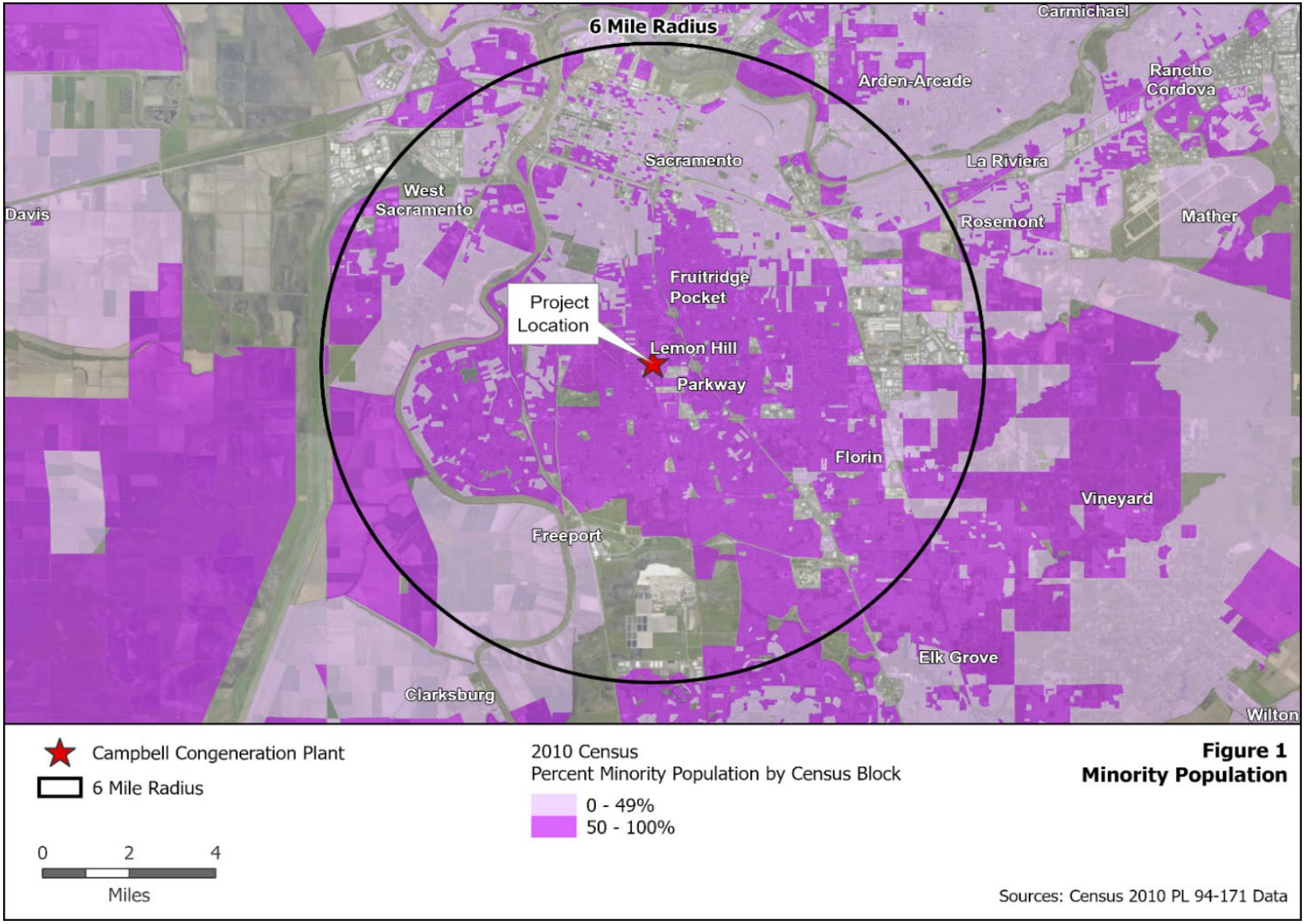
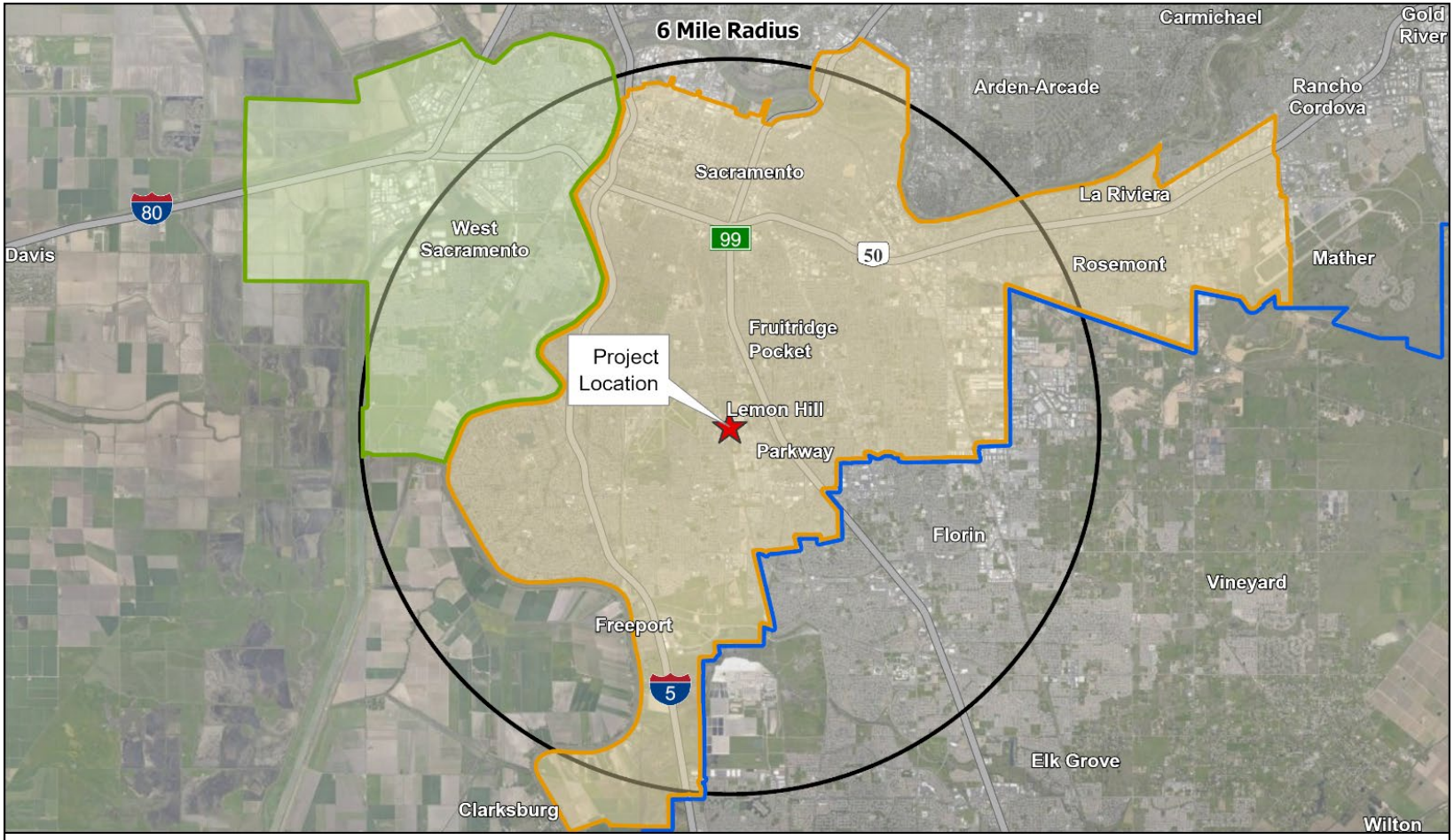


Figure 1
Minority Population


6 Mile Radius
Carmichael
Gold River
Arden-Arcade
Rancho Cordova
Sacramento
La Riviera
80
West Sacramento
Davis
99
50
Rosemont
Mather
Fruitridge Pocket
Project Location
Lemon Hill
Parkway
Florin
Vineyard
Freeport
5
Elk Grove
Clarksburg
Wilton
Campbell Cogeneration Project
6 Mile Radius
School District
Elk Grove Unified School District
Sacramento City Unified School District
Washington Unified School District
0
2
4
Miles
Figure 2
Low Income Population
Note: Shaded areas have an EJ population based on low income
Sources: TIGER Data, CDE 2020

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes the following and will recommend approval of the petition to the CEC:

A. The modified project would not have a significant impact on the environment; and

B. The facility would remain in compliance with all applicable laws, ordinances, regulations and standards.

CAMPBELL POWER PLANT (93-AFC-3C)

Post Certification Petition to Amend the Commission Decision
AIR QUALITY AND PUBLIC HEALTH

Huei-An (Ann) Chu, Ph.D. and Jacquelyn Record

INTRODUCTION

On July 13, 2016, the CEC approved a petition to amend (TN 212335) to provide an option to replace the use of potable water with recycled water in the cooling tower, construct additional water treatment facilities, and increase discharge amounts to the city's sanitary sewer system, resulting from the use of recycled water.

On May 27, 2020, the CEC approved a petition to amend (TN 233170) to repurpose an existing water storage tank to be used for fire suppression; and install a new fire water pump, housing, and piping to connect them to the water supply system to eliminate the potential for backflow into the potable water system.

The currently requested amendment proposal would require new and amended Air Quality (AQ) Conditions of Certification (COCs). On March 15, 2021, the project owner filed a Petition and proposes to amend the cooling tower VOC emission rate, contained in COC AQ-7, AQ-8, AQ-SC2, AQ-CT2, and AQ-CT4 through AQ-CT7. These AQ COCs along with the corresponding air quality permit condition from the Sacramento Metropolitan Air Quality Management District (SMAQMD) would allow the CPP to resume operations using recycled water, in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Due to the use of recycled water, this petition to amend will be herein referred to as the "Cooling Tower Recycled Water Supply Project." No construction is required, and no ground disturbance is necessary.

BACKGROUND AND AMENDMENT DESCRIPTION

Construction of the recycled water infrastructure was completed in 2020. The City of Sacramento Department of Utilities' final approval for the project owner to receive recycled water was issued on July 21, 2020, following additional modification to separate SPA's firewater pumping system from the potable water system. Sacramento Regional Sanitation District Wastewater Treatment Plant (Regional San) first delivered recycled water to the site on July 28, 2020. The project owner verified compliance with the cooling tower's VOC emissions by performing an air quality source test via the direct sampling of recycled water on August 25, 2020. Recycled water delivery was terminated on October 15, 2020, due to changes in the overall water quality of the Regional San's provided water expected upon evaluating the results of a pilot test by Regional San. The changes were in VOC and non-VOC constituents and related to different components of the EchoWater Project (Regional San's major new water treatment upgrade) coming online.

During a recent recycled water pilot plant test, intended to simulate the recycled water that would be provided following the completion of their EchoWater Project, Regional San determined that the recycled water's VOC concentration could be ten times higher than currently permitted for use by the cooling tower. None of the pilot plant's recycled water has been delivered to CPP at any time. Rather, these testing results prompted the project owner to start the process of requesting modifications to the air permit and CEC license before delivery of the higher VOC water.

At the time the post certification petition was submitted in April 2020, it was expected that using recycled water from the Regional San would not increase the amount of total dissolved solids (TDS) in the cooling tower basin but would increase VOC emissions from the cooling tower by 0.5 pounds per day. The results of the most recent Regional San pilot test of the recycled water system concluded that VOC emissions could increase from the previously expected 0.5 lb/day to 6.5 lb/day.

Air District Review

On January 21, 2022, the SMAQMD published the Engineering Evaluation of the proposed changes (SMAQMD 2021a) and a draft "Authority to Construct" (ATC, SMAQMD 2021b) modifying the existing SMAQMD permit conditions to allow for a permitted increase of VOCs in the cooling tower. The modifications are to revise the VOC emission rate and source testing conditions. The application will be processed under the District's enhanced new source review and the permit will be incorporated into the facility's Title V permit as an administrative amendment (SMAQMD 2022). There will be a 30-day public noticing period that would conclude on February 22, 2022. The U.S. EPA has an additional 15 days for comment, with that comment period concluding on March 9, 2022, and then a final ATC by March 16, 2022, assuming no comments are received. This analysis details necessary changes in the conditions of certification to reflect SMAQMD's currently permitted conditions and CPP's proposed modifications.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

The SMAQMD reviewed the proposed project changes and determined the proposed changes would comply with their regulations. CEC staff (staff) reviewed both the permit evaluation and preliminary ATC which evaluate and incorporate the proposed changes. Staff evaluated the proposed changes for consistency with all federal, state, and SMAQMD LORS.

Air Quality Table 1 includes a summary of the LORS applicable to the PTA. The conditions of certification in the Energy Commission Final Decision, along with those conditions of certification amended thereafter, ensure that the facility would remain in compliance with all applicable LORS.

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

APPLICABLE LAW	DESCRIPTION
Federal	**U.S. Environmental Protection Agency (EPA)**
Title 40 Code of Federal Regulations (CFR) Part 50 (National Primary and Secondary Ambient Air Quality Standards)	National Ambient Air Quality Standards (NAAQS) are set in this part. NAAQS defines levels of air quality necessary to protect public health. The requested modification would not affect pollutants regulated under NAAQS.
Title 40 CFR Part 51 (Requirements for Preparation Adoption and Submittal of Implementation Plans)	Requires emission reporting and control strategies for the attainment and maintenance of national ambient air quality standards. The requested modification would not affect pollutants regulated under NAAQS.
Title 40 CFR Part 52	Prevention of Significant Deterioration (PSD) requires review and facility permitting for the construction of new or modified major stationary sources of pollutants at locations where ambient concentrations attain the NAAQS. PSD would not be required for the proposed amendment request.
Title 40 CFR Part 60, Subpart A	Outlines general requirements for facilities subject to standards of performance including notification, work practice, monitoring, and testing requirements. Continued compliance is expected.
Title 40 CFR Part 61	Establishes National Emission Standards for Hazardous Air Pollutants (NESHAPS) provisions for specified pollutants. The list of adopted NESHAPS was reviewed. No standards were found that apply to the proposed changes.
40 CFR 70	State Operating Permit Program. Part 70 establishes the Title V permitting program. This facility currently operates under a Title V permit. The project is being evaluated under SMAQMD enhanced NSR. Continued compliance is expected.
State	**California Air Resources Board and Energy Commission**
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance. Continued compliance is expected.
H&SC §40910-40930 (District Plans to Attain State Ambient Air Quality Standards)	State Ambient Air Quality Standards should be achieved and maintained. The permitting of the source needs to be consistent with the approved clean air plan. The SMAQMD NSR program ensures consistency with regional air quality management plans.
H&SC §42301.6 (AB 3205)	Establishes noticing requirements for projects within 1,000 feet of a school site. The facility is not located within 1,000 feet of a school site and therefore the public noticing requirements do not apply.

APPLICABLE LAW	DESCRIPTION
California Code of Regulations	Greenhouse Gases Emission Performance Standard (EPS), Article 1 –Provisions Applicable to Power Plants 10 megawatts (MW) and Larger (SB1368) —The facility is considered a deemed-compliant power plant. The requested modification would not affect greenhouse gas emissions.
Local	**Sacramento Metropolitan Air Quality Management District**
Regulation I – General Provisions and Definitions	Outlines general requirements such as definitions, circumvention, exceptions, alternative compliance, minor violations, etc.
Regulation II - Permits Rule 201	General Permit Requirements — Establishes procedures for the review of new sources of air pollution and the modification of existing sources. Replacing or altering equipment that causes or controls the emissions of air pollutants requires an ATC from the SMAQMD. The facility submitted its application to the SMAQMD for the permitted increase. The final ATC and PTO would be issued by SMAQMD.
Regulation II - Permits Rule 202	New Source Review (NSR) — Provides for the issuance of ATCs and PTOs. Provides mechanisms, including best available control technology (BACT), emission offsets, and impact analysis to issue ATCs without interfering with the attainment or maintenance of the ambient air quality standards (AAQS). The SMAQMD reviewed the proposal applying the principles of NSR. See analysis for more details.
Regulation II - Permits Rule 203	Prevention of Significant Deterioration (PSD) – Establishes requirements for attainment emissions. PSD requirements apply on a pollutant-specific basis for major stationary sources. Twenty-eight source categories are subject to PSD requirements for attainment pollutants if a facility's annual emissions exceed established thresholds. SMAQMD has the delegation of PSD authority from the United States Environmental Protection Agency (U.S. EPA). In addition, the facility emissions would not exceed PSD thresholds. Since this is not a major stationary source (for PSD purposes), a PSD analysis is not required.
Regulation II - Permits Rule 207	Title V Federal Operating Permit Programs – CPP is an existing Title V facility. The project owner requested the application be reviewed through the enhanced NSR process. Enhanced NSR allows the SMAQMD to administratively amend the Title V permit to reflect the proposed project. The permit action is subject to a 30-day public notice and 45-day U.S. EPA review process.

APPLICABLE LAW	DESCRIPTION
Regulation II - Permits Rule 217	Public Notice Requirements for Permits – Provides a mechanism for public notification and review of ATCs and PTOs. Public notice is triggered under enhanced NSR.
Regulation III - Fees Rule 301	The permit application is subject to the permit fees established by Rule 301. The applicant has submitted a check to cover permit fees as part of its application and has complied with Rule 301.
Regulation IV - Prohibitions Rule 401	Ringelmann Chart — Limits visible emissions opacity to less than 20 percent (or Ringelmann No. 1) with specific exemptions. Water vapor is not included in an opacity determination. The cooling tower will not create visible emissions in excess of the limits of this rule.
Regulation IV - Prohibitions Rule 402	Nuisance — Prohibits the discharge of air contaminants that could cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. SMAQMD regulates toxic air contaminants (TACs) under this rule. SMAQMD toxics policy requires proposed projects with TAC emission increases to perform a screening-level health risk assessment. CPP was evaluated for health risk when it was originally permitted. However, since this evaluation was performed under the previous risk assessment guidelines, a screening HRA utilizing the newer risk calculation methodologies is performed here. The details of the assessment can be found in the **Public Health Section** of this analysis.
Regulation IV - Prohibitions Rule 404	Prohibits emissions of particulate matter (PM) more than 0.1 gr/dscf. The PM drift loss from the cooling tower would be much less than this emission limit. Therefore, the cooling tower is expected to comply with this rule.

1. Rule 201 – General Permit Requirements

Rule 201 specifies that any owner/operator constructing, altering, replacing, or operating any source that emits or controls air pollutants must first obtain an ATC from the District. This ATC application satisfies this requirement for the Project.

2. Rule 202 – New Source Review (NSR) Rule

The SMAQMD adopted Rule 202 to provide for preconstruction review of new or modified facilities, to ensure that affected sources do not interfere with the attainment of ambient air quality standards. In general, Rule 202 contains three separate elements as part of a New Source Review (NSR) analysis:

- Best Available Control Technology (BACT);
- Emission Offsets; and

- Air Quality Impact Analysis.

To determine which of these NSR elements applies to the Project, first, it must be determined if CPP is a "major stationary source" and whether the Project is a "modification" or a "major modification."

CPP is a "major stationary source" per Rule 202, Section 228 for NOx, per the information presented in **Air Quality Table 2**.

Air Quality Table 2. SMAQMD Major Stationary Source Applicability Determination tons per year (tpy)

Pollutant	Major Source Threshold	CPP Permit Limit	Major Source?
VOC	25	20.0	NO
NOx	**25 (or 100 tpy as PM2.5 precursor)**	**49.9**	**YES**
$S0_2$	100	3.7	NO
PM10	100	22.5	NO
PM2.5	100	22.5	NO
CO	100	43.7	NO

For all pollutants except NOx, which do not result in a "major stationary source" determination, emission increases from a "modification" are calculated according to Rule 202, Sections 225, 229, and 411 based on a comparison of "historic potential emissions" to future potential to emit (PTE). Since CPP is proposing to change its permitted emission limits only for VOC, this would be the only increase in emissions for the non-major source pollutants under Rule 202.

(1) Per Rule 202, Section 229, a "modification" includes the following:

229 **MODIFICATION**: Any physical change, change in method of operation (including change in fuel), or addition, which:

229.1 For an emissions unit would necessitate a change in a permit condition or result in the potential to emit being higher than the historic potential emissions as defined in Section 225.

Since CPP is proposing a change in permit conditions to increase the daily and quarterly maximum PTE for VOC, the proposed change will be classified as a modification for VOC. Specific NSR requirements are discussed in more detail in the subsequent sections.

(2) Rule 202, Section 227 defines a "major modification" as follows:

227 **MAJOR MODIFICATION**: Any physical change, change in method of operation (including change in fuel), or addition, to a stationary source classified as a major source for:

227.1 VOC or NOx emissions, which result in an emission increase for the project as determined by Section 411.5, which when aggregated with all

other creditable increases and decreases in emissions from the source is equal to or exceeding any of the following thresholds:

a. 25 tons per year of volatile organic compounds; or

b. 25 tons per year of nitrogen oxides.

Section 225 states that the "historic potential emissions" for existing emissions units that are not part of a "major modification" are equal to the unit's potential to emit before the modification. The Cooling Tower Recycled Water Supply Project is not a "major modification" as defined in Section 227 because the potential to emit the project does not result in an increase in VOC emissions of 25 tons per year.

(3) Rule 202, Section 305 prohibits a new or modified stationary source from interfering with the attainment or maintenance of an applicable ambient air quality standard. An ambient air quality impact analysis is required only for a new major source or major modification, and the proposed Cooling Tower Recycled Water Project is neither a new major source nor a major modification. Therefore, an ambient air quality impacts analysis is not required.

3. Rule 203 – Prevention of Significant Deterioration

Rule 203 incorporates the Federal Prevention of Significant Deterioration (PSD) Program by reference (40 CFR 52.21). The PSD program requires pre-construction review and permitting of new or modified major stationary sources of air pollution to prevent significant deterioration of ambient air quality. PSD applies to pollutants for which ambient concentrations do not exceed the corresponding National Ambient Air Quality Standards (i.e., attainment pollutants). For the proposed Cooling Tower Recycled Water Supply Project, the project would continue to emit pollutants such as VOC and PM10/Pm2.5. However, the total facilities PM10/ PM2.5 emissions would not increase as a result of using the EchoWater Project's recycled water because the TDS content of the recycled water will be less than or equal to the current permitted level of 3,000 ppmw. While the SMAQMD is classified as an attainment area for NOx, SOx, CO, and PM10, the SMAQMD is a nonattainment area with respect to the PM2.5 and ozone National Ambient Air Quality Standards.

The federal PSD requirements apply on a pollutant-specific basis to any project that is a new major stationary source or a major modification to an existing major stationary source (these terms are defined in the PSD regulations at 40 CFR 52.21). CPP is not an existing major source because its emissions are limited to less than 100 tons per year for all pollutants, and the Cooling Tower Recycled Water Supply Project would not cause the facility to become a new major stationary source. Therefore, PSD does not apply to the project.

4. Rule 207 – Title V Federal Operating Permit Program

CPP is an existing Title V facility with Permit No. TV2007-14-02B. The proposed Cooling Tower Recycled Water Supply Project would require a significant modification to CPP's Title V permit because of the revisions to the VOC emission limits and the new BACT determination.

In order to expedite the Title V permit modification process, the project owner requests that the SMAQMD process this application and Title V permit modification under the Enhanced New Source Review process allowed pursuant to Rule 202 (Sections 101 and 404). This permit application package includes the SMAQMD application forms necessary for this modification to the Title V permit.

5. Rule 217 – Public Notification Requirements for Permits

Rule 217, Section 110 notes that notification requirements shall not apply if the application is for any new or modified emissions unit where the combined potential to emit from the Project would have an increase in the potential to emit less than the amounts listed below (and provided that offsets are not triggered).

Volatile organic compounds	5,000 pounds per quarter
Nitrogen oxides	5,000 pounds per quarter
Sulfur oxides	9,200 pounds per quarter
PM10	7,300 pounds per quarter
PM2.5	10 tons per year
Carbon monoxide	49,500 pounds per quarter

There would not be an increase in the potential to emit from the Project exceeding the levels listed in Section 110, but offsets are triggered by the Project. Therefore, the Project is subject to Rule 217 public notice requirements.

6. Rule 301 – Stationary Source Permit Fees

The permit application is subject to the permit fees established by Rule 301. The initial permit fee was determined in accordance with SMAQMD Rule 301 based on Sections 301 and 306.1 as follows:

> 306 ALTERATIONS, ADDITIONS, REVISIONS, OR CHANGES IN CONDITIONS: 306.1 When an application is filed for a permit involving alterations or additions resulting in a change to any existing equipment for which a permit to operate was granted for such equipment and has not been cancelled under Section 401 of this rule, the applicant shall pay a permit fee based on the incremental increase in rating, capacity or increase in the number of nozzles resulting from such change in accordance with the fee schedule in Section 308 of this rule.

The permit fee is $3,977, corresponding to the 200 or greater horsepower electric motor horsepower schedule in Section 308.2. Additionally, Section 313 requires

$4,024 for each significant Title V permit modification and $1,517 for a filing fee for each Title V application. Therefore, a check in the amount of $9,518 for one cooling tower source payable to the SMAQMD is included as part of this permit application package. The applicant understands that the SMAQMD may charge additional fees based on the actual review hours spent by District staff.

7. Rule 401 – Ringelmann Chart/Opacity

Rule 401 prohibits the emission of air contaminants that are darker than Ringelmann No. 1 or 20% opacity for more than three minutes in a 1-hour period. Water vapor is not included in an opacity determination. The cooling tower would not create visible emissions in excess of the limits of this rule.

8. Rule 402 - Nuisance

This rule prohibits the discharge of air contaminants in quantities that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. The SMAQMD regulates new and modified sources of toxic air contaminants (TACs) under this rule by implementing its "Risk Assessment Guidelines for New and Modified Stationary Sources," dated December 2000. These guidelines implement what is commonly known as "Toxics New Source Review." For the CPP cooling tower, there are TAC emissions associated with the use of recycled water. The original analyses of the recycled water and associated TACs were outlined in the permit application for PTO No. 24808.

Under the SMAQMD's toxics policy, modified projects with TAC emission increases are required to perform a health risk assessment. The results are presented in the Analysis section.

ANALYSIS OF REQUIRED CHANGES

This analysis includes the evaluation of the emissions related to the modifications. The only associated emissions change relates to the amendment request for VOC, which is explained below. The relevant SMAQMD permit conditions have been reviewed by Energy Commission staff (staff). The resulting proposed modifications to the project's conditions of certification are shown in this analysis. Staff concludes that changes requested by the project owner would comply with applicable federal, state, and SMAQMD air quality LORS and the amended project would not cause significant air quality impacts, provided that the recommended conditions of certification are included as provided below.

EMISSION ESTIMATES

While actual operation would vary, the combined-cycle turbine and cooling tower have the potential to operate on a full-time basis (24-hours/day, 365 days/year).

Consequently, in the following sections regarding emissions and regulatory applicability, full-time cooling tower operation is assumed.

The cooling tower currently emits particulate matter less than 10 microns and less than 2.5 microns in diameter (PM10 and PM2.5). The Cooling Tower Recycled Water Supply Project would continue to emit PM10 and PM2.5 at levels less than or equal to the current cooling tower. The Cooling Tower Recycled Water Supply Project would also emit quantities of VOC above de minimis thresholds. As compared to the permit application for PTO No. 24808, ammonia emissions are remaining the same. This section presents future potential emissions from the Cooling Tower Recycled Water Supply Project and future potential emissions.

The cooling tower VOC emissions are currently limited to 0.5 pounds/day as outlined in **Air Quality Table 3** below. This equates to approximately 46 parts per billion by weight (ppbw) VOC in potable water based on a 900 gallons per minute (gpm) cooling tower make-up water rate. The proposed VOC emission rate is based on a maximum VOC concentration of 600 ppbw in recycled water and a 900 gpm make-up water rate, which increases VOC mass emissions to 6.5 lb/day. The cooling tower is being evaluated as an existing emission unit; therefore, its Historic Potential Emissions are as follows (Rule 202, section 225):

Air Quality Table 3. VOC Emission Rates in the Cooling Tower

VOCs	Maximum Emissions					
	Daily (lb)	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)	Annual (tons)
Existing Cooling Tower	0.5	44	45	45	45	0.1
Modified Cooling Tower	6.5	584	590	597	597	1.2

The maximum quarterly and annual emissions for the modified CPP are summarized in **Air Quality Table 4** below.

Air Quality Table 4. CPP Maximum Quarterly and Annual Emissions

Pollutant	Maximum Emissions				
	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)	Annual lb/year
VOC	9,376	9,488	13,861	9,565	42,290
NOx	24,209	24,545	26,321	24,725	99,800
Sox	1,814	1,836	1,944	1,853	7,447
PM10	11,015	10,160	12,294	11,619	45,088
PM2.5	10,995	10,141	12,271	11,597	45,004
CO	47,599	47,599	47,599	47,599	190,396

CPP is proposing to modify its air permit cooling tower emission limits.

The permit modification request demonstrates that the CPP project would not cause or contribute to the violation of an applicable ambient air quality standard. Furthermore,

after receipt of the modified air permit and approval of this PTA, CPP would comply with applicable LORS.

Future Potential Emissions from the Cooling Tower Recycled Water Supply Project

VOCs emissions from the cooling tower are currently limited to 0.5 lb/day in the recycled water PTO No. 24808. This equates to about 46 ppmw VOC at a 900 gpm make-up water rate to the cooling tower. The new proposed VOC emission rate is based on a maximum VOC concentration of 600 ppmw in the recycled water and a 900 gpm make-up water rate, which thereby increases VOC mass emissions to 6.5 lb/day.

The Cooling Tower Recycled Water Supply Project would also emit trace levels of toxic air contaminants (TACs). For this permit application, it is conservatively assumed that TACs would increase proportionally to the increase in VOC. Thus, the increase from 0.5 to 6.5 lb/day VOC results in a corresponding increase in TAC emissions by a factor of 6.5/0.5 = 13.

The proposed Cooling Tower Recycled Water Supply Project would increase VOC emissions along with an increase toxic air contaminants (TAC). As a result, the project owner performed a health risk assessment (HRA) consistent with the SMAQMD's Rule 402 which regulates TAC emissions. The results of the HRA show that the project's increase in cooling tower recycled water supply emissions results in residential or workplace cancer risk of less than 1 in a million and an acute or chronic hazard index of less than 1. Therefore, the increase in cooling tower VOC emissions is not expected to result in a significant impact. The project is expected to comply with applicable LORS.

The project owner compared the future potential emissions from the Cooling Tower Recycled Water Supply Project and the current permitted emissions from the existing cooling tower. **Air Quality Table 5** shows the VOC emissions increase from the Cooling Tower Recycled Water Supply Project associated with the use of the recycled water from the EchoWater Project.

Air Quality Table 5. Maximum Emission Increases from the Modified Cooling Tower

Pollutant	Maximum Emissions Increase					
	Daily (lb)	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)	Annual (lb)
PM10/PM2.5	0	0	0	0	0	0
VOC	6.0	540	545	552	552	1.1

Future Potential Emissions from the Facility

Total facility PM10/ PM2.5 emissions would not increase as a result of using the water supply from the EchoWater Project recycled water because the TDS content of the recycled water will be less than or equal to the current permitted level of 3,000 ppmw. The original permit application for PTO No. 24808 requested a VOC increase of 179 pounds per year, so the project owner is requesting an additional increase of 2,189

pounds, for a total VOC increase of 2,368 pounds for the Cooling Tower Recycled Water Supply Project.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

Rule 202, Section 301 requires that an applicant apply BACT on a pollutant-by-pollutant basis to new or modified emissions units for each emissions change of a regulated air pollutant, if the change would result in an emission increase calculated pursuant to Section 411.1 of more than 550 lb/day for CO and any increase of VOCs, NOx, SOx, and PM10/PM2.5. In accordance with Section 411.1, historic daily potential emissions must be compared to future daily potential emissions. VOC is the only pollutant for which changes are proposed to the daily emissions limits, and the proposed change exceeds 0 lb/day. Therefore, the Project triggers BACT for VOC.

The project owner searched BACT guidelines for VOC emissions from a cooling tower in the Bay Area AQMD, San Joaquin Valley APCD, South Coast AQMD, and SMAQMD, and didn't find any VOC control technology had been achieved in practice for a cooling tower. Due to the potential for technology transfer, the cost-effectiveness of a water-phase carbon adsorption system was considered for compliance with VOC BACT for the cooling tower emissions increase.

Utilizing the EPA Air Pollution Control Cost Manual for Carbon Adsorbers estimates a total cost of $98,545, assuming vapor phase adsorption of toluene at a similar flow rate (120 acfm) and emission rate (6.5 lb/day). Although there is no liquid phase adsorption calculator, the vapor-phase adsorption control technology is similar enough to use in a rough cost estimate. The cost-effectiveness for this control option is greater than $84,000 per ton of VOC reduced, which is far greater than the SMAQMD maximum cost-effectiveness threshold of $17,500 per ton for VOC, indicating that liquid phase carbon adsorption of VOC would need to be substantially cheaper than a similar vapor phase adsorption system, which is unlikely. Any other control options (stripper plus carbon, stripper plus thermal oxidation, etc.) would be substantially more expensive and would not result in greater emission reductions (this hypothetical carbon system assumes 98% control).

EMISSION OFFSETS

Rule 201, Section 302 requires that emission offsets be provided on a per-pollutant basis for increases in quarterly emissions from any new or modified emissions unit if the stationary source's post-project potential to emit exceeds the levels specified in Rule 202, Section 302.1. VOC is the only pollutant with an additional increase above the emissions outlined in the permit for PTO No. 24808. The facility exceeds the offset trigger level in Section 302.1 for VOC.

Air Quality Table 6. Offsets Applicability

Pollutant	Maximum Emissions (lb/quarter)	Offsets Threshold (lb/quarter)	Above Offsets Threshold?
VOC	13,861	5,000	Yes

Because the original Cooling Tower modification (CEC 2019) was previously offset under PTO No. 24808, CPP would only have to offset the difference between this previous PTO and this modification application. As such, **Air Quality Table 7** below outlines the number of offsets required for each quarter due to this modification.

Air Quality Table 7. Additional Offsets Required

Description	Maximum Emissions					
	Daily (lb)	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)	Annual (lb)
PTO No. 24808 Project PTE	0.5	44	45	45	45	179
Modification PTE	6.5	584	590	597	597	2368
Offsets Required (not including distance ratio)	N/A	540	545	552	552	2189

The project owner has proposed to use VOC emission offsets from one or more of the following Sacramento Municipal Utility District (SMUD) owned Emission Reduction Credit (ERC) certificates: ERC 04-00917 and ERC 04-00920, generated from the shutdown of compound application processes at Campbell Soup Company, previously located at 6200 Franklin Boulevard, Sacramento. **Air Quality Table 8** summarizes the amounts of VOCs available for use from these ERC certificates.

Air Quality Table 8. ERC Certificates Available

Pollutant	Certificate Number	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	04-00917	2,349	1,287	2,747	3,651
VOC	04-00920	458	354	1,603	59

Pursuant to Rule 202, Section 303.1, an offset distance ratio of 1.2 to 1.0 would be applied to SMAQMD ERC Certificates 04-00917 and 04-00920. The aforementioned ERC Certificates provide enough VOC reduction credits to fully offset the amount needed for each calendar quarter.

HEALTH RISK ASSESSMENT (HRA)

To determine whether the proposed Cooling Tower Recycled Water Supply Project would result in a significant increase in either the carcinogenic or non-cancer health impacts for the facility, the health risk assessment (HRA) TAC concentrations from the permit application for PTO No. 24808 were conservatively scaled up by the increase in daily VOC emissions (6.5/0.5 = 13), except for chloroform, which was conservatively set at 300 ppb, and bromodichloromethane, which was set at 100 ppb, based on

recommendations from Regional San. A new AERMOD modeling analysis was performed and a new HRA was performed using CARB's Hotspots Analysis and Reporting Program (HARP) computer model. **Air Quality Table 9** below shows the revised HRA results from the Cooling Tower Recycled Water Supply Project.

Air Quality Table 9 shows that the HRA results for the Cooling Tower Recycled Water Supply Project would be below the significance thresholds for cancer, acute, and chronic impacts. Therefore, the TAC emission impacts for the proposed Cooling Tower Recycled Water Supply Project would not be significant, and the project is not expected to create a nuisance due to health risks.

Air Quality Table 9. Revised HRA Impacts for the Cooling Tower Recycled Water Supply Project

Risk Component	PTO No. 24808 Cooling Tower Risk	Revised Impacts	Thresholds	Significant?
Cancer Risk - Residential	7.63×10^{-8}	1.10×10^{-7}	10×10^{-6}	No
Cancer Risk - Workplace	3.50×10^{-9}	1.39×10^{-8}	10×10^{-6}	No
Cancer Risk – PMI	--	2.24×10^{-7}	10×10^{-6}	No
Acute Hazard Index	0.154	0.25	1	No
Chronic Hazard Index	0.0149	0.00886	1	No
8-Hour Chronic	--	3.29×10^{-5}	1	No

In addition to project TAC emissions, bacterial growth in the proposed cooling water system could include the Legionella bacterium which could present a public health risk. This risk is present for both recycled water-cooling systems as well as potable water-cooling systems. Legionella is a bacterium that is ubiquitous in natural aquatic environments and is also widely distributed in man-made water systems. It is the principal cause of legionellosis, otherwise known as Legionnaires' disease, which is similar to pneumonia. Transmission to people results mainly from inhalation or aspiration of aerosolized contaminated water. Untreated or inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems, have been correlated with outbreaks of legionellosis.

The State of California regulates recycled water for use in cooling towers in Title 22, section 60303, California Code of Regulations. This section requires that, in order to protect workers and the public who may come into contact with cooling tower mists, chlorine or another biocide must be used to treat the cooling system water to minimize the growth of Legionella and other micro-organisms. CPP would use tertiary-treated recycled water provided by the Regional San Wastewater Treatment plant which has been pre-treated with chlorine. CPP would also add additional chlorine bleach at the cooling tower basin to minimize the growth of microorganisms. Therefore, it is not expected that bacterial growth in the cooling tower would present a public health risk.

ENVIRONMENTAL JUSTICE

Air Quality staff revised conditions of certification to ensure project impacts remain less than significant. Therefore, with the implementation of these modified conditions, impacts would be less than significant for any population in the project's six-mile radius, including the Environmental Justice population represented in **Environmental Justice Figures** and **Table** in the **Executive Summary**.

RECOMMENDED REVISIONS TO AIR QUALITY CONDITIONS OF CERTIFICATION

Staff recommends that some existing Energy Commission conditions be modified to align Energy Commission conditions of certification with the current SMAQMD permit. Staff considers these additional changes to be minor administrative changes except for those that affect any VOC emission limits. The following revisions would not cause any additional air quality impacts or adversely affect the ability of the project to comply with LORS.

- Make changes to **AQ-7** and **AQ-8**. This condition makes changes to the limits for the maximum allowable emissions on a daily and quarterly basis, respectively, for the combined gas turbine, duct burner, and cooling tower combined.
- Make a minor administrative change to include the "w" in ppmw to **AQ-SC2** to reflect parts per million by weight.
- Modify **AQ-CT2** to include a modification to the maximum allowable emissions from the cooling tower. This condition modifies the daily and quarterly emission limits.
- **AQ-CT4** added a part "D" to include language for initial source testing, within 14 days, after the recycled water has been resupplied to the cooling tower.
- A minor administrative change in **AQ-CT5** removed the name Sacramento Power Authority to a more general term of "facility".
- **AQ-CT6** includes language for CARB's Criteria Pollutant Reporting Requirement.
- Modify **AQ-CT7** for the project owner to surrender sufficient emission reduction credits (ERCs) in pounds (lbs).

CONCLUSIONS

The requested changes in permit conditions would comply with applicable federal, state, and SMAQMD air quality LORS, and the amended project would not cause significant air quality impacts, provided that the modified Conditions of Certification shown below are included.

Staff concludes that there would be no significant adverse environmental impacts associated with the implementation of the proposed changes in this petition to amend. If approved, associated impacts to the environment of the emission rate change to VOCs would be less than significant because the project has adequate emission reduction credits to fully offset the amount needed for each subsequent quarter of operation. CPP would continue to comply with all applicable conditions of certification and federal, state, and the SMAQMD LORS.

The ATC has been reviewed by Energy Commission staff and SMAQMD. Staff recommends that the revised conditions of certification be approved as shown below.

PROPOSED CHANGES OR MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Bold underline is used to indicate the new language. ~~Strikethrough~~ is used to indicate deleted language.

EMISSION LIMITATION REQUIREMENTS

AQ-7 Emissions from the following equipment at the facility must not exceed the following limits, including periods containing start-ups, shutdowns and short-term excursions as defined in **AQ-13**, **AQ-14**, and **AQ-15**.

Pollutant	Maximum Allowable Emissions lb/day		
	Gas Turbine and Duct Burner	Cooling Tower	Total
VOC	146.7	~~0.5~~ **6.5**	~~147.2~~ **153.2**
NOx	384.5	NA	384.5
SO2	21.8	NA	21.8
PM10/PM2.5	142.1	9.7	151.8
CO	1,258.8	NA	1,258.8

Verification: The project owner must maintain appropriate emission data records as required by Conditions **AQ-19** and **AQ-20**. A summary of significant operation and maintenance events and monitoring records must be included in the quarterly operation report (**AQ-20**).

AQ-8 Combined mass emissions from the following equipment at the facility must not exceed the following limits, including periods containing start-ups, shutdowns and short-term excursions as defined in **AQ-13**, **AQ-14**, and **AQ-15**.

Pollutant	Maximum Allowable Emissions Combined Emissions from: Gas Turbine and Duct Burner				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
VOC	8,792	8,898	13,264	8,968	39,922
NOx	24,209	24,545	26,321	24,725	99,800
SOx	1,814	1,836	1,944	1,853	7,447
PM10/PM2.5	10,183	9,319	11,444	10,769	41,715
CO	47,599	47,599	47,599	47,599	190,396

Pollutant	Maximum Allowable Emissions Combined Emissions from: Gas Turbine, Duct Burner and Cooling Tower				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
VOC	**9,376** ~~8,836~~	**9,488** ~~8,943~~	**13,861** ~~13,309~~	**9,565** ~~9,013~~	**42,290** ~~40,101~~
NOx	24,209	24,545	26,321	24,725	99,800
SOx	1,814	1,836	1,944	1,853	7,447
PM10/PM2.5	11,015	10,160	12,294	11,619	45,088
CO	21,265	21,601	22,803	21,708	87,377

(A) PM2.5 was not evaluated when the turbine was first permitted.

Verification: The project owner must maintain appropriate emission data records as required by Conditions **AQ-19** and **AQ-20**. A summary of significant operation and maintenance events and monitoring records must be included in the quarterly operation report (**AQ-20**).

COOLING TOWERS AND STAFF COMPLIANCE REQUIREMENTS

AQ-SC2 The total dissolved solids content of the circulating cooling water must not exceed 3,000 ppm**w**, averaged over any consecutive three-hour period. The 3-hour average TDS limit is on a clock-hour basis.

Verification: The project owner must maintain appropriate emission data records as required by Conditions **AQ-19** and **AQ-20**.

EMISSION LIMITS FOR THE COOLING TOWER

AQ-CT2 The mass emissions from the cooling tower must not exceed the following:

Pollutant	Maximum Allowable Emissions Cooling Tower	
	lb/hour	lb/day
VOC/ROC[a]	N/A	~~0.5~~ **6.5** [a]
NOx	N/A	N/A
SO2	N/A	N/A
PM10[b]	0.41	9.7
PM2.5[b]	0.41	9.7
CO	N/A	N/A

a **The permit limit is 6.5 lb/day, for calculation purposes to calculate quarterly, 6.4852 lb/day was used** ~~VOC emissions are estimated by tests conducted at the source of the reclaimed/recycled water. Further testing at the final use point, may showa lower VOC value that will be adjusted during the final permitting process~~, see **AQ-CT8**.

b Based on a water circulation rate of 45,000 gal/min, cooling tower drift rate of .0006%, and a TDS level of 3,000 ppmw, based on a 3-hour average.

Pollutant	Maximum Allowable Emissions Cooling Tower			
	Quarter1	Quarter2	Quarter3	Quarter4
VOC/ROC[a]	**584** ~~44~~	**590** ~~45~~	**597** ~~45~~	**597** ~~45~~
NOx	N/A	N/A	N/A	N/A
SO2	N/A	N/A	N/A	N/A
PM10[b]	875	885	895	895
PM2.5[b]	875	885	895	895
CO	N/A	N/A	N/A	N/A

a **The permit limit is 6.5 lb/day, for calculation purposes to calculate quarterly, 6.4852 lb/day was used** ~~VOC emissions are estimated by tests conducted at the source of the reclaimed/recycled water. Further testing at the final use point, may showa lower VOC value that will be adjusted during the final permitting process~~, see **AQ-CT8**.

b Based on a water circulation rate of 45,000 gal/min, cooling tower drift rate of .0006%, and a TDS level of 3,000 ppmw.

Verification: The project owner must maintain appropriate emission data records as required by Conditions **AQ-19** and **AQ-20**. A summary of significant operation and maintenance events and monitoring records must be included in the quarterly operation report (**AQ-20**).

EMISSIONS TESTING CONDITIONS

AQ-CT4 Testing for VOC/ROC and Hexavalent Chrome (measured as compounds of chrome) of the reclaimed/recycled water inlet to the cooling tower must be performed within 60 days of startup (or if revising the VOC emission limits testing must occur before startup with reclaimed/recycled water) and once every second calendar year thereafter to verify compliance with Condition **AQ-CT2 and AQ-SC1**.

A. Submit a source test plan to the Air Pollution Control Officer for approval at least 30 days before the test is to be performed.

B. Notify the Air Pollution Control Officer at least 7 days prior to the source test date of the exact date and time of test if the date has changed from that approved in the source test plan.

C. Submit the source test report to the Air Pollution Control Officer within 60 days from the completion of the test(s).

D. Upon completion of the initial source test required pursuant to this modification, subsequent biennial compliance tests may be delayed when recycled water is not available for delivery to the facility. Under these circumstances, the source must notify the Air Pollution Control Officer and must complete testing within 14 days of resupply of the recycled water to the cooling tower.

Verification: At least thirty (30) days before conducting a source test, the facility owner must submit to the SMAQMD and the CPM for their review and approval, a source test plan. The facility owner must notify the SMAQMD and the CPM within seven (7) working days before the project begins initial operation and/or plans to conduct a source test. All source test results must be submitted to the CPM and the SMAQMD within sixty (60) days of the date of the tests.

RECORD KEEPING & REPORTING CONDITIONS

AQ-CT5 The following records must be continuously maintained onsite for the mostrecent five-year period and must be made available to the Air Pollution Control Officer upon request. Monthly, quarterly, and annual records mustbe made available within 30 days of the end of the reporting period.

Frequency	Information to be Recorded
Hourly	A. Total dissolved solids content of the circulating water in the cooling towers in ppmw. B. Cooling Tower hourly PM10 mass emission rate. The hourly emissions must be calculated based on the cooling water circulation rate multiplied by the cooling tower drift rate, density of water, and the measured TDS level.
Daily	C. Cooling Tower PM10 daily emissions. D. Total daily PM10 emissions from all equipment at the ~~Sacramento Power Authority Facility.~~ **facility**.
Quarterly	E. Total facility PM10 quarterly mass emissions.

Verification: The facility owner must make the site available for inspection by representatives of the SMAQMD, the ARB, and the CPM to verify the continuous monitoring and recordkeeping system is properly installed and operational.

AQ-CT6 The project owner must, upon determination of applicability and written notification by the SMAQMD, comply with all applicable requirements of theAir Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.) **and CARB's Criteria Pollutant and Toxics Emissions Reporting (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 7.7). If additional information is required, the SMAQMD will notify the permit holder.**

Verification: The facility owner must notify the SMAQMD and the CPM within fifteen working days before the execution of this condition.

EMISSION OFFSETS CONDITIONS

AQ-CT7 Prior to commencing operation, the permittee must surrender sufficient ERCs to the SMAQMD Air Pollution Control Officer to offset the following number of emissions:

Pollutant	Quarter 1 lb/qtr	Quarter 2 lb/qtr	Quarter 3 lb/qtr	Quarter 4 lb/qtr
VOC	**540** ~~44~~	**545** ~~45~~	**552** ~~45~~	**552** ~~45~~

The applicant has identified ~~three~~ **two** possible credits that ~~individually~~ **in combination** are sufficient to offset the project VOC emissions. ~~One of the credit certificatesoriginated from the reduction in rice straw burning from the Feather River Air Quality Management District (FRAQMD). The locations of the reductionin rice straw burning are located greater than 15 miles from SCA but less than 50 miles. Two other credits~~ **The credits** that could potentially be submitted were generated from a shutdown of the compound application process at Campbell Soup Company which is located adjacent to the ~~SPA~~ facility. Therefore, the table below depicts the total quantity of offsets that would beneeded to be surrendered for the project.

ERC Certificat eNo. (A)	Pollutant	Amount of ERC's Surrendered lb/quarter				Offset Ratio	Value Applied to the ProjectEmission Liability lb/quarter			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
~~FRAQMD #99001-T2, or~~	~~VOC~~	~~88~~	~~90~~	~~90~~	~~90~~	~~2.0~~	**540** ~~44~~	**545** ~~45~~	**552** ~~45~~	**552** ~~45~~
SMAQMD #04-~~00916~~**00917**, or	VOC	**648** ~~52.8~~	**654** ~~54~~	**662.4** ~~54~~	**662.4** ~~54~~	1.2				
SMAQMD #04-00920	VOC	**648(B)** ~~52.8~~	**654(C)** ~~54~~	**662.4** ~~54~~	**662.4** ~~54~~					

(A) The applicant has requested that ~~3~~ **2** certificates be listed as options to be used for this project.

(B) There is only 458 lbs available in this certificate for Q1, additional offsets would need to be provided from the other certificate at the ratio specified.

(C) There is only 354 lbs available in this certificate for Q2, additional offsets would need to be provided from the other certificate at the ratio specified.

Verification: At least thirty (30) days prior to the start of construction, the facility owner must provide to the CPM a copy of one of the ~~three~~ **two** certificates listed as

follows: SMAQMD #04-~~00916~~**00917**, or SMAQMD #04-00920~~or the signed recertification from Feather River Air Quality Management District and Sacramento Metropolitan Air QualityManagement District demonstration the banking certificate (Certificate FRAQMD #99001-T2) which must have been validated~~.

REFERENCES

CEC 2019. Campbell Power Plant - Order Approving Petition to Amend Facility License. California Energy Commission Order No. 19-0109-03 for Campbell Power Plant, TN 226297. Docketed January 11, 2019.

SMAQMD 2021a. Draft Authority to Construct Engineering Evaluation. Facility Name: Sacramento Municipal Utility District Financing Authority DBA Campbell Power Plant. Application No. A/C 26874. TN 241279, Docketed January 25, 2022.

SMAQMD 2021b. Draft Authority to Construct, Issued to: Sacramento Municipal Utility District Financing Authority DBA Campbell Power Plant. Application No. A/C 26874. TN 241278, Docketed January 25, 2022.

SMAQMD 2022. Campbell Power Plant - Sacramento Metropolitan Air Quality Management District Letter - Start of Public Notice. CEC Docket: 1993-AFC-3C. TN 241257, Docketed January 21, 2022.

SPA 2021a. Sacramento Power Authority Petition for Post Certification License Amendment. Campbell Cogeneration Project. CEC Docket: 1993-AFC-3C. Docketed March 15, 2021.