

DOCKETED

Docket Number:	93-AFC-03C
Project Title:	Compliance - Application for Certification for SMUD's Campbell Soup Cogeneration Project
TN #:	200523
Document Title:	Staff Analysis of Proposed Modifications
Description:	N/A
Filer:	Joe Douglas
Organization:	CEC/Joseph Douglas
Submitter Role:	Commission Staff
Submission Date:	9/18/2013 2:27:06 PM
Docketed Date:	9/18/2013

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



DATE: September 18, 2013

TO: Interested Parties

FROM: Joseph Douglas, Compliance Project Manager

SUBJECT: Sacramento Power Authority Campbell Cogeneration Project's Staff Analysis of Proposed Modifications to the Cogeneration Facilities (93-AFC-3C)

On May 16, 2013, Sacramento Power Authority (SPA) filed a petition with the California Energy Commission to amend the Energy Commission Final Decision for the Campbell Cogeneration Project (SPAC). Staff prepared an analysis of this proposed change and a copy is enclosed for your information and review.

The SPAC is a 158-megawatt cogeneration project that was certified by the Energy Commission on November 30, 1994, and began commercial operation in 1997. The facility is located in the City of Sacramento, in Sacramento County.

Due to the loss of the Campbell food processing plant steam host, SPA requests a modification of existing Condition of Certification **EFF-1** to allow the operation of SPAC in the absence of a steam host, without being required to demonstrate compliance with the California Code of Regulations governing cogeneration facilities. SPA is also requesting to install a blind flange on the export steam line to reduce energy losses by allowing the steam to be used in the power plant rather than being directed to a steam host.

Energy Commission staff reviewed the petition, assessed the impacts of this proposal on environmental quality and public health and safety, and now proposes revisions to existing Condition of Certification **EFF-1**. It is staff's opinion that, with the implementation of this revised condition, the project would remain in compliance with applicable laws, ordinances, regulations, and standards, and the proposed modifications would not result in any significant adverse direct, indirect, or cumulative impacts to the environment (20 Cal. Code Regs., § 1769).

The amendment petition and staff's analysis have been posted on the Energy Commission's SPAC webpage at http://www.energy.ca.gov/sitingcases_pre-1999/index.html. The Energy Commission's Order (if approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the November 13, 2013, Business Meeting of the Energy Commission.

Agencies and members of the public who wish to provide comments on the amendment petition are asked to submit their comments by October 25, 2013 using the Energy Commission's e-commenting feature by going to the Energy Commission's SPA webpage,

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=93-AFC-03C>.

A full name, e-mail address, comment title, and either a comment or an attached document (in the .doc, .docx, or .pdf format) are mandatory. After entering CAPTCHA (a challenge-response test used by the system to ensure that responses are generated by a human user and not a computer), click on the "Agree & Submit Your Comment" button to submit the comment to the Energy Commission Dockets Unit. Written comments may also be mailed or hand delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 93-AFC-3C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with the Dockets Unit will become part of the public record of the proceeding. Additionally, your comments will be posted on the Energy Commission's SPA webpage. Questions about staff's analysis should be directed to Joseph Douglas, Compliance Project Manager, at (916) 653-4677, or by email to joseph.douglas@energy.ca.gov.

For further information on how to participate in this proceeding, please contact the Energy Commission Public Adviser's Office at (916) 654-4489, or at (800) 822-6228 (toll free in California), or by e-mail at 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.

Enclosure: Staff Analysis

Mail List #784

SACRAMENTO POWER AUTHORITY (93-AFC-3C)
Petition for Modification of Cogeneration Facilities
EXECUTIVE SUMMARY
Prepared by Joseph Douglas
September, 2013

INTRODUCTION

On May 16, 2013, Sacramento Power Authority (SPA) filed a petition with the California Energy Commission (Energy Commission) to amend the Energy Commission Final Decision (Decision) for the Campbell Cogeneration Project (SPAC). Staff has completed its review of all materials received.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's 1994 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).

This analysis contains staff's evaluation of SPA's proposal to change Condition of Certification **EFF-1**.

PROJECT LOCATION AND DESCRIPTION

The SPAC is a 158-megawatt cogeneration project that was certified by the Energy Commission on November 30, 1994, and began commercial operation in 1997. The facility is located in the City of Sacramento, in Sacramento County. The SPA is a joint powers authority formed by the SMUD and the Sacramento Municipal Utility District Financing Authority (SFA) in 1993 for the purpose of owning and operating the Campbell Soup Project and related facilities for electric power generation.

DESCRIPTION OF PROPOSED MODIFICATIONS

Due to the loss of the Campbell food processing plant steam host, SPA requests a modification of existing Condition of Certification **EFF-1** to allow the operation of SPAC in the absence of a steam host, without being required to demonstrate compliance with the California Code of Regulations governing cogeneration facilities. SPA is also requesting to install a blind flange on the export steam line to reduce energy losses by allowing the steam to be used in the power plant rather than being directed to a steam host.

NECESSITY FOR THE PROPOSED MODIFICATIONS

On September 27, 2012, Campbell Soup Supply Company, L.L.C. (CSSC), made a public announcement that it would close its South Sacramento facility in 2013. On October 30, 2012, the CSSC provided official written notice to the Sacramento Municipal Utility District (SMUD) of their intent to close the CSSC's Sacramento facility and terminate the Steam Sales Agreement (SSA) between SMUD and CSSC effective October 30, 2013. The termination of the SSA leaves SPAC without a viable steam host. On May 9, 2013, CSSC shut down all steam systems and ceased receipt of steam from SPAC.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical area sections contained in this Staff Analysis include staff-recommended changes to the existing Condition of Certification **EFF-1** that would reduce potential impacts resulting from the proposed modifications to less than significant levels. A summary of staff's conclusions reached in each technical area are summarized in the **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 the technical or environmental areas of Air Quality, Biological Resources, Cultural Resources, Geological Hazards and Resources, Hazardous Materials Management, Land Use, Noise and Vibration, Paleontological Resources, Public Health, Socioeconomics, Soil and Water, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management, and Worker Safety and Fire Protection are not affected by the proposed changes, and no revised or new conditions of certification are needed to ensure the SPAC remains in compliance with all applicable LORS for these areas.

Staff determined, however, that the technical area of Facility Design would be affected by the proposed project changes and has proposed revising Condition of Certification **EFF-1** to assure compliance with LORS and to reduce potential environmental impacts to a less than significant level. The proposed revisions to Condition of Certification **EFF-1** are provided in the **Facility Design** section of the Staff Analysis.

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

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			New or Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality	X			
Biological Resources	X			

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

*There is no possibility that the proposed modifications would have a significant effect on the environment, and the modifications would not result in a change 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)).

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that with its proposed changes to Condition of Certification **EFF-1** the following required findings mandated by Title 20, California Code of Regulations, section 1769 (a)(3) can be made and recommends approval of the petition by the Energy Commission:

- A. The modification will not change the findings in the Energy Commission’s Final Decision pursuant to Title 20, California Code of Regulations, section 1755;
- B. There will be no new or additional unmitigated, significant environmental impacts associated with the proposed changes;
- C. The facility will remain in compliance with all applicable LORS;
- D. The changes will be beneficial to SPA because it will alleviate the impact of the closure of the CSSC facility; and
- E. There has been a substantial change in circumstances—the closure of the CSSC—since the Energy Commission certification, thus justifying the change.

SACRAMENTO POWER AUTHORITY (93-AFC-3C)
Petition for Modification of Cogeneration Facilities
Staff Analysis: FACILITY DESIGN
Prepared by Shahab Khoshmashrab

INTRODUCTION

According to Public Resources Code, section 25134, Sacramento Power Authority's Campbell Cogeneration Project (SPAC) is subject to the following requirements:

- A. At least 5 percent of the cogeneration project's total annual energy output shall be in the form of useful thermal energy.
- B. Where useful thermal energy follows power production, the useful annual power output plus one-half the useful annual thermal energy output equals not less than 42.5 percent of any natural gas and oil energy input.

Under Energy Commission Condition of Certification **EEF-1**, Section 25134 applies to SPAC without exception, and complying with it requires the presence of a steam host to make use of the "useful annual thermal energy" output of SPAC. However, SPAC's current steam host, Campbell Soup Supply Company, L.L.C. (CSSC), closed its Sacramento facility and will no longer need steam from SPAC, effective October 31, 2013. This will leave SPAC legally unable to operate because compliance with Section 25134 is only possible with the presence of a steam host. The Sacramento Municipal Utility District, acting on behalf of the Sacramento Power Authority (SPA), is in the process of identifying a possible new steam host for SPAC. It is not clear if the new owners of CSSC's Sacramento facility will be able to use the steam produced at the SPAC plant.

Therefore, the SPA requests that **EEF-1** be revised to allow the SPAC to operate, beyond October 31, 2013, as a cogeneration plant when a steam host is available, and at which time Section 25134 would apply to the facility, and as a combined-cycle plant when no steam host is available, and at which time Section 25134 would not apply. SPA also requests to install a blind flange on the export steam line to reduce energy losses.

ANALYSIS

At this time, there is no apparent opportunity for SPAC to continue as a cogeneration facility, but it is able to operate as a combined-cycle facility without making any physical alterations because the existing steam turbine generator (STG) has sufficient capacity to absorb all the steam not sent to a steam host. In fact, the absence of a steam host would result in the project generating more electricity with the same quantities of fuel, becoming a more efficient electric generator facility. The steam sent to the host is drawn out of the heat recovery steam generator (HRSG) and contains a substantial amount of thermal energy. This steam is generated in the HRSG at a certain rate of thermal efficiency. If, upon exiting the HRSG, this steam is rerouted back into the power plant's power cycle instead of being delivered to a host, it would then generate additional

electricity in the STG without burning any additional fuel, resulting in an increase in the plant's overall thermal efficiency.

Consequently, staff agrees with the requested changes to **EFF-1** and to the closing off of the export steam line. Staff proposes no other changes or analysis as related to power plant efficiency.

CONCLUSIONS AND RECOMMENDATIONS

Staff believes that the requested changes to **EFF-1** and the closing off of the export steam line would result in no new or additional significant environmental impacts that were not previously analyzed for this project.

AMENDED CONDITIONS OF CERTIFICATION

Staff recommends modification of the following existing Condition of Certification. **Bold** and **underlined** is used to indicate new language. ~~Strikethrough~~ is used to indicate deleted language.

EFF-1 **For periods when a suitable steam host is accepting steam,** ~~the facility~~ shall be operated in accordance with the requirements of Public Resources Code section 25134. **For all other periods, Public Resources Code Section 25134 shall not apply to the facility.**

Protocol: The project owner shall maintain monthly records of: 1) fuel consumption in the gas turbine and HRSG duct burner (including startup and shutdown); 2) electrical energy produced; and 3) net thermal use derived from cogeneration steam. Based upon these records, the project owner shall annually prepare calculations of the operating standard and efficiency standard achieved by the plant, showing how the plant meets the minimum required standards (as applicable).

Verification: The project owner shall maintain the above records, and the above calculations showing compliance with the required standards **(as applicable)**, at the project site, and make them available for audit by the CEC CPM at any reasonable time. The project owner shall submit the above calculations of the operating standard and efficiency standard, showing compliance with the required standards **(as applicable)**, to the CEC CPM in each Annual Compliance Report following first power generation from the plant.