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CALIFORNIA
ENERGY COMMISSION

STATEMENT OF STAFF APPROVAL OF POST CERTIFICATION CHANGE

SUTTER ENERGY CENTER

(97-AFC-02C)

On October 17, 2019, Calpine Construction Finance Company, LP (Calpine CCFC Sutter Energy, LP) (project owner) (97-AFC-02C) filed a petition (TN#: 230269) with the California Energy Commission (CEC) to modify the Final Commission Decision for the Sutter Energy Center. The project owner is requesting to modify Air Quality Condition of Certification AQ-32 to enhance operational flexibility.

The combined-cycle, 578-megawatt, natural gas-fired facility was certified by the CEC on April 14, 1999 and began commercial operation on July 2, 2001. The Sutter Energy Center (SEC) is located adjacent to Calpine's Greenleaf Unit #1 cogeneration power plant, approximately seven miles southwest of Yuba City, on South Township Road near the intersection with Best Road.

DESCRIPTION OF PROPOSED CHANGE

This petition seeks to remove subsections 5 and 6 of Condition of Certification AQ-32 to conform the condition to requested changes to the SEC's Title V Operating Permit.[1]

The removal of subsections 5 and 6 of Condition AQ-32 would remove the limitations on startup and shutdown hours for the SEC as follows: (Text to be removed is in ~~strikethrough~~; new text is in **bold and underline**)

AQ-32

(1). Combined-Cycle Gas Turbine Generator (CTG) startups are defined as the time period commencing with the introduction of fuel flow into the gas turbine and ending at the start of the first hour period when Nitrogen oxides (NOx) concentrations do not exceed 2.5 parts per million, volumetric dry (ppmvd) at 15% Carbon dioxide (O2) averaged over 1-hour and the Carbon monoxide (CO) concentrations do not exceed 4.0 parts per million (ppm) at 15% O2 averaged over 1 hour.

(2). For each CTG, a startup shall not exceed 360 consecutive minutes.

[1]On September 21, 2018 the CEC approved a petition to change subsections 5 and 6 of Condition AQ-32 for the Sutter Energy Center, LLC by revising the total number of startup and shutdown events.

(3). Shutdowns are defined as the time period commencing with a 15-minute period during which the 15-minute average NOx concentrations exceed 2.5 ppmvd at 15% O_2 or the 15-minute average CO concentration exceeds 4.0 ppm at 15% O_2 and ending when fuel flow to the gas turbine is discontinued.

(4). For each CTG, a shutdown shall not exceed 60 consecutive minutes.

(5). ~~The maximum duration of startups for both CTGs shall be 800 hours per year and 204 hours per calendar quarter.~~**Deleted**

(6). ~~The maximum duration of shutdowns for both CTGs shall be 600 hours per year, and 152 hours per calendar quarter.~~**Deleted**

(7). Compliance with the above yearly limits shall be calculated based on a rolling 12-month average.

(8). All emissions during startups and shutdowns shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

(9). For each duct burner the total hours of combusting fuel shall not exceed 5,460 per calendar year.

(10). For each CTG the total hours of Power Augmentation Steam Injection shall not exceed 2,000 hours per calendar year.

(11). The maximum hourly emissions from each gas turbine/duct burner are given in the table below and shall be averaged over a rolling three-hour period, except for the NOx emissions and all hourly startup emission rates, which shall be averaged over a one-hour period. Additionally, excepting the total emissions per startup and total emissions per shutdown which are not averaged over any time frame.

NECESSITY OF THE PROPOSED CHANGE

The proposed change is necessary to conform the CEC's conditions of certification to requested changes to the Feather River Air Quality Management District (District) Title V permit to remove the limitations on the startup and shutdown hours for the facility. This change would also allow the facility operational flexibility to respond to grid reliability needs and market conditions.

The petition requesting the project change has been docketed and is available on the Energy Commission's webpage for this facility at:
https://ww2.energy.ca.gov/sitingcases/sutterpower/index.html

CEC technical staff reviewed the petition for potential environmental effects and consistency with applicable laws, ordinances, regulations, and standards (LORS). Because no physical changes would occur to the facility or at the site, staff determined the following technical areas are not affected by the proposed changes to Condition AQ-

32: Biological Resources, Cultural Resources, Facility Design, Geological and Paleontological Resources, Hazardous Materials Management, Land Use, Noise and Vibration, Power Plant Efficiency, Power Plant Reliability, Public Health, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management, and Worker Safety and Fire Protection.

In the technical area of Air Quality, staff has concluded that the changes to Condition AQ-32 would not cause a significant impact on the environment or cause the project to not comply with all applicable LORS. In addition, the project change would not affect any population including the environmental justice population as shown in **Environmental Justice Figure 1, Figure 2**, and **Table 1**.

Staff's conclusions for each technical or environmental area are summarized in the table on the following page.

Summary of Staff Conclusions Table 1

Technical/Environmental Areas Reviewed	Technical Area Not Affected	CEQA			Conforms with Applicable LORS	Revised Condition of Certification Recommended
		Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact		
Air Quality				X	X	X
Biological Resources	X					
Cultural Resources	X					
Efficiency and Reliability	X					
Facility Design	X					
Geological and Paleontological Resources	X					
Hazardous Materials Management	X					
Land Use	X					
Noise and Vibration	X					
Power Plant Efficiency	X					
Power Plant Reliability	X					
Public Health	X					
Socioeconomics	X					
Soil and Water Resources	X					
Traffic and Transportation	X					
Transmission Line Safety and Nuisance	X					
Transmission System Engineering	X					
Visual Resources	X					
Waste Management	X					
Worker Safety and Fire Protection	X					

Staff concludes the following for the technical area affected by the proposed change:

Air Quality. The project owner proposes to delete Condition **AQ-32 part (5)** and **AQ-32 part (6)**, which currently limit the number of SEC startup and shutdown hours on a quarterly and annual basis. The project owner does not request making any change to the existing startup and shutdown emissions limits. Although emissions during startup

and shutdown events count towards compliance with the daily, quarterly, and annual mass emissions limits, no changes in the daily, quarterly, or annual limits are proposed.

The removal of parts **(5)** and **(6)** of **AQ-32** would not cause the project to fail to comply with any applicable Feather River Air Quality Management District) rules and regulations. CEC staff have reviewed the project's modified Title V Operating and Title IV Acid Rain permits from the District. The project would continue to comply with the requirements of each permit.

The deletion of the parts **(5)** and **(6)** of **AQ-32** would not affect the existing facility wide emission limits and would not increase daily, quarterly, or annual emissions for any criteria pollutant. Therefore, there is no possibility that this change would have a significant effect on the environment.

Environmental Justice

Environmental Justice – Figure1 shows 2010 census blocks in the six-mile radius of the SEC site 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 Yuba City Unified School District (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 this population is 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 SEC site.

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

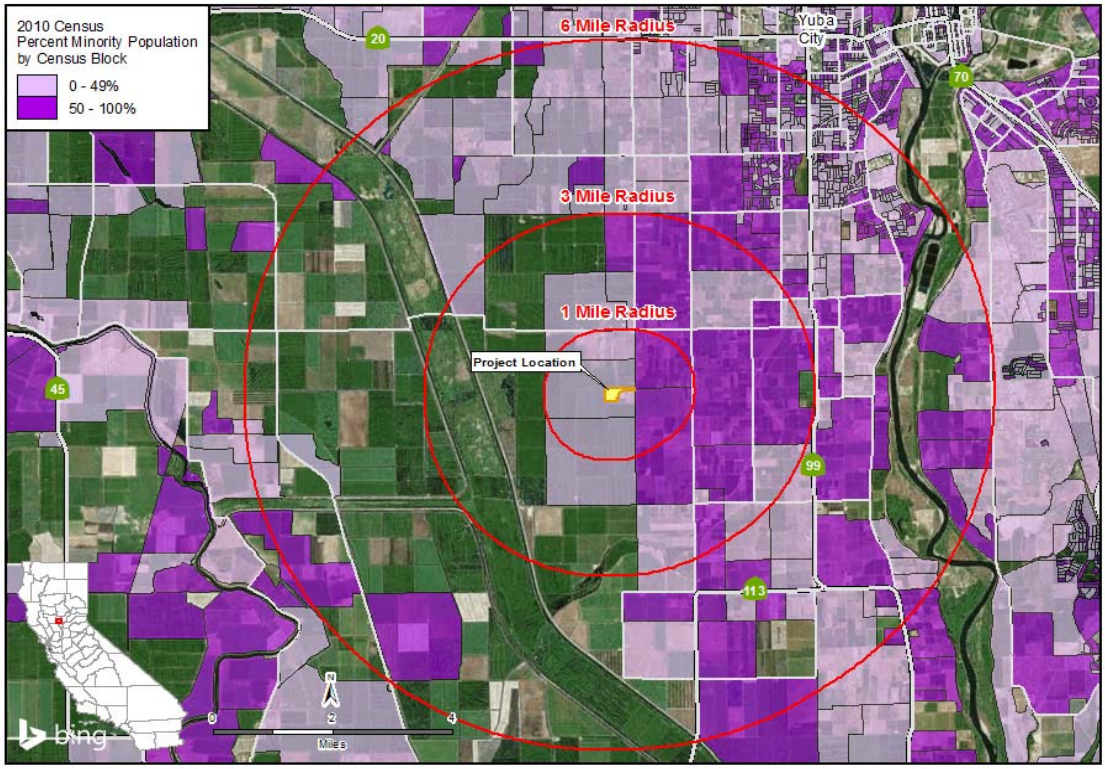
SCHOOL DISTRICT IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Franklin Elementary	478	119	24.9%
Winship Robbins Elementary	1,787	762	42.6%
Yuba City Unified	13,236	9,538	72.1%
REFERENCE GEOGRAPHY			
Sutter County	23,690	14,897	62.9%
Source: CDE 2018. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2017-2018, <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

Air Quality is the only technical area that considers EJ that would be affected by the project change. In the Air Quality analysis, staff concluded that there is no possibility that a significant effect on the environment could occur by removing parts **(5)** and **(6)** of Condition of Certification **AQ-32**. The project change would not cause significant air quality impacts for any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice Figure 1**, **Figure 2**, and **Table 1**.

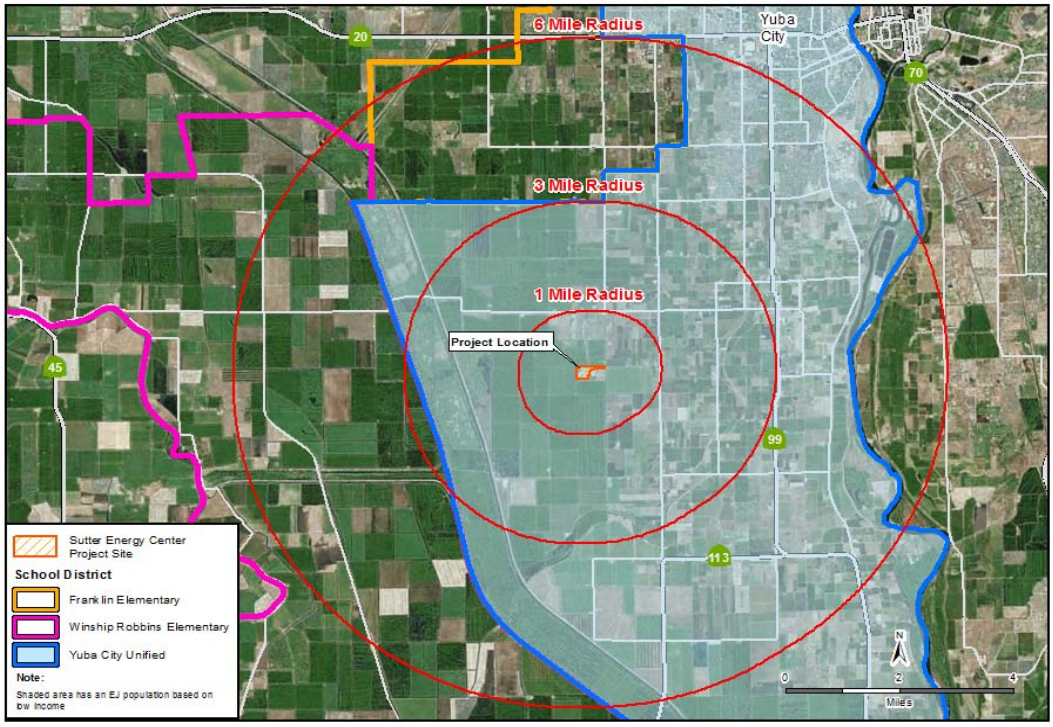
ENVIRONMENTAL JUSTICE - FIGURE 1
Sutter Energy Center - Census 2010 Minority Population by Census Block



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION
SOURCE: Census 2010 PL 94-171 Data

ENVIRONMENTAL JUSTICE - FIGURE 2

Sutter Energy Center - Environmental Justice Population Based on Low Income



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: TIGER Data, CA Dept of Education DataQuest

ENERGY COMMISSION STAFF DETERMINATION

Section 1769(a)(3)(A), Title 20, California Code of Regulations states, "(s)taff shall approve the change where staff determines:

(i) that there is no possibility that the change may have a significant effect on the environment, or the change is exempt from the California Environmental Quality Act;

(ii) that the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and

(iii) that the change will not require a change to, or deletion of, a condition of certification adopted by the commission in the final decision or subsequent amendments."

Regarding petitions to change Air Quality conditions of certification, section 1769(a)(3)(B) states, "(s)taff, in consultation with the air pollution control district where the project is located, may approve any change to a condition of certification regarding air quality, provided:

(i) that the criteria in subdivisions (a)(3)(A)(i) and (ii) are met; and

(ii) that no daily, quarterly, annual or other emission limit will be increased as a result of the change."

CEC staff has determined that the proposed project change meets the criteria for approval at the staff level, and therefore the petition does not require approval by the CEC at a noticed business meeting or hearing.

WRITTEN COMMENTS

Any person may file an objection to staff's determination within 14 days of the date of this statement on the grounds that the project change does not meet the criteria set forth in section 1769(a)(3)(A) and (B). As specified in 1769(a)(3)(C), any such objection must make a showing supported by facts that the change does not meet the criteria in subdivision (a)(3)(A) and (B). Speculation, argument, conjecture, and unsupported conclusions or opinions are not sufficient to support an objection to staff approval. Absent any such objections, this staff approval will become final 14 days after this statement is filed in the docket.

This statement is being sent electronically to the SEC listserv. Any person may comment on the petition. 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,[2] and follow the instructions in the online form. Be sure to include the facility name in your comments.

Written comments may also be mailed to:

California Energy Commission
Docket Unit, MS-4
Docket No.97-AFC-02C
1516 Ninth Street
Sacramento, CA 95814-5512

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

If you have questions about this statement, please contact John Heiser, Project Manager, at (916) 653-8236 or via email at John.Heiser@energy.ca.gov

For information on public participation, please contact the CEC's Public Advisor at (916) 654-4489, or at (800) 822-6228 (toll-free in California). The Public Advisor's Office can also be contacted via email at publicadvisor@energy.ca.gov.

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

Sutter Energy Center listserv

[2] https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=97-AFC-02C

SUTTER ENERGY CENTER
POST CERTIFICATION CHANGE OF AQ-32

AIR QUALITY

Jacquelyn Record

INTRODUCTION

On October 17, 2019, CCFC Sutter Energy, LLC (project owner) filed a petition for modification[3]to amend the Final Decision of the Sutter Energy Center (SEC or Project). Specifically, the project owner requests to remove Condition of Certification **AQ-32 part (5)** and **AQ-32 part (6)** to align the Energy Commission's permit with the already changed SEC's Title V Operating Permit with the Feather River Air Quality Management District (District or FRAQMD). The request is to remove the total number of startup hours from **AQ-32**. The project owner cites changing electricity market conditions that require SEC to increase operational flexibility to meet grid reliability needs.

The Energy Commission's Siting Regulations require that an analysis be conducted to address the potential impacts the proposed modifications may have on the environment, and to mitigation for any potentially significant adverse impacts (Cal. Code Regs., tit. 20,§1769(a)(1)(D)). The regulations also require a discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards (LORS) (Cal. Code Regs., tit. 20,§1769 (1)(a)(E)).

SCOPE OF ANALYSIS

The scope of this analysis is to determine whether the requested changes meet the criteria below pursuant to Title 20, California Code of Regulations, section 1769(a)(3).If the change meets these criteria, the staff-approved changes do not need to be approved at an Energy Commission Business Meeting. The regulation requires that CEC staff, in consultation with the air pollution control district where the project is located, make the following findings before issuing a statement of staff approval:

- That there is no possibility that the change may have a significant effect on the environment, or the change is exempt from the California Environmental Quality Act;
- That the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and

[3]CCFC 2019

- That no daily, quarterly, annual or other emission limit will be increased as a result of the change.

ANALYSIS OF IMPACTS

The project owner proposes to delete Condition **AQ-32 part (5)** and **AQ-32 part (6)**, which currently limit the number of SEC startups and shutdown hours on a quarterly and annual basis. The project owner does not request making any change to the existing startup and shutdown emissions limits. Although emissions during startup and shutdown events count towards compliance with the quarterly and annual mass emissions limits, no changes in the daily, quarterly or annual limits are proposed.

With the integration of renewable sources of energy to the grid, facilities such as SEC have needed to cycle on and off much more frequently than originally anticipated when the project was approved in 1999. This increase in startup and shutdown cycling has caused the SEC to undergo more startup/shutdown hours than was anticipated when the original facility was permitted.

On June 15, 2018, the project owner filed a petition to modify (CCFC 2018) the California Energy Commission's Final Decision (Decision) for SEC. This 2018 Petition sought to combine the number of startup hours and shutdown hours for the two combustion turbines combined in the same two parts of Air Quality Condition of Certification **AQ-32** to provide a degree of improved flexibility. The current petition requests removal of these hours, relying instead on emissions limits to ensure environmental protection, as discussed further below.

The need for increased flexibility is expected to continue and will likely become even more pronounced as increasing amounts of largely intermittent wind and solar renewable generation are integrated into the grid to meet the state's 2030 Renewable Portfolio Standard goals. Facilities like SEC are being operated for fewer hours on an annual basis but are experiencing startups and shutdowns more often than anticipated when originally permitted. The project owner is not requesting an increase in any daily, quarterly, annual or other emission limits for SEC.

This analysis will evaluate each of the currently requested changes and determine whether each requested change meets all three criteria subparts established in Title 20, California Code of Regulations, section 1769(a)(3)(B).

Environmental Impact

Currently, after approval of the 2018 Petition, **AQ-32 part (5)** and **AQ-32 part (6)** limit the cumulative hours of startups and shutdowns of combustion turbine generator (CTG) Unit 1 and Unit 2. **AQ-32 part (5)** limits the startup hours for both CTGs, cumulatively, to 800 hours annually and 204 hours quarterly. Similarly, **AQ-32 part (6)** limits the shutdown hours for both CTGs, cumulatively, to 600 hours annually and 152 hours quarterly. Because the initial evaluation assumed a worst-case scenario of SEC operating 8,760 hours/year, the emission limits in the Decision are unlikely to be exceeded.

With the removal of startup and shutdown hours on a quarterly and annual basis, the project would be allowed to cycle more than previously anticipated. However, it would continue to meet all daily, quarterly, and annual emissions limits in other parts of **AQ-32**. As of 2018 and 2019, the number of startups and shutdown hours has been historically low compared to the current cumulative hourly limits as shown in **Air Quality Table 1**. The table shows the project's total startup hours quarterly ranged from a minimum of 5 percent of the total startup hours in the fourth quarter to a maximum of 23 percent of the total allowed startup hours which occurred in the third quarter. The table shows in 2018 the project's total startup hours quarterly ranged from a minimum of 14 percent of the total startup hours in the fourth quarter to a maximum of 32 percent of the total allowed startup hours which occurred in the third quarter.

The table shows the 2018 project's total shutdown hours during each quarter were approximately 2 percent of the total shutdown hours in each quarter. The table shows the project's total 2018 shutdown hours quarterly ranged from a minimum of 1 percent of the total shutdown hours in the fourth quarter to a maximum of 6 percent of the total allowed shutdown hours which occurred in the third quarter.

Air Quality Table 1
Quarterly and Annual
Startups and Shutdowns for 2018 and 2019

	2018		2019	
	Unit 1 and Unit 2	Unit 1 and Unit 2	Unit 1 and Unit 2	Unit 1 and Unit 2
	SU (hours)	SD (hours)	SU (hours)	SD (hours)
1st Quarter	55.7	6.1	35.3	1.3
2nd Quarter	53.6	6.2	37.8	2.9
3rd Quarter	65.8	9.7	47.7	3.1
4th Quarter	27.7	2.3	9.6	0.44
Annual Total	202.8	24.2	130.4	7.7

Source:
SEC Quarterly Reports from 2018 and 2019.
The quarterly limit for SU= 204 hours, limit for SD=152 hours
The annual limit for SU = 800 hours, limit for SD = 600 hours
Notes:
SU = Startup
SD = Shutdown

In 2019, according to the District Statement of Basis (FRAQMD 2019b), the project operated for 2,708 hours. Since the facility's permitted potential to emit (PTE) is based on operating 8,760 hours per year, the actual annual emissions are significantly less than the facility's PTE. The difference in emissions between potential and actual annual emissions would ensure any increase of startup and shutdown hours would not cause the PTE to be approached or exceeded.

LORS Compliance

The requested change would not affect any applicable permit limit requirements for this facility. The SEC is expected to continue to comply with the same applicable Title V requirements for each combustion turbine generator (CTG), including District regulations (FRAQMD Rules 4.5, 10.1, 10.12) and federal regulations (New Source Performance Standards 40 CFR Part 60, Subpart Db – NSPS, Subpart GG (now KKKK), Subpart 60.7(c) and Acid Rain Program 40 CFR Part 72). The project modification would not affect the project's ability to continue to comply with all applicable LORS.

Emissions Limits

As stated above, the current **AQ-32 parts (5)** and **(6)** currently limit the allowable startup and shutdown hours. The request to remove the startup and shutdown cumulative hourly limitations would not increase facility emissions that would continue to be controlled by other parts of **AQ-32** to ensure the project would not cause any significant impact on air quality. Air Quality Condition of Certification **AQ-32** has fourteen parts. **AQ-32 part (2), AQ-32 part (3)** and **AQ-32 part (4)** limit the

amount of time the turbines can operate in a startup or shutdown condition and defines a startup and shutdown. **AQ-32 part (11)** limits the mass emissions during each startup and shutdown occurrence, by hour and event. **AQ-32 part (12)** limits the facility's daily mass emissions and **AQ-32 part (13)** and **AQ-32 part (14)** limit emissions on a quarterly and annual basis. These parts would all remain in place and no changes to them are requested.

The facility would still be required to comply with all daily, quarterly, and annual (calendar year) mass emission limits at all times. Compliance with the carbon monoxide (CO) and nitrogen oxides (NOx) (measured as nitrogen dioxide [NO_2]) limitations would be verified by a continuous emissions monitoring system (CEMS) that would be in operation during all operating modes, including startup and shutdown. Compliance with the volatile organic compound (VOC), sulfur oxides (SOx) (measured as sulfur dioxide [SO_2]), and particulate matter with a diameter of 10 micrometers or less (PM_{10}) mass emission limits would be verified through annual source testing to verify emission factors used throughout the year for verification of emission limits using the quantity of fuel use.

To further describe the emissions profile during startup and shutdown, the existing permit limits for each turbine are as follows:

Air Quality Table 2
Sutter Energy Center Combustion Turbine Hourly Emission Limits
(CTGs and Duct Burners)

Pollutant	In All Modes of Operation, Except Startup and Shutdown (lbs/hour)	Startup (lbs/hour)	Startup (lbs/startup)	Shutdown (lbs/shutdown)
VOC	3.51	16	59	16
NOx	19.1	175	680	80
SOx	4.02	3.7	22.2	3.7
PM10	11.5	9	54	9
CO	34.3	902	2,514	100

Source: CCFC 2019, FRAQMD Title V Operating Permit (FRAQMD 2019a)

The project owner has requested to retain the existing permitted mass emission limits per startup and shutdown. There are several air quality conditions of certification that currently limit mass emissions per startup and shutdown. As shown in **Air Quality Table 2**, the facility would be required to ensure an hourly emission limit even during startups and shutdowns. Air Quality Condition of Certification **AQ-32 part (11)** through **AQ-32 part (14)** would continue to limit permitted hourly, daily, quarterly, and annual mass emissions on the CTGs. Similarly, Air Quality Condition of Certification **AQ-32 part (1)** through **AQ-32 part (3)** would continue to limit maximum concentrations for the CTGs.

Air Quality Table 3
Sutter Energy Center Combustion Turbine Hourly Heat Input Limits
(CTGs and Duct Burners)

Emission Unit	MMBtu/hour	MMBtu/day [a]	MMBtu/year [b]
CTG-1	1,900	45,600	16,644,000
CTG-2	1,900	45,600	16,644,000
Duct Burner-1	170	4,080	928,200
Duct Burner-2	170	4,080	928,200

(a) Based on 24 hour-day
(b) Based on 365 days/year

Furthermore, as shown in **Air Quality Table 3**, Condition of Certification **AQ-31** limits the maximum heat input measured in MM (million) Btu (British thermal unit) for each combustion turbine and duct burner, on an hourly, daily, and annual limit. There would be no potential for exceeding the currently permitted hourly, daily, and annual limits without the knowledge of the air district or Energy Commission staff as all emissions including startups, shutdowns, and baseload operations are tracked using CEMS and/or fuel use and emissions factors and any instance of noncompliance is reported.

Since there would be no increase in SEC's PTE, there are no potentially significant adverse effects on the environment that would result from the proposed modification. Staff recommends modifying Condition of Certification **AQ-32** and removing **part (5)** and **part (6)** as described below.

CONCLUSIONS

With the deletion of parts **(5)** and **(6)** of **AQ-32**, the project is expected to continue to comply with all applicable FRAQMD rules and regulations, and there is no possibility that this change would have a significant effect on the environment.

Energy Commission staff have reviewed the project's modified federally enforced Title V Operating Permit and Title IV Acid Rain Permit from the District, and the project would also continue to comply with those requirements.

The deletion of the parts **(5)** and **(6)** of **AQ-32** would not affect the existing facility wide emission limits and would not increase daily, quarterly, or annual emissions for any criteria pollutant.

CONDITIONS OF CERTIFICATION CHANGES

Staff proposes to approve the petition and delete Air Quality Conditions of Certification **AQ-32 part (5)** and **AQ-32 part (6)**. This change to the project's CEC license would not cause any additional air quality impacts or adversely affect the ability of the project to comply with LORS. The requested changes have been reviewed by FRAQMD staff and are already incorporated into the facility's Title V permit.

There would be no increase in SEC's PTE and no other changes to permitted emissions limits are proposed. There would be no potential for exceeding the currently permitted hourly, daily, and annual limits, as all emissions including startup and shutdowns, are included in emissions limits and because operating procedures monitor CO and NOx emissions using CEMS. Likewise, VOCs, SOx, and PM_{10} are monitored with emissions factors derived from source testing and fuel use. Therefore, there are no potentially significant adverse effects on the environment that would result from the proposed condition of certification modifications. Staff recommends deletion of air quality conditions of certification **AQ-32 part (5)** and **AQ-32 part (6)**.

AMENDED CONDITION OF CERTIFICATION

The following text in ~~strikethrough~~ indicates deleted language used to implement changes in this proposed change. **Bold underline** text indicates additions to the conditions of certification.

AQ-32 The following definitions and limitations shall apply:

(1). Combined-Cycle Gas Turbine Generator (CTG) startups are defined as the time period commencing with the introduction of fuel flow into the gas turbine and ending at the start of the first hour period when Nitrogen oxides (NOx) concentrations do not exceed 2.5 parts per million, volumetric dry (ppmvd) at 15% Carbon dioxide (O2) averaged over 1-hour and the Carbon monoxide (CO) concentrations do not exceed 4.0 parts per million (ppm) at 15% O2 averaged over 1 hour.

(2). For each CTG, a startup shall not exceed 360 consecutive minutes.

(3). Shutdowns are defined as the time period commencing with a 15-minute period during which the 15-minute average NOx concentrations exceed 2.5 ppmvd at 15% O2 or the 15-minute average CO concentration exceeds 4.0 ppm at 15% O2 and ending when fuel flow to the gas turbine is discontinued.

(4). For each CTG, a shutdown shall not exceed 60 consecutive minutes.

(5). ~~The maximum duration of startups for both CTGs shall be 800 hours per year and 204 hours per calendar quarter.~~**Deleted**

(6). ~~The maximum duration of shutdowns for both CTGs shall be 600 hours per year, and 152 hours per calendar quarter.~~**Deleted**

(7). Compliance with the above yearly limits shall be calculated based on a rolling 12-month average.

(8). All emissions during startups and shutdowns shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

(9). For each duct burner the total hours of combusting fuel shall not exceed 5,460 per calendar year.

(10). For each CTG the total hours of Power Augmentation Steam Injection shall not exceed 2,000 hours per calendar year.

(11). The maximum hourly emissions from each gas turbine/duct burner are given in the table below and shall be averaged over a rolling three-hour period, except for the NOx emissions and all hourly startup emission rates, which shall be averaged over a one-hour period. Additionally, excepting the total emissions per startup and total emissions per shutdown which are not averaged over any time frame.

Maximum Allowable Hourly Emissions from Each Combustion Turbine/Duct Burner (lbs/hour)

Pollutant	In All Modes of Operation, Except Startup and Shutdown (lbs/hour)	Startup (lbs/hour)	Startup (lbs/startup)	Shutdown (lbs/shutdown)
NOx (as NO_2)	19.1 (b)	175 (b)	680	80
CO	34.3 (a)	902 (a)	2514	100
VOC	3.51 (a)	16 (b)	59	16
SOx (as SO_2)	4.02 (a)	3.7 (b)	22.2	3.7
PM10	11.5 (a)	9 (b)	54	9

(a) Based on a 3-hour rolling average, clock hour basis.
(b) Based on a 1-hour average, clock hour basis.

(12). For maximum project daily emissions (lbs/day) are given in the table below:

Pollutant	Maximum Allowable Daily Emissions from the Facility[(a)](lbs/day)
NOx	1,817
CO	6,528
VOC	158
SO2	179
PM10	541

(a) Includes both combustion turbines and both duct burners.

(13). The maximum quarterly emissions for the facility are given in the table below:

Maximum Allowable Quarterly Emissions from the Facility [(a)]

	January March (lbs/quarter)	April-June (lbs/quarter)	July-September (lbs/quarter)	October-December (lbs/quarter)
NOx	102,500	102,500	102,500	102,500
CO	241,600	241,600	241,600	241,600
VOC	11,850	11,850	11,850	11,850
SO2	15,750	15,750	15,750	15,750
PM10	46,200	46,200	46,200	46,200

(a) Includes both combustion turbines and both duct burners.

(14). The maximum annual calendar year emissions (tons/year) for the facility are given in the table below:

Pollutant	Maximum Allowable Calendar Year Emissions from the Facility[(a)] (tons/yr)
NOx	205.0
CO	483.2
VOC	23.7
SO2	31.5
PM10	92.4

(a) Includes both combustion turbines and both duct burners.

Verification: As part of the Quarterly Air Quality Report (as required by **AQ-40**), the facility owner shall provide all data required in this condition.

In the Quarterly Air Quality Reports (as required by **AQ-40**), the facility owner shall indicate the date, time, and duration of any violation to the NOx and VOC limits presented in this condition.

The facility owner shall include in the Quarterly Air Quality Reports (as required by **AQ-40**) daily and annual emissions as required in this condition.

REFERENCES

CCFC 2018, CCFC Sutter Energy, LLC (TN223836). Petition for Modification (Revised) to the Sutter Energy Center (97-AFC-02). Docketed June 15, 2018.

CCFC 2019, CCFC Sutter Energy, LLC (TN230269) Applicant's Petition to Amend AQ-32, Sutter Energy Center (97-AFC-02C), Docketed October 17, 2019.

FRAQMD 2019a, Feather River Air Quality Management Engineering Title V Operating Permit, and Title IV Acid Rain Permit. Received December 16, 2019.

FRAQMD 2019b, Feather River Air Quality Management Engineering Statement of Basis for Renewal of Title V Operating Permit. Received December 16, 2019.