3003 Oak Road, Suite 400
Walnut Creek, CA 94597

Calpine Corporation

Via Next Day Mail

July 2, 2021

Attn: Ms. Lisa Beckham
Air and Radiation Division
Permits Office (Air-3-1)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: Application to Modify Title V and PSD Permits
Thermal Performance Upgrade (TPU) Project
Calpine South Point Energy Center
Title V Permit No. FM-ROP 16-01
PSD Permit No. AZ 98-01-B

Dear Ms. Beckham:

Enclosed is a single hard copy of an application to modify the above-referenced Title V and PSD permits for Calpine's South Point Energy Center (SPEC) in order to install a Thermal Performance Upgrade (TPU) on each combustion turbine, remove the operational limit on the use of supplemental heat and power augmentation, and implement various administrative revisions to the existing permit conditions.

The enclosed application incorporates the items we discussed during our virtual pre-application meeting held on March 17, 2021.

As demonstrated in the application, the permit modification will not trigger minor NSR review.

Proposed revisions to the Title V and PSD permits to incorporate the requested changes are included in the application.

Calpine wishes to install the TPU upgrades in conjunction with its March 2022 maintenance outage. Therefore, we respectfully request that EPA review the application on an expedited basis.

Please contact Dave Williams at (925) 557-2237 or dwilliams@calpine.com if you have any questions, or if Calpine can assist you in any way in expediting the review of the enclosed application.

Sincerely,

Kurt Fetters
Plant Manager

Enclosure

cc: R9AirPermits@epa.gov (with next day mail tracking number)
Dave Williams (Calpine -Manager Regional EHS)
David Shotts (ERM)

Application for Modification to Title V and PSD Permits

Title V Permit No. FM-ROP 16-01
PSD Permit No. AZ 98-01-B

July 2021

Project No.: 0570354

The business of sustainability

ERM

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Signature Page

July 2021

Application for Modification to Title V and PSD Permits

PSD Permit No. AZ 98-01-B
Title V Permit No. FM-ROP 16-01
PSD Permit No. AZ 98-01-B

David Shotts
Partner

Gary J. Napp
Principal Consultant

Environmental Resource Management, Inc.
295 Madison Avenue, Suite 8A
New York, NY 10017

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Acronyms and Abbreviations

Name	Description
ADI	Applicability Determination Index
CO_2	Carbon Dioxide
CO	Carbon Monoxide
CAMD	Clean Air Markets Division
CFR	Code of Federal Regulations
CEMS	Continuous Emissions Monitoring System
EGU	Electric Generating Unit
ESA	Endangered Species Act
EPA	U.S. Environmental Protection Agency
FIP	Federal Implementation Plan
HAP	Hazardous Air Pollutant
HRSG	Heat Recovery Steam Generator
lb/hr	pound per hour
MW	Megawatt
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historical Preservation Act
NO_x	Oxides of Nitrogen
NSPS	New Source Performance Standard
$PM_{2.5}$	Particulate matter $\leq$ 2.5 micrometers in diameter
PM_{10}	Particulate matter $\leq$ 10 micrometers in diameter
PATPFA	Past Actual to Projected Future Actual
PAG	Power Augmentation with Steam
SCR	Selective Catalytic Reduction
SPEC	South Point Energy Center
SUSD	Start-Up and Shutdown
SO_2	Sulfur Dioxide
tpy	tons/year
PSD	Prevention of Significant Deterioration
TPU	Thermal Performance Upgrade
VOC	Volatile Organic Compound

1. INTRODUCTION

Calpine operates the South Point Energy Center (SPEC) located on the Fort Mojave Indian Reservation, in the Mohave Valley, Arizona. The SPEC is a 500 megawatt (MW) natural gas-fired, two-on-one combined cycle electrical generating plant. The facility includes two Siemens Westinghouse Model 501FD2 combustion turbines.

The SPEC operates under a Part 71 Title V Permit, No. FM-ROP 160, that was last issued on September 13, 2018. The Title V permit incorporates conditions from a Prevention of Significant Deterioration (PSD) Permit, No. AZ 98-01-B, that was issued on May 24, 1999 and was last modified on April 19,2005.

Calpine is submitting this application to modify the SPEC Title V permit and the PSD permit to install a Thermal Performance Upgrade on each of the two combustion turbines (TPU or the "Project"), remove redundant operational limitations on the use of supplemental heat (duct firing) and power augmentation, and proposed permit language revisions ("clean ups") to remove outdated and redundant conditions in each of the two permits.

Calpine met with EPA Region 9 (virtually) on March 17, 2021 to discuss the Project and a permitting path. The discussions during that meeting are reflected in this application.

EPA Region 9 stated during the meeting that the SPEC's PSD permit is still active, and that EPA does not have a combined NSR/Title V permitting mechanism. Therefore, the underlying PSD permit No. AZ 98-01-B must also be revised. EPA provided the most recent PSD permit (Ref. 1-1). In this application Calpine addresses revisions to the PSD permit as well as to the SPEC's Title permit.

The remainder of this application is organized as follows:

- Section 2: Existing Facility
- Section 3: Proposed Project and Estimated Emissions
- Section 4: Regulatory Applicability
- Section 5: Revisions to the Title V and PSD Permits
- Section 6: References.

The application includes the following appendices:

- Appendix A - Emissions Calculations
- Appendix B - Permit Application Forms
- Appendix C - Endangered Species Act (ESA) Analysis
- Appendix D - National Historical Preservation Act (NHPA) Analysis
- Appendix E - Title V Permit Markups
- Appendix F - PSD Permit Markups

2. EXISTING FACILITY

This section summarizes the existing emission units operating at the facility and the associated emission limits, and the area's National Ambient Air Quality Standard (NAAQS) attainment status.

2.1 Existing Emission Units and Associated Emission Limits

The SPEC facility is located, on the Fort Mojave Indian Reservation. The Reservation is located along the Colorado River and covers 23,699 acres of land in Arizona and 5,582 acres in Nevada, and has its Tribal headquarters in Needles, California (Ref. 2-1).

The SPEC is a 500 megawatt (MW) natural gas-fired, two-on-one combined cycle electrical generating station. The main emission units are two combustion turbines, Siemens Westinghouse Model 501FD2, and two duct-fired heat recovery steam generators (HRSGs) feeding a single steam turbine generator. The turbines and duct burners are fired exclusively with natural gas. Emissions from these units are controlled with selective catalytic reduction (SCR) systems.

Ancillary equipment at the facility includes the following:

- 11-cell mechanical-draft cooling tower (designated E/U 06) equipped with drift eliminators
- Insignificant sources
  - Diesel fire pump (E/U 04)
  - Diesel storage tank
  - Brine concentrator boiler

The short-term (pound/hour - (lb/hr)) emission limits listed in the Title V permit for each of the two combined cycle units, E/U 01 and E/U 02, are provided in Table 1. Table 2 lists the long-term (tons per year - (tpy)) emission limits for the entire SPEC, which are based on a 12-month rolling average.

Table 1: Current Short-Term Emission Limits for Each Combined Cycle Emission Unit (E/U)

Pollutant	Normal Operation	Operations with Supplemental Heat (Duct Firing) and/or Power Augmentation with Steam (PAG)
NO_x	22.4 lb/hr 3.0 ppmvd @15% O_2 (3-hr avg.)	24.0 lb/hr 3.0 ppmvd @15% O_2 (3-hr avg.)
CO	46.7 lb/hr 10.0 ppmvd @15% O_2 (3-hr avg.)	158.3 lb/hr 35.0 ppmvd @15% O_2 (3-hr avg.)
SO_2	4.47 lb/hr	4.72 lb/hr
VOC	83.1 lb/hr	83.1 lb/hr
PM_{10}	18.3 lb/hr	22.8 lb/hr

- Additional operational and emission limits:
  - The emission limits apply at all times except during conditions of startup and shutdown.
  - Operation of E/Us 01 or 02 with supplemental heat (duct firing) and/or power augmentation with steam (PAG) is limited to 3,000 hours per year each.
  - Startup and shutdown periods shall not exceed 480 hours per year per emission unit.
  - Each startup episode shall be limited to a maximum of 4 hours.
  - During periods of startup, the emissions of CO shall not exceed 3,000 lb/hr and 4,800 lb/event.

Ref: Table II-2 of Title V Permit to Operate No. FM-ROP 16-01, September 13, 2018

Table 2: Current Annual Emission Limits for the South Point Energy Center (tons/year)

Pollutant	Facility Allowable Emissions (tpy)
NO_x	271.7
CO	1,297.6
SO_2	39.9
VOC	439
PM_{10}	186.5

Emissions include startups and shutdowns, and are based on a 12-month rolling average.

Ref: Table II-1 of Title V Permit to Operate No. FM-ROP 16-01, September 13, 2018

3. PROPOSED PROJECT AND ESTIMATED EMISSIONS

The Project will include various administrative permit revisions as well as a TPU on the Siemens-Westinghouse Model 501FD2 combustion turbines of combined cycle Units No. 1 and 2 (E/U 1 and E/U 2). The TPU will improve the turbines' heat rate and allow the generation of more power from the same amount of fuel. The improved efficiency will be obtained by increasing the turbine firing temperature, mass flow and other enhancements to the turbine components. All modifications will be to turbine hardware within the existing combustion turbine shells.

The scope includes replacement of hot gas path components such as turbine blades, nozzles, and combustion hardware that are not currently designed to operate at such high temperatures and must be replaced to avoid degradation. The replacement components will be functionally identical to the existing equipment except that they will be made from advanced materials that can withstand higher temperatures. Other turbine components and control system enhancements will also be replaced to enhance turbine efficiency.

Calpine is not requesting any increases in the lb/hr or annual emission limits listed in Tables 1 and 2, respectively. The current maximum emission limits are based on the maximum fuel firing rates, which occur at the lowest ambient temperatures projected for the facility. The improved turbine efficiency achieved by the TPU will enable the facility to increase output during high ambient temperature conditions; however, the emission rates will not exceed the levels that are the basis for the existing permit limits.

The project will not affect the operation of the low NO_x combustors or the selective catalytic reduction (SCR) NO_x emission control systems.

There will be no earth disturbance activities and no construction/demolition of structures.

It is anticipated that construction of the project will be completed within an outage scheduled for March 2022.

Calpine's estimated performance for the TPU based on its prior experience with this type of upgrade is as follows:

- MW improvement: 14.8 MW
- Heat rate improvement: 415 Btu/kWh
- Heat input rate Increase: 102.6 MMBtu/hr

As noted in Table 1, one of the current operational limitations for E/U 01 and E/U 02 is that operation with duct firing and/or PAG is limited to 3,000 hours per year each and higher emission limits apply to these operating modes. Calpine requests that the operational limit on duct firing and steam augmentation be deleted from the permits. The units are subject to the annual emission limits identified in Table 2 above and demonstrate compliance with these annual limits using the facility continuous emissions monitoring system, which calculates monthly rolling 12-month emission totals for the facility. The operating hour limit is therefore redundant and unnecessary for compliance with annual emission limitations. The markups in Appendix E and Appendix F reflect the proposed removal of the 3,000 hours/year limit.

3.1 Emission Calculations and Methodology

The facility is operating under a Title V major source operating permit issued by EPA Region 9. Applicability for modifications under the Federal Minor NSR Program in Indian Country is outlined in 40 CFR §49.153 (ii) which specifies use of up to three steps to determine applicability for each regulated NSR pollutant for modifications at an existing major source. For this application, the relevant steps are:

- For the pollutant being evaluated, determine whether the proposed modification is subject to review under the applicable major NSR program. A modification is defined as a physical change or a change in the method of operation that results in an emissions increase of one or more regulated pollutants. The Project does include both a physical change (e.g., new different turbine blades) and a change in the method of operation (higher firing temperature). Because the potential heat input of each turbine is expected to increase during certain ambient temperature conditions as a result of the TPU, the potential emissions will increase, however, any increases in short-term or annual emissions will be managed within the current Title V and PSD permit limits.
- If the modification at the existing major source does not qualify as a major modification under that program based on the actual-to-projected-actual test, it is considered a minor modification and is subject to the minor NSR program requirements, if the net emissions increase from the actual-to-projected-actual test is equal to or exceeds the minor NSR threshold listed in Table 1 of §49.153, which are replicated in Table 3 of this application.

The change in emissions is determined based on a comparison of past actual to projected future actual ("PATPFA") annual emissions. This entails selection of representative baseline for calculation of past actual emissions, and projection of future operations as the basis for future actual emissions. Each is discussed below and details of the calculations, including emission spreadsheets are included in Appendix A.

3.2 Baseline Emissions

To identify a representative baseline, a review of the 20-year operating history of the facility was based on operation and emissions data reported to EPA's Clean Air Markets Division ("CAMD") database (Ref. 3-1). For the first 10 years of operation (2001-2010), the units' annual capacity factors ranged between 30% and 60%. The next nine years (2011-2019) indicate lower and widely variable capacity factors. Neither unit operated in 2017. Unit No. 2 did not operate in 2016 or 2018, while Unit No. 1 operated only 467 hours in 2016 and 1,308 hours in 2018. Neither unit operated during the first 4 months of 2019.

However, since the middle of 2019, both units have consistently operated at their highest capacity factors since the beginning of their commercial operation, with capacity factors of approximately 60 to 70%. Typically, a 24-month period from the most recent 5 years of operation is selected as the baseline; alternatives may be considered if this period is deemed non-representative of normal operations. Given the inconsistent recent operating history of the units due to the unusual power market dynamics associated with this period, the most recent complete 24-month period from June 2019 to May 2021 is the most representative basis for the South Point baseline for the purpose of calculating emissions increases associated with the project.

The criteria pollutant emissions data during the baseline period was obtained from the following sources:

- NOx: Facility CEMS/DAHS (based on facility monitors)
- CO: Facility CEMS/DAHS (based on facility monitors)
- SO2: Facility CEMS/DAHS (based on facility heat input and emission factors)
- PM2.5/10: Facility CEMS/DAHS (based on facility heat input and emission factors)
- VOC: Facility CEMS/DAHS (based on facility heat input and emission factors)
- CO2: Facility CEMS/DAHS (based on facility heat input and emission factors)

The total baseline emissions for the facility are presented in Table 3

Table 3: Baseline Annual Emissions for the South Point Energy Center (tons/year)

	Baseline Period (June 2019 - May 2021) Average Annual Emissions				
All Operation	**NOx Tons**	**CO Tons**	**SO2 Tons**	**PM-10 Tons**	**VOC Tons**
Unit 1	46.1	39.9	3.4	17.2	2.9
Unit 2	44.7	46.6	3.4	6.9	4.6
Facility	90.8	86.5	6.9	24.1	7.5

Emission factors were back-calculated for each unit and pollutant based on baseline period emissions. Startup and shutdown data (heat input, startup and shutdown time, and NOx and CO emissions) were obtained from the CEMS to refine the emissions data. Because NO_x and CO emissions are typically much higher during start-up and shutdown (SUSD) than during steady state operation, these periods and emissions were excluded from the database before calculating the baseline emission factors for steady state operation based on emissions divided by fuel usage.

Table 4: Steady State Emission Factor Development

	Non-SUSD Emission Factors from Emission Reports (lb/mmBtu)*				
Baseline	**NOx**	**CO**	**SO2**	**PM-10**	**VOC**
Unit 1	0.0080	0.0038	0.00060	0.0030	0.00050
Unit 2	0.0078	0.0046	0.00060	0.0012	0.00080
Basis EF**	0.0080	0.0046	0.00060	0.0030	0.00080

*Calculated based on annual CEMS DAHS fuel & emissions, minus SUSD NOx, CO and heat input

** Basis emission factor (EF) is maximum value of calculated Baseline EFs for Units 1 and 2

3.3 Projected Actual Emissions

Projected future operation is based on Calpine “Ventyx” dispatch modeling for the units with and without taking into account effects of the proposed upgrades. There is little difference between the base case and upgraded case because the relatively modest heat rate impact of the upgrades on the units have little impact on the projections for post-upgrade dispatch.

As with baseline emissions calculations, the derived facility-specific emission factors are applied to the fuel usage projected for future operation in the Calpine dispatch modeling. The modeling for 2021 to 2030 predicts a maximum dispatch in 2024 with a fuel usage of 28,027,042 MMBTU for the two upgraded units, compared to a projected fuel usage of 26,520,242 MMBTU for 2024 for the Base Case (non-upgraded) units. Projected start-ups are included in the modeling, and the lb/event SUSD emission factors for NOx and CO derived from the baseline analysis are applied to account for these additional emissions in the projected accrual emissions.

Table 5: Projected Future Actual Emissions with Proposed Project

Projected Future Operation with Project	2-Unit Totals	
Future ops basis: Ventyx Max Hours 2022-30	15,223	hours/year
Future ops basis: Ventyx Max Heat Input 2022-30	28,027,042	MMBtu/year
Future ops basis: Ventyx Start-Ups for Max HI Year	68	events/year

Emission Factors	NOx	CO	SO2	PM-10	VOC
Emission Factors, lb/mmBtu	0.0080	0.0046	0.0006	0.0030	0.0008
SUSD Emissions Basis, lb/event	60.7	2,830			
Projected Future Emissions w Project (tons/yr)					
Projected Future Actual Steady State Emissions	111.9	63.8	8.4	42.1	11.2
Projected Future Actual SUSD Emissions	2.1	95.8			
Projected Future Actual Total Emissions	114.0	159.6	8.4	42.1	11.2

3.4 Projected Annual Emissions Increases for TPU Project

The difference between the Projected Actual Emissions and the Baseline Emissions is primarily due to an expected increase in utilization which is unrelated to the project. Therefore, the project PATPFA emissions excludes those emissions that could have been accommodated and that are strictly associated with increases in utilization unrelated to the proposed project. In this case, the Calpine Ventyx modeling for projected operation of the base case (without upgrade) scenario provides the best basis for these "could have accommodated" operation and emissions. The emissions for this case are calculated based on the same emission factors for steady state operation and SUSD lb/event factors as used for the projected TPU emissions for the worst case 2024 year with maximum projected operation, as shown below.

Table 6: Projected Future Operation and Actual Emissions without Project

Projected Future Operation without Project	2-Unit Totals	
Future ops basis: Ventyx Max Hours 2022-30	15,046	hours/year
Future ops basis: Ventyx Max Heat Input 2022-30	26,520,242	MMBtu/year
Future ops basis: Ventyx Start-Ups for Max HI Year	69	events/year

Emission Factors	NOx	CO	SO2	PM-10	VOC
Emission Factors, lb/mmBtu	0.0080	0.0046	0.0006	0.0030	0.0008
SUSD Emissions Basis, lb/event	60.7	2,830			
Projected Future Actual Emissions (Tons/Year)					
Projected Future Actual Steady State Emissions	105.9	60.4	8.0	39.8	10.6
Projected Future Actual SUSD Emissions	2.1	98.1			
Projected Future Actual Total Emissions **w/o Project**	108.0	158.5	8.0	39.8	10.6

The PATPFA is calculated by subtracting the Potential Future Operation Actual Emissions without the Project (Table 6) from the Potential Future Operation Actual Emissions with the Project (Table 5) and are

presented in Table 7. Based on this analysis, excluding the "could have accommodated" emissions from the PATPFA emissions analysis shows that increases associated exclusively with the TPU upgrade are well below the Attainment Area Minor NSR thresholds (see Table 8).

Table 7: Projected Future Operation and Emissions without Project

Projected Future Operation without Project	2-Unit Totals	
Future ops basis: Ventyx Max Hours 2022-30	15,046	hours/year
Future ops basis: Ventyx Max Heat Input 2022-30	26,520,242	MMBtu/year
Future ops basis: Ventyx Start-Ups for Max HI Year	69	events/year

Projected Future Actual Emissions (Tons/Year)	NOx	CO	SO2	PM-10	VOC
Projected Future Actual Total Emissions **w/o Project**	108.0	158.5	8.0	39.8	10.6
Projected Future Actual Total Emissions **with Project**	114.0	159.6	8.4	42.1	11.2
Projected minus Could-Have-Accommodated	6.0	1.1	0.5	2.3	0.6

Attainment Area Minor NSR thresholds, tons/year**	10	10	10	10/5/3	5

**Table 1 to §49.153—Minor NSR Thresholds

Table 8: 40 CFR §49.153 Minor NSR Thresholds for Attainment Areas (tons/year)

Pollutant	Facility Allowable Emissions (tons/year)
NO_x	10
CO	10
SO_2	10
VOC	5
PM	10
PM_{10}	5
$PM_{2.5}$	3
Lead	0.1
Fluorides	1
H_2SO_4 mist	2
H_2S	2
Total Reduced Sulfur (including H_2S)	2
Reduced Sulfur Compounds (including H_2S)	2
Municipal Waste Combustor Emissions	2
Municipal Solid Waste Landfill Emissions (measured as nonmethane organic compounds)	10

Ref: Table1 to 40 CFR §49.153; Minor NSR thresholds for attainment areas.

4. REGULATORY APPLICABILITY

EPA Region 9 administers and enforces the South Point Part 71 Federal operating permit, therefore, the regulatory requirements that apply are all Federal requirements. A summary of key requirements and applicability determinations for regulations that could potentially apply to the project are summarized below.

4.1 Prevention of Significant Deterioration (PSD)

EPA issued a PSD permit, AZ-98-01, for the construction of the SPEC on May 24, 1999. There have been several minor modifications and administrative amendments to the PSD permit since then. The last modification was issued on April 19, 2005.

EPA explained during the pre-application meeting that the SPEC's PSD permit is still active. Therefore any changes that result from the proposed Project must be incorporated into the PSD permit as well as the Title V permit. Appendix F lists the revisions that result from the proposed Project as well as removal of the steam augmentation operations limit, and the proposed additional permit "clean ups".

4.2 New Source Performance Standards (NSPS)

There are two 40 CFR Part 60 NSPS that could potentially be triggered by the Project. Each is discussed separately below.

4.2.1 Subpart KKKK

NSPS are codified at 40 CFR Part 60, and establish emission limits and other requirements for specific types of new, modified, or reconstructed sources. The South Point combustion turbines are currently subject to NSPS Subpart GG for Stationary Combustion Turbines (40 CFR 60.330 et seq.). The newer NSPS Subpart KKKK applies to stationary combustion turbines with heat inputs at peak load equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr) that commence construction, modification, or reconstruction after February 18, 2005.

NSPS Subpart KKKK (40 CFR 60.4300 et seq.) was evaluated for applicability. The South Point combustion turbines are not new sources, so applicability of NSPS Subpart KKKK would be triggered only if the combustion turbines are considered to be modified or reconstructed.

Under 40 CFR 60.14(a): "…any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere."

Further, 40 CFR 60.14(b) clarifies: "Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable."

EPA guidance also provides some additional information on the definition of "modification" to assist in determining NSPS applicability. In the EPA's Applicability Determination Index (ADI), EPA is clear that increases are evaluated based on the potential emission rate from an affected source. That is, if a facility accepts an increase in its hourly emission rate, even if the actual emissions don't reach those levels, the NSPS is applicable at the time the new potential emission rates are in effect. Conversely, if no increases in potential hourly emission rates are requested, then NSPS is not applicable (Ref. 4-1).

The applicability of NSPS Subpart KKKK requirements requires that two (2) criteria are met:

- an operational change occurs; and
- potential hourly emission rates of regulated pollutants increase.

The South Point combustion turbines upgrades may be considered to be a change in operation. The regulated pollutants under Subpart KKKK are SO_2 and NO_x; therefore, to assess applicability of the

second criteria, the potential hourly mass emission rate of SO_2 and NO_x upon implementation of the upgrades must be evaluated to assess whether an increase will occur.

As discussed, the upgrades will increase the heat input rate of each turbine, therefore the potential hourly mass emissions of NO_x and SO_2 from the combustion turbines will increase. Therefore the requirements of NSPS Subpart KKKK are triggered.

In summary, the Subpart KKKK emission limits for the modified turbines will be:

- NO_x – 15 ppmvd @ 15% O2 or 0.43 lb/MW-hr gross energy output (Table 1 to Subpart KKKK)
- SO_2 – 0.90 lb/MW-hr gross energy output or 0.060 lb/MMBtu (§60.4330)

Subpart KKKK also includes general compliance requirements (60.4333), monitoring requirements (60.4335-60.4370), reporting requirements (60.4375-60.4395), and performance testing (60.4400-60.4415).

As stated above, the SPEC combustion turbines are currently subject to NSPS Subpart GG. After the modification, they will be subject to NSPS Subpart KKKK. Pursuant to §60.4305(a), Subpart KKKK applies to emissions from any associated HRSG and duct burners. Both the combustion turbines at the facility are equipped with natural gas fired duct burners, which are currently subject to NSPS Subpart Dc. Pursuant to §60.4305(b), duct burners regulated under Subpart KKKK are exempted from the requirements of Subpart Dc. Therefore after the TPU modification, the duct burners will no longer be subject to Subpart Dc.

The current SPEC Title V permit lists only a few requirements specific to Subpart GG and none specific to Subpart Dc. The PSD permit has no requirements specific to Subpart GG or Subpart Dc. Most are NSPS Subpart A General Provisions. Consequently, the revisions to both permits due to the change to Subpart KKKK are minimal.

4.2.2 Subpart TTTT

NSPS Subpart TTTT "Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units (EGUs)" establishes carbon dioxide (CO_2) emission standards for certain EGUs. Pursuant to 40 CFR §60.5509(a), Subpart TTTT applies to stationary combustion turbines that commenced "construction" after January 8, 2014 or commenced "reconstruction" after June 18, 2014 and that meet the relevant applicability conditions in 40 CFR §60.5509(a)(1) and (2), which are:

- Have base load ratings greater than 250 MMBtu/hr; and
- Serve generators capable of selling greater than 25 MW of electricity to a utility power distribution system.

The SPEC combustion turbines have base load ratings greater than 250 MMBtu/hr and serve generators capable of selling greater than 25 MW of electricity to a utility power distribution system. However, the SPEC combustion turbines commenced "construction" before January 8, 2014, and, as outlined below, the proposed CT upgrades are not considered "reconstruction".

Under 40 CFR 60.15(b), "reconstruction" is defined as "the replacement of components of an existing facility to such extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new facility". The combustion turbine upgrades are not considered a "reconstruction" because their fixed capital cost is much less than 50% of the fixed capital cost to construct comparable entirely new combustion turbine units.

The fixed capital cost of the upgrades is approximately $3.5 million per CT. The estimated capital cost for a comparable new 200 MW replacement CT unit is approximately $218 million (Ref. 4-2). This upgrade cost equates to only 2% of the cost of comparable new equipment. Hence, the upgrades do not meet the cost threshold to be considered "reconstruction".

Subpart TTTT therefore does not apply to the SPEC combustion turbines.

4.3 Review of New Sources and Modifications in Indian Country

EPA promulgated a Tribal Land Federal Implementation Plan ("FIP") for preconstruction review of sources in both attainment and nonattainment areas, which became effective on August 30, 2011 (76 FR 38748, July 1, 2011). These programs are codified in Parts 49 and 51 of the Code of Federal Regulations ("CFR").

Included in the FIP are requirements that apply to modifications at existing major sources such as the Project. At an existing major source, if a modification with a net emissions increase from the actual-to-projected-actual is less than the minor NSR thresholds listed in Table 1 of § 49.153, it is not subject to the minor NSR program requirements.

Based on the PATPFA emissions analysis presented in Section 3, the project emissions are below the minor NSR thresholds listed in Table 1 of § 49.153. Therefore, a minor NSR permit is not required.

4.4 National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart YYYY

The provisions of 40 CFR Part 63, Subpart YYYY apply to any existing, new, or reconstructed stationary combustion turbine located at a major source of hazardous air pollutants (HAPs). The SPEC is an existing minor source of HAP emissions. Therefore, the two turbines are not subject to the requirements of NESHAP Subpart YYYY.

4.5 Part 71 Federal Operating Permit Program

Section P of the current SPEC Part 71 operating permit lists the criteria for Calpine to request that the project be classified as a minor permit modification. These criteria are prescribed in 40 CFR § 71.7(e)(1).

It is Calpine's understanding that these criteria are met. Therefore, if the Project is approved by EPA then the approval would be issued as a minor modification to the current Title V permit.

Appendix E is a copy of the current Title V permit and includes revisions resulting from the proposed Project as well as permit "clean ups" requested by Calpine.

4.6 Additional Federal Application Requirements

This application must address Endangered Species Act ("ESA") requirements, National Historical Preservation Act ("NHPA") requirements, and environmental justice.

The ESA analysis is provided in Appendix C and the NHPA analysis is provided in Appendix D.

The ESA analysis confirmed that no critical habitats are found within the action area (area affected directly or indirectly by the proposed action). Additionally, no species are likely to occur within the action area, as all potentially present species have specific habitat needs that are not present within the action area.

The NHPA analysis demonstrates that there will be no impacts to cultural resources. Furthermore, no cumulative affects to cultural resources are expected as a result of the project. The project will result in no historic properties affected.

EPA confirmed in the pre-application meeting held March 17, 2021 that EPA conducts the environmental justice analysis.

5. REVISIONS TO THE TITLE V AND PSD PERMITS

If the TPU project is authorized by EPA, revisions to the SPEC Title V and PSD permits will be required. In addition, Calpine proposes additional “clean up” changes to the two permits. Calpine requested some of the permit clean up revisions previously during the processing of the first renewal of the SPEC Title V permit (which EPA issued on March 22, 2012).

Appendix E presents a summary of Calpine’s proposed revisions to the Title V permit along with a marked up version of the Title V permit. The proposed additions to the PSD Permit are provided in Appendix F.

The major revisions can be summarized as follows:

- Removal of the operational limit on duct firing and steam augmentation from the permits. The units are subject to the annual emission limits identified in Table 2 above and demonstrate compliance with these annual limits using the facility continuous emissions monitoring system, which calculates monthly rolling 12-month emission totals for the facility. The operating hour limit is therefore redundant and unnecessary for compliance with annual emission limitations.
- Requested exemption from short-term emission limits to allow the ability to troubleshoot process or equipment upsets (first ten 3-hour average periods in a rolling 12 month period per unit).
- Replace NSPS Subpart GG and Subpart Dc requirements with NSPS KKKK requirements.
- Removal of the requirement to operate an ammonia monitor (ammonia slip emissions are not regulated nor required to be submitted as part of the permit).
- Removal of conditions relating to the emergency generator E/U 03. That unit was never installed at the SPEC.
- Clarify that testing in power augmentation with steam (PAG) mode is not required in a calendar year in which PAG is utilized less than 15 hours per year. This exemption would apply per each unit.

Finally, Calpine requests that EPA better align the PSD permit with the Title V permit. The conditions in Section X of the PSD permit are duplicated in certain sections of the Title V permit, but in different order, under different titled Sections, and sometimes in different terminology. Aligning these conditions and terminology will avoid confusion in the future.

6. REFERENCES

1-1 Email from Lisa Beckham (U.S. EPA Region 9) to Gary Napp (ERM) dated March 24, 2021, with attachment: *Calpine SPEC Final PSD Permit Minor Mod 4-19-2005.PDF*.

2-1 Final Statement of Basis - Title V Federal Permit to Operate, South Point Energy Center, Permit No. FM-ROP 16-01, U.S. EPA Region IX, September 2018.

3-1 https://ampd.epa.gov/ampd

4-1 U.S. EPA Applicability Determination Index, ADI Control Nos. 9600074 and 9700157 dated July 7, 1995 and September 9, 1996, respectively. Available at https://cfpub.epa.gov/adi/ .

4-2 $1,088/kW x 1,000 kW/MW x 200 MW = $218 million. $1,088/kW is the estimated CAPEX for a new, conventional gas-fired combined-cycle unit from NREL (National Renewable Energy Laboratory), 2020 Annual Technology Baseline, available at https://atb.nrel.gov/electricity/2020/data.php.

APPENDIX A EMISSION CALCULATIONS

Calpine South Point TPU - PSD Applicability Analysis
Emissions Increase: Past Actual to Projected Future Actual

Past Actual (Baseline) Emissions

Baseline Period	June 2019 through May 2021	
Baseline Heat Input (Total for Units 1&2)	22,902,766	MMBtu/year
Baseline Operation (Total for Units 1&2)	14,651	hours/year
Baseline Start-Ups per Year (Total for Units 1&2)	27.5	events/year

	NOx	CO	SO2	PM-10/2.5	VOC	CO2
Emission Factors, lb/mmBtu	0.0080	0.0046	0.0006	0.0030	0.0008	119.0
Baseline Steady State Emissions, tons/year	89.9	47.5	6.9	24.1	7.5	1,361,067
Baseline SUSD Emissions, tons/year	0.8	38.9				
Baseline Total Emissions, tons/year	90.8	86.5	6.9	24.1	7.5	1,361,067

Siemens HGP Thermal Performance Upgrade*

Estimated MW improvement	14.8	MW
Estimated Heat Rate improvement	415	Btu/kWh
Estimated Heat Input Rate Increase	102.6	MMBtu/hr

*Performance improvements are conservative based on Calpine predicted performance across ambient temperature range

Projected Future Operation with Project	2-Unit Totals	
Future ops basis: Ventyx Max Hours 2022-2030	15,223	hours/year
Future ops basis: Ventyx Max Heat Input 2022-2030	28,027,042	MMBtu/year
Future ops basis: Ventyx Start-Ups for Max HI Year	68	events/year

Emission Factors	NOx	CO	SO2	PM-10	VOC	CO2
Emission Factors, lb/mmBtu	0.0080	0.0046	0.0006	0.0030	0.0008	119.0
SUSD Emissions Basis, lb/event	60.7	2,830				
Projected Future Emissions with Project (Tons/Year)						
Projected Future Actual Steady State Emissions	111.9	63.8	8.4	42.1	11.2	1,667,609
Projected Future Actual SUSD Emissions	2.1	95.8				
Projected Future Actual Total Emissions	114.0	159.6	8.4	42.1	11.2	1,667,609

Projected Future "Could Have Accomodated" Emissions (Without Project)

This calculation shows the difference in projected future actual emissions based on Ventyx projections of operation with and without the Siemens TPU+ upgrade

Projected Future Operation without Project	2-Unit Totals	
Future ops basis: Ventyx Max Hours 2022-30	15,046	hours/year
Future ops basis: Ventyx Max Heat Input 2022-30	26,520,242	MMBtu/year
Future ops basis: Ventyx Start-Ups for Max HI Year	69	events/year

Emission Factors	NOx	CO	SO2	PM-10	VOC	CO2
Emission Factors, lb/mmBtu	0.0080	0.0046	0.0006	0.0030	0.0008	119.0
SUSD Emissions Basis, lb/event	60.7	2,830				
Projected Future Actual Emissions (Tons/Year)						
Projected Future Actual Steady State Emissions	105.9	60.4	8.0	39.8	10.6	1,577,954
Projected Future Actual SUSD Emissions	2.1	98.1				
Projected Future Actual Total Emissions **w/o Project**	108.0	158.5	8.0	39.8	10.6	1,577,954
Projected Future Actual Total Emissions **with Project**	114.0	159.6	8.4	42.1	11.2	1,667,609
Projected minus Could-Have-Accomodated	6.0	1.1	0.5	2.3	0.6	89,655

Attainment Area Minor NSR thresholds, tons/year**	10	10	10	10/5/3	5	

**Table 1 to §49.153—Minor NSR Thresholds

SOUTH POINT ENERGY CENTER

Mohave Valley, AZ

	Baseline Period (June 2019 - May 2021) Average Annual Emissions						
All Operation	**NOx Tons**	**CO Tons**	**SO2 Tons**	**PM-10 Tons**	**VOC Tons**	**CO2 Tons**	**CO2e (MT)**
Unit 1	46.1	39.9	3.4	17.2	2.9	681,749	619,107
Unit 2	44.7	46.6	3.4	6.9	4.6	679,319	616,898
Facility	90.8	86.5	6.9	24.1	7.5	1,361,067	1,236,005

SUSD Emissions	**NOx Tons**	**CO Tons**
Unit 1	0.4	18.3
Unit 2	0.5	20.6
Facility	0.8	38.9

Without SUSD	**NOx Tons**	**CO Tons**
Unit 1	45.7	21.6
Unit 2	44.2	25.9
Facility	89.9	47.5

	Non-SUSD Emission Factors from Emission Reports (lb/mmBtu)*						
Baseline	**NOx**	**CO**	**SO2**	**PM-10**	**VOC**	**CO2 Tons**	**CO2e (MT)**
Unit 1	0.0080	0.0038	0.00060	0.0030	0.00050	118.9	107.9
Unit 2	0.0078	0.0046	0.00060	0.0012	0.00080	118.9	107.9

Basis EF**	0.0080	0.0046	0.00060	0.0030	0.00080	118.9	107.9

*Calculated based on annual emission report and CEMS DAHS fuel heat inputs, minus SUSD NOx, CO and heat input

** Basis emission factor (EF) is maximum value of calculated Baseline EFs for Units 1 and 2

Baseline Period Operation Data (Annual Average)

Unit ID	Operating Time	Heat Input (MMBtu)	Heat Input Cap Factor %
1	7,402	11,471,778	61%
2	7,249	11,430,989	61%

Steady State Ops (minus SUSD)

1	7,375	11,444,251
2	7,215	11,395,818

Conversions

Mass	2000	lb/ton

Southpoint Upgrade Scenarios

Curve Date 2/12/2021

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
BaseCase										
CT Starts	51	43	58	69	71	73	63	73	68	70
CT Hours	10,673	14,652	12,984	15,046	14,282	14,478	12,662	14,323	13,961	14,485
CT MWh	2,395,133	3,322,547	2,945,005	3,403,219	3,226,279	3,277,698	2,865,090	3,157,058	3,072,866	3,191,007
CT Fuel MMBtu	18,697,693	25,871,578	22,986,160	26,520,242	25,165,863	25,566,916	22,362,079	24,675,483	24,012,140	24,930,636
TPU+										
CT Starts	51	43	57	68	70	74	63	72	68	69
CT Hours	10,673	14,652	13,048	15,223	14,448	14,748	12,855	14,606	14,251	14,731
CT MWh	2,395,133	3,322,547	3,078,765	3,640,991	3,450,226	3,527,550	3,073,326	3,408,786	3,321,302	3,436,667
CT Fuel MMBtu	18,697,693	25,871,578	23,819,148	28,027,042	26,586,032	27,182,929	23,697,324	26,315,994	25,638,612	26,520,443

South Point Unit 1 Baseline Operation and Emissions from Facility CEMS/DAHS for June 2019 to May 2021

	Unit 1 Monthly Emissions (lb)				
Month	NOx	CO	SO2	PM-10	VOC
06 2019	5,185	14,062	367	1,849	309
07 2019	9,315	2,085	690	3,452	594
08 2019	9,511	1,760	713	3,537	595
09 2019	8,674	6,699	648	3,256	561
10 2019	9,531	4,795	668	3,363	580
11 2019	5,909	6,788	416	2,099	362
12 2019	10,130	6,169	711	3,546	595
01 2020	10,136	6,121	706	3,530	585
02 2020	9,297	6,764	671	3,360	559
03 2020	10,216	6,926	716	3,581	592
04 2020	6,899	9,360	481	2,389	397
05 2020	8,307	5,521	594	2,988	493
06 2020	9,038	4,978	684	3,435	572
07 2020	9,331	5,798	711	3,560	594
08 2020	8,603	4,985	712	3,567	594
09 2020	8,350	6,580	678	3,386	566
10 2020	7,896	7,163	656	3,269	548
11 2020	139	3,494	6	29	5
12 2020	6,047	8,480	468	2,335	393
01 2021	8,488	2,054	658	3,291	541
02 2021	3,565	1,713	268	1,344	223
03 2021	4,016	17,214	286	1,437	234
04 2021	8,792	3,079	664	3,336	562
05 2021	6,960	17,053	580	2,909	482
24-Month (lb)	184,333	159,641	13,752	68,847	11,535
Annual Avg (lb)	92,166	79,821	6,876	34,424	5,767
Baseline (Tons/Year)	46.1	39.9	3.4	17.2	2.9

	Unit 1								
GHG Emissions	Turbine On-Time	Heat Input mmBtu	CO2 tons	CO2 metric tons	N2O metric tons	CH4 metric tons	N2O (CO2e) metric tons	CH4 (CO2e) metric tons	Total CO2e metric tons
Apr 2019	0	3	OOR	OOR	0.0	0.0	0.0	0.0	0
May 2019	51	63,601	3,780	3,429	0.0	0.1	1.9	1.6	3,433
Apr-Dec 2019	4,599	7,100,255	421,959	382,800	0.7	7.1	210.7	177.6	383,188
Jan-Dec 2020	7,481	11,802,336	701,389	636,294	1.2	11.8	351.8	295.1	636,941
Jan-Mar 2021	1,361	2,023,458	120,253	109,093	0.2	2.0	60.4	50.6	109,204
Apr 2021	720	1,110,908	66,020	59,893	0.1	1.1	33.1	27.8	59,954
May 2021	694	970,199	57,657	52,306	0.1	1.0	28.7	24.3	52,359
24-Month	14,804	22,943,555	1,363,498	1,236,957	2.3	22.9	682.8	573.7	1,238,213
Annual Avg	7,402	11,471,778	681,749	618,478	1.1	11.5	341.4	286.9	619,107

South Point Unit 2 Baseline Operation and Emissions from Facility CEMS/DAHS for June 2019 to May 2021

	Unit 2 Monthly Emissions (lb)				
Month	NOx	CO	SO2	PM-10	VOC
06 2019	6,893	17,685	503	1,005	672
07 2019	9,373	3,203	701	1,395	940
08 2019	8,961	4,002	678	1,354	888
09 2019	8,844	6,695	622	1,235	840
10 2019	10,069	9,006	693	1,377	939
11 2019	6,150	11,912	457	906	614
12 2019	9,397	5,898	722	1,439	968
01 2020	9,696	8,275	709	1,424	947
02 2020	9,688	6,342	684	1,371	913
03 2020	10,331	9,560	730	1,456	971
04 2020	5,385	4,054	382	771	509
05 2020	8,412	6,473	612	1,219	813
06 2020	8,180	6,308	647	1,286	864
07 2020	8,390	9,727	688	1,369	916
08 2020	8,118	8,559	713	1,438	948
09 2020	8,121	6,827	703	1,421	935
10 2020	7,875	8,014	647	1,294	860
11 2020	0	0	0	0	0
12 2020	5,174	8,618	376	746	505
01 2021	8,797	2,669	669	1,331	886
02 2021	3,609	1,634	274	545	364
03 2021	3,289	17,640	238	473	316
04 2021	8,051	3,653	682	1,359	910
05 2021	5,931	19,461	613	1,222	809
24-Month (lb)	178,735	186,215	13,743	27,435	18,325
Annual Avg (lb)	89,367	93,108	6,872	13,718	9,162
Baseline (Tons/Year)	44.7	46.6	3.4	6.9	4.6

	Unit 2								
GHG Emissions	Turbine On-Time	Heat Input mmBtu	CO2 tons	CO2 metric tons	N2O metric tons	CH4 metric tons	N2O (CO2e) metric tons	CH4 (CO2e) metric tons	Total CO2e metric tons
Apr 2019	1	Down	Down	Down	0.0	0.0	0.0	0.0	0
May 2019	60	77,627	4,613	4,185	0.0	0.1	2.3	1.9	4,189
Apr-Dec 2019	4,721	7,327,088	435,440	395,027	0.7	7.3	219.8	183.2	395,430
Jan-Dec 2020	7,112	11,495,393	683,137	619,737	1.1	11.5	339.9	287.4	620,365
Jan-Mar 2021	1,301	1,964,044	116,721	105,888	0.2	2.0	58.5	49.1	105,996
Apr 2021	719	1,132,584	67,306	61,060	0.1	1.1	33.6	28.3	61,122
May 2021	706	1,020,495	60,646	55,018	0.1	1.0	30.5	25.5	55,074
24-Month	14,498	22,861,977	1,358,637	1,232,545	2.3	22.9	680.0	571.7	1,233,797
Annual Avg	7,249	11,430,989	679,319	616,273	1.1	11.4	340.0	285.9	616,898

South Point Energy Center, LLC

CAMD Annual Operation and Emissions Summary Data - 2001 to 2020

Unit ID	Year	Operating Time	Months Reported	Gross Load (MW-h)	Heat Input (MMBtu)	CO2 (short tons)	NOx Rate (lb/MMBtu)	NOx (tons)	SO2 (tons)	Heat Input Cap Factor %
A	2001	3,627	6	557,926	5,519,865	328,037	0.0089	23.2	1.7	29%
B	2001	3,582	9	550,189	5,374,491	319,399	0.0092	23.2	1.6	29%
A	2002	6,876	12	1,041,813	9,296,825	552,497	0.0096	42.7	2.8	49%
B	2002	7,731	12	1,174,529	11,433,969	679,503	0.0098	54.0	3.4	61%
A	2003	6,253	12	932,170	10,026,474	595,857	0.0111	49.5	3.0	53%
B	2003	6,430	12	965,915	10,320,120	613,309	0.0103	48.9	3.1	55%
A	2004	6,657	12	962,657	10,567,415	628,009	0.0104	48.9	3.2	56%
B	2004	6,273	12	908,518	10,087,904	599,509	0.0112	47.6	3.0	54%
A	2005	4,189	12	942,388	6,735,065	400,253	0.0106	31.8	2.0	36%
B	2005	2,839	12	596,992	4,316,211	256,504	0.0368	46.7	1.3	23%
A	2006	5,776	12	1,286,437	9,106,649	541,192	0.0113	43.5	2.7	48%
B	2006	5,487	12	1,220,204	8,668,825	515,177	0.0134	44.3	2.6	46%
A	2007	5,331	12	1,204,246	8,345,562	495,960	0.0120	40.2	2.5	44%
B	2007	4,575	12	1,022,023	7,136,755	424,122	0.0130	35.2	2.1	38%
A	2008	6,517	12	1,508,945	10,417,465	619,094	0.0105	48.7	3.1	55%
B	2008	5,699	12	1,324,870	9,134,533	542,855	0.0107	43.0	2.7	49%
A	2009	4,657	12	1,061,179	7,298,276	433,729	0.0117	35.0	2.2	39%
B	2009	4,927	12	1,125,489	7,683,040	456,591	0.0122	38.9	2.3	41%
A	2010	3,825	12	887,001	6,096,939	362,332	0.0146	32.3	1.8	32%
B	2010	4,271	12	996,800	6,864,491	407,949	0.0135	34.4	2.1	36%
A	2011	1,905	12	432,475	2,983,524	177,307	0.0159	16.6	0.9	16%
B	2011	1,933	12	440,338	3,055,834	181,604	0.0157	15.8	0.9	16%
A	2012	3,308	12	759,518	5,224,291	310,473	0.0135	25.9	1.6	28%
B	2012	3,064	12	683,037	4,594,719	273,058	0.0143	22.9	1.4	24%
A	2013	5,109	12	1,205,702	8,445,707	501,917	0.0111	39.8	2.5	45%
B	2013	4,126	12	952,385	6,648,269	395,098	0.0132	32.3	2.0	35%
A	2014	2,729	12	627,373	4,362,388	259,249	0.0147	24.4	1.3	23%
B	2014	2,679	12	615,622	4,270,857	253,813	0.0155	24.0	1.3	23%
A	2015	5,114	12	1,224,146	8,427,544	500,839	0.0101	41.2	2.5	45%
B	2015	3,048	12	708,805	4,897,777	291,066	0.0106	24.9	1.5	26%
A	2016	467	12	113,826	788,656	46,868	0.0104	3.7	0.2	4%
B	2016	0	12							0%
A	2017	0	12							0%
B	2017	0	12							0%
A	2018	1,308	12	308,890	2,047,200	121,664	0.0095	9.4	0.6	11%
B	2018	0	12							0%
A	2019	4,599	12	967,632	7,100,006	421,945	0.0096	32.5	2.1	38%
B	2019	4,721	12	978,688	7,328,426	435,518	0.0136	47.4	2.2	39%
A	2020	7,480	12	1,607,963	11,802,403	701,400		53.0	3.5	63%
B	2020	7,111	12	1,555,483	11,495,416	683,159		51.6	3.4	61%

Calpine South Point Start-Up and Shutdown NOx & CO Emissions

		Events	SUSD		SUSD		
		Number	NOx	CO	NOx	CO	Hours
	Unit		Pounds		Tons		
24-Month Totals*	1	24	1,531	73,258	0.77	36.6	54.6
	2	31	1,806	82,417	0.90	41.2	67.1
	1&2	55	3,337	155,675	1.67	77.8	121.7
Baseline**	1	12.0	765	36,629	0.38	18.3	27.3
	2	15.5	903	41,209	0.45	20.6	33.5
	1&2	27.5	1,668	77,838	0.83	38.9	60.8

24-Mo Avg	1&2	lb/event	60.7	2,830

*June 2019 - May 2021

** Average Annual based on 24 months from June 2019 to May 2021

APPENDIX B PERMIT APPLICATION FORMS

United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
GENERAL INFORMATION AND SUMMARY (GIS)

A. Mailing Address and Contact Information

Facility name ___South Point Energy Center_____

Mailing address: Street or P.O. Box __3779 Courtwright Rd_____

City __Mohave Valley_____ State __AZ__ ZIP __86440____-_____

Contact person: __Morgan Day_____ Title ____EHS Specialist_____

Telephone (_619__) __661___ - __3407_____ Ext. _____

Facsimile (_____) _____ - _____

B. Facility Location

Temporary source? ___Yes _X_No Plant site location ____Fort Mohave Indian Reservation_____

_____

City ___Mohave Valley_____ State_AZ__ County___Mohave_____ EPA _Region_IX_

Is the facility located within:

Indian lands? _X_YES ___ NO An offshore source in federal waters? ___YES _X_ NO

Non-attainment area? ___ YES _X_NO If yes, for what air pollutants? _____N/A_____

Within 50 miles of affected State? _X_ YES __ NO If yes, What State(s)? ___CA & NV___

C. Owner

Name ___South Point Energy Center, LLC___ Street/P.O. Box __717 Texas Avenue, Suite 1000___

City ___Houston_____ State__TX__ ZIP__77002____ - _____

Telephone (_713_) _830__ - __2000____ Ext_____

D. Operator

Name __Calpine Operating Services Company, Inc.__ Street/P.O. Box _717 Texas Avenue, Suite 1000_

City _____Houston_____ State __TX__ ZIP __77002____ - _____

Telephone (_713_) _830_ - __2000____ Ext_____

E. Application Type

Mark only one permit application type and answer the supplementary question appropriate for the type marked.

___Initial Permit ___ Renewal ___ Significant Mod _X__ Minor Permit Mod(MPM)

___ Group Processing, MPM ___ Administrative Amendment

For initial permits, when did operations commence? _____ /_____ /_____

For permit renewal, what is the expiration date of current permit? ____/___/___

F. Applicable Requirement Summary

Mark the types of applicable requirements that apply:

___ SIP ___ FIP/TIP _X_ PSD ___Non-attainment NSR

___ Minor source NSR _X_ Section 111 ___ Phase I acid rain _X_Phase II acid rain

___ Stratospheric ozone ___ OCS regulations ___ NESHAP ___ Sec. 112(d) MACT

___ Sec. 112(g) MACT ___ Early reduction of HAP ___ Sec 112(j) MACT _X_ RMP [Sec.112(r)]

___ Section 129 ___ NAAQS, increments or visibility but for temporary sources (This is rare)

Is the source subject to the Deepwater Port Act? ___YES _X_NO

Has a risk management plan been registered? _X_YES ___NO Agency _____

Phase II acid rain application submitted? _X_YES ___NO If YES, Permitting Authority ___EPA ____

G. Source-Wide PTE Restrictions and Generic Applicable Requirements

Cite and describe any emissions-limiting requirements and/or facility-wide "generic" applicable requirements.

PSD AZ 98-01 Condition X.E.1 – Annual emissions limits
PSD AQZ 98-01 Condition III – Maintain all emissions control equipment in good working order and operate to minimize emissions.
PSD AZ 98-01 Condition IV – Report all malfunctions that result in excess emissions.

H. Process Description

List processes, products, and SIC codes for the facility.

Process	Products	SIC
Electric power generation, transmission, and distribution	Electricity	4911

I. Emission Unit Identification

Assign an emissions unit ID and describe each emissions unit at the facility. Control equipment and/or alternative operating scenarios associated with emissions units should by listed on a separate line. Applicants may exclude from this list any insignificant emissions units or activities.

Emissions Unit ID	Description of Unit
E/U 01	Combined cycle system 1
E/U 02	Combined cycle system 2
E/U 06	Mechanical draft cooling tower
E/U 04	Diesel Fire Pump

J. Facility Emissions Summary

Enter potential to emit (PTE) for the facility as a whole for each regulated air pollutant listed below. Enter the name of the single HAP emitted in the greatest amount and its PTE. For all pollutants, stipulations to major source status may be indicated by entering "major" in the space for PTE. Indicate the total actual emissions for fee purposes for the facility in the space provided. Applications for permit modifications need not include actual emissions information.

NOx __271.7_____ tons/yr VOC ___439____ tons/yr SO2 ___39.9____ tons/yr

PM-10 __186.5_____ tons/yr CO __1297.6____ tons/yr Lead _____ tons/yr

Total HAP __<10/25_____ tons/yr

Single HAP with greatest amount ___Formaldehyde_____ PTE __~0.6__ tons/yr

Total of regulated pollutants (for fee calculation), Sec. F, line 5 of form FEE _103_ tons/yr

K. Existing Federally-Enforceable Permits

Permit number(s) ___AZ 98-01_____ Permit type _____PSD_____ Permitting authority ___EPA___

Permit number(s) ___FM-ROP 16-01_ Permit type ___Title V____ Permitting authority __EPA___

L. Emission Unit(s) Covered by General Permits

Emission unit(s) subject to general permit _____NA_____

Check one: ___ Application made ___ Coverage granted

General permit identifier _____ Expiration Date ____/____/____

M. Cross-referenced Information

Does this application cross-reference information? _X_ YES ___ NO (If yes, see instructions)

INSTRUCTIONS FOLLOW

EPA United States Environmental Protection Agency

OMB No. 2060-0336, Expires 11/30/2022

Federal Operating Permit Program (40 CFR Part 71)
CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible Official

Name: (Last) **Fetters** (First) **Kurt** (MI) ____

Title **Plant Manager**

Street or P.O. Box **3779 Courtwright Road**

City **Mohave Valley** State **AZ** ZIP **86440** - ____

Telephone (**928**) **346** - **7001** Ext. ____ Facsimile (____) ____ - ____

B. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) Kurt Fetters

Name (typed) **Kurt Fetters** Date: 7 / 2 / 21

APPENDIX C ENDANGERED SPECIES ACT (ESA) ANALYSIS

ERM

345 Woodcliff Drive
2nd Floor
Fairport, NY
14450

Telephone: +1 585 387 0510
Fax: +1 585 387 0603

www.erm.com

Memo

To	U.S. Environmental Protection Agency (EPA), Region 9
From	ERM Consulting & Engineering, Inc.
Date	18 May 2021
Subject	Endangered Species Act (ESA) Analysis for the South Point Energy Center Thermal Performance Upgrade Project

1. INTRODUCTION

Calpine is submitting an application to revise the South Point Energy Center (SPEC) Title V and Prevention of Significant Deterioration (PSD) permits to incorporate the Thermal Performance Upgrade (TPU) Project (Project). EPA Region 9 requires that the application include an analysis of species and critical habitat protected under the Endangered Species Act (ESA). Calpine submits this documentation of the protected species screening of the SPEC for EPA approval related to the Project.

2. PREVIOUS SPECIES EVALUATIONS

A Final Environmental Impact Statement (FEIS) for the construction and operation of the SPEC was completed in January 1999.[1] A supplemental analysis (SA) was completed in March 1999 to include the construction of a transmission line upgrade associated with the facility.[2] The FEIS found there would be no significant impacts on endangered species associated with construction and operation of the power plant. The SA found that ground-disturbing activities associated with construction of the transmission line and access roads could affect desert tortoise and saguaro cactus; no other species had potential to be affected. The SA outlined mitigation measures to avoid impacts to desert tortoise and saguaro cactus. No critical habitats were identified within the vicinity the SPEC or associated transmission line.

3. ACTION AREA AND NEW PROJECT IMPACTS

The action area includes areas affected directly or indirectly by the proposed action (50 Code of Federal Regulations § 402.02). As there will be no ground disturbance associated with the proposed Project, the action area was limited to the facility itself. Although there is potential for small increases in activity, noise, or lighting, these increases will be limited to the existing facility. There will be no impacts to water or vegetation resources.

In order to consider the impacts of the Project, a new species list was produced using the USFWS Information for Planning and Consultation (IPAC) map. A total of nine species were

[1] Final Environmental Impact Statement for a Lease Development Project on the Fort Mojave Indian Reservation - Mohave County, Arizona, FES 99-1, Department of interior, Bureau of Indian Affairs, January 1999.

[2] Final Supplemental Analysis - South Point Power Project, DOE/EIS-0308-SA-1, prepared for the Western Area Power Administration, Desert Southwest Region, VOLPE National Transportation Systems Center, March 16, 1999.

identified (Table 3-1 and Attachment 1). No critical habitats were identified within the action area.

Of the nine species, two are fish found within the Colorado River basin, and therefore, do not occur within the action area. An additional five species are found within riparian or beach habitats. The nearest riparian areas are well over 2 miles from the action area, therefore, these species are also considered not likely to be present within the action area. The Sonoran Desert Tortoise is found within rocky habitats over 900 feet in elevation; the action area sits at

ERM

345 Woodcliff Drive
2nd Floor
Fairport, NY
14450

Telephone: +1 585 387 0510
Fax: +1 585 387 0603

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Table 3-1

Species	Common Name	Status	Habitat Type	Project Impacts
California Least Tern	*Sterna antillarum browni*	E	Beaches with sparse vegetation; shallow marine and estuarine habitats	No effect; there is no beach habitat within or in the vicinity of the action area. No individuals are likely to be present in the action area.
Yuma Ridgways (Clapper) Rail	*Rallus obsoletus yumanensis*	E	Freshwater marshes adjacent to riparian corridors	No effect; there is no riparian habitat within or in the vicinity of the action area. No individuals are likely to be present in the action area.
Southwestern Desert Willow Flycatcher	*Empidonax traillii extimus*	E	Dense riparian habitats	
Yellow-billed Cuckoo	*Coccyzus americanus*	T	Riparian woodlands	
Northern Mexican Gartersnake	*Thamnophis eques magalops*	T	Riparian woodlands and streamside forests	
Sonoran Desert Tortoise	*Gopherus morafkai*	C [1]	Rocky slopes within Sonoran desert-scrub	No effect; there is no suitable habitat within or in the vicinity of the action area. No individuals are likely to be present in the action area.
Bonytail	*Gila elegans*	E	Colorado River and its tributaries	No effect; the Project will not impact water resources.
Razorback Sucker	*Xyrauchen texanus*	E	Warm-water portions of the Colorado River basin	
Monarch Butterfly	*Danaus plexippus*	C [1]	Open fields and meadows; obligate milkweed for breeding	No effect; there is no suitable habitat within the action area. No individuals are likely to be present in the action area.

[1] Status: E – Endangered, T – Threatened, C – Candidate.
[2] Candidate species are not yet listed or proposed for listing, and have no formal protection under the ESA. The USFWS encourages agencies to implement conservation measure to protect these species where possible.

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345 Woodcliff Drive
2nd Floor
Fairport, NY
14450

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approximately 400 feet in elevation and has been developed land for some time. It is unlikely that Sonoran Desert Tortoise would be present within the action area, or in the vicinity of the Project. The nearest areas with suitable elevations are over 2 miles outside of the action area. Finally, the Monarch butterfly is found within open meadows and grasslands that include the milkweed plant. The action area consists of primarily developed land, and does not provide suitable habitat for the species.

Therefore, there are no species likely present within the action area of the Project, and a Criterion A determination is appropriate.

4. CRITERION A DETERMINATION

A Criterion A determination may be used when no federally-listed threatened or endangered species, or their designated critical habitats are likely to occur within the action area. The IPAC review confirmed that no critical habitats are found within the action area. Additionally, no species are likely to occur within the action area, as all potentially present species have specific habitat needs that are not present within the action area.

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2nd Floor
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Fax: +1 585 387 0603

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ATTACHMENT 1 IPAC Species List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Calpine - South Point Energy Center

LOCATION

Mohave County, Arizona

DESCRIPTION

None

Local office

Arizona Ecological Services Field Office

(602) 242-0210
(602) 242-2513

9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517

http://www.fws.gov/southwest/es/arizona/
http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Least Tern Sterna antillarum browni — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6749

Yellow-billed Cuckoo Coccyzus americanus — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3911

Yuma Ridgways (clapper) Rail Rallus obsoletus [=longirostris] yumanensis — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3505

Reptiles

NAME	STATUS

Northern Mexican Gartersnake Thamnophis eques megalops — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7655

Sonoran Desert Tortoise Gopherus morafkai — Candidate
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9289

Fishes

NAME	STATUS

Bonytail Gila elegans — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/1377

NAME	STATUS
Razorback Sucker Xyrauchen texanus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/530	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Long-billed Curlew Numenius americanus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

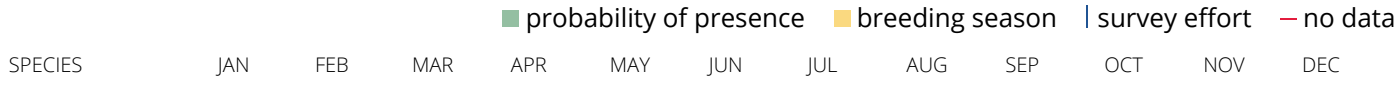
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Long-billed Curlew BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting

point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

- PUSKx
- PUSJx
- PUBKx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX D NATIONAL HISTORICAL PRESERVATION ACT (NHPA) ANALYSIS

ERM

3300 Breckinridge Blvd.
Suite 300
Duluth, GA
30096

Telephone: +1 678 781 1370
Fax: +1 678 781 4470

www.erm.com

Memo

To	U.S. Environmental Protection Agency (EPA), Region 9
From	ERM Consulting & Engineering, Inc.
Date	10 June 2021
Subject	National Historic Preservation Act (NHPA) Analysis for the South Point Energy Center Thermal Performance Upgrade Project

1. INTRODUCTION

Calpine is submitting an application to revise the South Point Energy Center (SPEC) Title V and Prevention of Significant Deterioration (PSD) permits to incorporate the Thermal Performance Upgrade (TPU) Project (Project). The Project area is located in Fort Mojave Indian Reservation in Mohave County, Arizona. EPA Region 9 requires that the application include an analysis of Historic Properties under the National Historic Preservation Act of 1966 (NHPA).

ERM has been retained by Calpine Corporation South to conduct research and produce a desktop review of cultural resources for the changes to the SPEC.

ERM attempted to contact the Fort Mojave Indian Tribe NHPA representative to consult on the analysis presented below, but was unsuccessful. However, on June 9, 2021, ERM emailed the analysis to the Tribe's NHPA contact for review and comment (Laird, 2021).

The goal of the desktop review was to identify previously recorded archaeological sites, historic architectural resources, and previous surveys within or near the Project area. A study area was established consisting of the Project area and a one-mile buffer around the Project area to identify the number and types of known resources in the vicinity that could be directly or indirectly affected by the Project. The review was conducted on May 26, 2021 by accessing the Arizona's Cultural Resource Inventory (AZSite), a cultural resource geographic information system managed by the Arizona State Museum on the University of Arizona campus, the Archaeological Research Institute on the Arizona State University campus, the Arizona State Historic Preservation Office (SHPO), and the Museum of Northern Arizona.

2. PREVIOUS CULTURAL EVALUATIONS

Prior to the current analysis, the Project area was discussed in two reports. A Final Environmental Impact Statement (FEIS) for the construction and operation of the SPEC was completed in January 1999 (Department of Interior, Bureau of Indian Affairs, 1999). A supplemental analysis (SA) was completed in March 1999 to include the construction of a transmission line upgrade associated with the facility (VOPLE National Transportation Systems Center, 1999). The FEIS found there would be no significant adverse effects to known cultural resources or sensitive sites from the construction and operation of the power plant. The SA found there will be no impacts to cultural resources from constructing the SPEC.

Seven surveys have been conducted within the one-mile buffer surrounding the Project area. All are associated with pipeline and transmission line projects and located in the northern and eastern areas of the one-mile buffer (Barret, 2001; Bauer, 1997; Bauer, 1998; Garcia, 1998; Gassner, 1997; Wigglesworth, 1989; Wright, 1995). No previously recorded architectural resources are located within the Project area or one-mile buffer. No previously recorded

archaeological sites are located within the Project boundary. However, two previously recorded archaeological sites are located in the one-mile buffer (75087, 98912). 75087 consists of a lithic scatter of unknown cultural affiliation. It has been determined eligible by SHPO. 98912 consists of prehistoric artefact scatter and associated cobble features. It has not been evaluated by the SHPO, but was determined eligible by the recorder. Both are located near the eastern edge of the one-mile buffer and will not be affected by the Project due to distance and lack of any visual changes to the exterior of the SPEC. The archaeological sites are summarized in Table 2-1.

Table 2-1: Previously Recorded Archaeological Sites within One Mile of the Project Area

Site No.	NRHP Eligibility	Prehistoric/ Historic	Site Type	Project Effect
75087	Eligible	N/A	Lithic scatter	None, located 0.83-mi. to the east of the Project
98912	Unevaluated	Prehistoric	Artifact scatter, cobble features	None, located 0.87-mi. to the east of the Project

3. CONCLUSION

The action area includes areas affected directly or indirectly by the proposed action (50 Code of Federal Regulations § 402.02). As there will be no ground disturbance associated with the proposed Project, the action area was limited to the facility itself. Although there is potential for small increases in activity, noise, or lighting, these increases will be limited to the existing facility. There will be no impacts to cultural resources. Furthermore, no cumulative affects to cultural resources are expected as a result of the proposed undertaking. This project will result in **no historic properties affected**.

4. REFERENCES

Barett, Thomas P.
2001 A Cultural Resources Survey of 160 Acres for the Nordic/Southpointe Powerplant Project, Approximately Six Miles East of Needles, California, on the Fort Mojave Indian Reservation, Mohave County, Arizona. Archaeological Research Services, Inc., 1999-546.ASM.

Bauer, Sharon
1997 A Cultural Resources Survey for the Topock Substation and Transmission Line. Dames & Moore Intermountain Cultural Resource Services, 1997-283.ASM.

Bauer, Sharon
1998 Cultural Resource Survey for the Calpine Natural Gas Pipeline Project, Mohave County, Arizona. Dames & Moore Intermountain Cultural Resource Services, 1998-471.ASM.

Department of the Interior, Bureau of Indian Affairs
1999 Final Environmental Impact Statement for a Lease Development Project on the Fort Mojave Indian Reservation - Mohave County, Arizona, FES 99-1

Garcia, Daniel
1999 A Supplemental Cultural Resource Survey for the Calpine Natural Gas Pipeline Project, Mohave County, Arizona. Dames & Moore Intermountain Cultural Resource Services, 1999-16.ASM.

Gassner, Brian R.
1997 A Cultural Resource Survey of a Proposed Aerial Transmission Line Right-of-Way Crossing Bureau of Land Management Land, Mohave County Arizona. Kinlani Archaeology, 1997-270.ASM.

Laird, Emily Tucker
2021 Email from Emily Tucker-Laird (ERM) to Ms. Linda Otero, Director, AhaMakav Cultural Society, Fort Mojave Indian Tribe, dated June 9, 2021.

VOLPE National Transportation Systems Center
1999 Final Supplemental Analysis - South Point Power Project, DOE/EIS-0308-SA-1, prepared for the Western Area Power Administration, Desert Southwest Region

Wigglesworth, Karen S.
1989 Archaeological Survey of a Proposed Wastewater Treatment Plant Site and 21 Miles of Pipeline on the Fort Mohave Reservation, Mohave County, Arizona. SWCA, 1989-185.ASM.

Wright, Thomas E.
1995 A Cultural Resources Survey of 160 Acres for the Nordic/Southpointe Powerplant Project, approximately six miles east of Needles, California, on the Fort Mojave Indian Reservation, Mohave County, Arizona. Archaeological Research Services, Inc., 1995-89.ASM.

APPENDIX E TITLE V PERMIT MARKUPS

Summary of Proposed Major Revisions to Title V Permit FM-ROP 16-01

Calpine South Point Energy Center

Title V Permit Section	Proposed Revision / Reason for Revision
Section I.A	Replace Responsible Official with new plant manager and designate a new facility contact
Section I.B	Add the diesel fire pump to the facility unit list. Include the facility insignificant sources
Section II.A.2-6	Consolidate requirements in a revised Table II-2 to make the emission limits easier to identify.
Section II.A.2	Exempt the first 10 three-hour average periods (rolling 12-month period) of potential emissions excursions from the permit limits in Table II-2. This will allow the facility to troubleshoot process or equipment upsets prior to shutting down a unit to prevent permit deviations.
Section II.B.2	Revise reference from PSD permit to Title V permit.
Section II.B.2.c	Remove the requirement to operate NH3 monitors and submit a PM10 to NH3 slip evaluation. There is no need to monitor ammonia slip because the facility does not have an ammonia slip limit. Further, the relationship between ammonia slip and annual PM10 test data is not an indicator of the reactivity of the SCR catalyst.
Section II.B.5	Remove 3,000 hour/year operating restriction on duct burners and steam augmentation. The units are subject to the annual emission limits identified in Table 2 above and demonstrate compliance with these annual limits using the facility continuous emissions monitoring system, which calculates monthly rolling 12-month emission totals for the facility. The operating hour limit is therefore redundant and unnecessary for compliance with annual emission limitations.
Section II.D.1	Delete the requirement to operate an ammonia monitor. The Condition states that an ammonia monitor shall be certified and operated in accordance with the applicable provisions of 40 CFR 75; however, Part 75 does not require nor address ammonia monitors. Furthermore, ammonia slip emissions are not regulated nor required to be reported as part of this permit.
Section II.D.3	Condition has been completed.
Section II.D.6	Incorporate an exemption from PAG testing if operation does not exceed 15 hours per turbine for prior calendar year. (PAG operations are rarely utilized except during annual source testing)
Section II.E.1	Editorial revision
Section II.E.2	Editorial revision
Section II.E.3	Clarify that reportable CEMS inoperable periods should be based on a clock hour basis and that these periods are considered “CEMS downtime” rather than “inoperable periods”.
Section II.F.1	Revise “working day” to “business day” to clarify reporting deadline.

Title V Permit Section	Proposed Revision / Reason for Revision
Section III.A.3	Remove prohibition of SCR adjustments during source testing. The SCR controls NOx emissions via ammonia injection into the heat recovery steam generator. The ammonia injection rates are continuously adjusted at all times based on process and emission parameters. Disallowing adjustments during emissions testing is not consistent with normal plant operations at all other times.
Section III.C	Revise section title so it is not identical to Section II.F
Section III.E.2/3	Add email address
Section III.K	Revise “working day” to “business day” to clarify reporting deadline.
Various Sections	Include provision for submittal of reports via email
Various Sections	Remove conditions relating to the emergency generator E/U 03 that unit was never installed at the SPEC.
Various Sections	Addition of separate NSPS Subpart KKKK requirements that will apply only when the TPU becomes operational. When the TPU project becomes operational, NSPS Subpart Dc will no longer apply because, pursuant to §60.4305(b), duct burners regulated under Subpart KKKK are exempted from the requirements of Subpart Dc. Some NSPS Subpart GG requirements will no longer apply when Subpart KKKK becomes applicable. Condition needs to be written such that Subpart GG requirements remain applicable until TPU upgrade triggers Subpart KKKK.

United States Environmental Protection Agency, Region IX
Air Division
75 Hawthorne Street
San Francisco, CA 94105

TITLE V PERMIT TO OPERATE

Permit Number: FM-ROP 16-01

In accordance with the provisions of title V of the Clean Air Act and 40 CFR Part 71 and applicable rules and regulations, the following facility which is located on the Fort Mojave Indian Reservation in Mohave Valley, Arizona:

South Point Energy Center (SPEC)
Mohave Valley, AZ

is authorized to operate air emission units and to conduct other air pollutant emitting activities in accordance with the permit conditions listed in this permit. Terms and conditions not otherwise defined in this permit have the meaning assigned to them in the referenced regulations. All terms and conditions of the permit are enforceable by the EPA and citizens under the Clean Air Act.

If all proposed control measures and/or equipment are not installed and properly operated and maintained, this will be considered a violation of the permit.

This permit is valid for a period of five (5) years and shall expire at midnight on the date five years after the issuance date unless a timely and complete renewal application has been submitted at least six months but not more than eighteen months prior to the date of expiration.

Date

Elizabes. dams
Acting Director, Air Division
EPA Region IX

The permit number cited above should be referenced in future correspondence regarding this facility.

South Point Energy Center Title V Federal Permit to Operate
Permit No. FM-ROP 16-01

Table of Contents

ABBREVIATIONS & ACRONYMS

Act	Clean Air Act [42 U.S.C. Sections 7401 et seq.]
Applicant	South Point Energy Center, LLC
AR	Acid Rain
ARP	Acid Rain Program
CAA	Clean Air Act [42 U.S.C. Sections 7401 et seq.]
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring Systems
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
EIP	Economic Incentives Program
EPA	United States Environmental Protection Agency
E/U	Emission Unit
gallon	Gallon
HAP	Hazardous Air Pollutant
hr	Hour
Id. No.	Identification Number
kg	Kilogram
lb	Pound
MACT	Maximum Achievable Control Technology
MVAC	Motor Vehicle Air Conditioner
Mg	Megagram
MMBTU	Million British Thermal Units
mo	Month
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NH_3	Ammonia
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
Permittee	South Point Energy Center, LLC
PM	Particulate Matter
PM_{10}	Particulate matter less than 10 microns in diameter
ppm	Parts per million
ppmw	Parts per million by weight
ppmvd	Parts per million, volumetric dry
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
Psia	Pounds per square inch absolute

RMP	Risk Management Plan
SCR	Selective Catalytic Reduction
SNAP	Significant New Alternatives Program
SO_2	Sulfur Dioxide
SPEC	South Point Energy Center
TSP	Total Suspended Particulate
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

I. SOURCE IDENTIFICATION

A. General Information

Applicant and Permittee	South Point Energy Center, LLC
Facility	South Point Energy Center 3779 Courtwright Road Mohave Valley, Arizona 86440
Owner/Operator	South Point Energy Center, LLC (Owner) Calpine Operating Services Company. Inc. (Operator) 717 Texas Avenue, Suite 1000 Houston, Texas 77002
Tribal Reservation	Fort Mohave Indian Reservation
Facility Contact	Morgan Day (EHS Specialist) South Point Energy Center 3779 Courtwright Road Mohave Valley, Arizona 86440 (619) 661-3407
Responsible Official	Kurt Fetters (Plant Manager) South Point Energy Center 3779 Courtwright Road Mohave Valley, Arizona 86440 (928) 346-7001
AFS Identification Number	04-015-MOJ01
SIC Code	4911 – Electric Power Generation, Transmission, and Distribution
2012 NAICS Code	221112 – Fossil Fuel Electric Power Generation

Deleted: Dale Donmoyer

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Process Description	Natural Gas-Fired Combined Cycle Electrical Generating Plant

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B. Facility Emission-Generating Units and Control Equipment

Emission Unit Id. No.	Unit Description	Associated Control Equipment
E/U 01	Combined Cycle System 1 (Natural Gas-Fired Turbine and Heat Recovery System Generator)	Selective Catalytic Reduction (SCR)
E/U 02	Combined Cycle System 2 (Natural Gas-Fired Turbine and Heat Recovery System Generator)	Selective Catalytic Reduction (SCR)
E/U 04	Diesel Fire Pump	
E/U 06	Mechanical-Draft Cooling Tower	Drift Eliminator

Insignificant Sources:

- **Diesel Storage Tank**
- **Brine Concentrator Boiler**

II. REQUIREMENTS FOR SPECIFIC UNITS

A. Emission Limits

1. The actual ton per year (tpy) emissions from the entire Facility, including startups and shutdowns, shall not exceed the allowable emissions listed in Table II-1 of this permit (Table X-E-1 of the PSD Permit), based on a 12-month rolling average. [EPA PSD Permit AZ-98-01, Condition X.E.1]

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Table II-1: Facility Allowable Emissions (tpy)				
NO_x	CO	SO_2	VOC	PM_{10}
271.7	1297.6	39.9	439	186.5

2. The actual hourly emissions from each emission unit shall not exceed the allowable emissions listed in Table II-2 of this permit (Table X-E-2 of the PSD Permit), based on a 3-hour rolling average for NO_x, PM_{10}, CO, SO_2, and VOCs, excluding periods of startup and shutdown and during specified periods of equipment shakedown prior to commercial operation. These limits shall not apply to the first ten 3-hour average periods in a rolling 12 month period to allow the ability to troubleshoot process or equipment upsets. [EPA PSD Permit AZ-9801, Condition X.E.2]

[NOTE TO EPA: Please replace Table II-2 with the table below.]

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Table II-2: Emission Unit Allowable Emissions (lb/hr) (a)(b)

E/U ID	Turbine Configuration	NOx		CO		SO2	VOC	PM10
		ppm	lb/hr	ppm	lb/hr	lb/hr	lb/hr	lb/hr
1	Baseload	3.0	22.4	10.0	46.7	4.47	83.1	18.3
	Duct Fire and/or PAG	3.0	24.0	35.0	158.3	4.72	83.1	22.8
2	Baseload	3.0	22.4	10.0	46.7	4.47	83.1	18.3
	Duct Fire and/or PAG	3.0	24.0	35.0	158.3	4.72	83.1	22.8

(a) 3 hour rolling average
(b) Excluding startup and shutdown periods

Table II 2: Emission Unit Allowable Emissions (lb/hr)					
E/U ID	NO_x	CO[1]	SO_2	VOC	PM_{10}
01	22.4 24.0[a]	46.7 158.3[a]	4.47 4.72[a]	83.1	18.3 22.8[a]
02	22.4 24.0[a]	46.7 158.3[a]	4.47 4.72[a]	83.1	18.3 22.8[a]

[1] During startup periods, as defined below, allowable CO emissions will be 3,000 lbs/hr.

[a] These emission limits for NO_x, CO, SO_2, and PM_{10} shall apply only during operations with supplemental heat (duct firing) and/or power augmentation with steam. Operation of E/Us 01 or 02 with supplemental heat (duct firing) and/or power augmentation with steam is limited to 3,000 hours per year each.

3. Startup and shutdown periods shall not exceed 480 hours per year per E/U. Each startup episode shall be limited to a maximum of 4 hours. During periods of startup, the emissions of CO shall not exceed 3,000 pounds per hour and 4,800 pounds per startup event. [EPA PSD Permit AZ-98-01, Condition X.E.6]

B. Work Practice and Operational Requirements

1. The Permittee shall not burn any fuel in the gas turbines which contains sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR § 60.333(b)].

After the Thermal Performance Upgrade (TPU) project is operational, the following requirement applies:

The Permittee shall not burn any fuel in the gas turbines which contains total potential sulfur emissions in excess of 0.060 lb SO2/MMBtu. [40 CFR § 60.4330(a)(2)]

2. The Permittee shall install, continuously operate, and maintain the following air pollution controls and operations to minimize emissions at or below the levels

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Deleted: <#>The NO_x emissions from E/Us 01 and 02 shall not exceed 3.0 ppmvd @ 15 percent O2 per unit, based on a 3-hour rolling average. [EPA PSD Permit AZ-9801, Condition X.E.3, 40 CFR 60.332(a)(1)]¶
<#>The CO emissions from E/Us 01 and 02 shall not exceed 10.0 ppmvd @ 15 percent O2 and 35.0 ppmvd @ 15 percent O2 per unit during base load operation and base load operation with duct firing and/or power augmentation with steam, respectively, based on a 3-hour rolling average. [EPA PSD Permit AZ-98-01, Condition X.E.4]¶
<#>The PM10 emissions from E/U 01 and 02 shall not exceed 18.3 lbs/hr during normal operations and 22.8 lbs/hr during duct firing and/or power augmentation with steam. [EPA PSD Permit AZ-98-01, Condition X.E.5]¶
<#>The emission limits in Condition II.A.2 of this permit (Condition X.E.2 of the PSD Permit) shall apply at all times to E/Us 01, and 02; except during conditions of startup and shutdown and during specified periods of equipment shakedown prior to commercial operation.
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specified in Tables II-1 and II-2 of this Permit. The aforementioned "continuous" periods of operation do not include periods of startup, shutdown, and malfunction. [EPA PSD Permit AZ-98-01, Condition X.B.]

a. The Permittee shall install and continuously operate Selective Catalytic Reduction (SCR) systems on E/Us 01 and 02 for control of NO_x.

b. The Permittee shall use good combustion control operation on E/Us 01 and 02 for control of VOC emissions.

c. The Permittee shall use good combustion control operation on E/Us 01 and 02 for control of PM_{10} emissions.

d. The Permittee shall use Fuel Injection Timing Retardation on the diesel fire pump engine (E/U 04) to minimize NO_x emissions.

e. The Permittee shall use good combustion control operation on the diesel fire pump engine (E/U 04) for control of CO, VOC, and PM/PM_{10} emissions.

g. The Permittee shall install and continuously operate high efficiency drift eliminators on the cooling tower (E/U 06) for control of PM/PM_{10} emissions.

3. The Permittee shall restrict fuel use for the operation of the combustion turbines and for supplemental duct firing (E/Us 01, 02) to pipeline quality natural gas. [EPA PSD Permit AZ-98-01, Condition X.C.1]

4. The Permittee shall restrict fuel use for the diesel fire pump engine (E/U 04) to that of No. 2 fuel oil with a maximum sulfur content of 0.05 percent by weight. [EPA PSD Permit AZ-98-01, Condition X.C.2]

Deleted: in Condition X-E of the PSD Permit.

Deleted: In addition, the Permittee shall monitor and record the ammonia slip levels resulting from the operation of the SCR system using the CEM required in Condition X.D.1 of this permit. Thirty six (36) months after commercial operations begin, and upon completion of the fourth performance test for PM10, the Permittee shall evaluate the relationship between PM10 emission levels and the degradation (if any) of ammonia slip levels to determine if substantial $_{PM10}$ reductions can be achieved by replacing the SCR catalyst. This analysis shall be submitted to EPA within 45 days from the completion of the PM10 source test. The Permittee will be required to replace the SCR catalyst unless it can adequately demonstrate, based on the analysis, that no significant PM10 reductions would be gained by doing so. The Permittee may request an extension of up to one year for catalyst replacement. EPA may grant an extension of up to one (1) year if the analysis shows that there is no significant benefit to be gained with respect to PM10 emissions by replacing the SCR catalyst. If the extension is granted, the Permittee may re-apply for additional extensions at the end of each extension period based on renewed analyses.

Deleted: <#>The Permittee shall use a clean burn configuration on the emergency generator set (E/U 03), including a fuel rich combustion stoichiometry and burning natural gas exclusively for control of NO_x, CO, and VOC emissions.¶

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5. E/Us 01 and 02 shall each operate no more than 8,760 hours per year. [EPA PSD Permit AZ-98-01, Condition X.C.3]

6. The Permittee shall restrict the operation of the diesel fire pump engine (E/U 04) to 60 minutes per 24 consecutive hours and no more than 50 hours per year. This restriction is not applicable during emergency situations. [EPA PSD Permit AZ-98-01, Condition X.C.5]

7. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the PSD Permit shall at all times be maintained in good working order and be operated as intended so as to minimize air pollutant emissions to levels at or below those contained in Condition II.A of this permit (Condition X.E of the PSD Permit). [EPA PSD Permit AZ-98-01, Condition III.]

C. Acid Rain Program Requirements [40 CFR Parts 72-76]

1. The Permittee shall comply with all the applicable requirements of the Acid Rain Permit Application located in Attachment A of this permit.

2. This permit incorporates the definitions of terms in 40 CFR § 72.2.

3. The Acid Rain Permit Application contained in Attachment A shall be in effect until the expiration of this permit.

4. A timely renewal application is an application that is received at least six (6) months prior to the permit expiration date.

D. Monitoring and Testing Requirements

1. The Permittee shall install, certify, and operate Continuous Emissions Monitoring Systems (CEMS) on E/Us 01 and 02, consisting of a NO_x concentration monitor, a CO concentration monitor, and an O_2 or CO_2 diluent gas monitor in accordance with the applicable provisions of 40 CFR Part 75, Acid Rain Program. [40 CFR § 60.8; EPA PSD Permit AZ-98-01, Condition X.D.1]

2. The Permittee shall install, certify, and operate equipment to monitor the fuel flow to the combustion turbine generators and the duct burners in accordance with the applicable provisions of 40 CFR Part 75, Appendix D, Acid Rain Program. [EPA PSD Permit AZ-98-01, Condition X.D.2]

4. The Permittee shall install, certify, and operate equipment to monitor the operating hours of the diesel fire pump engine (E/U 04). [EPA PSD Permit AZ-98-01, Condition X.D.4]

5. All CEMS shall undergo a performance evaluation to demonstrate that they meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications of 40 CFR Part 75.

Deleted: Operations using steam augmentation shall be limited to no more than 3,000 hours per year per turbine.

Deleted: <#>The Permittee shall restrict the operation of the emergency generator set (E/U 03) to no more than 150 hours per year. [EPA PSD Permit AZ-98-01, Condition X.C.4]¶

Deleted: an NH3 (ammonia) monitor,

Deleted: <#>The Permittee shall apply to the EPA Regional Administrator, not later than 45 days following the completion of all certification tests, to use fuel flow as the SO2 measurement method in accordance with the applicable provisions of 40 CFR Part¶
<#>75, Appendix D, Acid Rain Program. [EPA PSD Permit AZ-98-01, Condition X.D.3]¶

Deleted: <#>emergency generator set (E/U 03) and

(Appendix A). The CEMS performance evaluation shall be conducted prior to, during, or within thirty (30) days after the completion of the performance testing identified in Condition II.D.6 of this permit (Condition X.F of the PSD Permit). Results of the CEMS performance evaluation shall be submitted to the EPA Regional Administrator within sixty (60) days after completion. [EPA PSD Permit AZ-98-01, Condition X.D.5]

6. Within 60 days after achieving the maximum production rate of the affected emission units, but no later than 180 days after the initial startup of equipment (as defined in 40 CFR § 60.2), and at such other times as specified by the Regional Administrator, the owner/operator shall conduct or cause to be conducted performance tests (as described in 40 CFR § 60.8) for NO_x, CO, SO_2, VOCs, and PM_{10} on the exhausts of E/Us 01, and 02. The performance tests shall be conducted to demonstrate compliance with the emission limits specified in Conditions II.A.2 through II.A.5 of this permit (Conditions X.E.2 through X.E.5 of the PSD Permit) for E/Us 01 and 02. The tests for NO_x, SO_2, CO, VOC, and PM_{10} shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested, in both normal and steam augmentation mode (duct firing and/or power augmentation with steam). Testing in power augmentation with steam mode is not required when steam augmentation was utilized less than 15 hours during the previous calendar year. This exemption applies per each unit. Upon written request from Calpine, EPA may approve the conduct of performance tests at a lower specified production rate. After initial performance tests and upon written request and adequate justification from Calpine, EPA may waive a specified annual test for the facility. [EPA PSD Permit AZ-98-01, Condition X.F.1; 40 CFR § 60.335(b) (40 CFR § 60.4400(a) after the TPU project is operational).]

Deleted: duct firing and power augmentation with steam modes.

7. Performance tests of the emissions of NO_x from the exhausts of E/Us 01 and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR § 60.8, 40 CFR Part 60 Subpart GG, and 40 CFR Part 60, Appendix A, Method 20. [EPA PSD Permit AZ-98-01, Condition X.F.2]

8. Performance tests of the emissions of CO from the exhausts of E/Us 01 and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A, Method 10. [EPA PSD Permit AZ-98-01, Condition X.F.3]

9. Performance tests of the emissions of SO_2 from the exhausts of E/Us 01 and 02 shall be determined by fuel analysis in accordance with the procedures and

methods set forth in 40 CFR § 60.8, 40 CFR Part 60 Subpart GG (40 CFR Part 60 Subpart KKKK after the TPU project is operational), and 40 CFR Part 60, Appendix A, Method 20. [EPA PSD Permit AZ-98-01, Condition X.F.4]

10. Performance tests of the emissions of VOCs from the exhausts of E/Us 01 and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A, Methods 25A and 18. Method 18 may be used to determine the methane fraction to subtract from Method 25A's total hydrocarbons. [EPA PSD Permit AZ-98-01, Condition X.F.5]

11. Performance tests of the emissions of PM_{10} from the exhausts of E/Us 01 and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR § 60.8; 40 CFR Part 60, Appendix A; and 40 CFR 51, Appendix M, Methods 5 or 201A (front-half) and Method 202 (condensable portion). [EPA PSD Permit AZ-98-01, Condition X.F.6]

12. Thirty (30) days prior to such performance tests, the EPA Regional Administrator shall be notified in writing of the proposed date of the performance dates, and a performance testing protocol shall be submitted for approval. In lieu of the aforementioned performance test methods, equivalent methods may be used with prior written approval from the EPA Regional Administrator. [EPA PSD Permit AZ-98-01, Condition X.F.7]

13. For performance test purposes, sampling ports, platforms, and accesses shall be provided on E/Us 01, and 02 exhaust systems in accordance with 40 CFR § 60.8(e). [EPA PSD Permit AZ-98-01, Condition X.F.8]

14. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine. [40 CFR § 60.334]. After the TPU project is operational, this requirement no longer applies.

15. The fuel sulfur content of the natural gas fired in the gas turbine shall not exceed 20 grains/100 scf. The Permittee shall demonstrate compliance by the following methods: [40 CFR § 60.334(h)]

    a. Representative fuel sampling data as specified in section 2.3.1.4 or 2.3.2.4 of Appendix D to 40 CFR Part 75.

        i. On-going sampling of the fuel's sulfur content is required annually and whenever the fuel supply source changes.
        ii. "Annual" sampling is defined as taking at least one sample within each calendar year.

E. Recordkeeping Requirements

1. Documentation shall be maintained of all measurements including continuous monitoring system evaluations, all continuous monitoring system or monitoring device calibration checks, adjustments and maintenance performed on these

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systems or devices, performance and all other information required by 40 CFR Parts 60 or 75 recorded in a permanent form suitable for inspection. Documentation shall be retained for at least five (5) years following the date of such measurement, maintenance, reports, and records. [40 CFR § 71.6(a)(3)(ii); 40 CFR § 60.7(f); EPA PSD Permit AZ-98-01, Condition X.G.1]

2. The Permittee shall record and maintain records of the daily and the 12-month rolling operating hours of the diesel fire pump. [EPA PSD Permit AZ-98-01, Condition X.G.2]

3. A written report of excess emission shall be submitted to the EPA Regional Administrator postmarked or emailed by the 30th day following each semi-annual period. The report shall include the following: [EPA PSD Permit AZ-98-01, Condition X.G.3]

   a. The magnitude of excess emissions computed in accordance with 40 CFR § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each event of excess emissions.

   b. Specific identification of each period of excess emissions that occurs during startups, shutdown, and malfunctions of the turbine systems. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.

   c. The date and time identifying each clock hour during which a CEMS experienced downtime.

   d. When no excess emissions or CEMS downtime have occurred, such information shall be stated in the report.

   e. Excess emissions shall be defined as emissions exceeding the allowable emission limits contained in Condition II.A of this permit (Condition X.E of the PSD Permit), as determined by the compliance methods listed in Condition II.D.6 of this permit (Condition X.F of the PSD Permit).

4. The facility is subject to the recordkeeping and reporting requirements of the applicable New Source Performance Standards (NSPS) 40 CFR Part 60, as described in Condition II.H of this permit (Condition X.H of the PSD Permit). [EPA PSD Permit AZ-98-01, Condition X.G.4]

5. Records of sample analysis and fuel supply shall be retained for a period of five years, and be available for inspection by authorized EPA personnel. [40 CFR § 60.334]. After the TPU project is operational, this requirement no longer applies.

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F. Reporting Requirements

1. The EPA Regional Administrator shall be notified by facsimile or electronic mail transmission within two (2) business days following the discovery any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Condition II.A of this permit (Condition X.E of the PSD Permit). In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of the discovery any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under Condition II.A of this permit (Condition X.E of the PSD Permit), and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for in Condition III.H of this permit (Condition IV.B of the PSD Permit). [EPA PSD Permit AZ-98-01, Condition IV.A]

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G. New Source Performance Standards General Provisions

The following requirements apply to the operation, maintenance, and testing of the gas turbines in accordance with 40 CFR Part 60, Subpart GG ("Standards of Performance for Stationary Gas Turbines"). After the TPU project is operational, these requirements are in accordance with 40 CFR Part 60, Subpart KKKK ("Standards of Performance for Stationary Gas Turbines"):

1. All requests, reports, applications, submittals, and other communications to the EPA Administrator pursuant to 40 CFR Part 60 shall be submitted in duplicate to the EPA Region IX office at the following address [40 CFR § 60.4(a); EPA PSD Permit AZ-98-01, Condition X.I]:

   Director, Enforcement Division (Attn: ENF-2-1)
   U.S. Environmental Protection Agency, Region IX
   75 Hawthorne Street
   San Francisco, California 94105
   Please add email address here.

2. Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR § 60.7(b)]
3. The availability to the public of information provided to, or otherwise obtained by, the EPA Administrator under this permit shall be governed by 40 CFR Part 2. (Information submitted voluntarily to the Administrator for the purposes of

compliance with 40 CFR §§ 60.5 and 60.6 is governed by 40 CFR §§ 2.201 through 2.213 and not by 40 CFR § 2.301.) [40 CFR § 60.9]

4. Compliance with the fuel sulfur standard listed in Condition II.B.1 of this permit shall be determined in accordance with performance tests established by 40 CFR § 60.8. [40 CFR § 60.11(a)]

5. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate this facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR § 60.11(d)]

6. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in 40 CFR Part 60, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [40 CFR § 60.11(g)]

7. No owner or operator subject to the provisions 40 CFR Part 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR § 60.12]

8. With respect to compliance with all New Source Performance Standards (NSPS) of 40 CFR Part 60, the Permittee shall comply with the "General notification and reporting requirements" found in 40 CFR § 60.19. [40 CFR § 60.19]

H. New Source Performance Standards [EPA PSD Permit AZ-98-01, Condition X.H; 40 CFR Part 60, Subparts A, GG, and Dc (After the TPU project is operational, 40 CFR Part 60, Subparts A and KKKK)]

The facility's combustion turbines and duct burners are subject to the federal New Source Performance Standards (NSPS) 40 CFR Part 60, Subparts GG and Dc, respectively, as well as the general provisions of Subpart A. After the TPU project is operational, the equipment is subject to NSPS 40 CFR Part 60 Subpart KKKK, as well as the general provisions of Subpart A. The owner/operator shall meet the applicable requirements of the aforementioned NSPS subparts.

I. Operational Flexibility

1. CAA Section 502(b)(10) Changes [40 CFR § 71.6(a)(13)(i)]
   a. The Permittee is allowed to make a limited class of changes under Section 502(b)(10) of the Clean Air Act within this permitted facility that contravene the specific terms of this permit without applying for a permit revision, provided the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions) and are not Title I modifications. This class of changes does not include:

      i. Changes that would violate applicable requirements; or

      ii. Changes that would contravene federally enforceable permit terms and conditions that are monitoring (including test methods)recordkeeping, reporting, or compliance certification requirements.

2. The Permittee is required to send a notice to EPA at least 7 days in advance of any change made under this provision. The notice must describe the change, when it will occur and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The Permittee shall attach each notice to its copy of this permit.

3. Any permit shield provided in this permit does not apply to changes made under this provision.

III. FACILITY-WIDE OR GENERIC PERMIT REQUIREMENTS

Conditions in this section of the permit (Section III) apply to all emissions units located at the facility. [40 CFR § 71.6(a)(1)]

A. Testing Requirements [40 CFR § 71.6(a)(3)]

In addition to the unit specific testing requirements derived from the applicable requirements for each individual unit contained in Section II of this permit, the Permittee shall comply with the following generally applicable testing requirements as necessary to ensure that the required tests are sufficient for compliance purposes:

1. Submit to EPA a source test plan 30 days prior to any required testing. The source test plan shall include and address the following elements:

   1.0 Purpose of the test
   2.0 Source Description and Mode of Operation During Test
   3.0 Scope of Work Planned for Test
   4.0 Schedule/Dates
   5.0 Process Data to be Collected During Test
   6.0 Sampling and Analysis Procedures

6.1 Sampling Locations
6.2 Test Methods
6.3 Analysis Procedures and Laboratory Identification
7.0 Quality Assurance Plan
7.1 Calibration Procedures and Frequency
7.2 Sample Recovery and Field Documentation
7.3 Chain of Custody Procedures
7.4 QA/QC Project Flow Chart
8.0 Data Processing and Reporting
8.1 Description of Data Handling and QC Procedures
8.2 Report Content

2. Unless otherwise specified by an applicable requirement or permit condition in Section II, all source tests shall be performed at maximum operating rates (90% to 110% of device design capacity at ISO conditions).

3. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test. Any operating adjustments made during a source test, that are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

Deleted: No adjustments are to be made within two (2) hours of the start of the tests.

4. During each test run and for two (2) hours prior to the test and two (2) hours after the completion of the test, the Permittee shall record the following information:

   a. Fuel characteristics and/or amount of product processed (if applicable).

   b. All parametric data which is required to be monitored in Section II for the emission unit being tested.

   c. Other source specific data identified in Section II such as minimum test length (e.g., one hour, 8 hours, 24 hours, etc.), minimum sample volume, other operating conditions to be monitored, correction of O_2, etc.

5. Each source test shall consist of at least three (3) valid test runs and the emission results shall be reported as the arithmetic average of all valid test runs and in the terms of the emission limit. There must be at least 3 valid test runs, unless otherwise specified.

6. Source test reports shall be submitted to EPA within 60 days of completing any required source test.

B. Recordkeeping Requirements [40 CFR § 71.6 (a)(3)(ii)]

In addition to the unit specific recordkeeping requirements derived from the applicable requirements for each individual unit and contained in Section II of this permit, the Permittee shall comply with the following generally applicable recordkeeping requirements:

1. The Permittee shall keep records of required monitoring information that include the following:

   a. The date, place, and time of sampling or measurements;
   b. The date(s) analyses were performed;
   c. The company or entity that performed the analyses;
   d. The analytical techniques or methods used;
   e. The results of such analyses; and
   f. The operating conditions as existing at the time of sampling or measurement.

2. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, and copies of all reports required by this permit.

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C. Reporting Requirements [40 CFR § 71.6 (a)(3)(iii)]

1. The Permittee shall submit to EPA Region IX reports of any monitoring required under 40 CFR §§ 71.6(a)(3)(i)(A), (B), or (C) each six (6) month reporting period from January 1 to June 30 and from July 1 to December 31. All reports shall be submitted to EPA and shall be postmarked or emailed by the 30th day following the end of the reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Condition IV.E of this permit.

   a. A monitoring report under this section must include the following:

      i. The company name and address,

      ii. The beginning and ending dates of the reporting period,

      iii. The emissions unit or activity being monitored

      iv. The emissions limitation or standard, including operational requirements and limitations (such as parameter ranges), specified in the permit for which compliance is being monitored.

      v. All instances of deviations from permit requirements, including those attributable to upset conditions as defined in the permit and including exceedances as defined under 40 CFR Part 64, and the date on which each deviation occurred.

      vi. If the permit requires continuous monitoring of an emissions limit or parameter range, the report must include the total operating time of the emissions unit during the reporting period, the total duration of excess emissions or parameter exceedances during the reporting period, and the total downtime of the continuous monitoring system during the reporting period.

      vii. If the permit requires periodic monitoring, visual observations, work practice checks, or similar monitoring, the report shall include the total

time when such monitoring was not performed during the reporting period and at the source's discretion either the total duration of deviations indicated by such monitoring or the actual records of deviations.

viii. All other monitoring results, data, or analyses required to be reported by the applicable requirement.

ix. The name, title, and signature of the responsible official who is certifying to the truth, accuracy, and completeness of the report.

b. Any report required by an applicable requirement that provides the same information described in Conditions III.C.1.a.i through ix above shall satisfy the requirement under Condition III.C.1.a.

c. "Deviation" means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or record keeping established in accordance with 40 CFR §§ 71.6(a)(3)(i) and (a)(3)(ii). For a situation lasting more than 24 hours, each 24-hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:

i. A situation when emissions exceed an emission limitation or standard;

ii. A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;

iii. A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.

iv. A situation in which an exceedance, as defined in the compliance assurance plan (40 CFR Part 64), occurs.

2. The Permittee shall promptly report to EPA Region IX, deviations from permit or start-up, shut-down malfunction plan requirements, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" is defined as follows:

a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit;

b. Where the underlying applicable requirement does not define prompt or provide a timeframe for reporting deviations, reports of deviations will be submitted based on the following schedule:
   i. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
   ii. For emissions of any regulated pollutant excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
   iii. For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in Condition III.C.1 of this permit.

3. If any of the conditions of Condition III.C.2.b. of this permit are met, the source must notify the permitting authority by facsimile or electronic mail sent to AEO_R9@epa.gov, based on the timetable listed. A written notice, certified consistent with Condition III.C.4 of this permit section must be submitted within 10 working days of the occurrence. All deviations reported under this section must also be identified in the 6-month report (semi-annual monitoring report) required under Condition III.C.1 of this section of the permit.

4. Any application form, monitoring report, or compliance certification required to be submitted by this permit shall contain certification by the permit-designated responsible official of truth, accuracy and completeness consistent with Condition IV.E of this permit and 40 CFR § 71.5(d). All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

D. Stratospheric Ozone and Climate Protection [40 CFR Part 82]

1. The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

   a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR § 82.156.

   b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR § 82.158.

   c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to 40 CFR § 82.166. ("MVAC-like appliance" as defined at 40 CFR § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR § 82.166.

2. If the Permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

3. If the Permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

   The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

4. The Permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

E. Chemical Accident Prevention [CAA §§ 112(r)(1), 112(r)(3), and 112(r)(7); 40 CFR Part 68]

1. The following activities are considered essential and necessary to satisfy the general duty requirements of Section 112(r)(1) of the CAA:

   a. Identify hazards which may result from accidental releases using appropriate hazard assessment techniques.

   b. Design, maintain, and operate a safe facility.

   c. Minimize the consequences of accidental releases if they occur.

2. An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR § 68.115, shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR Part 68 no later than the latest of the following dates:

   a. June 21, 1999;

   b. Three years after the date on which a regulated substance is first listed under 40 CFR § 68.130; or

   c. The date on which a regulated substance is first present above a threshold quantity in a process. [40 CFR § 68.10.]

F. Asbestos from Demolition and Renovation [40 CFR Part 61, Subpart M]

The Permittee shall comply with the requirements of 40 CFR §§ 61.140 through 61.157 of the National Emission Standard for Asbestos for all demolition and renovation projects. [40 CFR Part 61, Subpart M]

G. Compliance Schedule [40 CFR §§ 71.5(c)(8)(iii) and 71.6(c)(3)]

1. For applicable requirements with which the source is in compliance, the source will continue to comply with such requirements.
2. For applicable requirements that will become effective during the permit term, the source shall meet such requirements on a timely basis.

H. Treatment of Emissions [EPA PSD Permit AZ-98-01, Conditions IV.B.1 through IV.B.5]

1. Definition of malfunction: A malfunction means a sudden and reasonably unforeseeable breakdown of equipment or of a process beyond the reasonable control of the source.
2. Emissions in excess of the limits in Condition II.A of this permit (Condition X.E of the PSD Permit) shall constitute a violation and may be the subject of enforcement proceedings.
3. Affirmative Defense: In the context of an enforcement proceeding, emissions which are below the limits set forth in this Condition II.H.3.b of this permit (Condition IV(B)(3)(ii) of the PSD Permit) shall not be subject to penalty if the Permittee retains properly signed, contemporaneous operating logs or other relevant evidence and can demonstrate all of the following:

   a. A malfunction caused the emissions in excess of the limits in Condition II.A of this permit (Condition X.E of the PSD Permit).

b. The emissions did not exceed the following levels:

30 ppm NOx (1-hour average, corrected to 15% O2)
20 ppm CO (3-hour average, corrected to 15% O2)
240.0 lbs/hr NOx (1-hour average)
93.4 lbs/hr CO (3-hour average)

c. The permitted facility, including the air pollution control equipment and process equipment, was being properly operated at the time of the malfunction.

d. Preventative maintenance was regularly performed in a manner consistent with good practice for minimizing emissions.

e. The malfunction was not part of a recurring pattern indicative of inadequate design, operation or maintenance.

f. The malfunction was not caused by improperly or inadequately designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

g. During the period of the malfunction the Permittee took all reasonable steps to minimize the amount and duration of emissions (including any bypass) that exceeded the emission standards in Condition II.A of this permit (Condition X.E of the PSD Permit). Reasonable steps to minimize emissions could include, but are not limited to, reducing production to the lowest level practicable, reducing the material feed that results in the increased emissions, and switching to alternative, less polluting fuels. Where repairs were required, repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as possible.

h. The Permittee complied with the malfunction reporting requirements of Condition II.F of this permit (Condition IV.A of the PSD Permit).

4. All emissions, including those associated with a malfunction which may be eligible for an affirmative defense, must be included in all emissions calculations and demonstrations of compliance with mass emission limits in Condition II.A of this permit (Condition X.E of the PSD Permit) (e.g., daily, monthly, and annual emission limits).

5. This provision is in addition to any emergency or malfunction provision contained in any applicable requirement or elsewhere in this permit.

I. Other Applicable Regulations [EPA PSD Permit AZ-98-01, Condition VIII]

The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, 62, 63, and all other applicable federal, state, and local air quality regulations.

IV. TITLE V ADMINISTRATIVE REQUIREMENTS

A. Fee Payment [40 CFR §§ 71.6(a)(7) and 71.9]

1. The Permittee shall pay an annual permit fee in accordance with the procedures outlined below. [40 CFR § 71.9(a).]
2. The Permittee shall pay the annual permit fee by April 1 of each year.
3. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency.
4. The Permittee shall send fee payment and a completed fee filing form to one of the two addresses below:

   Address for regular mail through the U.S. Postal Service:

   U.S. Environmental Protection Agency
   FOIA and Miscellaneous Payments
   Cincinnati Finance Center
   P.O. Box 979078
   St. Louis, MO 63197-9000

   Address for express delivery (or when a physical address is required):

   U.S. Bank
   Government Lockbox 979078 US EPA FOIA & Misc. Payments
   1005 Convention Plaza
   Mail Station SL-MO-C2GL
   St. Louis, MO 63101

5. The Permittee shall send an updated fee calculation worksheet form and a photocopy of each fee payment check (or other confirmation of actual fee paid) submitted annually by the same deadline as required for fee payment to the address listed below. [Permittee should note that an annual emissions report, required at the same time as the fee calculation worksheet by 40 CFR § 71.9(h), has been incorporated into the fee calculation worksheet form as a convenience.

U.S. EPA Region IX
Air Permits Office (Attn: AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

6. Basis for calculating annual fee:

   a. The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all "regulated pollutants (for fee calculation)" emitted from the source by the presumptive emissions fee (in dollars/ton) in effect at the time of calculation.

      i. "Actual emissions" means the actual rate of emissions in tpy of any regulated pollutant (for fee calculation) emitted from a Part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions units actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. [See §71.9(c)(6).]

      ii. Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data. [40 CFR § 71.9(h)(3).]

      iii. If actual emissions cannot be determined using the compliance methods in the permit, the Permittee shall use other federally recognized procedures. [40 CFR § 71.9(e)(2).]

      iv. The term "regulated pollutant (for fee calculation)" is defined in 40 CFR § 71.2.

      v. The Permittee should note that the presumptive fee amount is revised each calendar year to account for inflation, and it is available from EPA prior to the start of each calendar year.

   b. The Permittee shall exclude the following emissions from the calculation of fees:

      i. The amount of actual emissions of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tons per year. [40 CFR § 71.9(c)(5)(i)];

ii. Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation [40 CFR § 71.9(c)(5)(ii)]; and

iii. The quantity of actual emissions (for fee calculation) of insignificant activities, as defined in 40 CFR § 71.5(c)(11)(i), or of insignificant emissions levels from emissions units identified in the Permittee's application pursuant 40 CFR § 71.5(c)(11)(ii). [See 40 CFR § 71.9(c)(5)(iii).

7. Fee calculation worksheets shall be certified as to truth, accuracy, and completeness by a responsible official. [Permittee should note that the fee calculation worksheet form already incorporates a section to help you meet this responsibility.]

8. The Permittee shall retain fee calculation worksheets and other emissions-related data used to determine fee payment for five (5) years following submittal of fee payment. Emission-related data include, for example, emissions-related forms provided by EPA and used by the Permittee for fee calculation purposes, emissions-related spreadsheets, and emissions-related data, such as records of emissions monitoring data and related support information required to be kept in accordance with 40 CFR § 71.6(a)(3)(ii). [40 CFR § 71.9(i).]

9. Failure of the Permittee to pay fees in a timely manner shall subject the permittee to assessment of penalties and interest in accordance with 40 CFR § 71.9(l).

10. When notified by EPA of underpayment of fees, the Permittee shall remit full payment within 30 days of receipt of notification. [See 40 CFR §§ 71.9(j)(1) and (2).]

11. A Permittee who thinks an EPA assessed fee is in error and who wishes to challenge such fee, shall provide a written explanation of the alleged error to EPA along with full payment of the EPA assessed fee. [See 40 CFR § 71.9(j)(3).]

B. Blanket Compliance Statement [40 CFR §§ 71.6(a)(6)(i) and (ii); Sections 113(a) and 113(e)(1) of the CAA; 40 CFR § 51.212, 52.12, 52.33, 60.11(g), and 61.12.]

1. The Permittee must comply with all conditions of this Part 71 permit. Any permit noncompliance, including, but not limited to, violation of any applicable requirement; any permit term or condition; any fee or filing requirement; any duty to allow or carry out inspection, entry, or monitoring activities; or any regulation or order issued by the permitting authority pursuant to this part constitutes a violation of the Clean Air Act and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. It shall not be a defense for a Permittee in an enforcement

action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR § 71.6(a)(6)(i) and (ii).]

2. Determinations of deviations, continuous or intermittent compliance status, or violations of this permit, are not limited to the applicable testing or monitoring methods required by the underlying regulations or this permit; other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered in such determinations. [Section 113(a) and 113(e)(1) of the CAA; 40 CFR §§51.212, 52.12, 52.33, 60.11(g), and 61.12.]

C. Compliance Certifications [40 CFR § 71.6(c)(5)]

1. The Permittee shall submit to EPA Region IX a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, postmarked or emailed by January 30 of each year and covering the previous calendar year. The compliance certification shall be certified as to truth, accuracy, and completeness by the permit-designated responsible official consistent with Condition IV.E. of this permit and 40 CFR § 71.5(d). [40 CFR § 71.6(c)(5)]

2. The certification shall include the following:

Identification of each permit term or condition that is the basis of the certification.

a. Identification of the method(s) or other means used for determining the compliance status of each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with Section113(c)(2) of the CAA, which prohibits knowingly making a false certification or omitting material information.

b. The compliance status of each term and condition of the permit for the period covered by the certification based on the method or means designated above. The certification shall identify each deviation and take it into account in the compliance certification.

c. Whether compliance with each permit term was continuous or intermittent.

D. Duty to Provide and Supplement Information [40 CFR §§ 71.6(a)(6)(v) and 71.5(b)]

1. The Permittee shall furnish to EPA, within a reasonable time, any information that EPA may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the EPA copies of records that are required to be kept pursuant to the terms of the permit, including information claimed to be confidential. Information claimed to be confidential should be accompanied by a claim of confidentiality according to the provisions of 40 CFR Part 2, Subpart B. The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

E. Submissions [40 CFR §§ 71.5(d), 71.6, and 71.9; EPA PSD Permit AZ-98-01, Condition X.I]

1. Any document required to be submitted with this permit shall be certified by a responsible official as to truth, accuracy, and completeness. Such certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
2. The Permittee shall submit fee calculation worksheets, permit applications, permit amendments, and changes that contravene permit terms, to:

   Director, Air Division (Attn: AIR-3)
   U. S. Environmental Protection Agency Region IX
   75 Hawthorne Street
   San Francisco, CA 94105
   Please add email address here.
3. The Permittee shall submit a copy of all test plans, reports, compliance certifications, compliance reports, test data, monitoring data, notifications, and other information pertaining to compliance to:

Director, Enforcement Division (Attn: ENF-2-1)
U.S. Environmental Protection Agency, Region IX 75 Hawthorne Street
San Francisco, California 94105
Please add email address here.

F. Severability Clause [40 CFR § 71.6(a)(5); EPA PSD Permit AZ-98-01, Condition VII]

The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.

G. Permit Actions [40 CFR § 71.6(a)(6)(iii)]

This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

H. Reopening for Cause [40 CFR § 71.7(f)]

1. EPA shall reopen and revise the permit prior to expiration under any of the following circumstances:

   a. Additional applicable requirements under the Act become applicable to a major Part 71 source with a remaining permit term of three (3) or more years.

   b. Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

   c. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

   d. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

I. Property Rights [40 CFR § 71.6(a)(6)(iv)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

J. Inspection and Entry [40 CFR § 71.6(c)(2); EPA PSD Permit AZ-98-01, Condition V]

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow authorized representatives from EPA to perform the following:

1. Enter upon the Permittee's premises where a Part 71 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. As authorized by the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

K. Emergency Provisions [40 CFR § 71.6(g)]

1. In addition to any emergency or upset provision contained in any applicable requirement, SPEC may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, SPEC shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. an emergency occurred and that SPEC can identify the cause(s) of the emergency;

   b. the permitted facility was at the time being properly operated;

   c. during the period of the emergency SPEC took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and

   d. SPEC submitted notice of the emergency to EPA within two (2) business days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of Condition III.C(b) of this permit.

   e. In any enforcement proceeding in which SPEC attempts to establish the occurrence of an emergency, SPEC has the burden of proof.

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2. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

L. Transfer of Ownership or Operation

1. A change in ownership or operational control of this facility may be treated as an administrative permit amendment if the EPA determines no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to EPA. [40 CFR § 71.7(d)(1)(iv)]
2. In the event of any changes in control or ownership of the facilities to be constructed, the PSD Permit shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator. [EPA PSD Permit AZ-98-01, Condition VI.]

M. Off Permit Changes [40 CFR §71.6(a)(12)]

1. The Permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met:

   a. Each change is not addressed or prohibited by this permit.

   b. Each change must comply with all applicable requirements and may not violate any existing permit term or condition;

   c. Changes under this provision may not include changes or activities subject to any requirement under Title IV or that are modifications under any provision of Title I of the Clean Air Act;

   d. The Permittee must provide contemporaneous written notice to EPA of each change, except for changes that qualify as insignificant activities under 40 CFR § 71.5(c)(11). The written notice must describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.

   e. The permit shield does not apply to changes made under this provision;

f. The Permittee must keep a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

N. Permit Expiration and Renewal [40 CFR §§ 71.5(a)(1)(iii), 71.6(a)(11), 71.7(b), 71.7(c)(1)(i) and (ii), and 71.8(d)]

1. This permit shall expire five (5) years from the date of issuance.
2. Expiration of this permit terminates the Permittee's right to operate unless a timely and complete permit renewal application has been submitted on or before a date 6 months, but not more than 18 months, prior to the date of expiration of this permit.
3. If the Permittee submits a timely and complete permit application for renewal, consistent with 40 CFR § 71.5(a)(2), but the permitting authority has failed to issue or deny the renewal permit, then the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted pursuant to 40 CFR § 71.6(f) may extend beyond the original permit term until renewal. The Permittee's failure to have a Part 71 permit is not a violation of this part until EPA takes final action on the permit renewal application. This protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit any additional information identified as being needed to process the application by the deadline specified in writing by EPA.
4. Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation, affected State, and tribal review.
5. The application for renewal shall include the current permit number, description of permit revisions and off-permit changes that occurred during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form.

O. Administrative Permit Amendments [40 CFR § 71.7(d)]

1. The Permittee may request the use of administrative permit amendment procedures for a permit revision that:
   a. Corrects typographical errors.
   b. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source.
   c. Requires more frequent monitoring or reporting by the Permittee.

d. Allows for a change in ownership or operational control of a source where the EPA determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to the EPA.
e. Incorporates into the Part 71 permit the requirements from preconstruction review permits authorized under an EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of 40 CFR §§ 71.7 and 71.8 that would be applicable to the change if it were subject to review as a permit modification, and compliance requirements substantially equivalent to those contained in 40 CFR § 71.6.
f. Incorporates any other type of change which EPA has determined to be similar to those listed above in Conditions IV.O.1.a through e.

P. Minor Permit Modifications [40 CFR § 71.7(e)(1)]

1. The Permittee may request the use of minor permit modification procedures only for those modifications that:
   a. Do not violate any applicable requirement.
   b. Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit.
   c. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis.
   d. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
      i. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of title I; and
      ii. An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act.
   e. Are not modifications under any provision of Title I of the Clean Air Act. Are not required to be processed as a significant modification.
2. Notwithstanding the list of changes eligible for minor permit modification procedures in Condition IV.P.1 above, minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in an applicable implementation plan or in applicable requirements promulgated by EPA.

3. An application requesting the use of minor permit modification procedures shall meet the requirements of 40 CFR § 71.5(c) and shall include the following:

   a. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
   b. The source's suggested draft permit;
   c. Certification by a responsible official, consistent with §71.5(d), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
   d. Completed forms for the permitting authority to use to notify affected States as required under 40 CFR § 71.8.

4. The source may make the change proposed in its minor permit modification application immediately after it files such application. After the source makes the change allowed by the preceding sentence, and until the permitting authority takes any of the actions authorized by 40 CFR §§ 71.7(e)(1)(iv)(A) through (C), the source must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

5. The permit shield under 40 CFR § 71.6(f) may not extend to minor permit modifications. [40 CFR § 71.7(e)(1)(vi)].

Q. Significant Permit Modifications [40 CFR § 71.7(e)(3)]

1. The Permittee must request the use of significant permit modification procedures for those modifications that:

   a. Do not qualify as minor permit modifications or as administrative amendments.

   b. Are significant changes in existing monitoring permit terms or conditions.

   c. Are relaxations of reporting or recordkeeping permit terms or conditions.

2. Nothing herein shall be construed to preclude the Permittee from making changes consistent with Part 71 that would render existing permit compliance terms and conditions irrelevant.

3. Permittees must meet all requirements of Part 71 for applications for significant permit modifications. For the application to be determined complete, the Permittee must supply all information that is required by 40 CFR § 71.5(c) for permit issuance and renewal, but only that information that is related to the proposed change. [40 CFR §§ 71.7(e)(3)(ii) and 71.5(a)(2).]

Attachment A: Acid Rain Permit Application

No Revisions are Proposed for the Acid Rain Application

APPENDIX F PSD PERMIT MARKUPS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105.3901

APR **19 2005**

James J. Doherty
Plant Manager
South Point Energy Center
3779 Courtwright Rd.
P.O. Box 5619
Mohave Valley, AZ 86446

Re: Issuance of Minor Modification of PSD Permit to Install New Turbine Combustor Technology

Dear Mr. Doherty:

In accordance with provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the Environmental Protection Agency has reviewed the application for a permit modification submitted by Calpine for the South Point Energy Center, located on the Fort Mohave Indian Reservation in Arizona.

A request for public comment regarding EPA's proposed action on the above application has been published. EPA did not receive any comments from interested persons (including State and local agencies). After considering pertinent Federal statutes and regulations, the EPA hereby amends the May 24, 1999 Approval to Construct/Modify (AZ 98-01) issued to Calpine for the construction and operation of two combined cycle combustion turbine (CCCT) generating sets (Westinghouse Model 501FD) and two duct fired heat recovery steam generators (HRSG) feeding a single steam turbine generator located approximately 16 miles south of Bullhead City, Arizona.

This amendment adds new section XI to the permit, allowing the installation of a new turbine combustor in Unit 2. This action does not constitute a significant change from the proposed action set forth and offered for public comment. This Approval to Construct a Modified Stationary Source shall take effect immediately.

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If you have any questions regarding this matter, please contact Roger Kohn at (415) 972-3973 or kohn.roger@epa.gov.

Sincerely,

Deborah Jordan
Director, Air Division

Enclosure

cc: Barbara McBride, Calpine
Greg Darvin, Atmospheric Dynamics
Nora Helton, Fort Mojave Indian Tribe

APPROVAL TO CONSTRUCT A
MODIFIED STATIONARY SOURCE

PSD Permit No. AZ 98-01-B

In compliance with provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), Calpine is granted approval to modify Unit 2 by installing a new turbine combustor at the South Point Energy Center on the Fort Mojave Indian Reservation, approximately 26 kilometers south of Bullhead City, Arizona, in accordance with the plans submitted with the application and with the Federal regulations governing the Prevention of Significant Air Quality Deterioration (40 C.F.R. 52.21) and other conditions attached to this document and made a part of this approval.

Failure to comply with any condition or term set forth in this approval will be considered grounds for enforcement action pursuant to Section 113 of the Clean Air Act.

This Approval to Construct a Modified Stationary Source grants no relief from the responsibility for compliance with any other applicable provision of 40 C.F.R. Parts 52, 60 and 61 or any applicable Federal, State, or local air quality regulations.

This approval shall become effective immediately.

Dated -/ 9-

Deborah Jordan
Director, Air Division

Permit Conditions

I. **Permit Expiration**

This Authority to Construct shall become invalid (1) if construction is not commenced (as defined in 40 CFR 52.21(b)(8)) within 18 months after the approval takes effect, (2) if construction is discontinued for a period of 18 months or more, or (3) if construction is not completed within a reasonable time.

II. **Notification of Commencement of Construction and Startup**

A. The EPA Regional Administrator shall be notified in writing of the anticipated date of initial startup (as defined in 40 CFR 60.2(o)) of each affected facility postmarked or emailed not more than sixty (60) days nor less than thirty (30) days prior to such date, and shall be notified in writing of the actual date of commencement of initial startup within fifteen (15) days after such date.

B. The EPA Regional Administrator shall be notified in writing of the actual date of commencement of construction (as defined in 40 CFR 60.2) postmarked or emailed no later than thirty (30) days after such date.

III. **Facility Operation**

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as intended so as to minimize air pollutant emissions to levels at or below those contained in Condition X-E of this Authority to Construct.

IV. Malfunction

A. **Reporting**

The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) business days following the discovery any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Condition X-E of this Authority to Construct. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of the discovery any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in

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excess of those allowed under Condition X-E of these conditions, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for in Condition IV-B of this permit.

B. Treatment of Emissions

1. Definition of malfunction: A malfunction means a sudden and reasonably unforeseeable breakdown of equipment or of a process beyond the reasonable control of the source.

2. Emissions in excess of the limits in Condition X-E of this permit shall constitute a violation and may be the subject of enforcement proceedings.

3. Affirmative defense: In the context of an enforcement proceeding, emissions which are below the limits set forth in this Condition IV(B)(3)(ii) shall not be subject to penalty if the Permittee retains properly signed, contemporaneous operating logs or other relevant evidence and can demonstrate all of the following:

   A malfunction caused the emissions in excess of the limits in Condition X-E.

   ii. The emissions did not exceed the following levels:

   30 ppm NOx (1-hour average, corrected to 15% $^{0}2$)
   20 ppm CO (3-hour average, corrected to 15% $^{0}2$)
   240.0 lbs/hr NOx (1-hour average)
   93.4 lbs/hr CO (3-hour average)

   iii. The permitted facility, including the air pollution control equipment and process equipment, was being properly operated at the time of the malfunction.

   iv. Preventative maintenance was regularly performed in a manner consistent with good practice for minimizing emissions.

   v. The malfunction was not part of a recurring pattern indicative of inadequate design, operation or maintenance.

vi. The malfunction was not caused by improperly or inadequately designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

vii. During the period of the malfunction the Permittee took all reasonable steps to minimize the amount and duration of emissions (including any bypass) that exceeded the emission standards in Condition X-E. Reasonable steps to minimize emissions could include, but are not limited to, reducing production to the lowest level practicable, reducing the material feed that results in the increased emissions, and switching to alternative, less polluting fuels. Where repairs were required, repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as possible.

viii. The Permittee complied with the malfunction reporting requirements of Condition IV-A of this permit.

4. All emissions, including those associated with a malfunction which may be eligible for an affirmative defense, must be included in all emissions calculations and demonstrations of compliance with mass emission limits in Condition X-E (e.g., daily, monthly, and annual emission limits).

5. This provision is in addition to any emergency or malfunction provision contained in any, applicable requirement or elsewhere in this permit.

V. Right of Entry

The EPA Regional Administrator, and/or their authorized representative, upon the presentation of credentials, shall be permitted:

A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and

B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and

C. to inspect any equipment, operation, or method required in this Authority to Construct; and

D. to sample emissions from the source(s). The sampling shall be conducted during normally scheduled operational periods at the expense of the EPA.

VI. Transfer of Ownership

In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator.

VII. Severability

The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby.

VIII. Other Applicable Regulations

The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, 62, 63, and all other applicable federal, state, and local air quality regulations.

IX. Paperwork Reduction Act

Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act because this permit is not an "information collection request" within the meaning of 44 USC. §§ 3502(4) & (11), 3507, 3512, and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons, 44 USC. § 3502(4) & (11); 5CFR Part 1320.5(a).

X. Special Conditions

A. Certification

The Permittee shall notify the EPA Regional Administrator in writing of compliance with Conditions X-B and X-D below, and shall make such notification within fifteen (15) days of such compliance. The letter must be signed by the Responsible Official.

B. Air Pollution Control Equipment/Operation

On or before the date of startup of the affected facility, and thereafter (as defined in 40 CFR 60.2), the Permittee shall install, continuously operate, and maintain the following air pollution controls and operations to minimize emissions at or below the levels specified in Condition X-E of this Authority to Construct. The aforementioned "continuous" periods of operation do not include periods of startup, shutdown, and malfunction.

1. The Permittee shall install and continuously operate Selective Catalytic Reduction (SCR) systems on E/Us 01 and 02 for control of NO_x

2. The Permittee shall use good combustion control operation on E/Us 01 and 02 for control of VOC emissions.

3. The Permittee shall use good combustion control operation on E/Us 01 and 02 for control of PM-10 emissions.

Deleted: In addition, the Permittee shall monitor and record the ammonia slip levels resulting from the operation of the SCR system using the CEM required in Condition XD-1 of this permit. Thirty six months after commercial operations begin, and upon completion of the fourth performance test for PM-10, the Permittee shall evaluate the relationship between PM-10 emission levels and the degradation (if any) of ammonia slip levels to determine if substantial PM-10 reductions can be achieved by replacing the SCR catalyst. This analysis shall be submitted to EPA within 45 days from the completion of the PM-10 source test. The Permittee will be required to replace the SCR catalyst unless it can adequately demonstrate, based on the analysis, that no significant PM-10 reductions would be gained by doing so. The Permittee may request an extension of up to one year for catalyst replacement. EPA may grant an extension of up to one year if the analysis shows that there is no significant benefit to be gained with respect to PM-10 emissions by replacing the SCR catalyst. If the extension is granted, the Permittee may re-apply for additional extensions at the end of each extension period based on renewed analyses.

4. Permittee shall use Fuel Injection Timing Retardation on the diesel fire pump engine (E/U 04) to minimize NO, emissions.

5. The Permittee shall use good combustion control operation on the diesel fire pump engine (E/U 04) for control of CO, VOCs, and PMJPM10 emissions.

6. The Permittee shall install and continuously operate high efficiency drift eliminators on the cooling tower (E/U 06) for control of PM/PM10 emissions.

C. Fuel Use and Operation Conditions

1. The Permittee shall restrict fuel use for the operation of the combustion turbines and supplemental duct firing (E/Us 01, 02) to pipeline quality natural gas.

2. The Permittee shall restrict fuel use for the diesel fire pump engine (E/U 04) to that of No. 2 fuel oil with a maximum sulfur content of 0.05 percent by weight.

3. E/Us 01 and 02 may each operate no more than 8,760 hours per year.

4. The Permittee shall restrict the operation of the diesel fire pump engine (E/U 04) to 60 minutes per 24 consecutive hours and no more than 50 hours per year. This restriction is not applicable during emergency situations.

D. Continuous Monitoring Systems

1. . Not later than 90 days after commencement of commercial operation (as defined in 40 CFR 72.2), the Permittee shall install, certify, and operate Continuous Emissions Monitoring Systems (GEMS) on E/Us

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Deleted: Operations using steam augmentation shall be limited to no more than 3,000 hours per year per turbine.

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01 and 02, consisting of a NO_x concentration monitor, a CO concentration monitor, and an 0_2 or CO_2 diluent gas monitor in accordance with the applicable provisions of 40 CFR Part 75, Acid Rain Program.

2. Not later than 90 days after commencement of commercial operation (as defined in 40 CFR 72.2) of E/Us 01, and 02, the Permittee shall install, certify, and operate equipment to monitor the fuel flow to the combustion turbine generators and the duct burners in accordance with the applicable provisions of 40 CFR 75, Appendix D, Acid Rain Program.

3. The Permittee shall install, certify, and operate equipment to monitor the operating hours of the diesel fire pump engine (E/U 04).

4. All CEMS shall undergo a performance evaluation to demonstrate that they meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications of 40 CFR/75. (Appendix A). The CEMS performance evaluation shall be conducted prior to, during, or within thirty (30) days after the completion of the performance testing identified in Condition X-F of this Authority to Construct. Results of the CEMS performance evaluation shall be submitted to the EPA Regional Administrator within sixty (60) days after completion.

Deleted: an NI-13 (ammonia) monitor,

Deleted: <#>The Permittee shall apply to the EPA Regional Administrator, not later than 45 days following the completion of all certification tests, to use fuel flow as the SO_2 measurement method in accordance with the applicable provisions of 40 CFR 75, Appendix D, Acid Rain Program.¶

Deleted: <#>emergency generator set (E/U 03) and

E. Emission Limits

1. The actual ton per year emissions from the entire facility, including emissions during the shakedown period and emissions during startups and shutdowns, shall not exceed the allowable emissions listed in Table X-E-1, based on a 12-month rolling average.

Table X-E-1
Facility Allowable Emissions — (tpy)

NO_x	CO	SO2	VOC	PM10
271.7	1297.6	39.9	439	186.5

2. The actual hourly emissions from each emission unit shall not exceed the allowable emissions listed in Table X-E-2, based on a 3 hour rolling average for NO_x, PM10, CO, S02, and VOCs, excluding periods of startup, shutdown and equipment shakedown as specified in this Authority to Construct. These limits shall not apply to the first ten 3-hour average periods in a rolling 12 month period to allow the ability to troubleshoot process or equipment upsets.

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[NOTE TO EPA: Please replace Table X.E-2 with the table below.]

Table X.E-2: Emission Unit Allowable Emissions (lb/hr) (a)(b)

E/U ID	Turbine Configuration	NOx		CO		SO2	VOC	PM10
		ppm	lb/hr	ppm	lb/hr	lb/hr	lb/hr	lb/hr
1	Baseload	3.0	22.4	10.0	46.7	4.47	83.1	18.3
	Duct Fire and/or PAG	3.0	24.0	35.0	158.3	4.72	83.1	22.8
2	Baseload	3.0	22.4	10.0	46.7	4.47	83.1	18.3
	Duct Fire and/or PAG	3.0	24.0	35.0	158.3	4.72	83.1	22.8

(a) 3 hour rolling average
(b) Excluding startup and shutdown periods

~~Table X-E-2~~
~~Emission Unit Allowable Emissions (lb/h)~~

~~E/U ID~~	~~NO_x~~	~~CO`~~	~~SO2~~	~~VOC~~	~~PM10~~
~~01~~	~~22.4~~ ~~24.0a~~	~~46.7~~ ~~158.3a~~	~~4.47~~ ~~4.72a~~	~~83.1~~	~~18.3~~ ~~22.8a~~
~~02~~	~~22.4~~ ~~24.0a~~	~~46.7~~ ~~158.3a~~	~~4.47~~ ~~4.72a~~	~~83.1~~	~~18.3~~ ~~22.8a~~

~~1 During startup periods, as defined below, allowable CO emissions will be 3,000 lbs/hr.~~
~~a These emission limits for NOx, CO, S02, and PM-10 shall apply only during operations with supplemental heat (duct firing) and/or power augmentation with steam. Operation of E/Us 01 or 02 with supplemental heat (duct firing) and/or power augmentation with steam is limited to 3,000 hours per year each.~~

3. Startup and shutdown periods shall not exceed 480 hours per year per E/U. Each startup episode shall be limited to a maximum of 4 hours. During periods of startup, the emissions of CO shall not exceed 3,000 pounds per hour and 4,800 pounds per startup event.

F. Performance Tests

1. Within 60 days after achieving the maximum production rate of the affected emission units, but no later than 180 days after the initial startup of equipment (as defined in 40 CFR 60.2), and at such other times as specified by the Regional Administrator, the owner/operator shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for NOx, CO, SO_2, VOCs, and PM10 on the exhausts of E/Us 01, and 02. The performance tests shall be conducted to demonstrate compliance with the emission limits specified in Condition X-E-2 for E/Us 01 and 02. The tests for NOx, SO2, CO, VOC, and PM-10 shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested, in both normal and steam augmentation mode (duct firing and/or power augmentation with steam). Testing in power augmentation with steam mode is not required when steam augmentation was utilized less than 15 hours during the previous calendar year. This exemption applies per each unit. Upon written request from the Permittee, EPA may approve the conduct of performance tests at a lower specified production rate. After initial performance tests and upon written request and adequate justification from the Permittee, EPA may waive a specified annual test for the facility.

2. Performance tests of the emissions of NO_x from the exhausts of E/Us 01, and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR 60.8, 40 CFR 60 Subpart GG (40 60 Subpart KKKK after the TPU project becomes operational), and 40 CFR 60, Appendix A, Method 20.

Deleted: The NO_x emissions from E/Us 01 and 02 shall not exceed 3.0 ppmvd @ 15 percent 0_2 per unit, based on a 3 hour rolling average.¶
The CO emissions from E/Us 01 and 02 shall not exceed 10.0 ppmvd @ 15 percent 02 and 35.0 ppmvd @ 15 percent 02 per unit during base load operation and base load operation with duct firing and/or power augmentation with steam, respectively, based on a 3 hour rolling average.¶
The PM-10 emissions from E/U 01 and 02 shall not exceed¶
18.3 lbs/hr during normal operations and 22.8 lbs/hr during duct firing¶
and/or power augmentation with steam.¶
The emission limits in Conditions X-E-2 shall apply at all times to E/Us 01, and 02; except during periods of startup, shutdown and equipment shakedown as specified in this Authority to Construct.

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Deleted: 7. . Upon analyzing the results of the initial PM-10 performance test, EPA may make a determination to revise the PM-10 emission limit to reflect actual performance of the turbines. Such a determination shall be made within 90 days of receipt of the results of the initial PM-10 performance test.¶

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Deleted: and duct firing and power augmentation with steam modes.

3. Performance tests of the emissions of CO from the exhausts of E/Us 01, and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A, Method 10.

4. Performance tests of the emissions of SO_2 from the exhausts of E/Us 01, and 02 shall be determined by fuel analysis in accordance with the procedures and methods set forth in 40 CFR 60.8, 40 CFR 60 Subpart GG (40 60 Subpart KKKK after the TPU project becomes operational), and 40 CFR 60, Appendix A, Method 20.

5. Performance tests of the emissions of VOCs from the exhausts of E/Us 01, and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A, Methods 25A and 18. Method 18 may be used to determine the methane fraction to subtract from Method 25A's total hydrocarbons.

6. Performance tests of the emissions of PM-10 from the exhausts of E/Us 01, and 02 shall be conducted and results reported in accordance with the test procedures and methods set forth in 40 CFR 60.8, 40 CFR 60, Appendix A, and 40 CFR 51, Appendix M, Methods 5 or 201A (front-half) and Method 202 (condensable portion).

7. Thirty (30) days prior to such performance tests, the EPA Regional Administrator shall be notified in writing of the proposed date of the performance dates, and a performance testing protocol shall be submitted for approval. In lieu of the aforementioned performance test methods, equivalent methods may be used with prior written approval from the EPA Regional Administrator.

8. For performance test purposes, sampling ports, platforms, and accesses shall be provided on E/Us 01, and 02 exhaust systems in accordance with 40 CFR 60.8(e).

G. **Recordkeeping and Reporting**

1. Documentation shall be maintained of all measurements including continuous monitoring system evaluations, all continuous monitoring system or monitoring device calibration checks, adjustments and maintenance performed on these systems or devices, performance and all other information required by 40 CFR 60 or 75 recorded in a permanent form suitable for inspection. Documentation shall be retained for at least five (5) years following the date of such measurement, maintenance, reports, and records.

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2. The Permittee shall record and maintain records of the daily and the 12-month rolling operating hours of the diesel fire pump.

Deleted: and the 12-month rolling operating hours of the diesel fire pump and emergency generator set

3. A written report of excess emissions shall be submitted to the EPA Regional Administrator postmarked or emailed by the 30th day following each calendar quarter. The report shall include the following:

a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each event of excess emissions.

b. Specific identification of each period of excess emissions that occurs during startups, shutdown, and malfunctions of the turbine systems. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.

c. The date and time identifying each clock hour during which a CEMS experienced downtime.

d. When no excess emissions or CEMS downtime have occurred, such information shall be stated in the report.

e. Excess emissions shall be defined as emissions exceeding the allowable emission limits contained in Condition X-E of this Authority to Construct, as determined by the compliance methods listed in Condition X-F of this Authority to Construct.

4. The facility is subject to the recordkeeping and reporting requirements of the applicable New Source Performance Standards (NSPS) — 40 CFR Part 60, as described in Condition X-H of this Authority to Construct.

5. Not later than 45 days prior to the first scheduled day or initial certification testing, the Permittee shall provide written notification to the EPA Regional Administrator.

H. New Source Performance Standards

The facility's combustion turbines and duct burners are subject to the federal New Source Performance Standards (NSPS) — 40 CFR Part 60, Subparts GG and Dc, respectively, as well as the general provisions of Subpart A. After the TPU project becomes operational, the equipment is subject to 40 CFR Part 60, Subpart KKKK as well as the general provisions of Subpart A. The owner/operator shall meet the applicable requirements of the aforementioned NSPS subparts.

Agency Notification

All correspondence as required by this Authority to Construct shall be forwarded to:

Director, Air Division (Attn: Air-1)
U. S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
Please add email address here

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Deleted: or the CEMS have not been inoperative, repaired, or adjusted

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XI. Shakedown for E/U 02

A. If the Permittee replaces the turbine combustor in E/U 02, the Permittee shall have a shakedown period not exceeding 60 cumulative days to tune and test the new combustor technology to ensure the safe, efficient and reliable operation of E/U 02. During this period, the emission limits for NO_x and CO specified in Table X-E-2 of this permit shall not apply. All NO_x and CO emissions during the shakedown period shall count toward the annual facility-wide allowable emission caps for these pollutants specified in Table X-E-1 of this permit.

B. The 60-day shakedown period shall begin when the new combustor is installed in E/U 02 and shall end after 60 cumulative days or whenever normal operation of E/U resumes, whichever occurs first. The Permittee shall notify the Administrator of the dates that the shakedown period begins and ends by sending an electronic mail message to the following address: r9.aeo@epa.gov

C. Within 30 days after the end of the shakedown period, the Permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for NO_x and CO on the exhaust of E/U 02. The performance test shall be conducted to demonstrate compliance with the emission limits specified in Conditions X-E-2, X-E-3, X-E-4 and X-E-5 for E/U 02. The tests for NOx, SO2, CO, VOC, and PM-10 shall be conducted at the maximum operating capacity of E/U 02, in both normal and duct firing, and power augmentation with steam modes.

D. Once the recommissioning period has begun, each day E/U 02 is fired shall be counted toward the 60 cumulative day total. The permittee shall maintain records of the dates on which E/U 02 is fired during the recommissioning period.

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