

Statement of Basis

**Permit to Construct No. P-2020.0004
Project ID 62384**

**Idaho Power Co - Evander Andrews Complex
Mountain Home, Idaho**

Facility ID 039-00024

Final

**June 10, 2020
Chris Duerschner
Permit Writer**

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The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

| | |
|-------------------|--|
| acfm | actual cubic feet per minute |
| bhp | brake horsepower |
| Btu | British thermal units |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| CT | combustion turbine |
| DEQ | Department of Environmental Quality |
| EL | screening emission levels |
| EPA | U.S. Environmental Protection Agency |
| GACT | Generally Available Control Technology |
| HAP | hazardous air pollutants |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| lb/hr | pounds per hour |
| MACT | Maximum Achievable Control Technology |
| MMBtu | million British thermal units |
| MW | megawatt |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NO _x | nitrogen oxides |
| NSPS | New Source Performance Standards |
| PC | permit condition |
| PM | particulate matter |
| PM _{2.5} | particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers |
| PM ₁₀ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |
| PTE | potential to emit |
| <i>Rules</i> | <i>Rules for the Control of Air Pollution in Idaho</i> |
| SCL | significant contribution limits |
| SM | synthetic minor |
| SM80 | synthetic minor facility with emissions greater than or equal to 80% of a major source threshold |
| SO ₂ | sulfur dioxide |
| T/yr | tons per consecutive 12 calendar month period |
| TAP | toxic air pollutants |
| VOC | volatile organic compounds |

FACILITY INFORMATION

Description

The Idaho Power Company – Evander Andrews Complex operates an existing generating station located near Mountain Home, ID. At this facility, three natural gas fired combustion turbines are used to generate electrical power. The facility also includes two natural gas fired fuel heaters, an emergency electrical generator, and, until this permitting action, an emergency fire pump. The three gas turbines are: a 170 MW Siemens-Westinghouse model SGT6-5000F (denoted CT1) and two 45 MW Siemens-Westinghouse model 251B2A (denoted CT2 and CT3). A GTS Energy fuel heater (denoted H2) is associated with CT1 and a Thermoflux, Inc. model S.O. 9113 fuel heater (denoted H1) is associated with CT2 and CT3.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

| | |
|--------------------|--|
| December 29, 2008 | X-2008.0197, DEQ issued an exemption for an emergency diesel-fired IC engine to power an electrical generator, Permit status (A) |
| May 1, 2007 | P-060065, Initial construction of a 170 MW turbine and 3.5 MMBTU/hr fuel heater, Permit status (A) |
| March 18, 2005 | P-040031, Streamline permit conditions for consistency, Permit status (A), but will become (S) upon issuance of this permit |
| August 21, 2002 | P-010051, Modification of permit requirements, Permit status (S) |
| July 19, 2002 | P-010051, Modification of permit requirements, Permit status (S) |
| September 14, 2001 | P-060065, Initial permit for facility construction, Permit status (S) |

Application Scope

This PTC is for a revision of an existing PTC. See the current Tier I permit statement of basis for the permitting history.

The applicant has proposed to revise existing permit P-040031 by removing the emergency fire pump. This permit will be issued as P-2020.0004 in alignment with the current PTC naming convention.

Application Chronology

| | |
|---------------------------|---|
| February 11, 2020 | DEQ received an application and an application fee. |
| February 12, 2020 | DEQ determined that the application was complete. |
| February 13, 2020 | DEQ made available the draft permit and statement of basis for peer and regional office review. |
| February 21, 2020 | DEQ made available the draft permit and statement of basis for applicant review. |
| March 4, 2020 | DEQ received the permit processing fee. |
| March 11 – April 10, 2020 | DEQ provided a public comment period on the proposed action. |
| June 10, 2020 | DEQ issued the final permit and statement of basis. |

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

| Source ID No. | Sources | Control Equipment | Emission Point ID No. |
|---------------|--|--|--|
| CT1 | <u>Combustion Turbine CT1</u> Manufacturer: Siemens-Westinghouse Model: SGT6-5000F Nominal Output: 170 MW Rated Heat Input: 1820 MMBtu/hr Manufacture Date: 2007 | Ultra low NO _x burners Good combustion control Exclusive use of natural gas | Exit height: 60 ft 24'9" by 21'10" rectangular duct Vertical exit Uncovered Eight internal baffles for sound suppression |
| CT2 | <u>Combustion Turbine CT2</u> Manufacturer: Siemens-Westinghouse Model: 251B2A Serial No.: 46S8140-1 Nominal Output: 45 MW Rated Heat Input: 508 MMBtu/hr Manufacture Date: 2001 | Dry low NO _x burners Good combustion control Exclusive use of natural gas | Exit height: 75 ft 19'4" by 9'7" rectangular duct Vertical Exit Uncovered Three internal baffles for sound suppression |
| CT3 | <u>Combustion Turbine CT3</u> Manufacturer: Siemens-Westinghouse Model: 251B2A Serial No.: 46S8156-1 Nominal Output: 45 MW Rated Heat Input: 508 MMBtu/hr Manufacture Date: 2001 | Dry low NO _x burners Good combustion control Exclusive use of natural gas | Exit flow rate: 900,000 acfm Exit temp.: 841 to 1020 °F |
| H1 | <u>Fuel Heater H1</u> Manufacturer: Thermoflux, Inc. Model: S.O.9113 Rated heat input: 2.2 MMBtu/hr | None | Exhaust stack |
| H2 | <u>Fuel Heater H2</u> Manufacturer: GTS Energy Rated heat input: 3.8 MMBtu/hr | None | Exhaust stack |
| EG1 | <u>Emergency Engine EG1</u> Manufacturer: Cummins Model: QSX15-G9 Nonroad 2 Type: Compression Ignition Rated horsepower: 755 bhp (500 kW) Manufacture date: 2007 | None | Exhaust stack |

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the three gas turbines, two fuel heaters, and emergency engine operations at the facility (see **Error! Reference source not found.**) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from the performance guarantee data sheet from the manufacturers and appropriate sections from AP-42, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for all criteria pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. These emission rates are well documented in the statements of basis for PTC No. 060065 issued May 1 2007, PTC No. P-040031 issued March 18, 2005, and PTC exemption No. X-2008.0197 issued December 29, 2008.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

| Source | PM ₁₀ /PM _{2.5} | | SO ₂ | | NO _x | | CO | | VOC | |
|---------------------------|-------------------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) |
| CT1 | 191.8 | 43.8 | 21.11 | 4.82 | 1081.9 | 247 | 1086.2 | 248 | 53.87 | 12.3 |
| CT2 | 52.56 | 12 | 14.89 | 3.4 | 543.1 | 124 | 328.5 | 75 | 31.97 | 7.3 |
| CT3 | 52.56 | 12 | 14.89 | 3.4 | 543.1 | 124 | 328.5 | 75 | 31.97 | 7.3 |
| H1 | 0.0 | 0.0 | 0.0 | 0.0 | 3.50 | 0.8 | 0.88 | 0.2 | 0.0 | 0.0 |
| H2 | 0.44 | 0.1 | 0.44 | 0.1 | 8.32 | 1.9 | 7.01 | 1.6 | 0.88 | 0.2 |
| EDG | 0.44 | 0.1 | 0.0 | 0.0 | 8.76 | 2.0 | 4.818 | 1.1 | 0.44 | 0.1 |
| FP1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.88 | 0.2 | 0.44 | 0.1 | 0.0 | 0.0 |
| Pre-Project Totals | 297.80 | 68.00 | 51.33 | 11.72 | 2189.56 | 499.90 | 1756.35 | 401.00 | 119.13 | 27.20 |

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility’s classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

| Source | PM ₁₀ /PM _{2.5} | | SO ₂ | | NO _x | | CO | | VOC | |
|----------------------------|-------------------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) | lb/hr ^(a) | T/yr ^(b) |
| CT1 | 191.8 | 43.8 | 21.11 | 4.82 | 1081.9 | 247 | 1086.2 | 248 | 53.87 | 12.3 |
| CT2 | 52.56 | 12 | 14.89 | 3.4 | 543.1 | 124 | 328.5 | 75 | 31.97 | 7.3 |
| CT3 | 52.56 | 12 | 14.89 | 3.4 | 543.1 | 124 | 328.5 | 75 | 31.97 | 7.3 |
| H1 | 0.0 | 0.0 | 0.0 | 0.0 | 3.50 | 0.8 | 0.88 | 0.2 | 0.0 | 0.0 |
| H2 | 0.44 | 0.1 | 0.44 | 0.1 | 8.32 | 1.9 | 7.01 | 1.6 | 0.88 | 0.2 |
| EDG | 0.44 | 0.1 | 0.0 | 0.0 | 8.76 | 2.0 | 4.818 | 1.1 | 0.44 | 0.1 |
| Post Project Totals | 297.80 | 68.00 | 51.33 | 11.72 | 2188.68 | 499.70 | 1755.91 | 400.90 | 119.13 | 27.20 |

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

| Source | PM ₁₀ /PM _{2.5} | | SO ₂ | | NO _x | | CO | | VOC | |
|-------------------------------------|-------------------------------------|-------------|-----------------|-------------|-----------------|--------------|--------------|--------------|-------------|-------------|
| | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr |
| Pre-Project Potential to Emit | 297.80 | 68.00 | 51.33 | 11.72 | 2189.56 | 499.90 | 1756.35 | 401.00 | 119.13 | 27.20 |
| Post Project Potential to Emit | 297.80 | 68.00 | 51.33 | 11.72 | 2188.68 | 499.70 | 1755.91 | 400.90 | 119.13 | 27.20 |
| Changes in Potential to Emit | 0.00 | 0.00 | 0.00 | 0.00 | -0.88 | -0.20 | -0.44 | -0.10 | 0.00 | 0.00 |

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff.

Table 5 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

| Hazardous Air Pollutants | PTE (lb/hr) | PTE (T/yr) |
|--------------------------|-------------|--------------|
| 1,3-Butadiene | 1.13E-03 | 0.00 |
| Acetaldehyde | 1.04E-01 | 0.46 |
| Acrolein | 1.69E-02 | 0.07 |
| Benzene | 4.22E-02 | 0.18 |
| Ethyl Benzene | 8.36E-02 | 0.37 |
| Formaldehyde | 2.24E+00 | 9.81 |
| Naphthalene | 6.49E-03 | 0.03 |
| Propylene Oxide | 7.67E-02 | 0.34 |
| Toluene | 3.55E-01 | 1.55 |
| Xylenes | 1.69E-01 | 0.74 |
| Totals | 3.10 | 13.55 |

Ambient Air Quality Impact Analyses

An ambient air quality impact analysis is not required because this permitting action does not result in an emissions increase.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Elmore County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.
- SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.
- SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20

T/yr of Total HAPs.

- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.
- UNK = Class is unknown.

For All Other Pollutants:

- A = Use when permitted emissions of a pollutant are > 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.
- UNK = Class is unknown.

Table 6 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

| Pollutant | Uncontrolled PTE (T/yr) | Permitted PTE (T/yr) | Major Source Thresholds (T/yr) | AIRS/AFS Classification |
|-------------------|-------------------------|----------------------|--------------------------------|-------------------------|
| PM | 68.00 | 68.00 | 100 | B |
| PM ₁₀ | 68.00 | 68.00 | 100 | B |
| PM _{2.5} | 68.00 | 68.00 | 100 | B |
| SO ₂ | 11.72 | 11.72 | 100 | B |
| NO _x | 499.70 | 499.70 | 100 | A |
| CO | 400.90 | 400.90 | 100 | A |
| VOC | 27.20 | 27.20 | 100 | B |
| HAP (single) | 9.81 | 9.81 | 10 | B |
| Total HAPs | 13.55 | 13.55 | 25 | B |

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the removal of an emergency fire pump. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility have a potential to emit greater than 100 tons per year for NO_x and CO as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10. PSD Classification (40 CFR 52.21). This PTC action happens to coincide with the T1 renewal; therefore, it will be incorporated into the T1 permit immediately.

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is classified as an existing major stationary source, because the estimated emissions of NO_x and CO have the potential to exceed major stationary source thresholds. The facility is a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a).

NSPS Applicability (40 CFR 60)

Because the facility has three gas turbines (two of which were constructed before February 18, 2005 and one of which was constructed after) it is subject to the requirements of 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines and 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines. Furthermore, because the emergency IC engine is of model year 2007 and was constructed in 2007, Subpart IIII is applicable.

The removed emergency fire pump was not subject to 40 CFR 60, Subpart IIII because it was constructed in the year 2000. Therefore, this permitting action does not change the facility’s applicability status under 40 CFR 60.

NESHAP Applicability (40 CFR 61)

The source is not an affected source subject to NESHAP in 40 CFR 61, and this permitting action does not alter the applicability status of existing affected sources at the facility.

MACT/GACT Applicability (40 CFR 63)

Because the facility has three gas turbines, it may be subject to 40 CFR 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. However, because the facility is not a major source of HAPs, this subpart does not apply. The emergency IC engine is affected by subpart ZZZZ, however it meets the requirements of this subpart by meeting the requirements of 40 CFR 60, Subpart IIII as provided in §63.6590(c)(1).

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Condition 2.1

Permit Condition 2.1 was modified to remove reference to the emergency fire pump.

Permit Condition 2.9

Permit Condition 2.9 was modified to remove individual operating requirements for the emergency fire pump.

Permit Condition 2.14

Permit Condition 2.14 was modified to remove individual monitoring and recordkeeping requirements for the emergency fire pump.

PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were not submitted in response to DEQ’s proposed action. Refer to the chronology for public comment period dates.

APPENDIX A – EMISSIONS INVENTORY

Pre-Project Criteria PTE

| | CO | NOX | PM/PM10 | SO2 | VOC |
|----------------------------------|------------|--------------|-----------|--------------|-------------|
| Combustion Turbine (CT1) | 248 | 247 | 43.8 | 4.82 | 12.3 |
| Combustion Turbine (CT2) | 75 | 124 | 12 | 3.4 | 7.3 |
| Combsutin Turbine (CT3) | 75 | 124 | 12 | 3.4 | 7.3 |
| Fuel Gas Heater (H1) | 0.2 | 0.8 | 0.0 | 0.0 | 0.0 |
| Fuel Gas Heater (H2) | 1.6 | 1.9 | 0.1 | 0.1 | 0.2 |
| Emergency Fire Pump (FP1) | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 |
| Emergency Diesel Generator (EG1) | 1.1 | 2.0 | 0.1 | 0.0 | 0.1 |
| Total Facility Emissions | 401 | 499.9 | 68 | 11.72 | 27.2 |

Post Project Criteria PTE

| | CO | NOX | PM/PM10 | SO2 | VOC |
|---|----------------|----------------|----------------|----------------|----------------|
| Combustion Turbine (CT1) | 248 | 247 | 43.8 | 4.82 | 12.3 |
| Combustion Turbine (CT2) | 75 | 124 | 12 | 3.4 | 7.3 |
| Combsutin Turbine (CT3) | 75 | 124 | 12 | 3.4 | 7.3 |
| Fuel Gas Heater (H1) | 0.2 | 0.8 | 0.0 | 0.0 | 0.0 |
| Fuel Gas Heater (H2) | 1.6 | 1.9 | 0.1 | 0.1 | 0.2 |
| Emergency Fire Pump (FP1) | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 |
| Emergency Diesel Generator (EG1) | 1.1 | 2.0 | 0.1 | 0.0 | 0.1 |
| Total Facility Emissions | 399.9 | 497.9 | 67.9 | 11.72 | 27.1 |

Facility HAP PTE

| | CT1 | CT2 | CT3 | H1 | H2 | EDG | FP1 | Total Facility Emissions |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---|
| 1,3-Butadiene | 3.4E-03 | 7.8E-04 | 7.8E-04 | | | | 0.0E+00 | 5.0E-03 |
| Acetaldehyde | 3.1E-01 | 7.3E-02 | 7.3E-02 | | | 2.1E-05 | 7.1E-07 | 4.6E-01 |
| Acrolein | 5.0E-02 | 1.2E-02 | 1.2E-02 | | | 6.7E-06 | 2.2E-07 | 7.4E-02 |
| Benzene | 9.4E-02 | 2.2E-02 | 2.2E-02 | 1.2E-02 | 3.4E-02 | 6.6E-04 | 2.2E-05 | 1.8E-01 |
| EthylBenzene | 2.5E-01 | 5.8E-02 | 5.8E-02 | | | | 0.0E+00 | 3.7E-01 |
| Formaldehyde | 5.6E+00 | 1.3E+00 | 1.3E+00 | 4.3E-01 | 1.2E+00 | 6.7E-05 | 2.2E-06 | 9.8E+00 |
| Naphthalene | 1.0E-02 | 2.4E-03 | 2.4E-03 | 3.5E-03 | 1.0E-02 | 1.1E-04 | 3.7E-06 | 2.8E-02 |
| Propylene Oxide | 2.3E-01 | 5.3E-02 | 5.3E-02 | | | | 0.0E+00 | 3.4E-01 |
| Toluene | 1.0E+00 | 2.4E-01 | 2.4E-01 | 1.9E-02 | 5.5E-02 | 2.4E-04 | 8.0E-06 | 1.6E+00 |
| Xylenes | 5.0E-01 | 1.2E-01 | 1.2E-01 | | | 1.6E-04 | 5.5E-06 | 7.4E-01 |

CT1

Heat Input Rate 1788 MMBtu/hr
Annual Operating Hours 8760

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|----------|-----------------|----------|----------|
| Emission Factors ¹ | lb/MMBtu | 4.30E-07 | 4.00E-05 | 6.40E-60 | 1.20E-05 | 3.20E-05 | 7.10E-04 | 1.30E-06 | 2.20E-06 | 2.90E-05 | 1.30E-04 | 6.40E-05 |
| CT1 Emissions | lb/hr | 7.69E-04 | 7.15E-02 | 1.14E-56 | 2.15E-02 | 5.72E-02 | 1.27E+00 | 2.32E-03 | 3.93E-03 | 5.19E-02 | 2.32E-01 | 1.14E-01 |
| | T/yr | 3.4E-03 | 3.1E-01 | 5.0E-56 | 9.4E-02 | 2.5E-01 | 5.6E+00 | 1.0E-02 | 1.7E-02 | 2.3E-01 | 1.0E+00 | 5.0E-01 |

¹ AP-42 Table 3.1-3**CT2**

Heat Input Rate 428 MMBtu/hr
Annual Operating Hours 8760

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|----------|-----------------|----------|----------|
| Emission Factors ¹ | lb/MMBtu | 4.30E-07 | 4.00E-05 | 6.40E-60 | 1.20E-05 | 3.20E-05 | 7.10E-04 | 1.30E-06 | 2.20E-06 | 2.90E-05 | 1.30E-04 | 6.40E-05 |
| CT1 Emissions | lb/hr | 1.84E-04 | 1.71E-02 | 2.74E-57 | 5.14E-03 | 1.37E-02 | 3.04E-01 | 5.56E-04 | 9.42E-04 | 1.24E-02 | 5.56E-02 | 2.74E-02 |
| | T/yr | 8.1E-04 | 7.5E-02 | 1.2E-56 | 2.2E-02 | 6.0E-02 | 1.3E+00 | 2.4E-03 | 4.1E-03 | 5.4E-02 | 2.4E-01 | 1.2E-01 |

¹ AP-42 Table 3.1-3**CT3**

Heat Input Rate 428 MMBtu/hr
Annual Operating Hours 8760

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|----------|-----------------|----------|----------|
| Emission Factors ¹ | lb/MMBtu | 4.30E-07 | 4.00E-05 | 6.40E-60 | 1.20E-05 | 3.20E-05 | 7.10E-04 | 1.30E-06 | 2.20E-06 | 2.90E-05 | 1.30E-04 | 6.40E-05 |
| CT1 Emissions | lb/hr | 1.84E-04 | 1.71E-02 | 2.74E-57 | 5.14E-03 | 1.37E-02 | 3.04E-01 | 5.56E-04 | 9.42E-04 | 1.24E-02 | 5.56E-02 | 2.74E-02 |
| | T/yr | 8.1E-04 | 7.5E-02 | 1.2E-56 | 2.2E-02 | 6.0E-02 | 1.3E+00 | 2.4E-03 | 4.1E-03 | 5.4E-02 | 2.4E-01 | 1.2E-01 |

¹ AP-42 Table 3.1-3**H1**

Heat Input Rate 2.2 MMBtu/hr
Annual Operating Hours 8760

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|-----|-----------------|----------|---------|
| Emission Factors ¹ | lb/MMBtu | | | | 2.10E-03 | | 7.50E-02 | 6.10E-04 | | | 3.40E-03 | |
| CT1 Emissions | lb/hr | | | | 4.62E-03 | | 1.65E-01 | 1.34E-03 | | | 7.48E-03 | |
| | T/yr | | | | 2.02E-02 | | 7.23E-01 | 5.88E-03 | | | 3.28E-02 | |

¹ AP-42 Table 1.4-3**H2**

Heat Input Rate 3.8 MMBtu/hr
Annual Operating Hours 8760

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|-----|-----------------|----------|---------|
| Emission Factors ¹ | lb/MMBtu | | | | 2.10E-03 | | 7.50E-02 | 6.10E-04 | | | 3.40E-03 | |
| CT1 Emissions | lb/hr | | | | 7.98E-03 | | 2.85E-01 | 2.32E-03 | | | 1.29E-02 | |
| | T/yr | | | | 3.50E-02 | | 1.25E+00 | 1.02E-02 | | | 5.66E-02 | |

¹ AP-42 Table 1.4-3**EDG**

Heat Input Rate 3.4 MMBtu/hr
Annual Operating Hours 500

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|----------|-----------------|----------|----------|
| Emission Factors ¹ | lb/MMBtu | | 2.52E-05 | 7.88E-06 | 7.76E-04 | | 7.89E-05 | 1.30E-04 | 8.20E-05 | | 2.81E-04 | 1.93E-04 |
| CT1 Emissions | lb/hr | | 8.57E-05 | 2.68E-05 | 2.64E-03 | | 2.68E-04 | 4.42E-04 | 2.79E-04 | | 9.55E-04 | 6.56E-04 |
| | T/yr | | 2.14E-05 | 6.70E-06 | 6.60E-04 | | 6.71E-05 | 1.11E-04 | 6.97E-05 | | 2.39E-04 | 1.64E-04 |

¹ AP-42 Table 3.4-3**FP1**

Heat Input Rate 1.1 MMBtu/hr
Annual Operating Hours 50

| | | 1,3-Butadiene | Acetaldehyde | Acrolein | Benzene | EthylBenzene | Formaldehyde | Naphthalene | PAH | Propylene Oxide | Toluene | Xylenes |
|-------------------------------|----------|---------------|--------------|----------|----------|--------------|--------------|-------------|----------|-----------------|----------|----------|
| Emission Factors ¹ | lb/MMBtu | | 2.52E-05 | 7.88E-06 | 7.76E-04 | | 7.89E-05 | 1.30E-04 | | | 2.81E-04 | 1.93E-04 |
| CT1 Emissions | lb/hr | | 2.77E-05 | 8.67E-06 | 8.54E-04 | | 8.68E-05 | 1.43E-04 | 0.00E+00 | | 3.09E-04 | 2.12E-04 |
| | T/yr | | 6.93E-07 | 2.17E-07 | 2.13E-05 | | 2.17E-06 | 3.58E-06 | 0.00E+00 | | 7.73E-06 | 5.31E-06 |

¹ AP-42 Table 3.4-3

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on March 4, 2020:

Facility Comment: Table 1 in the technical analysis lists the control equipment for CT1 as Dry Low NO_x. CT1 has what Siemens refers to as Ultra Low NO_x burners and I believe they are referred to as Ultra Low NO_x burners in the Tier 1 PTC Table 5.1.

DEQ Response: The control equipment for CT1 listed in Table 1 of this SOB was changed from Dry Low NO_x burners to Ultra Low NO_x burners.

Facility Comment: Under regulatory analysis and attainment designation it indicates the facility is located in Ada county rather than Elmore county.

DEQ Response: The stated location of the facility was changed from Ada to Elmore County in the “Attainment Designation” section of this SOB.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Idaho Power Co - Evander Andrews
 Address: 1221 West Idaho Street
 City: Boise
 State: Idaho
 Zip Code: 83702
 Facility Contact: Jeremy Jensen
 Title: Air Compliance Engineer
 AIRS No.: 221112

- N** Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
- Y** Did this permit require engineering analysis? Y/N
- N** Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

| Emissions Inventory | | | |
|---------------------|----------------------------------|-----------------------------------|--------------------------------|
| Pollutant | Annual Emissions Increase (T/yr) | Annual Emissions Reduction (T/yr) | Annual Emissions Change (T/yr) |
| NO _x | 0.0 | 0.2 | -0.2 |
| SO ₂ | 0.0 | 0 | 0.0 |
| CO | 0.0 | 0.1 | -0.1 |
| PM10 | 0.0 | 0 | 0.0 |
| VOC | 0.0 | 0 | 0.0 |
| Total: | 0.0 | 0.3 | -0.3 |
| Fee Due | \$ 1,000.00 | | |

Comments: