State of Utah

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Department of
Environmental Quality

Kimberly D. Shelley
*Executive Director*

DIVISION OF AIR QUALITY
Bryce C. Bird
*Director*

DAQE-AN103270030-22

December 5, 2022

Jon Finlinson
Intermountain Power Service Corporation
850 West Brush Wellman Road
Delta, UT 84624-9546
Mike.Utley@ipsc.com

Dear Mr. Finlinson:

Re: Approval Order:
Modification to Approval Order DAQE-AN103270029-22 to Correct a $NO_x$ Limit Averaging Period
Project Number: N103270030

The attached Approval Order (AO) is issued pursuant to the Notice of Intent (NOI) received on August 29, 2022. Intermountain Power Service Corporation must comply with the requirements of this AO, all applicable state requirements (R307), and Federal Standards.

The project engineer for this action is **John Jenks**, who can be contacted at (385) 306-6510 or jjenks@utah.gov. Future correspondence on this AO should include the engineer's name as well as the DAQE number shown on the upper right-hand corner of this letter. No public comments were received on this action.

Sincerely,

Bryce C. Bird
Director

BCB:JJ:jg

cc: Central Utah Health Department
Dan Fagnant, EPA Region 8

**STATE OF UTAH**
**Department of Environmental Quality**
**Division of Air Quality**

# APPROVAL ORDER
# DAQE-AN103270030-22
# Modification to Approval Order DAQE-AN103270029-22 to Correct a $NO_x$ Limit Averaging Period

**Prepared By**
**John Jenks, Engineer**
**(385) 306-6510**
**jjenks@utah.gov**

**Issued to**
**Intermountain Power Service Corporation - Intermountain Generation Station**

**Issued On**
December 5, 2022

**Issued By**

**Bryce C. Bird**
**Director**
**Division of Air Quality**

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# GENERAL INFORMATION

## CONTACT/LOCATION INFORMATION

**Owner Name**
Intermountain Power Service Corporation

**Source Name**
Intermountain Power Service Corporation - Intermountain Generation Station

**Mailing Address**
850 West Brush Wellman Road
Delta, UT 84624-9546

**Physical Address**
850 West Brush Wellman Road
Delta, UT 84624-9546

**Source Contact**
Name Mike Utley
Phone (435) 864-6489
Email Mike.Utley@ipsc.com

**UTM Coordinates**
364136.12 m Easting
4374604.80 m Northing
Datum NAD27
UTM Zone 12

**SIC code** 4911 (Electric Services)

## SOURCE INFORMATION

General Description
Intermountain Power Agency (IPA) operates the Intermountain Generating Station facility in Delta, Utah. Intermountain Generating Station consists of two (2) coal-fired electric utility steam generating units and the ancillary facilities to support their normal operation. The units are dry bottom, wall-fired boilers with a nominal capacity of 9,225 MMBtu/hr each. These units will be replaced with two 487 MW natural-gas/hydrogen fueled CCCT units controlled with selective catalytic reduction (SCR). The plant is a Phase II Acid Rain source and is a major source of $SO_2$, $NO_x$, $PM_{10}$, $PM_{2.5}$, CO, HAP, and HCl emissions.

NSR Classification
Minor Modification at Major Source

Source Classification
Located in Attainment Area
Millard County
Airs Source Size: A

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), Da: Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978
NSPS (Part 60), Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
NSPS (Part 60), Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
NSPS (Part 60), Y: Standards of Performance for Coal Preparation and Processing Plants

NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NSPS (Part 60), KKKK: Standards of Performance for Stationary Combustion Turbines
NSPS (Part 60), TTTT: Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units
MACT (Part 63), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
MACT (Part 63), DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
MACT (Part 63), UUUUU: National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units
MACT (Part 63), JJJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
Title IV (Part 72 / Acid Rain)
Title V (Part 70) Major Source

Project Description
When the AO DAQE-AN103270029-22 was issued, an inadvertent error was included in the averaging period for the $NO_x$ limit on the new combustion turbines. Rather than including the correct 30-day rolling period established as BACT, an erroneous averaging period of 3-hours was listed. This permitting action is to rectify this error. As this could potentially be viewed as a relaxation of a permit term, a 30-day public comment period is required prior to making this change. No other changes are anticipated as part of this permitting action.

## SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

| Criteria Pollutant | Change (TPY) | Total (TPY) |
|---|---|---|
| $CO_2$ Equivalent | 0 | 3,997,196 |
| Carbon Monoxide | 0 | 236.51 |
| Lead | 0 | 0.00 |
| Nitrogen Oxides | 0 | 286.92 |
| Particulate Matter - $PM_{10}$ | 0 | 112.57 |
| Particulate Matter - $PM_{2.5}$ | 0 | 108.29 |
| Sulfur Dioxide | 0 | 128.90 |
| Volatile Organic Compounds | 0 | 82.09 |

| Hazardous Air Pollutant | Change (lbs/yr) | Total (lbs/yr) |
|---|---|---|
| Beryllium (TSP) (CAS #7440417) | 0 | 0 |
| Generic HAPs (CAS #GHAPS) | 0 | 35560 |
| Hydrochloric Acid (Hydrogen Chloride) (CAS #7647010) | 0 | 0 |
| Lead (CAS #7439921) | 0 | 0 |
| Mercury (Organic) (CAS #22967926) | 0 | 0 |
| | **Change (TPY)** | **Total (TPY)** |
| Total HAPs | 0 | 17.78 |

# SECTION I: GENERAL PROVISIONS

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|---|---|
| I.1 | All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101] |
| I.2 | The limits set forth in this AO shall not be exceeded without prior approval. [R307-401] |
| I.3 | Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1] |
| I.4 | All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of five years. [R307-401-8] |
| I.5 | At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, 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 Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4] |
| I.6 | The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107] |
| I.7 | The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150] |
| I.8 | The owner/operator shall submit documentation of the status of construction of the new Combustion Turbine Plant equipment (II.A.3 through II.A.9) to the Director by December 22, 2023. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18] |

# SECTION II: PERMITTED EQUIPMENT

## II.A THE APPROVED EQUIPMENT

| | |
|---|---|
| II.A.1 | **Electric Plant**<br>Combustion turbine plant, coal-fired boiler plant, emergency equipment, etc. |
| II.A.2 | **Combustion Turbine Plant Equipment**<br>The following items are located at the new combustion turbine plant |

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|---|---|
| II.A.3 | **Combined Cycle Combustion Turbines**<br>Two (2) 487 MW natural gas and hydrogen-fired combined-cycle combustion turbines<br>Control: SCR and oxidation catalyst |
| II.A.4 | **Fuel Gas Heaters**<br>Two (2) 9.9 MMBtu/hr natural gas-fired heaters |
| II.A.5 | **Auxiliary Boiler**<br>136 MMBtu/hr natural gas-fired auxiliary boiler<br>Control: Low-$NO_x$ Burner (0.14 lb/MMBtu) |
| II.A.6 | **Cooling Towers**<br>Two (2) six-cell linear mechanical draft cooling towers (LMDCTs)<br>88,341 gpm of cooling water per tower |
| II.A.7 | **Emergency Generators**<br>Three (3) diesel-fired emergency generators<br>Rating: 2,500 kW Each<br>NSPS Applicability: Subpart IIII<br>MACT Applicability: Subpart ZZZZ |
| II.A.8 | **Firewater Pump**<br>One (1) 425 bhp diesel-fired emergency firewater pump engine |
| II.A.9 | **Miscellaneous Fugitive Sources**<br>Natural gas piping components (pipes, flanges, valves, etc.)<br>New circuit breakers located at switchyard - SF6 insulated, air cooled. |
| II.A.10 | **Existing Equipment**<br>The following existing equipment (II.A.11 through II.A.31) will remain available for operation at the site following installation of the new turbine plant |
| II.A.11 | **#1 Lime Dust Collector**<br>Dust collector controlling the lime silo |
| II.A.12 | **#2 Lime Dust Collector**<br>Dust collector controlling the lime hopper |
| II.A.13 | **#3 Soda Ash Dust Collector**<br>Dust collector controlling the soda ash silo |
| II.A.14 | **#4 Soda Ash dust Collector**<br>Dust collector controlling the soda ash hopper |
| II.A.15 | **Paved Haul Roads** |
| II.A.16 | **Landfill**<br>Class III Industrial Waste Landfill |
| II.A.17 | **Gasoline Tank**<br>Capacity: 500 gallons |
| II.A.18 | **Diesel Tank**<br>Capacity: 10,000 gallons |

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| II.A.19 | **Diesel Day Tanks**<br>Maximum capacity: Not to exceed 560 gallons per tank |
| II.A.20 | **Mobile Oil Storage Tanks**<br>Maximum capacity: Not to exceed 12,000 gallons per tank |
| II.A.21 | **Used Oil Tank**<br>Capacity: 10,000 gallons |
| II.A.22 | **On-Road Diesel Tank**<br>Non-commercial, ultra-low sulfur, highway diesel fuel tank<br>Capacity: 500 gallons |
| II.A.23 | **Paint booth/shops** |
| II.A.24 | **Solvent Washer** |
| II.A.25 | **Bulb recycling crusher** |
| II.A.26 | **Emergency diesel-driven fire pump**<br>Diesel fire pump located at the Intermountain Community Center, but operated by IPP.<br>Rating: 290 HP |
| II.A.27 | **Engine Driven Equipment**<br>Compressors, generators, hydraulic pumps and diesel fire pumps |
| II.A.28 | **Unpaved Haul Roads** |
| II.A.29 | **#1B Fire Pump**<br>Diesel driven fire pump<br>Rating: 290 hp |
| II.A.30 | **#1C Fire Pump**<br>Diesel driven fire pump<br>Rating: 290 hp |
| II.A.31 | **ICS Cooling Towers**<br>Eight (8) cooling towers used at the Intermountain Convertor Station and auxiliary equipment |
| II.A.32 | **Coal-fired Boiler Plant Equipment**<br>The following equipment (II.A.32 - II.A.87) is considered part of the coal-fired boiler plant and will be removed from service once the combustion turbine plant is operational |
| II.A.33 | **Unit #1 Coal Fired Boiler**<br>Equipped with low $NO_x$ burners with a maximum heat input of 248 MMBtu/hr per burner.<br>Rating - 9,225,000,000 MMBtu/yr |
| II.A.34 | **Unit #2 Coal Fired Boiler**<br>Equipped with low $NO_x$ burners with a maximum heat input of 248 MMBtu/hr per burner.<br>Rating - 9,225,000,000 MMBtu/yr |
| II.A.35 | **Over-Fire Air-Port System**<br>Boiler #1 & #2 over-fire air-ports system, 16 per boiler |
| II.A.36 | **#1A Dust Collector**<br>Dust collector controlling coal railcar unloading |

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| II.A.37 | **#1B Dust Collector**<br>Dust collector controlling coal railcar unloading |
| II.A.38 | **#1C Dust Collector**<br>Dust collector controlling coal railcar unloading |
| II.A.39 | **#1D Dust Collector**<br>Dust collector controlling coal railcar unloading |
| II.A.40 | **#4 Coal Dust Collector**<br>Dust collector controlling Coal transfer building #1 |
| II.A.41 | **#5 Coal Dust Collector**<br>Dust collector controlling coal transfer building #2 |
| II.A.42 | **#6 Coal Dust Collector**<br>Dust collector controlling coal transfer building #4 |
| II.A.43 | **#11 Coal Dust Collector**<br>Dust collector controlling coal crusher building |
| II.A.44 | **#13A Coal Dust Collector**<br>Dust collector controlling U1 Generation building coal dust |
| II.A.45 | **#13B Coal Dust Collector**<br>Dust collector controlling U1 Generation building coal dust |
| II.A.46 | **#14A Coal Dust Collector**<br>Dust collector controlling U2 Generation building coal dust |
| II.A.47 | **#14B Coal Dust Collector**<br>Dust collector controlling U2 Generation building coal dust |
| II.A.48 | **#4 Limestone Dust Collector**<br>Dust collector controlling limestone preparation |
| II.A.49 | **#2 Coal Dust Collector**<br>Dust collector controlling Coal truck unloading |
| II.A.50 | **#3 Coal Dust Collector**<br>Dust collector controlling coal reserve reclaim |
| II.A.51 | **#1A Limestone Dust Collector**<br>Dust collector controlling limestone unloading |
| II.A.52 | **#1B Limestone Dust Collector**<br>Dust collector controlling limestone unloading |
| II.A.53 | **#1 Limestone Dust Collector**<br>Dust collector controlling limestone transfer |
| II.A.54 | **#2 Limestone Dust Collector**<br>Dust collector controlling limestone reclaim |
| II.A.55 | **Limestone silo bin vent filter** |

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| II.A.56 | **#3 Limestone Dust Collector**<br>Dust collector controlling limestone crusher |
| II.A.57 | **#1A Filter**<br>Fly ash silo bin vent filter |
| II.A.58 | **#1B Filter**<br>Fly ash silo bin vent filter |
| II.A.59 | **Coal sample preparation building dust collector** |
| II.A.60 | **Sandblast facility dust collector** |
| II.A.61 | **Dust Collector**<br>Dust collector controlling U1 Generation building vacuum cleaning |
| II.A.62 | **Dust Collector**<br>Dust collector controlling U2 Generation building vacuum cleaning |
| II.A.63 | **Dust Collector**<br>Dust collector controlling U1 Fabric filter vacuum cleaning |
| II.A.64 | **Dust Collector**<br>Dust collector controlling U2 Fabric filter vacuum cleaning |
| II.A.65 | **Dust Collector**<br>Dust collector controlling GSB vacuum cleaning |
| II.A.66 | **Coal Pile**<br>Active and reserve |
| II.A.67 | **Coal Stackout** |
| II.A.68 | **#1A Tank**<br>Fuel oil tank<br>Capacity: 675,000 gallons |
| II.A.69 | **#1B Tank**<br>Fuel oil tank<br>Capacity: 675,000 gallons |
| II.A.70 | **Limestone storage pile** |
| II.A.71 | **Combustion byproducts stackout & stockpile** |
| II.A.72 | **Combustion byproducts landfill** |
| II.A.73 | **#1A Cooling Tower**<br>Unit 1 cooling tower |
| II.A.74 | **#1B Cooling Tower**<br>Unit 1 cooling tower |
| II.A.75 | **#1A Cooling Tower**<br>Unit 2 cooling tower |

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|---|---|
| II.A.76 | **#1B Cooling Tower**<br>Unit 2 cooling tower |
| II.A.77 | **#1A Generator**<br>Emergency generator<br>Rating:* 4,000 hp |
| II.A.78 | **#1B Generator**<br>Emergency generator<br>Rating: 4,000 hp |
| II.A.79 | **#1C Generator**<br>Emergency generator,<br>Rating: 4,000 hp |
| II.A.80 | **Engine Driven Equipment**<br>Compressors and hydraulic pumps |
| II.A.81 | **Coal Conveyors** |
| II.A.82 | **Coal Truck Unloading Grating** |
| II.A.83 | **Laboratory fume hoods** |
| II.A.84 | **Turbine Lube Oil Units**<br>Maximum capacity: Not to exceed 40,000 gallons per tank |
| II.A.85 | **Diesel Tank**<br>Underground storage diesel tank<br>Capacity: 20,000 gallons |
| II.A.86 | **Gasoline Tank**<br>Underground storage gasoline tank<br>Capacity: 6,000 gallons |
| II.A.87 | **Two Helper Cooling Towers** |

# SECTION II: SPECIAL PROVISIONS

## II.B REQUIREMENTS AND LIMITATIONS

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|---|---|
| II.B.1 | **Intermountain Generating Station** |
| II.B.1.a | Visible emissions from the following emission point sources shall not exceed the listed values:<br><br>A. All abrasive blasting - 40% opacity (grandfathered equipment)<br><br>B. All other points - 20% opacity<br><br>Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.<br><br>For sources that are subject to NSPS, except for the units equipped with continuous opacity monitoring system, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9.<br><br>[R307-201-3] |
| II.B.1.b | The owner/operator shall abide by the latest FDCP submitted to the Director for control of all dust sources associated with the Intermountain Power Generation site.<br><br>Any haul road speeds established in the plan shall be posted. [R307-205] |
| II.B.1.c | The facility shall abide by all applicable requirements of R307-205 for Fugitive Emission and Fugitive Dust sources. [R307-205] |
| II.B.2 | **Stack Testing Requirements** |
| II.B.2.a | The owner/operator shall conduct any stack testing required by this AO according to the following conditions. [R307-401-8] |
| II.B.2.a.1 | **Notification**<br>At least 30 days prior to conducting a stack test, the owner/operator shall submit a source test protocol to the Director. The source test protocol shall include the items contained in R307-165-3. If directed by the Director, the owner/operator shall attend a pretest conference. [R307-165-3, R307-401-8] |
| II.B.2.a.2 | **Testing & Test Conditions**<br>The owner/operator shall conduct testing according to the approved source test protocol and according to the test conditions contained in R307-165-4. [R307-165-4, R307-401-8] |
| II.B.2.a.3 | **Access**<br>The owner/operator shall provide Occupational Safety and Health Administration (OSHA)- or Mine Safety and Health Administration (MSHA)-approved access to the test location. [R307-401-8] |
| II.B.2.a.4 | **Reporting**<br>No later than 60 days after completing a stack test, the owner/operator shall submit a written report of the results from the stack testing to the Director. The report shall include validated results and supporting information. [R307-165-5, R307-401-8] |
| II.B.2.a.5 | **Possible Rejection of Test Results**<br>The Director may reject stack testing results if the test did not follow the approved source test protocol or for a reason specified in R307-165-6. [R307-165-6, R307-401-8] |

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| II.B.2.b | **Test Methods**<br>When performing stack testing, the owner/operator shall use the appropriate EPA-approved test methods as acceptable to the Director. Acceptable test methods for pollutants are listed below. [R307-401-8] |
| II.B.2.b.1 | **Standard Conditions**<br><br>A. Temperature - 68 degrees Fahrenheit (293 K)<br><br>B. Pressure - 29.92 in Hg (101.3 kPa)<br><br>C. Averaging Time - As specified in the applicable test method<br><br>[40 CFR 60 Subpart A, 40 CFR 63 Subpart A, R307-401-8] |
| II.B.2.b.2 | **$PM_{10}$**<br>Total $PM_{10}$ = Filterable $PM_{10}$ + Condensable PM<br><br>Filterable $PM_{10}$<br>40 CFR 60, Appendix A, Method 5; 40 CFR 51, Appendix M, Method 201; Method 201A; or other EPA-approved testing method as acceptable to the Director. If other approved testing methods are used which cannot measure the $PM_{10}$ fraction of the filterable particulate emissions, all of the filterable particulate emissions shall be considered $PM_{10}$.<br><br>Condensable PM<br>40 CFR 51, Appendix M, Method 202 or other EPA-approved testing method as acceptable to the Director.<br><br>[R307-401-8] |
| II.B.2.b.3 | **$NO_x$**<br>40 CFR 60, Appendix A, Method 7; Method 7E; or other EPA-approved testing method as acceptable to the Director. [R307-401-8] |
| II.B.2.b.4 | **$SO_2$**<br>40 CFR 60, Appendix A, Method 6; Method 6C; or other EPA-approved testing method as acceptable to the Director. [R307-401-8] |
| II.B.2.b.5 | **CO**<br>40 CFR 60, Appendix A, Method 10 or other EPA-approved testing method as acceptable to the Director. [R307-401-8] |
| II.B.2.b.6 | **VOC**<br>40 CFR 60, Appendix A, Method 18; Method 25; Method 25A; 40 CFR 63, Appendix A, Method 320; or other EPA-approved testing method as acceptable to the Director. [R307-401-8] |
| II.B.2.b.7 | **Existing Source Operation:** For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years. [R307-401-8] |

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| II.B.3 | **Combustion Turbine Plant** |
| II.B.3.a | The owner/operator shall install, calibrate, maintain, and operate a continuous emissions monitoring system on each of the HRSG stacks. The owner/operator shall record the $NO_x$ and CO emissions. The monitoring system shall comply with all applicable sections of R307-170; 40 CFR 13; and 40 CFR 60, Appendix B. The $NO_x$ monitor shall comply with 40 CFR 75, Appendix A and B.<br><br>All continuous emissions monitoring devices as required in federal regulations and state rules shall be installed prior to placing the affected source in operation. These devices shall be certified within 90 days of achieving full load, not to exceed 180 days after startup.<br><br>Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring systems and shall meet minimum frequency of operation requirements as outlined in R307-170 and 40 CFR 60.13.<br><br>[40 CFR 60.13, R307-170] |
| II.B.3.b | The owner/operator shall use natural gas or hydrogen (H2) as fuel in the combustion turbines.<br><br>The owner/operator shall use natural gas as fuel in the auxiliary boiler.<br><br>[R307-401-8(1)(a)] |
| II.B.3.c | The owner/operator shall not exceed 535 million standard cubic feet (SCF) natural gas consumption at the 136 MMBtu/hr Auxiliary Boiler (II.A.5) per rolling 12-month period. [R307-401-8(1)(a)] |
| II.B.3.c.1 | Natural gas consumption shall be monitored through use of a flow meter on the natural gas supply line to the Auxiliary Boiler. Fuel usage shall be determined and recorded monthly. By the 20th day of each month a new rolling 12-month total shall be calculated by summing the monthly fuel usage values for the previous 12 months. Monthly and total 12-month fuel usage shall be recorded in an operations log. [R307-401-8] |
| II.B.3.d | Emissions to the atmosphere from each Turbine/HRSG Stack shall not exceed the following rates and concentrations:<br><br>Pollutant — Limitations — Averaging Period<br>$NO_x$ — 2.0 ppmvd at 15% $O_2$ * — 30-day rolling<br>CO — 2.0 ppmvd at 15% $O_2$ * — 3-hour<br>VOC — 1.0 ppmvd at 15% $O_2$ * — 3-hour<br><br>* Under steady state operation. [R307-401-8(1)(a)] |

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| II.B.3.d.1 | Stack testing to demonstrate compliance with the emission limitations stated in the above condition shall be performed on the following schedule:<br><br>Each turbine/HRSG stack<br><br>$NO_x$: compliance shall be demonstrated by CEM as outlined in condition II.B.3.a. The Director may require testing at any time.<br><br>CO: compliance shall be demonstrated by CEM as outlined in condition II.B.3.a. The Director may require testing at any time.<br><br>VOC: initial testing is required within 180 days of beginning operation, subsequent testing to be conducted at least once annually. Testing may be replaced with parametric monitoring if approved by the Director.<br><br>[R307-165, R307-170] |
| II.B.3.d.2 | Steady state operation means all periods of combustion turbine operation, except for periods of startup and shutdown as defined below. Startup is defined as the period beginning with turbine initial firing until the unit meets the ppmvd emission limits listed in condition II.B.3.d for steady state operation. Shutdown is defined as the period beginning with the initiation of turbine shutdown sequence and ending with the cessation of firing of the gas turbine engine.<br><br>The owner/operator shall ensure the following limitations:<br><br>1. Startup and shutdown events shall not exceed 114.9 hours per turbine per rolling 12-month period and are counted toward the applicable annual emission limitations.<br><br>2. Emissions of $NO_x$ from either turbine/HRSG stack shall not exceed 100.8 lb/hr during startup or shutdown operations.<br><br>3. Emissions of CO from either turbine/HRSG stack shall not exceed 624.0 lb/hr during startup or shutdown operations.<br><br>Compliance with the hours of operation limitation shall be determined though maintenance of an operations log detailing the mode of operation and total hours of operation in each mode.<br><br>Compliance with the $NO_x$ and CO emission limits shall be determined by CEM as outlined in II.B.3.a.<br><br>[R307-401-8(1)(a)] |
| II.B.4 | **Emergency Engine Requirements** |
| II.B.4.a | The owner/operator shall install emergency engines (II.A.7) that are certified to meet a $NO_x$ emission rate of 7.29 g/kW-hr or less. [R307-401-8(1)(a)] |
| II.B.4.a.1 | To demonstrate compliance with the emission rate, the owner/operator shall keep a record of the manufacturer's certification of emission standards. The record shall be kept for the life of the equipment. [R307-401-8] |
| II.B.4.b | The owner/operator shall not operate each emergency engine on site for more than 100 hours per rolling 12-month period during non-emergency situations. There is no time limit on the use of the engines during emergencies. [40 CFR 63 Subpart ZZZZ, R307-401-8] |

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| II.B.4.b.1 | To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Records documenting the operation of each emergency engine shall be kept in a log and shall include the following:<br><br>A. The date the emergency engine was used<br><br>B. The duration of operation in hours<br><br>C. The reason for the emergency engine usage.<br><br>[40 CFR 60 Subpart ZZZZ, R307-401-8] |
| II.B.4.b.2 | To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine (generator or fire water pump). [40 CFR 60 Subpart ZZZZ, R307-401-8] |
| II.B.4.c | The owner/operator shall only use diesel fuel (e.g. fuel oil #1, #2, or diesel fuel oil additives) as fuel in each emergency engine (generator or fire water pump). [R307-401-8] |
| II.B.4.c.1 | The owner/operator shall only combust diesel fuel that meets the definition of ultra-low sulfur diesel (ULSD), which has a sulfur content of 15 ppm or less. [R307-401-8] |
| II.B.4.c.2 | To demonstrate compliance with the ULSD fuel requirement, the owner/operator shall maintain records of diesel fuel purchase invoices or obtain certification of sulfur content from the diesel fuel supplier. The diesel fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements. [R307-401-8] |
| II.B.5 | **Coal Plant Sunset Provisions** |
| II.B.5.a | The equipment listed in Section II.A.32 under the heading Coal-fired Boiler Plant Equipment shall remain in operation until such time as the new combustion turbines are installed and operational. The new Combustion Turbine Plant will become operational only after a reasonable shakedown period, not to exceed 180 days. At that time the listed Coal Boiler Plant Equipment shall cease operations and be removed from service.<br><br>Conditions II.B.6 through II.B.7.a, shall not apply to the owner/operator once the equipment has been removed from service.<br><br>[R307-401] |
| II.B.6 | **Unit #1 & Unit #2 Main Boilers** |
| II.B.6.a | The owner/operator shall combust only bituminous, subbituminous coals, non-limited synthetic coal-derived fuels and refined coal (synfuels), as primary fuels and shall only use diesel oil or natural gas during the startups, shutdowns, maintenance, performance tests, upsets and for flame stabilization in the 9,225 MMBtu/hr boilers. The owner/operator may fuel-blend self-generated used oil with coal at the active coal pile reclaim structure provided that self-generated used oil has not been mixed with hazardous waste. [R307-401] |
| II.B.6.a.1 | The sulfur content of any fuel oil combusted shall not exceed 0.85 lb/MMBtu heat input in the main boilers. The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of fuel oil shall either be by IPSCs own testing or test reports from the fuel oil marketer. [R307-203] |

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| II.B.6.b | The owner/operator shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) on the main boiler stacks and $SO_2$ removal scrubber inlets. The owner/operator shall record the output of the system, for measuring the opacity, $SO_2$, $NO_x$, and $CO_2$ emissions. The monitoring system shall comply with all applicable sections of R307-170, UAC; and 40 CFR 60, Appendix B.<br><br>All continuous emissions monitoring devices as required in federal regulations and state rules shall be installed and operational prior to placing the affected source in operation.<br><br>Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring devices and shall meet minimum frequency of operation requirements as outlined in 40 CFR 60.13 and Section UAC R307-170. [R307-150] |
| II.B.6.c | Unit #1 & Unit #2 Main Boiler Stack<br><br>Except for time of start-up, shut-down, malfunction ($NO_x$ or $PM_{10}$ only), or emergency conditions ($SO_2$ only), emissions to the atmosphere at all times from the indicated emission points shall not exceed the following rates and concentrations:<br><br>Pollutant lb/MMBtu heat input<br><br>$PM_{10}$ 0.0184*<br>$SO_2$ 0.138 ** (based on 30-day rolling average)<br>$NO_x$ 0.461 ** (based on 30-day rolling average)<br><br>* Test once a year. The Director may require testing at any time.<br>** Compliance for $NO_x$ and $SO_2$ emissions shall be demonstrated through use of a continuous emissions monitoring system as outlined in Condition II.B.6.b. [R307-401] |

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| II.B.6.c.1 | Calculations for Test Results: Unit #1 & Unit #2 Boiler Stacks<br><br>To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation.<br><br>Pollutant lbs/hr (Compliance demonstration)<br><br>CO 1320 lb/hr rate (monthly block average)<br><br>Combustion flue gas percent $O_2$ shall be monitored and recorded at least once per 15 minutes at the exit path of each boiler. Measurements are weighted average results collected from several sensors located in each boiler exit flue path. Calibrations shall be maintained within manufacturer's recommendations.<br><br>Over-Fire Air (OFA) operating condition shall be monitored and recorded at least once per 15 minutes. Monitoring shall include OFA position and status: i.e., No OFA, 1/3 OFA, 2/3 OFA, throttled or open. Operational status is measured by OFA system damper position.<br><br>Using the data above and this formula, CO concentration (ppmdv) shall be calculated and averaged hourly, except for periods of calibration, maintenance, or malfunction of the instrumentation or data system. For periods of calibration, maintenance, or malfunction of instrumentation or data collection system, missing data shall be back filled following procedures similar to 40 CFR Part 75 Subpart D, and used for compliance determinations.<br><br>[Cppmvd] = n * ($O_2$%)^a<br><br>Where:<br>[Cppmvd] = concentration of CO in parts per million volume dry<br>n = curve specific factor obtained from the table below<br>$O_2$% = percent $O_2$ measured at the boiler stack exit<br>a = curve specific exponent obtained from the table below<br><br>Values for n and a factors:<br><br>n a<br>No. OFA 47259 -7.6817<br>1/3 OFA 66265 -7.9824<br>2/3 OFA (Throttled) 4029.2 -4.0112<br>2/3 OFA (full open) 1372.4 -3.0919<br><br>The hourly mass emission rates in lb per hour shall be calculated using the following formula or any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation.<br><br>[Clb/hr] = [Cppmvd] * 2.59 * 10E-9 * MW * Fd * 20.9/(20.9-$O_2$%) * HI<br><br>Where:<br>[Clb/hr] = pound per hour emission rate<br>[Cppmvd] = hourly average of CO emissions in parts per million<br>2.59*10E-9 = conversion factor for pound per standard cubic feet<br>MW = molecular weight of CO<br>Fd = F factor to convert standard cubic feet per MMBtu heat input.<br>$O_2$% = hourly average of excess combustion oxygen, in percent<br>HI = heat input, in MMBtu per hour<br><br>By the 15th day of each month, the monthly average of CO emissions in lb/hr shall be calculated by using the hourly average CO emission values in lb/hr.<br><br>[R307-401] |

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| II.B.6.d | The owner/operator shall comply with R307-424 Permits: Mercury Requirements for Electric Generating Units. [R307-424-4] |
| II.B.7 | **Dust Collectors** |
| II.B.7.a | Except for times of start-up, shut-down, or malfunction, differential pressure at the indicated emission points, at all times, shall be within the following limits:<br><br>Pollutant/Source — Differential Pressure Range Across the Dust Collector<br>$PM_{10}$ — (Inches of water gage)<br><br>(4) Rail car unloading units — 0.5 to 12<br>Transfer building #1 — 0.5 to 12<br>Transfer building #2 — 0.5 to 12<br>Transfer building #4 — 0.5 to 12<br>Crusher building #1 — 0.5 to 12<br>Unit one 13A — 0.5 to 12<br>Unit one 13B — 0.5 to 12<br>Unit two 14A — 0.5 to 12<br>Unit two 14B — 0.5 to 12<br>Limestone preparation building — 0.5 to 12<br><br>If any differential pressure is less than 2 inches or greater than 10 inches, work orders will be written to investigate. Dust collector may run in the 0.5 to 2 or 10 to 12 range if reason is known. Intermittent recording of the reading is required on a monthly basis. The instrument shall be calibrated against a primary standard annually. Preventive maintenance shall be done quarterly on each baghouse. [R307-401] |

# PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

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| Supersedes | DAQE-AN103270029-22 dated June 22, 2022 |
| Is Derived From | Source Submitted NOI dated August 29, 2022 |

# ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

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| 40 CFR | Title 40 of the Code of Federal Regulations |
| AO | Approval Order |
| BACT | Best Available Control Technology |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendments |
| CDS | Classification Data System (used by Environmental Protection Agency to classify sources by size/type) |
| CEM | Continuous emissions monitor |
| CEMS | Continuous emissions monitoring system |
| CFR | Code of Federal Regulations |
| CMS | Continuous monitoring system |
| CO | Carbon monoxide |
| $CO_2$ | Carbon Dioxide |
| $CO_2e$ | Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1 |
| COM | Continuous opacity monitor |
| DAQ/UDAQ | Division of Air Quality |
| DAQE | This is a document tracking code for internal Division of Air Quality use |
| EPA | Environmental Protection Agency |
| FDCP | Fugitive dust control plan |
| GHG | Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i) |
| GWP | Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818-12(a) |
| HAP or HAPs | Hazardous air pollutant(s) |
| ITA | Intent to Approve |
| LB/YR | Pounds per year |
| MACT | Maximum Achievable Control Technology |
| MMBTU | Million British Thermal Units |
| NAA | Nonattainment Area |
| NAAQS | National Ambient Air Quality Standards |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NOI | Notice of Intent |
| $NO_x$ | Oxides of nitrogen |
| NSPS | New Source Performance Standard |
| NSR | New Source Review |
| $PM_{10}$ | Particulate matter less than 10 microns in size |
| $PM_{2.5}$ | Particulate matter less than 2.5 microns in size |
| PSD | Prevention of Significant Deterioration |
| PTE | Potential to Emit |
| R307 | Rules Series 307 |
| R307-401 | Rules Series 307 - Section 401 |
| $SO_2$ | Sulfur dioxide |
| Title IV | Title IV of the Clean Air Act |
| Title V | Title V of the Clean Air Act |
| TPY | Tons per year |
| UAC | Utah Administrative Code |
| VOC | Volatile organic compounds |