



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-AN130310014-25

February 13, 2025

Brett Shakespear
PacifiCorp
1407 West North Temple, Suite 310
Salt Lake City, UT 84116
Joshua.Sewell@pacificorp.com

Dear Mr. Shakespear:

Re: Approval Order: Administrative Amendment to Approval Order DAQE-AN130310012-15 to Update Description of Equipment
Project Number: N130310014

The attached Approval Order (AO) is issued pursuant to the Notice of Intent (NOI) received on August 28, 2024. PacifiCorp 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.

Sincerely,

Bryce C. Bird
Director

BCB:JJ:jg

cc: Utah County Health Department
EPA Region 8

STATE OF UTAH
Department of Environmental Quality
Division of Air Quality

APPROVAL ORDER
DAQE-AN130310014-25
Administrative Amendment to Approval Order
DAQE-AN130310012-15 to Update
Description of Equipment

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

Issued to
PacifiCorp - Lake Side Power Plant

Issued On
February 13, 2025

Issued By

A handwritten signature in black ink, appearing to read "Bryce C. Bird".

Bryce C. Bird
Director
Division of Air Quality

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GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name

PacifiCorp

Source Name

PacifiCorp - Lake Side Power Plant

Mailing Address

1407 West North Temple, Suite 310
Salt Lake City, UT 84116

Physical Address

1825 North Pioneer Lane
Vineyard, UT 84058

Source Contact

Name: Joshua Sewell
Phone: (801) 220-2010
Email: Joshua.Sewell@pacificorp.com

UTM Coordinates

436,000 m Easting
4,464,500 m Northing
Datum NAD27
UTM Zone 12

SIC code 4911 (Electric Services)

SOURCE INFORMATION

General Description

The PacifiCorp Lake Side Power Plant is a natural gas-fired electric generating facility consisting of two (2) electricity-generating blocks. Lake Side Block #1 consists of two (2) natural gas combustion turbines (CTs) (each with a projected average output rating of 165 MW) with heat recovery steam generators (HRSGs) and one (1) steam turbine with a projected average output rating of 240 MW. Lake Side Block #2 consists of two (2) natural gas-fired CT's (each with a projected average output rating of 200 MW) with HRSGs and one (1) steam turbine with a projected average output rating of 229 MW. Each CT/HRSG unit is equipped with a selective catalytic reduction (SCR) system and a CO oxidation catalyst.

NSR Classification

Administrative Amendment

Source Classification

Located in Provo UT PM_{2.5} NAA
Utah County
Airs Source Size: A

Applicable Federal Standards

NSPS (Part 60), A: General Provisions
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), GG: Standards of Performance for Stationary Gas Turbines

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

MACT (Part 63), YYYY: National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Title IV (Part 72 / Acid Rain)

Title V (Part 70) Major Source

Project Description

PacifiCorp intends to upgrade the existing CT's and install ultra-low NO_x burners on Block 1 of its Lake Side Power Plant. These upgrades will increase fuel burn efficiency, decrease minimum operating levels, and provide the capability to incorporate 30% hydrogen co-firing. The plant will continue to operate Block 1 within the current emission limitations in the Title V Operating Permit, AO DAQE-AN1303100012-15, and relevant State Implementation Plans.

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	3.62
Carbon Monoxide	0	1139.60
Nitrogen Oxides	0	280.90
Particulate Matter - PM ₁₀	0	215.40
Particulate Matter - PM _{2.5}	0	215.40
Sulfur Dioxide	0	55.60
Volatile Organic Compounds	0	169.70

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Formaldehyde (CAS #50000)	0	12400
Total HAPs (CAS #THAPS)	0	54800
	Change (TPY)	Total (TPY)
Total HAPs	0	33.60

SECTION I: GENERAL PROVISIONS

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 five-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 (5) years. [R307-415-6b]
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 R307-150 Series. Emission Inventories. [R307-150]
I.7	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]

SECTION II: PERMITTED EQUIPMENT

II.A THE APPROVED EQUIPMENT

II.A.1	Lake Side Power Plant Permitted Source
II.A.2	CT #1 and #2 Two (2) natural gas-fired ultra-low-NO _x , combined cycle turbines, each with 150-foot stack (as measured from the base of the stack)
II.A.3	HRSG #1 and #2 Two (2) HRSGs, each equipped with low NO _x duct burner - 184 MMBtu/hr
II.A.4	Block #1 SCR Two (2) SCR systems with ammonia injection, one for each turbine/HRSG set
II.A.5	Block #1 CO Catalysts Two (2) CO catalysts, one for each turbine/HRSG set
II.A.6	Block #1 Steam Turbine One (1) steam turbine
II.A.7	Auxiliary Boiler #1 One (1) natural gas-fired 62.765 MMBtu/hr (nameplate rating) auxiliary boiler with 50 ft. boiler stack (as measured from the base of the stack)

II.A.8	Cooling Tower #1 One (1) 10 Cell mechanical draft evaporative cooling tower with drift elimination
II.A.9	CT #3 and #4 Two (2) natural gas-fired dry low-NO _x , combined cycle turbines, each with 150-foot stack (as measured from the base of the stack)
II.A.10	HRSG #3 and #4 Two (2) HRSGs, each equipped with low NO _x duct burner approximately 400 MMBtu/hr
II.A.11	Block #2 SCR Two (2) SCR systems with ammonia injection, one for each turbine/HRSG set
II.A.12	Block #2 CO Catalysts Two (2) CO catalysts, one for each turbine/HRSG set
II.A.13	Block #2 Steam Turbine One (1) steam turbine
II.A.14	Auxiliary Boiler #2 One (1) natural gas-fired 57.6 MMBtu/hr (nameplate rating) auxiliary boiler with 60 ft. boiler stack (as measured from the base of the stack)
II.A.15	Cooling Tower #2 One (1) 16 Cell mechanical draft evaporative cooling tower with drift elimination
II.A.16	Fuel Dew Point Heater One (1) 4.76 MMBtu/hr (nameplate rating) fuel dew point heater
II.A.17	Emergency Generator Two (2) approximately 1,500 hp diesel-fired emergency generators
II.A.18	Fire Pump One (1) 290 hp diesel-fired fire pump
II.A.19	Water Treatment Water treatment and storage facilities
II.A.20	Ammonia Storage and Handling Aqueous ammonia storage and handling equipment
II.A.21	Miscellaneous Equipment CT lube oil vent system, maintenance shop vent system, machining and welding operations, etc.
II.A.22	Lake Side Block #1 Lake Side Block #1 consists of CT #1 and #2, associated HRSGs, control equipment, an auxiliary boiler, and a cooling tower
II.A.23	Lake Side Block #2 Lake Side Block #2 consists of CT #3 and #4, associated HRSGs, control equipment, an auxiliary boiler, and cooling tower
II.A.24	Additional Equipment Fuel treatment, fire suppression, water treatment, ammonia storage, and other misc. equipment

SECTION II: SPECIAL PROVISIONS

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	Conditions on Permitted Source																								
II.B.1.a	<p>The owner/operator shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) 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.</p> <p>All CEM 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.</p> <p>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. [R307-170]</p>																								
II.B.1.b	<p>Visible emissions shall not exceed the following values:</p> <p>All natural gas combustion exhaust stacks - 10% opacity</p> <p>All other emission points - 20% opacity.</p> <p>Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.</p> <p>[R307-401-8]</p>																								
II.B.2	Conditions on Lake Side Block #1																								
II.B.2.a	<p>The owner/operator shall use natural gas as fuel in the CT's, duct burners, and auxiliary boiler. [R307-401-8]</p>																								
II.B.2.b	<p>Emissions to the atmosphere from the indicated emission point(s) shall not exceed the following rates and concentrations:</p> <p>Source: Auxiliary Boiler #1</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Pollutant</th> <th style="text-align: left;">Limitations</th> <th style="text-align: left;">Averaging Period</th> </tr> </thead> <tbody> <tr> <td>PM₁₀</td> <td>0.01 lb/MMBtu</td> <td>3-hour</td> </tr> <tr> <td>NO_x</td> <td>0.017 lb/MMBtu</td> <td>3-hour</td> </tr> <tr> <td>CO</td> <td>0.037 lb/MMBtu</td> <td>3-hour</td> </tr> </tbody> </table> <p>Source: Each Turbine/HRSG Stack (at Block #1)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Pollutant</th> <th style="text-align: left;">Limitations</th> <th style="text-align: left;">Averaging Period</th> </tr> </thead> <tbody> <tr> <td>PM₁₀</td> <td>10.8 lb/hour (0.01 lb/MMBtu)</td> <td>30-day rolling average</td> </tr> <tr> <td>NO_x</td> <td>2.0 ppmvd at 15% O₂ (14.9 lb/hr)*</td> <td>3-hour</td> </tr> <tr> <td>CO</td> <td>3.0 ppmvd at 15% O₂ (14.1 lb/hr)*</td> <td>3-hour</td> </tr> </tbody> </table> <p>* Under steady-state operation.</p> <p>[R307-401-8]</p>	Pollutant	Limitations	Averaging Period	PM ₁₀	0.01 lb/MMBtu	3-hour	NO _x	0.017 lb/MMBtu	3-hour	CO	0.037 lb/MMBtu	3-hour	Pollutant	Limitations	Averaging Period	PM ₁₀	10.8 lb/hour (0.01 lb/MMBtu)	30-day rolling average	NO _x	2.0 ppmvd at 15% O ₂ (14.9 lb/hr)*	3-hour	CO	3.0 ppmvd at 15% O ₂ (14.1 lb/hr)*	3-hour
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<p>II.B.2.c</p>	<p>Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:</p> <table border="1"> <thead> <tr> <th data-bbox="349 283 552 315">Emissions Point</th> <th data-bbox="633 283 755 315">Pollutant</th> <th data-bbox="820 283 909 315">Status</th> <th data-bbox="1015 283 1153 315">Frequency</th> </tr> </thead> <tbody> <tr> <td data-bbox="349 346 511 378">HRSG Stacks</td> <td data-bbox="633 346 771 378">PM₁₀/PM_{2.5}</td> <td data-bbox="820 346 836 378">*</td> <td data-bbox="1015 346 1031 378">\$</td> </tr> <tr> <td data-bbox="349 378 397 409">NO_x</td> <td></td> <td data-bbox="820 378 836 409">*</td> <td data-bbox="1015 378 1031 409">#</td> </tr> <tr> <td data-bbox="349 409 389 441">CO</td> <td></td> <td data-bbox="820 409 836 441">*</td> <td data-bbox="1015 409 1031 441">#</td> </tr> <tr> <td data-bbox="349 462 552 493">Auxiliary Boilers</td> <td data-bbox="633 462 698 493">PM₁₀</td> <td data-bbox="820 462 836 493">*</td> <td data-bbox="1015 462 1031 493">%</td> </tr> <tr> <td data-bbox="349 493 397 525">NO_x</td> <td></td> <td data-bbox="820 493 836 525">*</td> <td data-bbox="1015 493 1031 525">%</td> </tr> <tr> <td data-bbox="349 525 389 556">CO</td> <td></td> <td data-bbox="820 525 836 556">*</td> <td data-bbox="1015 525 1031 556">%</td> </tr> </tbody> </table> <p>Testing Status (To be applied to the sources listed above)</p> <p>* Initial compliance testing has been completed. If an existing source is modified, a compliance test is required on the modified emission point that has an emission rate limit.</p> <p>\$ Test every year, or testing may be replaced with parametric monitoring if approved by the Director.</p> <p>% Test every five (5) years, or testing may be replaced with parametric monitoring if approved by the Director.</p> <p># Compliance shall be demonstrated through use of a CEMS as outlined in Condition II.B.1.c. The Director may require testing at any time.</p> <p>[R307-165]</p>	Emissions Point	Pollutant	Status	Frequency	HRSG Stacks	PM ₁₀ /PM _{2.5}	*	\$	NO _x		*	#	CO		*	#	Auxiliary Boilers	PM ₁₀	*	%	NO _x		*	%	CO		*	%
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<p>II.B.2.d</p>	<p>For all emissions testing, the following shall apply:</p> <p>Notification: The Director shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Director.</p> <p>The source test protocol shall be approved by the Director prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held if directed by the Director.</p> <p>Sample Location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the EPA and acceptable to the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.</p> <p>Volumetric Flow Rate: 40 CFR 60, Appendix A, Method 2, or the EPA Test Method No. 19 "SO₂ Removal & PM, SO₂, NO_x Rates from Electric Utility Steam Generators" or other testing methods approved by the EPA and acceptable to the Director.</p> <p>PM₁₀: For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, and 202, or other testing methods approved by the EPA and acceptable to the Director. All particulates captured shall be considered PM₁₀. The back half condensable shall be used for compliance demonstration as well as for inventory purposes.</p> <p>For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the EPA and acceptable to the Director. The back half condensable shall also be tested using the method specified by the Director. The portion of the front half of the catch considered PM₁₀ shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Director.</p> <p>PM_{2.5}: For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, and 202, or other testing methods approved by the EPA and acceptable to the Director. All particulates captured shall be considered PM_{2.5}.</p> <p>For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the EPA and acceptable to the Director. The back half condensable shall also be tested using the method specified by the Director. The portion of the front half of the catch considered PM_{2.5} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Director.</p> <p>NO_x: 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by the EPA and acceptable to the Director.</p> <p>CO: 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the EPA and acceptable to the Director.</p> <p>Calculations: 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.</p> <p>[R307-165]</p>
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<p>II.B.2.e</p>	<p>Compliance with the 3-hour NO_x and CO emission limitations specified in Condition II.B.2.b shall not be required during short-term excursions, limited to a cumulative total of 160 hours per rolling 12-month period. Short-term excursions are defined as 15-minute periods designated by the owner/operator that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x and CO concentrations exceed 2.0 ppmv and 3.0 ppmv, dry @ 15% O₂, respectively. Transient load conditions include the following:</p> <ol style="list-style-type: none"> 1. Initiation/shutdown of combustion turbine inlet air-cooling 2. Rapid combustion turbine load changes 3. Initiation/shutdown of HRSG duct burners 4. Provision of ancillary services and automatic generation control. <p>During periods of transient load conditions, the NO_x concentration shall not exceed 25 ppmv, and the CO concentration shall not exceed 50 ppmv, dry @ 15% O₂. All NO_x and CO emissions during these events shall be included in all calculations of annual mass emissions as required by this permit.</p> <p>[R307-401-8]</p>
<p>II.B.2.f</p>	<p>Steady-state operation means all periods of combustion turbine operation, except for periods of startup and shutdown as defined below, and periods of transient load conditions as defined in Condition II.B.2.e. Startup is defined as the period beginning with turbine initial firing until the unit meets the ppmvd emission limits in the first table of Condition II.B.2.b 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. Startup and shutdown events shall not exceed 613.5 hours per turbine per rolling 12-month period and are counted toward the applicable annual emission limitations. Total startup and shutdown events shall not exceed 14-hours per turbine in any one calendar day, commencing at midnight. Emissions during startup and shutdown periods shall be counted toward the applicable annual emission limitations.</p> <p>[R307-401-8]</p>
<p>II.B.3</p>	<p>Conditions on Lake Side Block #2</p>
<p>II.B.3.a</p>	<p>The owner/operator shall use natural gas as fuel in the CT's, duct burners, and auxiliary boiler.</p> <p>[R307-401-8]</p>

<p>II.B.3.b</p>	<p>Emissions to the atmosphere from the indicated emission point(s) shall not exceed the following rates and concentrations:</p> <p>Source: Auxiliary Boiler #2</p> <table border="0"> <thead> <tr> <th>Pollutant</th> <th>Limitations</th> <th>Averaging Period</th> </tr> </thead> <tbody> <tr> <td>PM₁₀/PM_{2.5}</td> <td>0.01 lb/MMBtu</td> <td>3-hour</td> </tr> <tr> <td>NO_x</td> <td>0.017 lb/MMBtu</td> <td>3-hour</td> </tr> <tr> <td>CO</td> <td>0.037 lb/MMBtu</td> <td>3-hour</td> </tr> <tr> <td>VOC</td> <td>0.006 lb/MMBtu</td> <td>3-hour</td> </tr> </tbody> </table> <p>Source: Each Turbine/HRSG Stack (at Block #2)</p> <table border="0"> <thead> <tr> <th>Pollutant</th> <th>Limitations</th> <th>Averaging Period</th> </tr> </thead> <tbody> <tr> <td>PM₁₀/PM_{2.5}</td> <td>14 lb/hour (with duct firing)</td> <td>30-day rolling average</td> </tr> <tr> <td>NO_x</td> <td>2.0 ppmvd at 15% O₂ (18.1 lb/hr)*</td> <td>3-hour</td> </tr> <tr> <td>CO</td> <td>3.0 ppmvd at 15% O₂ (16.6 lb/hr)*</td> <td>3-hour</td> </tr> <tr> <td>VOC</td> <td>2.8 ppmvd at 15% O₂*</td> <td>3-hour</td> </tr> </tbody> </table> <p>* Under steady-state operation.</p> <p>[R307-401-8]</p>	Pollutant	Limitations	Averaging Period	PM ₁₀ /PM _{2.5}	0.01 lb/MMBtu	3-hour	NO _x	0.017 lb/MMBtu	3-hour	CO	0.037 lb/MMBtu	3-hour	VOC	0.006 lb/MMBtu	3-hour	Pollutant	Limitations	Averaging Period	PM ₁₀ /PM _{2.5}	14 lb/hour (with duct firing)	30-day rolling average	NO _x	2.0 ppmvd at 15% O ₂ (18.1 lb/hr)*	3-hour	CO	3.0 ppmvd at 15% O ₂ (16.6 lb/hr)*	3-hour	VOC	2.8 ppmvd at 15% O ₂ *	3-hour
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<p>II.B.3.c</p>	<p>Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:</p> <table border="1"> <thead> <tr> <th data-bbox="344 283 625 315">Emissions Point</th> <th data-bbox="625 283 820 315">Pollutant</th> <th data-bbox="820 283 1015 315">Status</th> <th data-bbox="1015 283 1508 315">Frequency</th> </tr> </thead> <tbody> <tr> <td data-bbox="344 342 625 373">HRSG Stacks</td> <td data-bbox="625 342 820 373">PM₁₀/PM_{2.5}</td> <td data-bbox="820 342 1015 373">*</td> <td data-bbox="1015 342 1508 373">\$</td> </tr> <tr> <td data-bbox="344 373 625 405">NO_x</td> <td data-bbox="625 373 820 405"></td> <td data-bbox="820 373 1015 405">*</td> <td data-bbox="1015 373 1508 405">#</td> </tr> <tr> <td data-bbox="344 405 625 436">CO</td> <td data-bbox="625 405 820 436"></td> <td data-bbox="820 405 1015 436">*</td> <td data-bbox="1015 405 1508 436">#</td> </tr> <tr> <td data-bbox="344 436 625 468">VOC</td> <td data-bbox="625 436 820 468"></td> <td data-bbox="820 436 1015 468">*</td> <td data-bbox="1015 436 1508 468">&</td> </tr> <tr> <td data-bbox="344 489 625 520">Auxiliary Boilers</td> <td data-bbox="625 489 820 520">PM₁₀/PM_{2.5}</td> <td data-bbox="820 489 1015 520">*</td> <td data-bbox="1015 489 1508 520">%</td> </tr> <tr> <td data-bbox="344 520 625 552">NO_x</td> <td data-bbox="625 520 820 552"></td> <td data-bbox="820 520 1015 552">*</td> <td data-bbox="1015 520 1508 552">%</td> </tr> <tr> <td data-bbox="344 552 625 583">CO</td> <td data-bbox="625 552 820 583"></td> <td data-bbox="820 552 1015 583">*</td> <td data-bbox="1015 552 1508 583">%</td> </tr> <tr> <td data-bbox="344 583 625 615">VOC</td> <td data-bbox="625 583 820 615"></td> <td data-bbox="820 583 1015 615">*</td> <td data-bbox="1015 583 1508 615">%</td> </tr> </tbody> </table> <p data-bbox="344 636 1031 667">Testing Status (To be applied to the sources listed above)</p> <p data-bbox="344 699 1508 846">* Initial compliance testing is required. The initial test date shall be performed as soon as possible and in no case later than 180 days after the startup of a new emission source, an existing source without an AO, or the granting of an AO to an existing emission source that has not had an initial compliance test performed. If an existing source is modified, a compliance test is required on the modified emission point that has an emission rate limit.</p> <p data-bbox="344 867 1437 930">\$ Test every year, or testing may be replaced with parametric monitoring if approved by the Director.</p> <p data-bbox="344 951 1469 1014">& Test every two (2) years, or testing may be replaced with parametric monitoring if approved by the Director.</p> <p data-bbox="344 1035 1469 1098">% Test every five (5) years, or testing may be replaced with parametric monitoring if approved by the Director.</p> <p data-bbox="344 1119 1469 1182"># Compliance shall be demonstrated through use of a CEMS as outlined in Condition II.B.1.c. The Director may require testing at any time.</p> <p data-bbox="344 1203 487 1245">[R307-165]</p>	Emissions Point	Pollutant	Status	Frequency	HRSG Stacks	PM ₁₀ /PM _{2.5}	*	\$	NO _x		*	#	CO		*	#	VOC		*	&	Auxiliary Boilers	PM ₁₀ /PM _{2.5}	*	%	NO _x		*	%	CO		*	%	VOC		*	%
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VOC		*	%																																		

<p>II.B.3.d</p>	<p>For all emissions testing, the following shall apply:</p> <p>Notification: The Director shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Director.</p> <p>The source test protocol shall be approved by the Director prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, the stack to be tested, and procedures to be used. A pretest conference shall be held if directed by the Director.</p> <p>Sample Location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the EPA and acceptable to the Director. An OSHA or MSHA approved access shall be provided to the test location.</p> <p>Volumetric Flow Rate: 40 CFR 60, Appendix A, Method 2, or the EPA Test Method No. 19 "SO₂ Removal & PM, SO₂, NO_x Rates from Electric Utility Steam Generators" or other testing methods approved by the EPA and acceptable to the Director.</p> <p>PM₁₀/PM_{2.5}: For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, and 202, or other testing methods approved by the EPA and acceptable to the Director. All particulates captured shall be considered PM₁₀/PM_{2.5}. The back half condensable shall be used for compliance demonstration as well as for inventory purposes.</p> <p>For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other testing methods approved by the EPA and acceptable to the Director. The back half condensable shall also be tested using the method specified by the Director. The portion of the front half of the catch considered PM₁₀/PM_{2.5} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Director.</p> <p>NO_x: 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by the EPA and acceptable to the Director.</p> <p>CO: 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the EPA and acceptable to the Director.</p> <p>Calculations: 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.</p> <p>[R307-165]</p>
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<p>II.B.3.e</p>	<p>Compliance with the 3-hour NO_x and CO emission limitations specified in Condition II.B.3.b shall not be required during short-term excursions, limited to a cumulative total of 160 hours per rolling 12-month period. Short-term excursions are defined as 15-minute periods designated by the owner/operator that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x and CO concentrations exceed 2.0 ppmv and 3.0 ppmv, dry @ 15% O₂, respectively. Transient load conditions include the following:</p> <ol style="list-style-type: none"> 1. Initiation/shutdown of combustion turbine inlet air-cooling 2. Rapid combustion turbine load changes 3. Initiation/shutdown of HRSG duct burners 4. Provision of Ancillary Services and Automatic Generation Control. <p>During periods of transient load conditions, the NO_x concentration shall not exceed 25 ppmv, and the CO concentration shall not exceed 50 ppmv, dry @ 15% O₂. All NO_x and CO emissions during these events shall be included in all calculations of annual mass emissions as required by this permit. [R307-401-8]</p>
<p>II.B.3.f</p>	<p>Steady-state operation means all periods of combustion turbine's operation, except for periods of startup and shutdown as defined below, and periods of transient load conditions as defined in Condition II.B.3.e. Startup is defined as the period beginning with turbine initial firing until the unit meets the ppmvd emission limits in the first table of Condition II.B.3.b 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. Startup and shutdown events shall not exceed 553.6 hours per turbine per rolling 12-month period. Total startup and shutdown events shall not exceed 8 hours per turbine in any one calendar day, commencing at midnight.</p> <p>Emissions of NO_x from either Block #2 CT/HRSG unit (CT #3 or #4) shall not exceed 130 lb/hr during startup or shutdown operations.</p> <p>Emissions of CO from either Block #2 CT/HRSG unit (CT #3 or #4) shall not exceed 3,000 lb/hr during startup or shutdown operations.</p> <p>[R307-401-8]</p>
<p>II.B.3.g</p>	<p>Total CO_{2e} emissions from Lake Side Block 2 shall not exceed 950 lb/MWh(g) on a 12-month rolling average basis. Hourly heat input for each turbine and the HSRG will be obtained from the data submitted to the Acid Rain database and summed over the appropriate 12-month period. This total heat input will then be multiplied by an emission factor of 121.723 lb CO_{2e}/MMBtu to obtain the total CO_{2e} emissions during the 12-month period. The 12-month gross generation for each turbine and HSRG will be obtained from the data reported to the Acid Rain database. This hourly generation will be summed over the twelve-month period to obtain the total gross generation. The CO_{2e} per MWh(g) value is calculated by dividing the 12-month total CO_{2e} emissions by the 12-month total gross generation. [R307-401-8]</p>
<p>II.B.4</p>	<p>Conditions on Additional Equipment</p>
<p>II.B.4.a</p>	<p>Emergency generators shall be used for electricity-producing operations only during the periods when electric power from the public utilities is interrupted and for regular maintenance and testing. Records documenting generator usage shall be kept in a log, and they shall show the date the generator was used, the duration in hours of the generator usage, and the reason for each generator usage. [R307-401-8]</p>

<p>II.B.4.b</p>	<p>The owner/operator shall use a combination of #1 or #2 fuel oil or diesel fuel in the emergency generators and fire pump.</p> <p>The sulfur content of any #2 fuel oil or diesel fuel burned shall not exceed 0.0015 percent by weight. Sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of fuels shall be either by the owner/operator's own testing or test reports from the fuel marketer or supplier. For purposes of demonstrating compliance with this limitation, the owner/operator may obtain the above specifications by testing each purchase of fuel in accordance with the required methods, by inspection of the specifications provided by the vendor for each purchase of fuel, or by inspection of summary documentation of the fuel sulfur content from the vendor, provided that the above specifications are available from the vendor for each purchase if requested. [R307-401-8]</p>
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PERMIT HISTORY

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

Supersedes
Is Derived From

AO DAQE-AN130310012-15 dated March 13, 2015
NOI dated August 28, 2024

ACRONYMS

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

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