Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

RN162210002

November 4, 2025

Michael Welch
Aligned Energy Data Centers (SLC), LLC
2800 Summit Avenue
Plano, TX 75074
Michael.Welch@aligneddc.com

Dear Michael Welch,

Re: Engineer Review:
Modification to Approval Order DAQE-AN162210001-24 to Add Twelve (12) Turbines and Remove Seventy-Three (73) Emergency Engines
Project Number: N162210002

The DAQ requests a company representative review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Aligned Energy Data Centers (SLC), LLC should complete this review within **10 business days** of receipt.

Aligned Energy Data Centers (SLC), LLC should contact **Christine Bodell** at (385) 290-2690 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email **Christine Bodell** at **cbodell@utah.gov** the signed cover letter. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an Approval Order (AO) for signature by the DAQ Director.

If Aligned Energy Data Centers (SLC), LLC does not respond to this letter within **10 business days,** the project will move forward without source concurrence. If Aligned Energy Data Centers (SLC), LLC has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature DocuSigned by: Michael Welch F9EADA3FAF3543E... 11/5/2025
(Signature & Date)

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

UTAH DIVISION OF AIR QUALITY
ENGINEER REVIEW

SOURCE INFORMATION

Project Number	N162210002
Owner Name	Aligned Energy Data Centers (SLC), LLC
Mailing Address	2800 Summit Avenue Plano, TX, 75074
Source Name	Aligned Data Centers (WJU) PropCo, LLC. - West Jordan Data Center
Source Location	6800 West 9800 South West Jordan, UT 84081
UTM Projection	410,705 m Easting, 4,491,561 m Northing
UTM Datum	NAD83
UTM Zone	UTM Zone 12
SIC Code	7376 (Computer Facilities Management Services)
Source Contact	Michael Welch
Phone Number	(203) 981-6922
Email	Michael.Welch@aligneddc.com
Billing Contact	Michael Welch
Phone Number	(203) 981-6922
Email	Michael.Welch@aligneddc.com
Project Engineer	Christine Bodell, Engineer
Phone Number	(385) 290-2690
Email	cbodell@utah.gov
Notice of Intent (NOI) Submitted	July 25, 2025
Date of Accepted Application	September 17, 2025

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

SOURCE DESCRIPTION

General Description
Aligned Data Centers (WJU) PropCo, LLC. (Aligned) operates a data center power station in West Jordan, Salt Lake County. The data center runs on line power and natural gas-fired turbines. A maximum of one hundred nineteen (119) diesel-fueled emergency engines will be used to provide power in the event of an emergency. Each emergency engine will have a diesel fuel storage tank.

NSR Classification:
Minor Modification at Minor Source

Source Classification
Located in Northern Wasatch Front O3 NAA, Salt Lake City UT $PM_{2.5}$ NAA, Salt Lake County SO_2 NAA
Salt Lake County
Airs Source Size: SM

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
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), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
Title V (Part 70) Area Source

Project Proposal
Modification to Approval Order DAQE-AN162210001-24 to Add Twelve (12) Turbines and Remove Seventy-Three (73) Emergency Engines

Project Description
Aligned has requested a modification to Approval Order DAQE-AN162210001-24, dated November 19, 2024, for the following changes:

1. Add 12 simple cycle natural gas-fired turbines (turbines) to provide primary power for the data center buildings.
2. Reduce the quantity of 3,100-kilowatt (kW) diesel-fired emergency generators (Equipment ID# II.A.2 in 2024 AO) and the associated fuel storage tanks from 182 to 112
3. Reduce the quantity of 1,000 kW diesel-fired emergency generators (Equipment ID# II.A.3 in 2024 AO) and associated fuel storage tanks from 10 to 7

The West Jordan Data Center has the potential to emit more than 50 tons per year of NO_x and is located in Salt Lake County. Therefore, this project requires an emission offset of 1.2:1 under Utah Administrative Code Rule R307-421 (Permits: PM_{10} Offset Requirements in Salt Lake County and Utah County).

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

EMISSION IMPACT ANALYSIS

The new criteria and HAPs emissions triggered the requirement for Aligned to conduct modeling for criteria pollutants or HAPs under Utah Administrative Code (UAC) R307-410-4 and R307-410-5.

UAC R307-410-5 requires sources proposing any increase of HAPs emissions to submit all HAP emission levels and pollutant release information for their facility. However, the requirements of R307-410-5 do not apply to installations which are subject to an emission standard promulgated under 42 U.S.C. 7412 at the time a notice of intent is submitted. Because the new turbines on site are subject to 40 CFR 60 (NSPS) Subpart KKKK, the source is exempt from the requirement to model these HAPs.

The UDAQ conducted 1-hour NO_2 and 24-hour PM_{10} modeling analyses. The results indicated that the highest 1-hour NO_2 and 24-hour PM_{10} impacts would be 82.6% and 84.6% of the NAAQS levels, respectively.

To ensure the NAAQS levels are not exceeded, the following suggested permit language will be included under the Terms and Conditions in the AO:

-The owner/operator shall not operate more than three emergency generator engines at the same time for non-emergency purposes.
- The owner/operator shall not operate the emergency generator engines before 6:00 am or after 6:00 pm for non-emergency purposes.
- The owner/operator shall limit each engine to no more than 14 hours* per rolling 12-month period for non-emergency use.
*14 hours of operation for each engine is equivalent to 315,895 gallons of annual diesel fuel consumption. To provide the source with flexibility, the AO will contain a diesel fuel consumption limit instead of an hours of operation limit for non-emergency situations. The emissions resulting from a fuel consumption limit are the same as those resulting from an hours of operation limit.

See modeling memorandum DAQE-MN162210002-25, September 16, 2025, for more information. [Last updated November 4, 2025]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

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	746067	751847.00
Carbon Monoxide	22.98	37.23
Nitrogen Oxides	37.96	62.30
Particulate Matter - PM_{10}	41.65	42.46
Particulate Matter - $PM_{2.5}$	41.65	42.46
Sulfur Dioxide	8.88	8.94
Volatile Organic Compounds	23.75	24.46

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
1,3-Butadiene (CAS #106990)	5	5
Acetaldehyde (CAS #75070)	433	433
Acrolein (CAS #107028)	70	70
Benzene (Including Benzene From Gasoline) (CAS #71432)	104	164
Ethyl Benzene (CAS #100414)	346	346
Formaldehyde (CAS #50000)	7678	7678
Hexane (CAS #110543)	0	1
Naphthalene (CAS #91203)	6	6
PAH, Total (CAS #234)	24	24
Propylene Dichloride (1,2-Dichloropropane) (CAS #78875)	122	122
Propylene Oxide (CAS #75569)	113	313
Toluene (CAS #108883)	1401	1421
Xylenes (Isomers And Mixture) (CAS #1330207)	688	708
	Change (TPY)	**Total (TPY)**
Total HAPs	5.48	5.64

Note: Change in emissions indicates the difference between previous AO and proposed modification.

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

Review of BACT for New/Modified Emission Units

1. **BACT review regarding New Turbines**

The new natural gas-fired turbines will emit NO_x, CO, PM_{10}, $PM_{2.5}$, VOCs, SO_2, VOCs, and HAPs.

Emission controls include use of catalytic oxidative regeneration (COR), dry low-NO_x (DLN) combustors, and a selective catalytic reduction (SCR) catalyst.

The simple cycle turbines will be equipped with DLN combustors and SCR to control NO_x emissions. The DLN technology ensures a uniform air/fuel mixture and is considered BACT for the turbine. During normal operation, these controls along with pipeline quality natural gas fuel and good combustion practices, are expected to reach a goal exhaust concentration of 2 ppm NO_x at 15% oxygen (1.21 lb/hr). This emission concentration is less than the limit of 25 ppm at 15% oxygen NO_x specified in 40 CFR 60 Subpart KKKK for a new turbine firing natural gas with a combustion turbine heat input between 50 MMBtu/hr and 850 MMBtu/hr at peak load.

Therefore, BACT is limiting NO_x emissions to 2.0 ppm at 15% oxygen and 1.21 lb/hr from each turbine during normal operations.

Use of natural gas, COR, and good combustion practices will control CO and VOC emissions. A review of the RBLC list showed that simple cycle gas turbines with SCR, COR, pipeline quality natural gas and good combustion practices achieved the best level of pollution control. The control technologies will limit CO emissions to 2 ppm at 15% oxygen (0.72 lb/hr), limit VOCs to 0.62 lb/hr, and limit PM_{10}/$PM_{2.5}$ emissions to 1.08 lb/hr (each). This is considered BACT.

The DAQ is unaware of any other add-on control technologies that can further reduce emissions and agrees that the concentration/emission rates are considered BACT for the proposed turbines. BACT is also limiting visual emissions from each turbine to 10% opacity or less. [Last updated July 16, 2025]

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

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]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

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 two (2) 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 or modification to the Director within 18 months from the date of this AO. 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

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.A THE APPROVED EQUIPMENT

II.A.1	**West Jordan Data Center**
II.A.2	**Emergency Generator Engines** One Hundred Twelve (112) Emergency Generator Engines Maximum Rating: 3,100 kW (4,393 hp), each Fuel: Ultra-Low-Sulfur Diesel Certification: Tier 2 Control: Selective Catalytic Reduction (SCR) NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.A.3	**Emergency Generator Engines** Seven (7) Emergency Generator Engines Maximum Rating: 1,000 kW (1,341 hp), each Fuel: Ultra-Low-Sulfur Diesel Certification: Tier 2 Control: Selective Catalytic Reduction (SCR) NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ
II.A.4	**One Hundred Nineteen (119) Fuel Storage Tanks** Capacity: 5,000 gallons, each
II.A.5 NEW	**Twelve (12) Turbines** Fuel: Natural Gas Rated Output: 16.53 MW @ ISO, each Rated Heat Rate: 159 MMBtu/hr @ ISO, each NSPS Applicability: 40 CFR 60, Subpart KKKK MACT Applicability: None

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Facility-Wide Requirement**
II.B.1.a NEW	Unless otherwise states in this AO, the owner/operator shall not allow visible emissions from any source on site exceed 20% opacity. [R307-201-3, R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.2	**Emergency Engine Requirements**
II.B.2.a NEW	The owner/operator shall not operate more than three (3) emergency generator engines at the same time during maintenance and testing operations. [R307-401-8]
II.B.2.b	The owner/operator shall not operate any emergency engine for maintenance and testing before 6:00 am or after 6:00 pm each day. [R307-401-8]
II.B.2.c	The owner/operator shall not conduct testing and maintenance of each emergency engine more than fifty-two (52) times per year. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.2.c.1	To show compliance with the above three (3) conditions, the owner/operator shall keep and maintain the following records for all periods each emergency engine is in operation for maintenance and testing purposes: A. Date and time maintenance and testing operations begin for each engine B. Date and time maintenance and testing operations end for each engine C. Record which emergency engine was maintained and tested D. Maintain records of maintenance and testing on a daily basis [R307-401-8]
II.B.2.d	The owner/operator shall install selective catalytic reduction (SCR) controls on each emergency generator engine. Emissions from the engine exhaust shall be routed through the SCR unit before being vented to the atmosphere. [R307-401-8]
II.B.2.e	The owner/operator shall operate the SCRs in accordance with manufacturer specifications and recommendations to minimize ammonia slip. [R307-401-8]
II.B.2.e.1	The owner/operator shall inspect the SCRs each calendar year and replace the catalyst in accordance with manufacturer recommendations. Records of SCR inspections and catalyst replacement shall be kept for the life of the equipment. [R307-401-8]
II.B.2.f	The owner/operator shall: A. Certify that each emergency generator engine with a maximum rating of 3,100 kW (4,393 hp) installed on site has a controlled (i.e., accounting for SCR) NO_x emission rate of 0.54 grams per horsepower hour (g/hp-hr) or less at the exhaust point. B. Certify that each emergency generator engine with a maximum rating of 1,000 kW (1,341 hp) installed on site has a controlled (i.e., accounting for SCR) NO_x emission rate of 0.60 grams per horsepower hour (g/hp-hr) or less at the exhaust point. [R307-401-8]
II.B.2.f.1	To demonstrate compliance with the above condition, the owner/operator shall either: A. Purchase a stationary internal combustion engine which has obtained certification as defined in 40 CFR 1039.801; or B. Conduct an initial performance test according to 40 CFR part 1039. C. Maintain the manufacturer's emissions guarantee for the installed engine model. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.2.g NEW	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. At no point shall the owner/operator exceed the diesel fuel consumption limit outlined in Condition II.B.3.b. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.2.g.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: A. The date the emergency engine was used B. The duration of operation in hours C. The reason for the emergency engine usage [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.2.g.2	To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.3 NEW	**Emergency Engine Fuel Requirements**
II.B.3.a	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. [R307-401-8]
II.B.3.a.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. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.3.a.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.3.b NEW	The owner/operator shall not consume more than 315,895 gallons of diesel fuel per rolling 12-month period for non-emergency situations in the emergency engines. There is no diesel fuel consumption limit on the diesel fuel consumption of the engines during emergencies. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.3.b.1	The owner/operator shall: A. Determine diesel fuel consumption with billing records, dip-stick measurements, or other appropriate methods B. Record diesel fuel consumption on a monthly basis C. Use the consumption data to calculate a new rolling 12-month total by the 20th day of each month using data from the previous 12 months for diesel fuel. D. Keep the consumption records for all periods the plant is in operation [R307-401-8]
II.B.3.b.2 NEW	The owner/operator shall subtract the amount of diesel fuel consumption during emergency situations from the total diesel fuel consumption to calculate the non-emergency diesel fuel consumption amounts. [R307-401-8]
II.B.4 NEW	**Turbine Requirements**
II.B.4.a NEW	The owner/operator shall not allow visible emissions from each turbine on site to exceed 10% opacity. [R307-401-8]
II.B.4.b NEW	The owner/operator shall use only natural gas as fuel in the turbines. [R307-401-8]
II.B.4.c NEW	The owner/operator shall install selective catalytic reduction and catalytic oxidation control technology on each turbine. Emissions from the turbine exhaust shall be routed through the selective catalytic reduction and catalytic oxidation control unit before being vented to the atmosphere. [R307-401-8]
II.B.4.d NEW	The owner/operator shall operate the selective catalytic reduction and catalytic oxidation control units in accordance with manufacturer specifications and recommendations. [R307-401-8]
II.B.4.e NEW	The owner/operator shall inspect each selective catalytic reduction and catalytic oxidation unit each calendar year and replace the catalyst in accordance with manufacturer recommendations. Records of selective catalytic reduction and catalytic oxidation unit inspections and catalyst replacements shall be kept for the life of the equipment. [R307-401-8]
II.B.4.f NEW	The owner/operator shall not produce more than 1,012,305.6 MWh of energy combined from the turbine generators per rolling 12-month period. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.4.f.1 NEW	The owner/operator shall: A. Determine production with meters located at the generator terminals B. Record production on a daily basis C. Use the production data to calculate a new rolling 12-month total by the 20th day of each month using data from the previous 12 months D. Keep the production records for all periods the plant is in operation [R307-401-8]
II.B.5 NEW	**Turbine Stack Testing Requirements**
II.B.5.a NEW	The owner/operator shall not emit more than the following rates and concentrations from **each turbine** during normal operations: **Pollutant** **lb/hr** **ppmdv** NO_x 1.21 2.0 CO 0.72 2.0 VOCs 0.62 $PM_{2.5}$ 1.08 Concentration (ppmdv) is corrected to 15% oxygen, dry basis. [R307-401-8]
II.B.5.a.1 NEW	**Initial Test** The owner/operator shall conduct an initial stack test on the emission unit within 180 days after startup of the emission unit. [R307-165-2]
II.B.5.a.2 NEW	**Compliance Demonstration** To demonstrate compliance with the emission limitations above, the owner/operator shall perform stack testing on each emissions unit according to the stack testing conditions contained in this AO. [R307-165-2, R307-401-8]
II.B.5.a.3 NEW	**Test Frequency** The owner/operator shall conduct a stack test on the emission unit within one (1) year after the date of the most recent stack test of the emission unit. The Director may require the owner/operator to perform a stack test at any time. [40 CFR 60 Subpart KKKK, R307-165-2, R307-401-8]
II.B.5.b NEW	The owner/operator shall conduct any stack testing required by this AO according to the following conditions. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.5.b.1 NEW	**Notification** 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.5.b.2 NEW	**Testing & Test Conditions** 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.5.b.3 NEW	**Access** 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.5.b.4 NEW	**Reporting** 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.5.b.5 NEW	**Possible Rejection of Test Results** 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]
II.B.5.c NEW	**Test Methods** 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.5.c.1 NEW	**Standard Conditions** A. Temperature - 68 degrees Fahrenheit (293 K) B. Pressure - 29.92 in Hg (101.3 kPa) C. Averaging Time - As specified in the applicable test method. [40 CFR 60 Subpart A, 40 CFR 63 Subpart A, R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

II.B.5.c.2 NEW	**$PM_{2.5}$** Total $PM_{2.5}$ = Filterable $PM_{2.5}$ + Condensable PM Filterable $PM_{2.5}$ 40 CFR 60, Appendix A, Method 5; 40 CFR 51, Appendix M, Method 201A or other EPA-approved testing method as acceptable to the Director. If other approved testing methods are used which cannot measure the $PM_{2.5}$ fraction of the filterable particulate emissions, all of the filterable particulate emissions shall be considered $PM_{2.5}$. Condensable PM 40 CFR 51, Appendix M, Method 202 or other EPA-approved testing method as acceptable to the Director. [R307-401-8]
II.B.5.c.3 NEW	**NO_x** 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.5.c.4 NEW	**VOCs** 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.5.c.5 NEW	**CO** 40 CFR 60, Appendix A, Method 10 or other EPA-approved testing method as acceptable to the Director. [R307-401-8]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Replaces	AO DAQE-AN162210001-24 dated November 19, 2024
Incorporates	NOI dated June 25, 2025
Incorporates	Modeling Memo DAQE-MN162210002-25 dated September 16, 2025

REVIEWER COMMENTS

1. **Comment regarding Source Emission Calculations and DAQ Acceptance:**

Fuel Storage Tanks

VOC and HAPs emission from the fuel storage tanks were estimated using TankESP and EPA AP-42, Section 5.2: Transportation and Marketing of Petroleum Liquids. The maximum annual fuel throughput is based on 14 hours of non-emergency operation annually for each proposed engine. The total diesel fuel throughput, in gallons per year, is 315,895.

Emergency Engines

The emission factors for SO_2 and HAPs were derived from the United States Environmental Protection Agency (US EPA) AP-42, Section 3.4, Large Stationary Diesel and All Stationary Dual-fuel Engines (October 1996). The NO_x, CO, $PM_{10}/PM_{2.5}$, and VOC emissions were obtained from the manufacturer emission data sheets. The CO_2 e emissions were obtained from the greenhouse gas (GHG) emission factors and global warming potentials provided in 40 CFR §98 Subpart A.
Each engine is assumed to operate a maximum of 14 hours annually for non-emergency purposes. This corresponds to 315,895 gallons of diesel fuel usage each year.

Turbines

Megawatt-Hour Limit:

The proposed data center at Aligned West Jordan is limited to receiving 108 MW due to the electrical design limits of the bus system that connects it to the power supply. The bus is rated to safely handle up to 108 MW of power transfer. To account for 7% auxiliary power losses (e.g., lube oil pumps, ammonia pumps), the proposed turbines are limited to a combined gross power output of:
108 MW * 1.07 = 115.56 MW
This power will be metered at the generator terminals, and the total output from all turbines will not exceed this 115.56 MW limit.
The proposed annual energy production limit is therefore:
115.56 MW * 8,760 hours/year = 1,012,305.6 MWh/year.

PTE Calculation:

To calculate the PTE based on this energy limit:
Simulated operating scenarios were provided, accounting for varying ambient temperatures, load levels, fuel use, and turbine power outputs. Emission factors were either provided in (lb/hr), or concentration guarantees in (PPMVD) were converted to (lb/hr) for all scenarios. All emission factors were then converted to (lb/MWh) by dividing by the turbine power output at each scenario.

For each scenario, the number of turbines required to collectively produce 115.56 MW was calculated based on turbine power output under each scenario's conditions (at each load percentage and ambient temperature). This ensures compliance with the overall power production cap.

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

The worst-case (highest-emitting) scenario was identified through the following calculation at each respective load and temperature scenario, and selecting the maximum tons per year per pollutant: PTE = Emission Factor (lb/MWh) × Turbine Output (MW) × 8,760 hr/yr × Number of Turbines Required (rounded up to nearest whole number)

Highest Emission Scenario:
The highest-emission scenario occurred at -4°F and 75% load, where 11 turbines, each producing 11.49 MW, were required to meet the 115.56 MW limit. Note that although 11 turbines rated at 11.49 MW each yield a combined capacity of 126.39 MW, this reflects a conservative assumption, with respect to the emissions, in which the number of required turbines is rounded up to the nearest whole unit. In reality, total power output will not exceed the 115.56 MW limit. This conservative approach ensures the potential to emit (PTE) calculation remains protective and accounts for the worst-case scenario.
[Last updated September 17, 2025]

2. **Comment regarding Federal Standard Applicability:**

New Source Performance Standards (NSPS)

NSPS Subpart Kb
40 CFR 60 (NSPS) Subpart Kb (Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984) applies to "...each storage vessel with a capacity greater than or equal to 75 cubic meters (19,800 gallons), that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984." There are one hundred ninety-two (192) new fuel storage tanks on site, each with a capacity of approximately 5,000 gallons. Therefore, NSPS Subpart Kb does not apply to this facility.

NSPS Subpart GG and KKKK
CFR 60 Subpart KKKK (Standards of Performance for Stationary Combustion Turbines) applies to stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. The new turbines each have a maximum heat input ≥ 10 MMBtu/hr and a construction, modification, or reconstruction commenced date after February 18, 2005. Therefore, the new turbines are subject to 40 CFR 60 Subpart KKKK. Stationary combustion turbines regulated under NSPS Subpart KKKK are exempt from the requirements of NSPS Subpart GG.

NSPS Subpart TTTTa
NSPS Subpart TTTTa (Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units) applies to a stationary combustion turbine that commences construction or reconstruction after May 23, 2023, has a base load rating greater than 250 MMBtu/hr of fossil fuel; and serves a generator(s) capable of selling greater than 25 Mwe to a utility power distribution system. Each turbine on site was constructed post 2023 but has a base load rating less than 250 MMBtu/hr under normal operations. Therefore, NSPS Subpart TTTTa does not apply to each stationary turbine.

NSPS Subpart IIII
40 CFR 60 (NSPS) Subpart IIII (Standards of Performance for Stationary Compression Ignition

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

Internal Combustion Engines) applies to owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE is manufactured after April 1, 2006. The production and installation date each emergency generator is post-2008. Therefore, NSPS Subpart IIII applies to each stationary CI ICE.

Maximum Achievable Control Technology (MACT) Standards.

MACT Subpart YYYY
40 CFR 63 Subpart YYYY (National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines) is applicable to owners/operators of stationary combustion turbines located at a major source of HAP emissions. A major source of HAP emissions is a contiguous site under common control that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year. The Fairfield Power Plant is a minor source of HAP emissions. Therefore, MACT Subpart YYYY does not apply to this facility.

MACT Subpart ZZZZ
40 CFR 63 (MACT) Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) is applicable to owners/operators of stationary RICE at a major or area sources of HAP emissions. MACT Subpart ZZZZ applies to this Facility as each emergency engine generator is a CI ICE. The emergency diesel engines will meet Subpart ZZZZ by meeting 40 CFR Part 60, Subpart IIII as the Facility is an area source of HAP emissions. [Last updated July 16, 2025]

3. **Comment regarding Title V Applicability:**
Title V of the 1990 Clean Air Act (Title V) applies to the following:

1. Any major source
2. Any source subject to a standard, limitation, or other requirement under Section 111 of the Act, Standards of Performance for New Stationary Sources;
3. Any source subject to a standard or other requirement under Section 112 of the Act, Hazardous Air Pollutants.
4. Any Title IV affected source.

This facility is not a major source nor a Title IV source. The facility is not subject to any 40 CFR 61 (NESHAP) regulations. It is subject to 40 CFR 60 (NSPS) Subparts A, IIII, and KKKK and to 40 CFR 63 (MACT) Subparts A and ZZZZ. Therefore, Title V applies to this facility as an area source. [Last updated July 16, 2025]

4. **Comment regarding Source Classification as a Synthetic Minor (SM):**
The major source threshold for the Northern Wasatch. Front Ozone Nonattainment area is 100 tons per year (tpy) each of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) due to the current designation of moderate nonattainment for ozone. Additionally, the major source threshold for the Salt Lake City $PM_{2.5}$ Nonattainment area is 70 tpy of $PM_{2.5}$ and any $PM_{2.5}$ precursors (including NO_x) due to the current designation of serious nonattainment for $PM_{2.5}$. The West Jordan facility has a potential to emit (PTE) of greater than 70 tpy of NO_x.

To ensure Aligned remains below these thresholds, Aligned is requesting that UDAQ limit diesel fuel usage in the emergency engines to 315,895 gallons of diesel fuel per rolling 12-month period for non-emergency situations in the emergency engines.

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

Accordingly, the West Jordan Facility will be considered a synthetic minor source as defined in UAC R307-415-4(6). [Last updated October 9, 2025]

5. **Comment regarding Offset Requirements:**

UAC Rule R307-421 (Permits: PM_{10} Offset Requirements in Salt Lake County and Utah County) applies to new sources of SO_2 or NO_x that are located in or impact Salt Lake County or Utah County.

Per R307-421-3(1), the owner or operator of any modified source that would increase SO_2 or NO_x a total of 50 tons/year or greater shall obtain an enforceable emission offset of 1.2:1 for the emissions increase.

This facility is located in Salt Lake County and will result in a NO_x increase of 62.30 tons/year. An emission offset of 1.2:1 of the emissions increase is required. Because the source will increase NO_x emissions by 62.30 tons/year, 74.76 tons/year of offsets is required.

Per General Correspondence letters DAQE-008-24 and DAQE-010-24, dated December 10, 2024 and December 17, 2024, respectively, the DAQ has confirmed the transfer of 82 tons of total banked NO_x emission credits to Aligned in the Utah County PM_{10} and Ozone Emission Reduction Credit Registry.
[Last updated October 14, 2025]

Docusign Envelope ID: E0C92405-E92A-4BAC-931A-2CFE362BC015

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 EPA 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 - 40 CFR 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 UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
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

A1:F1 | Turbine (Normal Operations)

Turbine (Normal Operations)

Equipment Details			
Rating		hp = (0 kw)	Emergency Engines should equal 100 hours of operation per year
Operational Hours	8,760	hours/year	
Engine Type	4-Stroke Lean-Burn		

Hazardous Air Pollutant	Emission Factor (lb/MMBtu)		Emission Factor (lb/MWh)	Emission Total (tons/year)
1,3-Butadiene		4.30E-07	1.48E-06	0.00075
Acetaldehyde		4.00E-05	1.38E-04	0.06981
Acrolein		6.40E-06	2.21E-05	0.01117
Benzene		1.20E-05	4.14E-05	0.02094
Ethylbenzene		3.20E-05	1.10E-04	0.05585

Parameters			
12	No. Turbines	115.56	MW max power
163.63	Highest MMBtu/hr per Turbine	1,012,306	MWh/year
1433398.8	MMBtu/yr		
1	lb/MMBtu ===>	2.90E-01	lb/MWh

Total HAPs
1.793

*Noi values accepted

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-008-24

December 10, 2024

Michael Welch
Aligned Data Centers (WJU) PropCo, LLC
2800 Summit Avenue
Plano, TX 75074
Michael.welch@aligneddc.com

Dear Mr. Welch:

RE: Emission Credit Order
Project Number: General Correspondence

On November 14, 2024, the Division of Air Quality (DAQ) received a letter from Staker & Parson Companies (S&P) and Aligned Data Centers (WJU) PropCo, LLC (Aligned) requesting the transfer of emission credits.

This order confirms the transfer of 50 tons of banked NO_x emission credits from S&P to Aligned in the Salt Lake County PM_{10} and Ozone Emission Reduction Credit Registry. This transfer results in the following emissions balance for Aligned in the Salt Lake County Emissions Credit Registry.

Aligned Data Centers (WJU) PropCo, LLC – Salt Lake County PM_{10} and Ozone Emissions Credit Registry

Pollutant	Previous Credits (tons)	Credit Transferred (tons)	Total Emissions Credit (tons)
PM_{10}	0.00	0.00	0.00
SO_2	0.00	0.00	0.00
NO_x	0.00	+50.00	50.00
VOC	0.00	0.00	0.00

If you have any questions, please contact Ana Williams, who can be reached at (385) 306-6505 or anawilliams@utah.gov.

Sincerely,



Bryce C. Bird
Director

BCB:AW:jg

Email: Staker & Parson Companies
Attn: Jared Hyde
jared.hyde@na.crh.com

Aligned Data Centers (WJU) PropCo, LLC
Attn: Michael Welch
Michael.welch@aligneddc.com

AQC Environmental Brokerage Services Inc.
Attn: Jackie Ferlita
jferlita@aqc-inc.com

AQC Environmental Brokerage Services Inc.
Attn: Moog Ferlita
moogferlita@aqc-inc.com

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-010-24

December 17, 2024

Michael Welch
Aligned Data Centers (WJU) PropCo, LLC
2800 Summit Avenue
Plano, TX 75074
Michael.welch@aligneddc.com

Dear Mr. Welch:

RE: Emission Credit Order
Project Number: General Correspondence

On December 6, 2024, the Division of Air Quality (DAQ) received a letter from Staker & Parson Companies (S&P) and Aligned Data Centers (WJU) PropCo, LLC (Aligned) requesting the transfer of emission credits.

This order confirms the transfer of 32 tons of banked NO_x emission credits from S&P to Aligned in the Salt Lake County PM_{10} and Ozone Emission Reduction Credit Registry. This transfer results in the following emissions balance for Aligned in the Salt Lake County Emissions Credit Registry.

Aligned Data Centers (WJU) PropCo, LLC – Salt Lake County PM_{10} and Ozone Emissions Credit Registry

Pollutant	Previous Credits (tons)	Credit Transferred (tons)	Total Emissions Credit (tons)
PM_{10}	0.00	0.00	0.00
SO_2	0.00	0.00	0.00
NO_x	50.00	+32.00	82.00
VOC	0.00	0.00	0.00

If you have any questions, please contact Ana Williams, who can be reached at (385) 306-6505 or anawilliams@utah.gov.

Sincerely,



Bryce C. Bird
Director

BCB:AW:jg

Email: Staker & Parson Companies
Attn: Jared Hyde
jared.hyde@na.crh.com

Aligned Data Centers (WJU) PropCo, LLC
Attn: Michael Welch
Michael.welch@aligneddc.com

AQC Environmental Brokerage Services Inc.
Attn: Jackie Ferlita
jferlita@aqc-inc.com

AQC Environmental Brokerage Services Inc.
Attn: Moog Ferlita
moogferlita@aqc-inc.com

State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-MN162210002-25

M E M O R A N D U M

TO: Christine Bodell, NSR Engineer

FROM: Jason Krebs, Air Quality Modeler

DATE: September 16, 2025

SUBJECT: Modeling Analysis Review for the Notice of Intent for Aligned Data Center (WJU) PropCo, LLC – West Jordan Data Center, Salt Lake County, Utah

---

This is not a Major Prevention of Significant Deterioration (PSD) Source.

I. OBJECTIVE

Aligned Data Centers (WJU) PropCo, LLC (Applicant) is seeking an approval order for their West Jordan Data Center located in Salt Lake County, Utah. The Applicant has requested to modify their AO to add 12 simple cycle natural gas-fired turbines to provide primary power for the data center, and reduce the number of 3100 kW emergency generators from 182 to 112.

This report, prepared by the Staff of the New Source Review Section (NSR), contains a review of the air quality impact analysis (AQIA) including the information, data, assumptions and modeling results used to determine if the facility will be in compliance with applicable State and Federal concentration standards.

II. APPLICABLE RULE(S)

Utah Air Quality Rules:

R307-401-6	Condition for Issuing an Approval Order
R307-410-3	Use of Dispersion Models
R307-410-4	Modeling of Criteria Pollutants in Attainment Areas

III. MODELING METHODOLOGY

A. Applicability

Emissions from the facility include PM_{10}, NO_x, CO, SO_2, and HAPs. This modeling is part of a modified approval order. The emission rates for NO_x and PM_{10} triggered the requirement to model under R307-410. Modeling was performed by the Applicant.

B. Assumptions

1. Topography/Terrain

The Plant is at an elevation 5115 feet with terrain features that have an effect on concentration predictions.

a. Zone: 12

b. Approximate Location:

UTM (NAD83): 410,705 meters East
4,491,561 meters North

2. Urban or Rural Area Designation

After a review of the appropriate 7.5 minute quadrangles, it was concluded the area is "rural" for air modeling purposes.

3. Ambient Air

It was determined the Plant boundary used in the AQIA meets the State's definition of ambient air.

4. Building Downwash

The source was modeled with the AERMOD model. All structures at the plant were used in the model to account for their influence on downwash.

5. Meteorology

Five (5) years of off-site surface and upper air data were used in the analysis consisting of the following:

Surface – Salt Lake Airport, UT NWS: 2017-2021
Upper Air – Salt Lake Airport, UT NWS: 2017-2021

6. Background

The background concentrations were based on concentrations measured in Herriman, Utah.

7. Receptor and Terrain Elevations

The modeling domain used by the Applicant consisted of receptors including property boundary receptors. This area of the state contains mountainous terrain and the modeling domain has simple and complex terrain features in the near and far fields. Therefore, receptor points representing actual terrain elevations from the area were used in the analysis.

8. Model and Options

The State-accepted AERMOD model was used to predict air pollutant concentrations under a simple/complex terrain/wake effect situation. In quantifying concentrations, the regulatory default option was selected.

9. Air Pollutant Emission Rates

Aligned Data Centers – West Jordan Data Center

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	hrs/year
SLC05HG1	410803	4491794	4.15	0.03	14
SLC0501	410803	4491782	14.27	0.10	14
SLC0502	410802	4491769	14.27	0.10	14
SLC0503	410802	4491757	14.27	0.10	14
SLC0504	410802	4491745	14.27	0.10	14
SLC0505	410802	4491732	14.27	0.10	14
SLC0506	410802	4491720	14.27	0.10	14
SLC0507	410801	4491707	14.27	0.10	14
SLC0508	410801	4491694	14.27	0.10	14
SLC0509	410800	4491681	14.27	0.10	14
SLC0510	410801	4491670	14.27	0.10	14
SLC0511	410800	4491657	14.27	0.10	14
SLC0512	410800	4491645	14.27	0.10	14
SLC0513	410800	4491633	14.27	0.10	14
SLC0514	410799	4491620	14.27	0.10	14
SLC0515	410799	4491608	14.27	0.10	14
SLC0516	410799	4491596	14.27	0.10	14
SLC0517	410799	4491584	14.27	0.10	14
SLC0518	410799	4491572	14.27	0.10	14
SLC0519	410799	4491559	14.27	0.10	14
SLC0520	410798	4491547	14.27	0.10	14
SLC0521	410799	4491535	14.27	0.10	14
SLC0522	410892	4491540	14.27	0.10	14
SLC0523	410892	4491551	14.27	0.10	14
SLC0524	410892	4491563	14.27	0.10	14
SLC0525	410893	4491576	14.27	0.10	14
SLC0526	410893	4491588	14.27	0.10	14
SLC0527	410893	4491601	14.27	0.10	14
SLC0528	410897	4491613	14.27	0.10	14

SLC0529	410893	4491626	14.27	0.10	14
SLC0530	410894	4491638	14.27	0.10	14
SLC0531	410894	4491651	14.27	0.10	14
SLC0532	410894	4491663	14.27	0.10	14
SLC0533	410894	4491675	14.27	0.10	14
SLC0534	410894	4491688	14.27	0.10	14
SLC0535	410895	4491699	14.27	0.10	14
SLC0536	410895	4491713	14.27	0.10	14
SLC0537	410895	4491725	14.27	0.10	14
SLC0538	410895	4491737	14.27	0.10	14
SLC0539	410896	4491749	14.27	0.10	14
SLC0540	410896	4491761	14.27	0.10	14
SLC0541	410896	4491774	14.27	0.10	14
SLC0542	410896	4491786	14.27	0.10	14
SLC07HG1	410499	4491809	4.15	0.03	14
SLC0701	410499	4491797	14.27	0.10	14
SLC0702	410499	4491784	14.27	0.10	14
SLC0703	410498	4491772	14.27	0.10	14
SLC0704	410499	4491760	14.27	0.10	14
SLC0705	410498	4491747	14.27	0.10	14
SLC0706	410498	4491735	14.27	0.10	14
SLC0707	410498	4491722	14.27	0.10	14
SLC0708	410497	4491705	14.27	0.10	14
SLC0709	410497	4491692	14.27	0.10	14
SLC0710	410497	4491681	14.27	0.10	14
SLC0711	410497	4491668	14.27	0.10	14
SLC0712	410496	4491656	14.27	0.10	14
SLC0713	410496	4491644	14.27	0.10	14
SLC0714	410496	4491631	14.27	0.10	14
SLC0715	410496	4491619	14.27	0.10	14
SLC0716	410495	4491607	14.27	0.10	14
SLC0717	410495	4491594	14.27	0.10	14
SLC0718	410495	4491583	14.27	0.10	14
SLC0719	410495	4491570	14.27	0.10	14
SLC0720	410495	4491558	14.27	0.10	14
SLC0721	410494	4491546	14.27	0.10	14
SLC0722	410588	4491545	14.27	0.10	14
SLC0723	410588	4491556	14.27	0.10	14
SLC0724	410588	4491569	14.27	0.10	14
SLC0725	410589	4491582	14.27	0.10	14

SLC0726	410589	4491593	14.27	0.10	14
SLC0727	410589	4491606	14.27	0.10	14
SLC0728	410589	4491618	14.27	0.10	14
SLC0729	410590	4491637	14.27	0.10	14
SLC0730	410590	4491648	14.27	0.10	14
SLC0731	410590	4491661	14.27	0.10	14
SLC0732	410591	4491673	14.27	0.10	14
SLC0733	410591	4491685	14.27	0.10	14
SLC0734	410591	4491698	14.27	0.10	14
SLC0735	410591	4491710	14.27	0.10	14
SLC0736	410591	4491728	14.27	0.10	14
SLC0737	410592	4491740	14.27	0.10	14
SLC0738	410592	4491752	14.27	0.10	14
SLC0739	410592	4491764	14.27	0.10	14
SLC0740	410592	4491776	14.27	0.10	14
SLC0741	410592	4491789	14.27	0.10	14
SLC0742	410593	4491801	14.27	0.10	14
SLC0601	410651	4491796	14.27	0.10	14
SLC0602	410651	4491783	14.27	0.10	14
SLC0603	410650	4491771	14.27	0.10	14
SLC0604	410651	4491759	14.27	0.10	14
SLC0605	410651	4491746	14.27	0.10	14
SLC0606	410650	4491734	14.27	0.10	14
SLC0607	410651	4491721	14.27	0.10	14
SLC0608	410650	4491704	14.27	0.10	14
SLC0609	410649	4491691	14.27	0.10	14
SLC0610	410649	4491680	14.27	0.10	14
SLC0611	410649	4491667	14.27	0.10	14
SLC0612	410648	4491655	14.27	0.10	14
SLC0613	410648	4491643	14.27	0.10	14
SLC0614	410648	4491630	14.27	0.10	14
SLC0615	410742	4491636	14.27	0.10	14
SLC0616	410742	4491648	14.27	0.10	14
SLC0617	410742	4491660	14.27	0.10	14
SLC0618	410743	4491672	14.27	0.10	14
SLC0619	410743	4491684	14.27	0.10	14
SLC0620	410743	4491697	14.27	0.10	14
SLC0621	410743	4491709	14.27	0.10	14
SLC0622	410743	4491727	14.27	0.10	14
SLC0623	410744	4491739	14.27	0.10	14

SLC0624	410744	4491752	14.27	0.10	14
SLC0625	410744	4491764	14.27	0.10	14
SLC0626	410744	4491776	14.27	0.10	14
SLC0627	410744	4491788	14.27	0.10	14
SLC0628	410745	4491800	14.27	0.10	14
SLC06HG1	410651	4491808	4.15	0.03	14
SLC05HG2	410803	4491801	4.15	0.03	14
SLC06HG2	410651	4491814	4.15	0.03	14
SLC07HG2	410499	4491815	4.15	0.03	14
TURB1	410521	4491368	3.32	14.52	8760
TURB2	410536	4491368	3.32	14.52	8760
TURB3	410552	4491368	3.32	14.52	8760
TURB4	410567	4491368	3.32	14.52	8760
TURB5	410582	4491368	3.32	14.52	8760
TURB6	410597	4491368	3.32	14.52	8760
TURB7	410613	4491368	3.32	14.52	8760
TURB8	410628	4491368	3.32	14.52	8760
TURB9	410643	4491368	3.32	14.52	8760
TURB10	410658	4491368	3.32	14.52	8760
TURB11	410674	4491368	3.32	14.52	8760
TURB12	410689	4491368	3.32	14.52	8760
SLC07HG3	410532	4491427	4.15	0.03	14
Total			1667.34	185.65	

Source		UTM Coordinates		Modeled Emission Rates		
		Easting (m)	Northing (m)	PM10 (lb/hr)	PM10 (tons/yr)	hrs/year
SLC05HG1		410803	4491794	0.12	0.001	14
SLC0501		410803	4491782	0.63	0.004	14
SLC0502		410802	4491769	0.63	0.004	14
SLC0503		410802	4491757	0.63	0.004	14
SLC0504		410802	4491745	0.63	0.004	14
SLC0505		410802	4491732	0.63	0.004	14
SLC0506		410802	4491720	0.63	0.004	14
SLC0507		410801	4491707	0.63	0.004	14
SLC0508		410801	4491694	0.63	0.004	14
SLC0509		410800	4491681	0.63	0.004	14
SLC0510		410801	4491670	0.63	0.004	14
SLC0511		410800	4491657	0.63	0.004	14

SLC0512		410800	4491645	0.63	0.004	14
SLC0513		410800	4491633	0.63	0.004	14
SLC0514		410799	4491620	0.63	0.004	14
SLC0515		410799	4491608	0.63	0.004	14
SLC0516		410799	4491596	0.63	0.004	14
SLC0517		410799	4491584	0.63	0.004	14
SLC0518		410799	4491572	0.63	0.004	14
SLC0519		410799	4491559	0.63	0.004	14
SLC0520		410798	4491547	0.63	0.004	14
SLC0521		410799	4491535	0.63	0.004	14
SLC0522		410892	4491540	0.63	0.004	14
SLC0523		410892	4491551	0.63	0.004	14
SLC0524		410892	4491563	0.63	0.004	14
SLC0525		410893	4491576	0.63	0.004	14
SLC0526		410893	4491588	0.63	0.004	14
SLC0527		410893	4491601	0.63	0.004	14
SLC0528		410897	4491613	0.63	0.004	14
SLC0529		410893	4491626	0.63	0.004	14
SLC0530		410894	4491638	0.63	0.004	14
SLC0531		410894	4491651	0.63	0.004	14
SLC0532		410894	4491663	0.63	0.004	14
SLC0533		410894	4491675	0.63	0.004	14
SLC0534		410894	4491688	0.63	0.004	14
SLC0535		410895	4491699	0.63	0.004	14
SLC0536		410895	4491713	0.63	0.004	14
SLC0537		410895	4491725	0.63	0.004	14
SLC0538		410895	4491737	0.63	0.004	14
SLC0539		410896	4491749	0.63	0.004	14
SLC0540		410896	4491761	0.63	0.004	14
SLC0541		410896	4491774	0.63	0.004	14
SLC0542		410896	4491786	0.63	0.004	14
SLC07HG1		410499	4491809	0.12	0.001	14
SLC0701		410499	4491797	0.63	0.004	14
SLC0702		410499	4491784	0.63	0.004	14
SLC0703		410498	4491772	0.63	0.004	14
SLC0704		410499	4491760	0.63	0.004	14
SLC0705		410498	4491747	0.63	0.004	14
SLC0706		410498	4491735	0.63	0.004	14
SLC0707		410498	4491722	0.63	0.004	14
SLC0708		410497	4491705	0.63	0.004	14

SLC0709		410497	4491692	0.63	0.004	14
SLC0710		410497	4491681	0.63	0.004	14
SLC0711		410497	4491668	0.63	0.004	14
SLC0712		410496	4491656	0.63	0.004	14
SLC0713		410496	4491644	0.63	0.004	14
SLC0714		410496	4491631	0.63	0.004	14
SLC0715		410496	4491619	0.63	0.004	14
SLC0716		410495	4491607	0.63	0.004	14
SLC0717		410495	4491594	0.63	0.004	14
SLC0718		410495	4491583	0.63	0.004	14
SLC0719		410495	4491570	0.63	0.004	14
SLC0720		410495	4491558	0.63	0.004	14
SLC0721		410494	4491546	0.63	0.004	14
SLC0722		410588	4491545	0.63	0.004	14
SLC0723		410588	4491556	0.63	0.004	14
SLC0724		410588	4491569	0.63	0.004	14
SLC0725		410589	4491582	0.63	0.004	14
SLC0726		410589	4491593	0.63	0.004	14
SLC0727		410589	4491606	0.63	0.004	14
SLC0728		410589	4491618	0.63	0.004	14
SLC0729		410590	4491637	0.63	0.004	14
SLC0730		410590	4491648	0.63	0.004	14
SLC0731		410590	4491661	0.63	0.004	14
SLC0732		410591	4491673	0.63	0.004	14
SLC0733		410591	4491685	0.63	0.004	14
SLC0734		410591	4491698	0.63	0.004	14
SLC0735		410591	4491710	0.63	0.004	14
SLC0736		410591	4491728	0.63	0.004	14
SLC0737		410592	4491740	0.63	0.004	14
SLC0738		410592	4491752	0.63	0.004	14
SLC0739		410592	4491764	0.63	0.004	14
SLC0740		410592	4491776	0.63	0.004	14
SLC0741		410592	4491789	0.63	0.004	14
SLC0742		410593	4491801	0.63	0.004	14
SLC0601		410742	4491636	0.63	0.004	14
SLC0602		410742	4491648	0.63	0.004	14
SLC0603		410742	4491660	0.63	0.004	14
SLC0604		410743	4491672	0.63	0.004	14
SLC0605		410743	4491684	0.63	0.004	14
SLC0606		410743	4491697	0.63	0.004	14

SLC0607		410743	4491709	0.63	0.004	14
SLC0608		410743	4491727	0.63	0.004	14
SLC0609		410744	4491739	0.63	0.004	14
SLC0610		410744	4491752	0.63	0.004	14
SLC0611		410744	4491764	0.63	0.004	14
SLC0612		410744	4491776	0.63	0.004	14
SLC0613		410744	4491788	0.63	0.004	14
SLC0614		410745	4491800	0.63	0.004	14
SLC0615		410651	4491796	0.63	0.004	14
SLC0616		410651	4491783	0.63	0.004	14
SLC0617		410650	4491771	0.63	0.004	14
SLC0618		410651	4491759	0.63	0.004	14
SLC0619		410651	4491746	0.63	0.004	14
SLC0620		410650	4491734	0.63	0.004	14
SLC0621		410651	4491721	0.63	0.004	14
SLC0622		410650	4491704	0.63	0.004	14
SLC0623		410649	4491691	0.63	0.004	14
SLC0624		410649	4491680	0.63	0.004	14
SLC0625		410649	4491667	0.63	0.004	14
SLC0626		410648	4491655	0.63	0.004	14
SLC0627		410648	4491643	0.63	0.004	14
SLC0628		410648	4491630	0.63	0.004	14
SLC06HG1		410651	4491808	0.12	0.001	14
SLC05HG2		410803	4491801	0.12	0.001	14
SLC06HG2		410651	4491814	0.12	0.001	14
SLC07HG2		410499	4491815	0.12	0.001	14
TURB1		410521	4491368	1.08	4.73	8760
TURB2		410536	4491368	1.08	4.73	8760
TURB3		410552	4491368	1.08	4.73	8760
TURB4		410567	4491368	1.08	4.73	8760
TURB5		410582	4491368	1.08	4.73	8760
TURB6		410597	4491368	1.08	4.73	8760
TURB7		410613	4491368	1.08	4.73	8760
TURB8		410628	4491368	1.08	4.73	8760
TURB9		410643	4491368	1.08	4.73	8760
TURB10		410658	4491368	1.08	4.73	8760
TURB11		410674	4491368	1.08	4.73	8760
TURB12		410689	4491368	1.08	4.73	8760
SLC07HG3		410532	4491427	0.12	0.001	14

Novva SLC Common, LLC

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	hrs/year
BOIL1	411519	4492181	0.20	0.86	8760
GENN01	411449	4492171	8.84	0.44	100
GENN02	411449	4492167	8.84	0.44	100
GENN03	411449	4492164	8.84	0.44	100
GENN04	411449	4492161	8.84	0.44	100
GENN05	411461	4492137	7.33	0.37	100
GENN06	411461	4492128	7.33	0.37	100
GENN07	411461	4492124	7.33	0.37	100
GENN08	411461	4492119	7.33	0.37	100
GENN09	411461	4492116	7.33	0.37	100
GENN10	411461	4492107	7.33	0.37	100
GENN11	411461	4492103	7.33	0.37	100
GENN12	411461	4492094	7.33	0.37	100
GENN13	411460	4492081	8.32	0.42	100
GENN14	411460	4492073	8.45	0.42	100
GENN15	411460	4492068	8.45	0.42	100
GENN16	411460	4492060	8.54	0.43	100
GENN17	411460	4492050	7.33	0.37	100
GENN18	411460	4492044	7.33	0.37	100
GENN19	411460	4492038	7.33	0.37	100
GENN20	411460	4492030	7.33	0.37	100
GENN21	411460	4492020	15.67	0.78	100
GENN22	411459	4492014	15.67	0.78	100
GENN23	411459	4492009	15.67	0.78	100
GENN24	411459	4492005	15.67	0.78	100
GENN25	411459	4492000	15.67	0.78	100
GENN26	411459	4491989	15.67	0.78	100
GENN27	411459	4491977	15.67	0.78	100
GENN28	411459	4491969	15.67	0.78	100
GENN29	411459	4491963	15.67	0.78	100
GENN30	411459	4491955	15.67	0.78	100
GENN31	411458	4491948	15.67	0.78	100
GENN32	411458	4491931	8.54	0.43	100

GENN33	411458	4491915	7.33	0.37	100
GENN34	411458	4491906	7.33	0.37	100
GENN35	411457	4491894	7.33	0.37	100
GENN36	411457	4491884	7.33	0.37	100
OFFICE	411546	4492186	4.61	0.23	100
P3NP01	411316	4491686	0.15	0.64	8760
P3NP02	411321	4491686	0.15	0.64	8760
P3NP03	411327	4491686	0.15	0.64	8760
P3NP04	411332	4491686	0.15	0.64	8760
P3NP05	411338	4491686	0.15	0.64	8760
P3NP06	411343	4491686	0.15	0.64	8760
P3NP07	411349	4491686	0.15	0.64	8760
P3NP08	411355	4491686	0.15	0.64	8760
P3NP09	411360	4491686	0.15	0.64	8760
P3NP10	411373	4491686	0.15	0.64	8760
P3NP11	411378	4491686	0.15	0.64	8760
P3NP12	411384	4491686	0.15	0.64	8760
P3NP13	411389	4491686	0.15	0.64	8760
P3NP14	411395	4491686	0.15	0.64	8760
P3NP15	411401	4491686	0.15	0.64	8760
P3NP16	411406	4491686	0.15	0.64	8760
P3NP17	411412	4491686	0.15	0.64	8760
P3NP18	411417	4491686	0.15	0.64	8760
P2NP01	411315	4491633	0.15	0.64	8760
P2NP02	411321	4491633	0.15	0.64	8760
P2NP03	411327	4491633	0.15	0.64	8760
P2NP04	411332	4491633	0.15	0.64	8760
P2NP05	411338	4491633	0.15	0.64	8760
P2NP06	411343	4491633	0.15	0.64	8760
P2NP07	411349	4491633	0.15	0.64	8760
P2NP08	411354	4491633	0.15	0.64	8760
P2NP09	411360	4491633	0.15	0.64	8760
P2NP10	411372	4491633	0.15	0.64	8760
P2NP11	411378	4491633	0.15	0.64	8760
P2NP12	411384	4491633	0.15	0.64	8760
P2NP13	411389	4491633	0.15	0.64	8760
P2NP14	411395	4491633	0.15	0.64	8760
P2NP15	411400	4491633	0.15	0.64	8760
P2NP16	411406	4491633	0.15	0.64	8760
P2NP17	411411	4491633	0.15	0.64	8760

P2NP18	411417	4491633	0.15	0.64	8760
P4NP01	411315	4491581	0.15	0.64	8760
P4NP02	411321	4491581	0.15	0.64	8760
P4NP03	411326	4491581	0.15	0.64	8760
P4NP04	411332	4491581	0.15	0.64	8760
P4NP05	411337	4491581	0.15	0.64	8760
P4NP06	411343	4491581	0.15	0.64	8760
P4NP07	411348	4491581	0.15	0.64	8760
P4NP08	411354	4491581	0.15	0.64	8760
P4NP09	411360	4491581	0.15	0.64	8760
P4NP10	411372	4491580	0.15	0.64	8760
P4NP11	411378	4491580	0.15	0.64	8760
P4NP12	411383	4491580	0.15	0.64	8760
P4NP13	411389	4491580	0.15	0.64	8760
P4NP14	411394	4491580	0.15	0.64	8760
P4NP15	411400	4491580	0.15	0.64	8760
P4NP16	411405	4491580	0.15	0.64	8760
P4NP17	411411	4491580	0.15	0.64	8760
P4NP18	411417	4491580	0.15	0.64	8760
P5NP01	411315	4491528	0.15	0.64	8760
P5NP02	411321	4491528	0.15	0.64	8760
P5NP03	411326	4491528	0.15	0.64	8760
P5NP04	411332	4491528	0.15	0.64	8760
P5NP05	411337	4491528	0.15	0.64	8760
P5NP06	411343	4491528	0.15	0.64	8760
P5NP07	411348	4491528	0.15	0.64	8760
P5NP08	411354	4491528	0.15	0.64	8760
P5NP09	411359	4491528	0.15	0.64	8760
P5NP10	411372	4491528	0.15	0.64	8760
P5NP11	411377	4491528	0.15	0.64	8760
P5NP12	411383	4491527	0.15	0.64	8760
P5NP13	411388	4491527	0.15	0.64	8760
P5NP14	411394	4491527	0.15	0.64	8760
P5NP15	411400	4491527	0.15	0.64	8760
P5NP16	411405	4491527	0.15	0.64	8760
P5NP17	411411	4491527	0.15	0.64	8760
P5NP18	411416	4491527	0.15	0.64	8760
Total			382.59	65.82	

Oracle America, Inc

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	hrs/year
STCK1	412204	4491302	6.00	0.30	100
STCK2	412204	4491308	6.00	0.30	100
STCK3	412205	4491314	6.00	0.30	100
STCK4	412206	4491321	6.00	0.30	100
STCK5	412207	4491334	6.00	0.30	100
STCK6	412208	4491341	6.00	0.30	100
STCK7	412209	4491346	6.00	0.30	100
STCK8	412210	4491353	6.00	0.30	100
STCK9	412202	4491257	6.72	0.34	100
STCK10	412200	4491251	6.72	0.34	100
STCK11	412195	4491241	6.76	0.34	100
STCK12	412206	4491205	1.75	0.09	100
OA_FPUMP	412203	4491281	0.96	0.05	100
STCK201B	412206	4491219	52.4203	2.621	100
STCK201A	412205	4491215	52.4203	2.621	100
Total			175.78	8.79	

SME Industries, Incorporated

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	hrs/year
WELDING	412651	4492163	0.00	0.00	5840
GEN	412943	4492242	10.70	0.54	100
PLASMA96	412698	4492190	0.87	2.55	5840
PLASMA60	412698	4492180	0.87	2.55	5840
FICEP	412585	4491991	0.87	2.55	5840
ROBOT	412657	4492214	0.87	2.55	5840
PLASMA20	412679	4492107	0.87	2.54	5840
Total			15.06	13.27	

Ebay

Source	UTM Coordinates		Modeled Emission Rates			
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	min/test	hrs/year
G01	411272	4490966	7.25	0.36	30	100
G02	411284	4490966	7.25	0.36	30	100
G03	411295	4490966	7.25	0.36	30	100
G04	411308	4490966	7.25	0.36	30	100
G05	411319	4490966	7.25	0.36	30	100
G06	411331	4490966	7.25	0.36	30	100
G07	411343	4490966	7.25	0.36	30	100
G08	411326	4490763	5.68	0.28	30	100
G09	411213	4490751	5.68	0.28	30	100
G10	411195	4490755	5.68	0.28	30	100
G11	411383	4490796	5.68	0.28	30	100
G12	411383	4490802	5.68	0.28	30	100
G13	411384	4490822	5.68	0.28	30	100
G14	411384	4490828	5.68	0.28	30	100
G24	411315	4490726	4.40	0.22	30	100
G25	411321	4490726	4.40	0.22	30	100
G26	411326	4490727	4.83	0.24	30	100
G27	411332	4490727	4.83	0.24	30	100
G15	411130	4490924	0.00	0.00	30	100
G16	411131	4490918	4.83	0.24	30	100
G17	411131	4490911	4.83	0.24	30	100
G18	411131	4490905	4.16	0.21	30	100
G19	411130	4490899	4.16	0.21	30	100
G20	411130	4490892	4.83	0.24	30	100
G21	411130	4490886	4.83	0.24	30	100
G22	411130	4490879	4.83	0.24	30	100
G23	411131	4490873	4.83	0.24	30	100
G28	411130	4490971	2.75	0.14	30	100
G29	411130	4490964	4.83	0.24	30	100
G30	411130	4490957	4.83	0.24	30	100
G31	411130	4490951	4.83	0.24	30	100
G32	411131	4490944	4.83	0.24	30	100
G33	411131	4490937	2.63	0.13	30	100
Total			170.91	8.55		

Danone

Source	UTM Coordinates		Modeled Emission Rates		
	Easting (m)	Northing (m)	NOx (lb/hr)	NOx (tons/yr)	hrs/year
HEATEXCH	412216	4492748	6.15	26.94	8760
BOILER4	412213	4492725	0.34	1.49	8760
Total			6.49	28.43	

Tran-Jordan Cities – Trans-Jordan Landfill

Source		UTM Coordinates		Modeled Emission Rates		
		Easting (m)	Northing (m)	PM10 (lb/hr)	PM10 (tons/yr)	hrs/year
GEN1		410165	4490199	0.38	1.66	8760
GEN2		410165	4490194	0.38	1.66	8760
GEN3		410165	4490189	0.38	1.66	8760
FLARE1		410180	4490230	1.58	6.91	8760
GENSET		410170	4490114	0.20	0.88	8760
Total				2.92	12.78	

Interstate Brick Company

Source		UTM Coordinates		Modeled Emission Rates		
		Easting (m)	Northing (m)	PM10 (lb/hr)	PM10 (tons/yr)	hrs/year
FUGITIVE		413791	4491189	1.80	3.95	4380
KILN3		413805	4491415	8.66	37.93	8760
L3BH		413687	4491478	0.13	0.56	8760
KILN4		413737	4491877	3.97	17.39	8760
L4BH		413621	4491724	0.24	1.06	8760
CRUSHER		413563	4491539	0.56	2.45	8760
SLC07HG3		410532	4491427	0.12	0.52	8760
Total				15.48	63.86	

10. Source Location and Parameters

Source	Type	Source Parameters					
		Elev, (ft)	Ht (m)	Ht (ft)	Temp (K)	Flow (m/s)	Dia (ft)
BOIL1	POINT	5025.2	2.4	8.0	436	7.45	0.15
WELDING	VOLUME	4939.1	5.0	16.4			
SLC05HG1	POINT	5092.9	9.8	32.0	734	8.59	0.71
SLC0501	POINT	5093.9	9.8	32.0	756	27.09	0.71
SLC0502	POINT	5094.5	9.8	32.0	756	27.09	0.71
SLC0503	POINT	5095.0	9.8	32.0	756	27.09	0.71
SLC0504	POINT	5095.5	9.8	32.0	756	27.09	0.71
SLC0505	POINT	5096.0	9.8	32.0	756	27.09	0.71
SLC0506	POINT	5096.2	9.8	32.0	756	27.09	0.71
SLC0507	POINT	5096.1	9.8	32.0	756	27.09	0.71
SLC0508	POINT	5096.0	9.8	32.0	756	27.09	0.71
SLC0509	POINT	5096.0	9.8	32.0	756	27.09	0.71
SLC0510	POINT	5096.1	9.8	32.0	756	27.09	0.71
SLC0511	POINT	5096.5	9.8	32.0	756	27.09	0.71
SLC0512	POINT	5097.0	9.8	32.0	756	27.09	0.71
SLC0513	POINT	5097.6	9.8	32.0	756	27.09	0.71
SLC0514	POINT	5098.2	9.8	32.0	756	27.09	0.71
SLC0515	POINT	5099.0	9.8	32.0	756	27.09	0.71
SLC0516	POINT	5099.8	9.8	32.0	756	27.09	0.71
SLC0517	POINT	5100.7	9.8	32.0	756	27.09	0.71
SLC0518	POINT	5101.3	9.8	32.0	756	27.09	0.71
SLC0519	POINT	5101.8	9.8	32.0	756	27.09	0.71
SLC0520	POINT	5102.1	9.8	32.0	756	27.09	0.71
SLC0521	POINT	5102.4	9.8	32.0	756	27.09	0.71
SLC0522	POINT	5096.1	9.8	32.0	756	27.09	0.71
SLC0523	POINT	5095.6	9.8	32.0	756	27.09	0.71
SLC0524	POINT	5094.9	9.8	32.0	756	27.09	0.71
SLC0525	POINT	5094.0	9.8	32.0	756	27.09	0.71
SLC0526	POINT	5092.9	9.8	32.0	756	27.09	0.71
SLC0527	POINT	5091.7	9.8	32.0	756	27.09	0.71
SLC0528	POINT	5090.1	9.8	32.0	756	27.09	0.71
SLC0529	POINT	5088.7	9.8	32.0	756	27.09	0.71
SLC0530	POINT	5087.8	9.8	32.0	756	27.09	0.71

SLC0531	POINT	5087.1	9.8	32.0	756	27.09	0.71
SLC0532	POINT	5086.7	9.8	32.0	756	27.09	0.71
SLC0533	POINT	5086.4	9.8	32.0	756	27.09	0.71
SLC0534	POINT	5086.4	9.8	32.0	756	27.09	0.71
SLC0535	POINT	5086.5	9.8	32.0	756	27.09	0.71
SLC0536	POINT	5086.9	9.8	32.0	756	27.09	0.71
SLC0537	POINT	5087.5	9.8	32.0	756	27.09	0.71
SLC0538	POINT	5088.0	9.8	32.0	756	27.09	0.71
SLC0539	POINT	5087.9	9.8	32.0	756	27.09	0.71
SLC0540	POINT	5087.5	9.8	32.0	756	27.09	0.71
SLC0541	POINT	5086.9	9.8	32.0	756	27.09	0.71
SLC0542	POINT	5086.3	9.8	32.0	756	27.09	0.71
SLC07HG1	POINT	5122.3	9.8	32.0	734	8.59	0.71
SLC0701	POINT	5123.1	9.8	32.0	756	27.09	0.71
SLC0702	POINT	5124.0	9.8	32.0	756	27.09	0.71
SLC0703	POINT	5124.7	9.8	32.0	756	27.09	0.71
SLC0704	POINT	5125.2	9.8	32.0	756	27.09	0.71
SLC0705	POINT	5125.8	9.8	32.0	756	27.09	0.71
SLC0706	POINT	5126.4	9.8	32.0	756	27.09	0.71
SLC0707	POINT	5127.0	9.8	32.0	756	27.09	0.71
SLC0708	POINT	5127.8	9.8	32.0	756	27.09	0.71
SLC0709	POINT	5128.8	9.8	32.0	756	27.09	0.71
SLC0710	POINT	5129.5	9.8	32.0	756	27.09	0.71
SLC0711	POINT	5130.3	9.8	32.0	756	27.09	0.71
SLC0712	POINT	5131.3	9.8	32.0	756	27.09	0.71
SLC0713	POINT	5132.2	9.8	32.0	756	27.09	0.71
SLC0714	POINT	5133.0	9.8	32.0	756	27.09	0.71
SLC0715	POINT	5133.9	9.8	32.0	756	27.09	0.71
SLC0716	POINT	5134.4	9.8	32.0	756	27.09	0.71
SLC0717	POINT	5134.3	9.8	32.0	756	27.09	0.71
SLC0718	POINT	5134.2	9.8	32.0	756	27.09	0.71
SLC0719	POINT	5134.6	9.8	32.0	756	27.09	0.71
SLC0720	POINT	5135.4	9.8	32.0	756	27.09	0.71
SLC0721	POINT	5136.4	9.8	32.0	756	27.09	0.71
SLC0722	POINT	5123.4	9.8	32.0	756	27.09	0.71
SLC0723	POINT	5122.8	9.8	32.0	756	27.09	0.71
SLC0724	POINT	5122.6	9.8	32.0	756	27.09	0.71
SLC0725	POINT	5122.4	9.8	32.0	756	27.09	0.71
SLC0726	POINT	5122.2	9.8	32.0	756	27.09	0.71
SLC0727	POINT	5121.6	9.8	32.0	756	27.09	0.71

SLC0728	POINT	5121.1	9.8	32.0	756	27.09	0.71
SLC0729	POINT	5120.1	9.8	32.0	756	27.09	0.71
SLC0730	POINT	5119.7	9.8	32.0	756	27.09	0.71
SLC0731	POINT	5119.2	9.8	32.0	756	27.09	0.71
SLC0732	POINT	5118.7	9.8	32.0	756	27.09	0.71
SLC0733	POINT	5118.1	9.8	32.0	756	27.09	0.71
SLC0734	POINT	5117.6	9.8	32.0	756	27.09	0.71
SLC0735	POINT	5117.1	9.8	32.0	756	27.09	0.71
SLC0736	POINT	5116.1	9.8	32.0	756	27.09	0.71
SLC0737	POINT	5115.3	9.8	32.0	756	27.09	0.71
SLC0738	POINT	5114.6	9.8	32.0	756	27.09	0.71
SLC0739	POINT	5114.1	9.8	32.0	756	27.09	0.71
SLC0740	POINT	5113.7	9.8	32.0	756	27.09	0.71
SLC0741	POINT	5113.3	9.8	32.0	756	27.09	0.71
SLC0742	POINT	5112.8	9.8	32.0	756	27.09	0.71
SLC0601	POINT	5106.8	9.8	32.0	756	27.09	0.71
SLC0602	POINT	5107.6	9.8	32.0	756	27.09	0.71
SLC0603	POINT	5107.9	9.8	32.0	756	27.09	0.71
SLC0604	POINT	5107.9	9.8	32.0	756	27.09	0.71
SLC0605	POINT	5108.4	9.8	32.0	756	27.09	0.71
SLC0606	POINT	5109.2	9.8	32.0	756	27.09	0.71
SLC0607	POINT	5109.6	9.8	32.0	756	27.09	0.71
SLC0608	POINT	5110.4	9.8	32.0	756	27.09	0.71
SLC0609	POINT	5111.1	9.8	32.0	756	27.09	0.71
SLC0610	POINT	5111.7	9.8	32.0	756	27.09	0.71
SLC0611	POINT	5112.4	9.8	32.0	756	27.09	0.71
SLC0612	POINT	5113.1	9.8	32.0	756	27.09	0.71
SLC0613	POINT	5113.8	9.8	32.0	756	27.09	0.71
SLC0614	POINT	5114.8	9.8	32.0	756	27.09	0.71
SLC0615	POINT	5104.1	9.8	32.0	756	27.09	0.71
SLC0616	POINT	5103.6	9.8	32.0	756	27.09	0.71
SLC0617	POINT	5103.5	9.8	32.0	756	27.09	0.71
SLC0618	POINT	5103.2	9.8	32.0	756	27.09	0.71
SLC0619	POINT	5102.7	9.8	32.0	756	27.09	0.71
SLC0620	POINT	5102.3	9.8	32.0	756	27.09	0.71
SLC0621	POINT	5101.8	9.8	32.0	756	27.09	0.71
SLC0622	POINT	5101.4	9.8	32.0	756	27.09	0.71
SLC0623	POINT	5101.1	9.8	32.0	756	27.09	0.71
SLC0624	POINT	5100.9	9.8	32.0	756	27.09	0.71
SLC0625	POINT	5100.5	9.8	32.0	756	27.09	0.71

SLC0626	POINT	5100.2	9.8	32.0	756	27.09	0.71
SLC0627	POINT	5099.6	9.8	32.0	756	27.09	0.71
SLC0628	POINT	5098.7	9.8	32.0	756	27.09	0.71
SLC06HG1	POINT	5106.2	9.8	32.0	734	8.59	0.71
SLC05HG2	POINT	5092.3	9.8	32.0	734	8.59	0.71
SLC06HG2	POINT	5105.9	9.8	32.0	734	8.59	0.71
SLC07HG2	POINT	5121.9	9.8	32.0	734	8.59	0.71
TURB1	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB2	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB3	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB4	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB5	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB6	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB7	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB8	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB9	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB10	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB11	POINT	5140.5	15.2	50.0	709	23.37	2.74
TURB12	POINT	5140.5	15.2	50.0	709	23.37	2.74
GENN01	POINT	5030.7	12.8	42.0	751	42.37	0.46
GENN02	POINT	5031.0	12.8	42.0	751	42.37	0.46
GENN03	POINT	5031.2	12.8	42.0	751	42.37	0.46
GENN04	POINT	5031.5	12.8	42.0	751	42.37	0.46
GENN05	POINT	5032.2	12.8	42.0	708	34.30	0.46
GENN06	POINT	5032.6	12.8	42.0	708	34.30	0.46
GENN07	POINT	5032.7	12.8	42.0	708	34.30	0.46
GENN08	POINT	5032.9	12.8	42.0	708	34.30	0.46
GENN09	POINT	5033.0	12.8	42.0	708	34.30	0.46
GENN10	POINT	5033.3	12.8	42.0	708	34.30	0.46
GENN11	POINT	5033.4	12.8	42.0	708	34.30	0.46
GENN12	POINT	5033.6	12.8	42.0	708	34.30	0.46
GENN13	POINT	5033.8	12.8	42.0	708	34.30	0.46
GENN14	POINT	5034.0	12.8	42.0	738	36.70	0.46
GENN15	POINT	5034.0	12.8	42.0	738	36.70	0.46
GENN16	POINT	5034.0	12.8	42.0	753	45.73	0.46
GENN17	POINT	5033.9	12.8	42.0	708	34.30	0.46
GENN18	POINT	5034.1	12.8	42.0	708	34.30	0.46
GENN19	POINT	5034.4	12.8	42.0	708	34.30	0.46
GENN20	POINT	5034.9	12.8	42.0	708	34.30	0.46
GENN21	POINT	5035.4	12.8	42.0	773	58.07	0.46

GENN22	POINT	5035.7	12.8	42.0	773	58.07	0.46
GENN23	POINT	5035.8	12.8	42.0	773	58.07	0.46
GENN24	POINT	5036.0	12.8	42.0	773	58.07	0.46
GENN25	POINT	5036.1	12.8	42.0	773	58.07	0.46
GENN26	POINT	5036.0	12.8	42.0	773	58.07	0.46
GENN27	POINT	5035.7	12.8	42.0	773	58.07	0.46
GENN28	POINT	5035.5	12.8	42.0	773	58.07	0.46
GENN29	POINT	5035.6	12.8	42.0	773	58.07	0.46
GENN30	POINT	5035.8	12.8	42.0	773	58.07	0.46
GENN31	POINT	5036.2	12.8	42.0	773	58.07	0.46
GENN32	POINT	5037.6	12.8	42.0	753	45.73	0.46
GENN33	POINT	5038.6	12.8	42.0	708	34.30	0.46
GENN34	POINT	5038.5	12.8	42.0	708	34.30	0.46
GENN35	POINT	5038.5	12.8	42.0	708	34.30	0.46
GENN36	POINT	5038.5	12.8	42.0	708	34.30	0.46
OFFICE	POINT	5022.1	2.8	9.1	804	52.47	0.20
P3NP01	POINT	5057.5	9.1	29.9	634	13.97	0.61
P3NP02	POINT	5057.1	9.1	29.9	634	13.97	0.61
P3NP03	POINT	5056.6	9.1	29.9	634	13.97	0.61
P3NP04	POINT	5056.2	9.1	29.9	634	13.97	0.61
P3NP05	POINT	5055.7	9.1	29.9	634	13.97	0.61
P3NP06	POINT	5055.2	9.1	29.9	634	13.97	0.61
P3NP07	POINT	5054.8	9.1	29.9	634	13.97	0.61
P3NP08	POINT	5054.3	9.1	29.9	634	13.97	0.61
P3NP09	POINT	5053.9	9.1	29.9	634	13.97	0.61
P3NP10	POINT	5052.8	9.1	29.9	634	13.97	0.61
P3NP11	POINT	5052.3	9.1	29.9	634	13.97	0.61
P3NP12	POINT	5051.8	9.1	29.9	634	13.97	0.61
P3NP13	POINT	5051.3	9.1	29.9	634	13.97	0.61
P3NP14	POINT	5050.8	9.1	29.9	634	13.97	0.61
P3NP15	POINT	5050.3	9.1	29.9	634	13.97	0.61
P3NP16	POINT	5049.8	9.1	29.9	634	13.97	0.61
P3NP17	POINT	5049.2	9.1	29.9	634	13.97	0.61
P3NP18	POINT	5048.6	9.1	29.9	634	13.97	0.61
P2NP01	POINT	5061.1	9.1	29.9	634	13.97	0.61
P2NP02	POINT	5060.7	9.1	29.9	634	13.97	0.61
P2NP03	POINT	5060.2	9.1	29.9	634	13.97	0.61
P2NP04	POINT	5059.8	9.1	29.9	634	13.97	0.61
P2NP05	POINT	5059.3	9.1	29.9	634	13.97	0.61
P2NP06	POINT	5058.9	9.1	29.9	634	13.97	0.61

P2NP07	POINT	5058.5	9.1	29.9	634	13.97	0.61
P2NP08	POINT	5058.0	9.1	29.9	634	13.97	0.61
P2NP09	POINT	5057.5	9.1	29.9	634	13.97	0.61
P2NP10	POINT	5056.2	9.1	29.9	634	13.97	0.61
P2NP11	POINT	5055.5	9.1	29.9	634	13.97	0.61
P2NP12	POINT	5054.9	9.1	29.9	634	13.97	0.61
P2NP13	POINT	5054.2	9.1	29.9	634	13.97	0.61
P2NP14	POINT	5053.5	9.1	29.9	634	13.97	0.61
P2NP15	POINT	5052.8	9.1	29.9	634	13.97	0.61
P2NP16	POINT	5052.0	9.1	29.9	634	13.97	0.61
P2NP17	POINT	5051.3	9.1	29.9	634	13.97	0.61
P2NP18	POINT	5050.6	9.1	29.9	634	13.97	0.61
P4NP01	POINT	5062.4	9.1	29.9	634	13.97	0.61
P4NP02	POINT	5061.8	9.1	29.9	634	13.97	0.61
P4NP03	POINT	5061.3	9.1	29.9	634	13.97	0.61
P4NP04	POINT	5060.8	9.1	29.9	634	13.97	0.61
P4NP05	POINT	5060.4	9.1	29.9	634	13.97	0.61
P4NP06	POINT	5060.0	9.1	29.9	634	13.97	0.61
P4NP07	POINT	5059.6	9.1	29.9	634	13.97	0.61
P4NP08	POINT	5059.3	9.1	29.9	634	13.97	0.61
P4NP09	POINT	5058.8	9.1	29.9	634	13.97	0.61
P4NP10	POINT	5057.9	9.1	29.9	634	13.97	0.61
P4NP11	POINT	5057.5	9.1	29.9	634	13.97	0.61
P4NP12	POINT	5057.1	9.1	29.9	634	13.97	0.61
P4NP13	POINT	5056.7	9.1	29.9	634	13.97	0.61
P4NP14	POINT	5056.2	9.1	29.9	634	13.97	0.61
P4NP15	POINT	5055.7	9.1	29.9	634	13.97	0.61
P4NP16	POINT	5055.1	9.1	29.9	634	13.97	0.61
P4NP17	POINT	5054.4	9.1	29.9	634	13.97	0.61
P4NP18	POINT	5053.7	9.1	29.9	634	13.97	0.61
P5NP01	POINT	5063.1	9.1	29.9	634	13.97	0.61
P5NP02	POINT	5062.6	9.1	29.9	634	13.97	0.61
P5NP03	POINT	5062.2	9.1	29.9	634	13.97	0.61
P5NP04	POINT	5061.8	9.1	29.9	634	13.97	0.61
P5NP05	POINT	5061.4	9.1	29.9	634	13.97	0.61
P5NP06	POINT	5061.1	9.1	29.9	634	13.97	0.61
P5NP07	POINT	5060.8	9.1	29.9	634	13.97	0.61
P5NP08	POINT	5060.4	9.1	29.9	634	13.97	0.61
P5NP09	POINT	5060.0	9.1	29.9	634	13.97	0.61
P5NP10	POINT	5059.1	9.1	29.9	634	13.97	0.61

P5NP11	POINT	5058.7	9.1	29.9	634	13.97	0.61
P5NP12	POINT	5058.3	9.1	29.9	634	13.97	0.61
P5NP13	POINT	5057.9	9.1	29.9	634	13.97	0.61
P5NP14	POINT	5057.4	9.1	29.9	634	13.97	0.61
P5NP15	POINT	5057.1	9.1	29.9	634	13.97	0.61
P5NP16	POINT	5056.7	9.1	29.9	634	13.97	0.61
P5NP17	POINT	5056.2	9.1	29.9	634	13.97	0.61
P5NP18	POINT	5055.7	9.1	29.9	634	13.97	0.61
SLC1_G02	POINT	5070.5	5.7	18.7	668	16.56	0.71
SLC1_G03	POINT	5070.6	5.7	18.7	668	16.56	0.71
SLC1_G04	POINT	5070.5	5.7	18.7	668	16.56	0.71
SLC1_G05	POINT	5070.7	5.7	18.7	668	16.56	0.71
SLC2_G14	POINT	5071.0	6.7	22.0	735	33.70	0.61
HEATEXCH	POINT	4943.0	13.6	44.6	394	5.02	1.52
BOILER4	POINT	4942.7	14.3	47.0	478	11.71	0.81
SLC3_G30	POINT	5087.6	8.2	27.0	614	19.14	0.46
SLC3_G32	POINT	5087.9	3.8	12.6	706	7.42	0.46
STCK1	POINT	4984.3	4.9	16.0	763	51.21	0.46
STCK2	POINT	4984.3	4.9	16.0	763	51.21	0.46
STCK3	POINT	4984.4	4.9	16.0	763	51.21	0.46
STCK4	POINT	4984.7	4.9	16.0	763	51.21	0.46
STCK5	POINT	4984.9	4.9	16.0	763	51.21	0.46
STCK6	POINT	4984.9	4.9	16.0	763	51.21	0.46
STCK7	POINT	4984.8	4.9	16.0	763	51.21	0.46
STCK8	POINT	4984.6	4.9	16.0	763	51.21	0.46
STCK9	POINT	4985.0	6.5	21.3	729	96.10	0.36
STCK10	POINT	4984.2	6.5	21.3	729	96.10	0.36
STCK11	POINT	4985.6	5.1	16.9	714	107.48	0.36
STCK12	POINT	4985.9	4.1	13.4	709	90.92	0.20
STCK1NL	POINT	4984.3	4.9	16.0	763	51.21	0.46
STCK2NL	POINT	4984.3	4.9	16.0	763	51.21	0.46
STCK3NL	POINT	4984.4	4.9	16.0	763	51.21	0.46
STCK4NL	POINT	4984.7	4.9	16.0	763	51.21	0.46
STCK5NL	POINT	4984.9	4.9	16.0	763	51.21	0.46
STCK6NL	POINT	4984.9	4.9	16.0	763	51.21	0.46
STCK7NL	POINT	4984.8	4.9	16.0	763	51.21	0.46
STCK8NL	POINT	4984.6	4.9	16.0	763	51.21	0.46
STCK9NL	POINT	4985.0	6.5	21.3	729	96.10	0.36
STCK10NL	POINT	4984.2	6.5	21.3	729	96.10	0.36
STCK11NL	POINT	4985.6	5.1	16.9	714	107.48	0.36

STCK12NL	POINT	4985.9	4.1	13.4	709	90.92	0.20
GEN	POINT	4912.0	3.7	12.0	773	12.94	0.18
PLASMA96	POINT	4939.1	3.2	10.6	294	2.93	1.14
PLASMA60	POINT	4939.0	3.7	12.2	294	4.41	1.14
FICEP	POINT	4936.1	3.2	10.6	294	2.93	1.14
ROBOT	POINT	4938.5	2.6	8.4	294	4.60	1.14
PLASMA20	POINT	4939.2	3.4	11.1	294	3.67	1.14
OA_FPUMP	POINT	4984.9	3.0	10.0	764	45.44	0.06
SLC07HG3	POINT	5140.5	9.8	32.0	734	8.59	0.71
STCK201B	POINT	4990.0	9.7	31.8	715	53.16	0.51
STCK201A	POINT	4990.0	9.7	31.8	715	53.16	0.51

IV. RESULTS AND CONCLUSIONS

A. National Ambient Air Quality Standards

The below table provides a comparison of the predicted total air quality concentrations with the NAAQS. The predicted total concentrations are less than the NAAQS.

Air Pollutant	Period	Prediction ($\mu g/m^3$)	Class II Significant Impact Level ($\mu g/m^3$)	Background ($\mu g/m^3$)	Nearby Sources* ($\mu g/m^3$)	Total ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent NAAQS
NO_2	1-Hour	118.4	7.5	11.4	25.5	155.3	188	82.6%

Air Pollutant	Period	Prediction ($\mu g/m^3$)	Class II Significant Impact Level ($\mu g/m^3$)	Background ($\mu g/m^3$)	Nearby Sources* ($\mu g/m^3$)	Total ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent NAAQS
PM_{10}	24-Hour	47.60	5	78.8	0.5	126.9	150	84.6%

V. PERMIT CONDITIONS

The following suggested permit language should be included under the Terms and Conditions in the AO:

- The owner/operator shall not operate more than three emergency generator engines at the same time for non-emergency purposes.
- The owner/operator shall not operate the emergency generator engines before 6:00 am or after 6:00 pm.

- The owner/operator shall limit each emergency generator engine to no more than 14 hours per rolling 12-month period.

JK:jg



Christine Bodell <cbodell@utah.gov>

Aligned West Jordan Data Center NOI Air Permit Application

Tim Stephenson, PMP, PMI-SCP <tim.stephenson@aligneddc.com> Wed, Jul 16, 2025 at 4:54 PM
To: Christine Bodell <cbodell@utah.gov>, Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Christine,

The manufacturer tells me 159 MMBTu/hr at ISO.

Let me know if you need anything else.

Regards,
Tim Stephenson.

Get Outlook for iOS

From: Christine Bodell <cbodell@utah.gov>
Sent: Wednesday, July 16, 2025 3:08:40 PM
[Quoted text hidden]

[Quoted text hidden]

Cc: Christine Bodell <cbodell@utah.gov>, Dave Prey <dprey@utah.gov>, Jason Krebs <jkrebs@utah.gov>, "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Johnathan,

Thanks for submitting this NOI. Christine will be in touch if we have any questions.

Thanks,
Alan
[Quoted text hidden]
[Quoted text hidden]

Jason Krebs <jkrebs@utah.gov> Thu, Jun 26, 2025 at 9:02 AM
To: Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: Alan Humpherys <ahumpherys@utah.gov>, Christine Bodell <cbodell@utah.gov>, Dave Prey <dprey@utah.gov>, "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Thanks for sharing the modeling files. I was able to download them.

Thanks,

Jason

Jason Krebs | Environmental Scientist | Utah Division of Air Quality

Phone: 385.306.6531

195 North 1950 West, Salt Lake City, UT 84116

Emails to and from this email address may be considered public records and thus subject to Utah GRAMA requirements.

On Wed, Jun 25, 2025 at 6:43 PM Johnathan Price <Johnathan.Price@trinityconsultants.com> wrote:
[Quoted text hidden]

Christine Bodell <cbodell@utah.gov> Mon, Jun 30, 2025 at 12:47 PM
To: Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Good Afternoon Johnathan,

I hope you are doing well.

I am reviewing the emission estimates for the turbines and had a few questions. Please address each item.

1. Do you happen to have the manufacturer specification sheet for the emission rate/concentration for VOC and CO from each turbine?

2. What MMBtu/hr value was used to estimate HAPs emissions from the turbines and why? Per the previous tables, this is highly dependent on ambient air temperature and load condition.

3. I do not understand how the emissions in Table B-11 were estimated. Using NOx as an example, the maximum emission rate in tpy for NOx occurs at an ambient air temperature of -4.0 F at a 75% load.

Table B-8 shows a NOx emission rate of 0.97 lb/hr at these (controlled) conductions. The NOI states that the total hours of normal operation annually is 8,734 hours. Therefore:
0.97 lb/hr * 8,734 hr /2000 = 4.24 tpy of controlled NOx (per engine). For 12 engines, this is 50.8 tpy of NOx for normal operations.

Table B-9 shows a NOx emission rate of 5.43 lb/hr for uncontrolled conditions. The NOI states that the total hours of uncontrolled operation annually is 26 hours. Therefore:
5.43 lb/hr * 26 hr /2000 = 0.07 tpy of uncontrolled NOx (per engine). For 12 engines, this is 0.85 tpy of NOx for uncontrolled operations.

Table B-11 shows a NOx value of 47.29 tpy. Why is it not 52.7 tpy (50.8 tpy + 0.85 tpy)?.

Any input on how the values in Table B-11 were determined would be helpful. While not required, an excel spreadsheet showing how the tables were calculated and which values were used would expedite the review process considerably.

Thank you in advance,
Christine

On Wed, Jun 25, 2025 at 6:43 PM Johnathan Price <Johnathan.Price@trinityconsultants.com> wrote:
[Quoted text hidden]

Johnathan Price <Johnathan.Price@trinityconsultants.com> Mon, Jun 30, 2025 at 3:45 PM
To: Christine Bodell <cbodell@utah.gov>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Christine,

We have provided answers below in blue text.

The key part of these calculations is that not all 12 turbines are always necessary in order to meet Aligned's desired power output. This is why we are requesting a limit on MWh per year of 1,012,306.

The power output and emissions are variable depending on the ambient conditions. Under many conditions, the plant will not need to operate all 12 units. In the case of the max NO_X emissions scenario (-4.0° F @ 75% load) only 11 turbines are actually required to generate the desired power output.

Aligned's electrical system that will transmit power from the turbines to the data halls is limited to accepting a maximum of 108 MW at any given time.

If you would like to discuss any of these on a call, we are happy to set something up.

Thanks,

Johnathan Price

Senior Consultant

Trinity Consultants, Inc.

P 515.720.8970

4525 Wasatch Blvd, Suite 150,

Salt Lake City, Utah 84124

Email: Johnathan.Price@trinityconsultants.com



From: Christine Bodell <cbodell@utah.gov>
Sent: Monday, June 30, 2025 12:47 PM
To: Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: Tim Stephenson, PMP, PMI-SCP <tim.stephenson@aligneddc.com>; Michael Welch <michael.welch@aligneddc.com>; Ben Safavinia <BSafavinia@trinityconsultants.com>; Henry Vossler <Henry.Vossler@trinityconsultants.com>; Clara Wayman <Clara.Wayman@trinityconsultants.com>
Subject: Re: Aligned West Jordan Data Center NOI Air Permit Application

Good Afternoon Johnathan,

I hope you are doing well.

I am reviewing the emission estimates for the turbines and had a few questions. Please address each item.

1. Do you happen to have the manufacturer specification sheet for the emission rate/concentration for VOC and CO from each turbine? – Yes, we are working on getting this in one document from the manufacturer.

2. What MMBtu/hr value was used to estimate HAPs emissions from the turbines and why? Per the previous tables, this is highly dependent on ambient air temperature and load condition. – A lb/MWh max emission rate was calculated for conservatism. This was done through the following formula: [lb/MMBtu] * ([max MMBtu/hr] / [max MW]). Please see table B-7. The maximums come from the -4.0° F and 100% load scenarios.

3. I do not understand how the emissions in Table B-11 were estimated. Using NOx as an example, the maximum emission rate in tpy for NOx occurs at an ambient air temperature of -4.0 F at a 75% load.

Table B-8 shows a NOx emission rate of 0.97 lb/hr at these (controlled) conductions. The NOI states that the total hours of normal operation annually is 8,734 hours. Therefore:
0.97 lb/hr * 8,734 hr /2000 = 4.24 tpy of controlled NOx (per engine). For 12 engines, this is 50.8 tpy of NOx for normal operations.

Table B-9 shows a NOx emission rate of 5.43 lb/hr for uncontrolled conditions. The NOI states that the total hours of uncontrolled operation annually is 26 hours. Therefore:

5.43 lb/hr * 26 hr /2000 = 0.07 tpy of uncontrolled NOx (per engine). For 12 engines, this is 0.85 tpy of NOx for uncontrolled operations.

Table B-11 shows a NOx value of 47.29 tpy. Why is it not 52.7 tpy (50.8 tpy + 0.85 tpy)?. – This does not match up to 52.7 because that specific scenario results in only 11 turbines running. Hopefully this clears it up. Table B-7 displays the number of turbines running for each scenario given.

[Quoted text hidden]
[Quoted text hidden]

Christine Bodell <cbodell@utah.gov> Tue, Jul 1, 2025 at 11:07 AM
To: Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Hello Johnathan,

Thank you for the quick response. Please see my response below in red. It might be worthwhile to set up a meeting. I have availability any time tomorrow (Wednesday) after 1 pm and anytime Thursday from 9 am - 11 am.

Thanks,

Christine

On Mon, Jun 30, 2025 at 3:45 PM Johnathan Price <Johnathan.Price@trinityconsultants.com> wrote:

> Christine,
>
> We have provided answers below in blue text.
>
> The key part of these calculations is that not all 12 turbines are always necessary in order to meet Aligned's desired power output. This is why we are requesting a limit on MWh per year of 1,012,306.
> Even if 12 turbines are not always necessary, it seems like 12 turbines will sometime be necessesary. If 12 turbines are going to operate simulatenously at any point, emissions need to be estimated for all 12. The DAQ has no issue with limiting the facility to 1,012,306 MWh anually. However, the power outlet is related but does not govern the turbine emissions. Emissions from the turbine are more closely tied to turbine operation than power output. I can include a power output limit, but the AO will likely include turbine stack testing requirements and potentilly a fuel usage limit that corresponds to the submitted emission estimates.
>
> The power output and emissions are variable depending on the ambient conditions. Under many conditions, the plant will not need to operate all 12 units. In the case of the max NO_X emissions scenario (-4.0° F @ 75% load) only 11 turbines are actually required to generate the desired power output.
>
> Aligned's electrical system that will transmit power from the turbines to the data halls is limited to accepting a maximum of 108 MW at any given time.
>
> If you would like to discuss any of these on a call, we are happy to set something up.
>
> Thanks,
>
> **Johnathan Price**
>
> Senior Consultant
>
> Trinity Consultants, Inc.
>
> P 515.720.8970
>
> 4525 Wasatch Blvd, Suite 150,
>
> Salt Lake City, Utah 84124
>
> Email: Johnathan.Price@trinityconsultants.com
>
> 
>
>
> ---
>
> **From:** Christine Bodell <cbodell@utah.gov>
> **Sent:** Monday, June 30, 2025 12:47 PM
> **To:** Johnathan Price <Johnathan.Price@trinityconsultants.com>

Cc: Tim Stephenson, PMP, PMI-SCP <tim.stephenson@aligneddc.com>; Michael Welch <michael.welch@aligneddc.com>; Ben Safavinia <BSafavinia@trinityconsultants.com>; Henry Vossler <Henry.Vossler@trinityconsultants.com>; Clara Wayman <Clara.Wayman@trinityconsultants.com>
Subject: Re: Aligned West Jordan Data Center NOI Air Permit Application

Good Afternoon Johnathan,

I hope you are doing well.

I am reviewing the emission estimates for the turbines and had a few questions. Please address each item.

1. Do you happen to have the manufacturer specification sheet for the emission rate/concentration for VOC and CO from each turbine? – Yes, we are working on getting this in one document from the manufacturer. Thank you

2. What MMBtu/hr value was used to estimate HAPs emissions from the turbines and why? Per the previous tables, this is highly dependent on ambient air temperature and load condition. – A lb/MWh max emission rate was calculated for conservatism. This was done through the following formula: [lb/MMBtu] * ([max MMBtu/hr] / [max MW]). Please see table B-7. The maximums come from the -4.0° F and 100% load scenarios.
The maximum MMBTU/hr rate in the -4F and 100% load scenario, per table B-7. is 163.63 MMBtu/hr.
The EF used for formaldehyde, per Table B-12, is 7.10E-4 lb/MMBtu.
163.63 MMBtu/hr * 7.10E-4 = 0.12 lb/hr
For 11 turbines running, this is 1.28 lb/hr.
For 8,734 hours annually of normal operation per turbine, this equates to 5.6 tpy, but the table B-12 shows 3.84.
I am confused how these values were obtained. Please advise at your earliest convenience.

3. I do not understand how the emissions in Table B-11 were estimated. Using NOx as an example, the maximum emission rate in tpy for NOx occurs at an ambient air temperature of -4.0 F at a 75% load.

Table B-8 shows a NOx emission rate of 0.97 lb/hr at these (controlled) conductions. The NOI states that the total hours of normal operation annually is 8,734 hours. Therefore:
0.97 lb/hr * 8,734 hr /2000 = 4.24 tpy of controlled NOx (per engine). For 12 engines, this is 50.8 tpy of NOx for normal operations.

Table B-9 shows a NOx emission rate of 5.43 lb/hr for uncontrolled conditions. The NOI states that the total hours of uncontrolled operation annually is 26 hours. Therefore:

5.43 lb/hr * 26 hr /2000 = 0.07 tpy of uncontrolled NOx (per engine). For 12 engines, this is 0.85 tpy of NOx for uncontrolled operations.

Table B-11 shows a NOx value of 47.29 tpy. Why is it not 52.7 tpy (50.8 tpy + 0.85 tpy)?. – This does not match up to 52.7 because that specific scenario results in only 11 turbines running. Hopefully this clears it up. Table B-7 displays the number of turbines running for each scenario given. Can you please provide the corresponding annual fuel usage that corresponds with the worst-case scenario provided in the NOI?

[Quoted text hidden]

Johnathan Price <Johnathan.Price@trinityconsultants.com> Wed, Jul 2, 2025 at 11:33 AM
To: Christine Bodell <cbodell@utah.gov>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Christine,

Let's get a call scheduled. We can do tomorrow, Thursday, from 10:30 – 11 am MT or alternatively could meet Monday at 12:30 pm MT. Monday would be best if we anticipate needing longer than 30 minutes.

Let me know what works best for you.

Thanks!

[Quoted text hidden]

Christine Bodell <cbodell@utah.gov> Wed, Jul 2, 2025 at 11:46 AM
To: Johnathan Price <Johnathan.Price@trinityconsultants.com>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Let's do Monday at 1230 MT, just in case the meeting runs long.

I will send an invite out shortly.

[Quoted text hidden]

Johnathan Price <Johnathan.Price@trinityconsultants.com> Wed, Jul 2, 2025 at 11:53 AM
To: Christine Bodell <cbodell@utah.gov>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Thanks, Christine!

Enjoy the Holiday!

[Quoted text hidden]

Johnathan Price <Johnathan.Price@trinityconsultants.com> Thu, Jul 10, 2025 at 9:31 PM
To: Christine Bodell <cbodell@utah.gov>
Cc: "Tim Stephenson, PMP, PMI-SCP" <tim.stephenson@aligneddc.com>, Michael Welch <michael.welch@aligneddc.com>, Ben Safavinia <BSafavinia@trinityconsultants.com>, Henry Vossler <Henry.Vossler@trinityconsultants.com>, Clara Wayman <Clara.Wayman@trinityconsultants.com>

Christine,

Thanks for the call on Monday. As discussed, please see the following explanation of the potential to emit (PTE) calculations for the Aligned West Jordan Data Center:

Megawatt-Hour Limit:

The proposed data center at Aligned West Jordan is limited to receiving 108 MW due to the electrical design limits of the bus system that connects it to the power supply. The bus is rated to safely handle up to 108 MW of power transfer. To account for 7% auxiliary power losses (e.g., lube oil pumps, ammonia pumps), the proposed turbines are limited to a combined gross power output of:

108 MW × 1.07 = 115.56 MW

This power will be metered at the generator terminals, and the total output from all turbines will not exceed this 115.56 MW limit.

The proposed annual energy production limit is therefore:

115.56 MW × 8,760 hours/year = 1,012,305.6 MWh/year.

PTE Calculation:

To calculate the PTE based on this energy limit:

- Simulated operating scenarios were provided, accounting for varying ambient temperatures, load levels, fuel use, and turbine power outputs.
- Emission factors were either provided in (lb/hr), or concentration guarantees in (PPMVD) were converted to (lb/hr) for all scenarios.
- All emission factors were then converted to (lb/MWh) by dividing by the turbine power output at each scenario.

For each scenario, the number of turbines required to collectively produce 115.56 MW was calculated based on turbine power output under each scenario's conditions (at each load percentage and ambient temperature). This ensures compliance with the overall power production cap.

The worst-case (highest-emitting) scenario was identified through the following calculation at each respective load and temperature scenario, and selecting the maximum tons per year per pollutant:

PTE = Emission Factor (lb/MWh) × Turbine Output (MW) × 8,760 hr/yr × Number of Turbines Required (rounded up to nearest whole number)

Highest Emission Scenario:

The highest-emission scenario occurred at -4°F and 75% load, where 11 turbines, each producing 11.49 MW, were required to meet the 115.56 MW limit.

Note that although 11 turbines rated at 11.49 MW each yield a combined capacity of 126.39 MW, this reflects a conservative assumption, with respect to the emissions, in which the number of required turbines is rounded up to the nearest whole unit. In reality, total power output will not exceed the 115.56 MW limit. This conservative approach ensures the potential to emit (PTE) calculation remains protective and accounts for the worst-case scenario.

Please let us know if you have any further questions on this.

Thank you,

[Quoted text hidden]

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-AN162210001-24

November 19, 2024

Michael Welch
Aligned Data Centers (WJU) PropCo, LLC
2800 Summit Avenue
Plano, TX 75074
Michael.Welch@aligneddc.com

Dear Mr. Welch:

Re: Approval Order: New West Jordan Data Center Power Station
Project Number: N162210001

The attached Approval Order (AO) is issued pursuant to the Notice of Intent (NOI) received on June 26, 2024. Aligned Data Centers (WJU) PropCo, LLC must comply with the requirements of this AO, all applicable state requirements (R307), and Federal Standards.

The project engineer for this action is **Christine Bodell**, who can be contacted at (385) 290-2690 or cbodell@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:CB:jg

cc: Salt Lake County Health Department

STATE OF UTAH
Department of Environmental Quality
Division of Air Quality

APPROVAL ORDER
DAQE-AN162210001-24
New West Jordan Data Center Power Station

Prepared By
Christine Bodell, Engineer
(385) 290-2690
cbodell@utah.gov

Issued to
Aligned Data Centers (WJU) PropCo, LLC - West Jordan Data Center

Issued On
November 19, 2024

Issued By



Bryce C. Bird
Director

Division of Air Quality

TABLE OF CONTENTS

TITLE/SIGNATURE PAGE 1

GENERAL INFORMATION 3

CONTACT/LOCATION INFORMATION 3

SOURCE INFORMATION 3

General Description 3

NSR Classification 3

Source Classification 3

Applicable Federal Standards 3

Project Description 4

SUMMARY OF EMISSIONS 4

SECTION I: GENERAL PROVISIONS 4

SECTION II: PERMITTED EQUIPMENT 5

SECTION II: SPECIAL PROVISIONS 6

PERMIT HISTORY 8

ACRONYMS 9

GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name
Aligned Data Centers (WJU) PropCo, LLC

Source Name
Aligned Data Centers (WJU) PropCo, LLC - West Jordan Data Center

Mailing Address
2800 Summit Avenue
Plano, TX 75074

Physical Address
6800 West 9800 South
West Jordan, UT 84128

Source Contact
Name: Michael Welch
Phone: (203) 981-6922
Email: Michael.Welch@aligneddc.com

UTM Coordinates
410,705 m Easting
4,491,561 m Northing
Datum NAD83
UTM Zone 12

SIC code 7376 (Computer Facilities Management Services)

SOURCE INFORMATION

General Description
Aligned Data Centers (WJU) PropCo, LLC (Aligned) has requested to operate a data center power station in West Jordan, Salt Lake County. The data center will run on line power. A maximum of one hundred ninety-two (192) diesel-fueled emergency engines will be used to provide power in the event of an emergency. Each emergency engine will have a diesel fuel storage tank.

NSR Classification
New Minor Source

Source Classification
Located in Northern Wasatch Front O3 NAA, Salt Lake City UT $PM_{2.5}$ NAA, Salt Lake County SO_2 NAA
Salt Lake County
Airs Source Size: SM

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
MACT (Part 63), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Project Description
Aligned requested a new minor source (West Jordan Facility) to house a data center power station. The facility will require a maximum of one hundred ninety-two (192) diesel-fired engines. Each emergency engine will have a diesel fuel storage tank.

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		5780.00
Carbon Monoxide		14.25
Nitrogen Oxides		24.34
Particulate Matter - PM_{10}		0.81
Particulate Matter - $PM_{2.5}$		0.81
Sulfur Dioxide		0.06
Volatile Organic Compounds		0.71

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Benzene (Including Benzene From Gasoline) (CAS #71432)		60
Generic HAPs (CAS #GHAPS)		20
Propylene Dichloride (1,2-Dichloropropane) (CAS #78875)		200
Toluene (CAS #108883)		20
Xylenes (Isomers And Mixture) (CAS #1330207)		20
	Change (TPY)	**Total (TPY)**
Total HAPs		0.16

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 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 two (2) 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 or modification to the Director within 18 months from the date of this AO. 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	**West Jordan Data Center**
II.A.2	**Emergency Generator Engines** One Hundred Eighty-Two (182) Emergency Generator Engines Maximum Rating: 3,100 kW (4,393 hp), each Fuel: Ultra-Low-Sulfur Diesel Certification: Tier 2 Control: Selective Catalytic Reduction (SCR) NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ
II.A.3	**Emergency Generator Engines** Ten (10) Emergency Generator Engines Maximum Rating: 1,000 kW (1,341 hp), each Fuel: Ultra-Low-Sulfur Diesel Certification: Tier 2 Control: SCR NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ
II.A.4	**One Hundred Ninety-Two (192) Fuel Storage Tanks** Capacity: 5,000 gallons, each

SECTION II: SPECIAL PROVISIONS

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Facility-Wide Requirement**
II.B.1.a	The owner/operator shall not allow visible emissions from any source on site exceed 20% opacity. [R307-201-3, R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.2	**Emergency Engine Requirements**
II.B.2.a	The owner/operator shall not operate more than two (2) emergency generator engines at the same time during maintenance and testing operations. [R307-401-8]
II.B.2.b	The owner/operator shall not operate any emergency engine for maintenance and testing before 6:00 am or after 6:00 pm each day. [R307-401-8]
II.B.2.c	The owner/operator shall not conduct testing and maintenance of each emergency engine more than fifty-two (52) times per year. [R307-401-8]
II.B.2.c.1	To show compliance with the above three (3) conditions, the owner/operator shall keep and maintain the following records for all periods each emergency engine is in operation for maintenance and testing purposes: A. Date and time maintenance and testing operations begin for each engine. B. Date and time maintenance and testing operations end for each engine. C. Record which emergency engine was maintained and tested. D. Maintain records of maintenance and testing on a daily basis. [R307-401-8]
II.B.2.d	The owner/operator shall install SCR controls on each emergency generator engine. Emissions from the engine exhaust shall be routed through the SCR unit before being vented to the atmosphere. [R307-401-8]
II.B.2.e	The owner/operator shall operate the SCRs in accordance with manufacturer specifications and recommendations to minimize ammonia slip. [R307-401-8]
II.B.2.e.1	The owner/operator shall inspect the SCRs each calendar year and replace the catalyst in accordance with manufacturer recommendations. Records of SCR inspections and catalyst replacement shall be kept for the life of the equipment. [R307-401-8]

II.B.2.f	The owner/operator shall: A. Certify that each emergency generator engine with a maximum rating of 3,100 kW (4,393 hp) installed on site has a controlled (i.e., accounting for SCR) NO_x emission rate of 0.54 grams per horsepower hour (g/hp-hr) or less at the exhaust point. B. Certify that each emergency generator engine with a maximum rating of 1,000 kW (1,341 hp) installed on site has a controlled (i.e., accounting for SCR) NO_x emission rate of 0.60 grams per horsepower hour (g/hp-hr) or less at the exhaust point. [R307-401-8]
II.B.2.f.1	To demonstrate compliance with the above condition, the owner/operator shall either: A. Purchase a stationary internal combustion engine which has obtained certification as defined in 40 CFR 1039.801; or B. Conduct an initial performance test according to 40 CFR part 1039. C. Maintain the manufacturer's emissions guarantee for the installed engine model. [R307-401-8]
II.B.2.g	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. At no point shall the owner/operator exceed the limit outlined in Condition II.B.3.b. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.2.g.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: A. The date the emergency engine was used. B. The duration of operation in hours. C. The reason for the emergency engine usage. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.2.g.2	To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.3	**Fuel Requirements**
II.B.3.a	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. [R307-401-8]
II.B.3.a.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. [40 CFR 63 Subpart ZZZZ, R307-401-8]

II.B.3.a.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.3.b	The owner/operator shall not consume more than 511,945 gallons of diesel fuel per rolling 12-month period for non-emergency situations in the emergency engines. There is no diesel fuel consumption limit on the diesel fuel consumption of the engines during emergencies. [R307-401-8]
II.B.3.b.1	The owner/operator shall: A. Determine diesel fuel consumption with billing records, dip-stick measurements, or other appropriate methods. B. Record diesel fuel consumption on a monthly basis. C. Use the consumption data to calculate a new rolling 12-month total by the 20th day of each month using data from the previous 12 months for diesel fuel. D. Keep the consumption records for all periods the plant is in operation. [R307-401-8]
II.B.3.b.2	The owner/operator shall subtract the amount of diesel fuel consumption during emergency situation from the total diesel fuel consumption to calculate the non-emergency diesel fuel consumption amounts. [R307-401-8]

PERMIT HISTORY

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

Is Derived From	NOI dated June 26, 2024
Incorporates	DAQE-MN162210001-24 dated August 5, 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

ALIGNED DATA CENTERS MODELING REPORT

NO_2 and PM_{10} NAAQS / Modeling Report



Aligned Data Centers (WJU) PROPCO, LLC / West Jordan, Utah

Prepared By:
TRINITY CONSULTANTS
4525 Wasatch Boulevard, Suite 150
Salt Lake City, UT 84124
(801) 272-3000

For:
Aligned Data Centers (WJU) PropCo, LLC

June 2025

TABLE OF CONTENTS

1. INTRODUCTION 1-1
   - 1.1 General Information 1-1
   - 1.2 Project Scope 1-1
   - 1.3 Plant Layout 1-1

2. AIR DISPERSION MODELING DESCRIPTION 2-1
   - 2.1 Model Selection 2-1
   - 2.2 Meteorological Data 2-1
   - 2.3 Terrain Elevations 2-1
   - 2.4 Receptors 2-1
   - 2.5 UTM Coordinate System 2-5
   - 2.6 Building Downwash 2-5

3. NO_2 SOURCE PARAMETERS AND EMISSION RATES 3-1
   - 3.1 NO_2 Point Source Parameters and Emission Rates 3-1
     - *3.1.1 Combustion Equipment Modeling Parameters and Emission Rates 3-1*
     - *3.1.2 Combustion Equipment Operating Parameters 3-1*
   - 3.2 Nearby NO_2 Sources - Emission Rates 3-3

4. PM_{10} SOURCE PARAMETERS AND EMISSION RATES 4-1
   - 4.1 PM_{10} Point Source Parameters and Emission Rates 4-1
     - *4.1.1 Combustion Equipment Modeling Parameters and Emission Rates 4-1*
     - *4.1.2 Combustion Equipment Operating Parameters 4-1*
   - 4.2 Nearby PM_{10} Sources 4-1

5. NO_2 MODELING ANALYSIS 5-1
   - 5.1 NO_2 Special Processing 5-1
   - 5.2 Background NO_2 Concentrations 5-1
   - 5.3 Background Ozone Concentrations 5-2
   - 5.4 Modeled NO_2 Concentration 5-3
   - 5.5 NO_2 NAAQS Analysis Results 5-4
   - 5.6 NO_2 Mitsubishi Method Analysis Results 5-4

6. PM_{10} MODELING ANALYSIS 6-1
   - 6.1 Background PM_{10} Concentrations 6-1
   - 6.2 Modeled PM_{10} Concentration 6-1
   - 6.3 PM_{10} NAAQS Analysis Results 6-2
   - 6.4 PM_{10} Mitsubishi Method Analysis Results 6-2

APPENDIX A. MODELING PARAMETERS, EMISSION RATES, AND BUILDINGS A-1

1. INTRODUCTION

1.1 General Information

Aligned is proposing a modification to their approval order (AO) DAQE-AN162210001-24 for their data center in West Jordan, Utah (West Jordan Data Center). In conjunction with this modeling report, Aligned is submitting a Notice of Intent (NOI) air permit application to UDAQ to obtain an approval order (AO) for the proposed modification and construction.

This modeling protocol and report outline the methodology that Aligned has used in conducting air dispersion modeling. The results demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) for the one (1)-hour and annual nitrogen dioxide (NO_2) standards, as well as the 24-hour standard for particulate matter (PM) with an aerodynamic diameter of less than 10 microns (PM_{10}). Air dispersion modeling has been conducted in accordance with R307-410-3 and 40 Code of Federal Regulations (CFR) Part 51, Appendix W *Guideline on Air Quality Models*.

1.2 Project Scope

Aligned proposes the addition of twelve (12) new natural gas-fired simple cycle turbines, with the ability to operate year-round to provide 108 MW of primary power to the data center.

Additionally, Aligned proposes a reduction in the number of diesel-fired emergency generators and their associated diesel fuel storage tanks, as currently permitted in their AO, from a total of 192 to 119. This revised total consists of 112 3.1 MW diesel-fired "line-up" emergency generators and seven 1 MW diesel-fired "house" emergency generators. Due to global supply chain and procurement issues surrounding diesel-fired emergency generators, Aligned is proposing two possible line-up emergency generator types that will be dictated by availability at the time of purchase. Air dispersion modeling has been performed for the two diesel-fired emergency generator types to demonstrate that the "worst" impacting scenario will not cause or contribute to an exceedance of the NAAQS. Each air dispersion modeling scenario is comprehensive of all equipment proposed at the West Jordan Data Center.

The equipment included in each of the generator air dispersion modeling scenarios for the 1-hour and annual NO_2 and 24-hour PM_{10} modeling analysis for the proposed West Jordan Data Center is as follows:

Cat C175-16 Generator Scenario

- 112 3.1 MW Cat Model C175-16 diesel-fired emergency line-up generators;
- Seven 1 MW Cat Model C32 diesel-fired emergency house generators; and
- 12 natural gas-fired turbines.

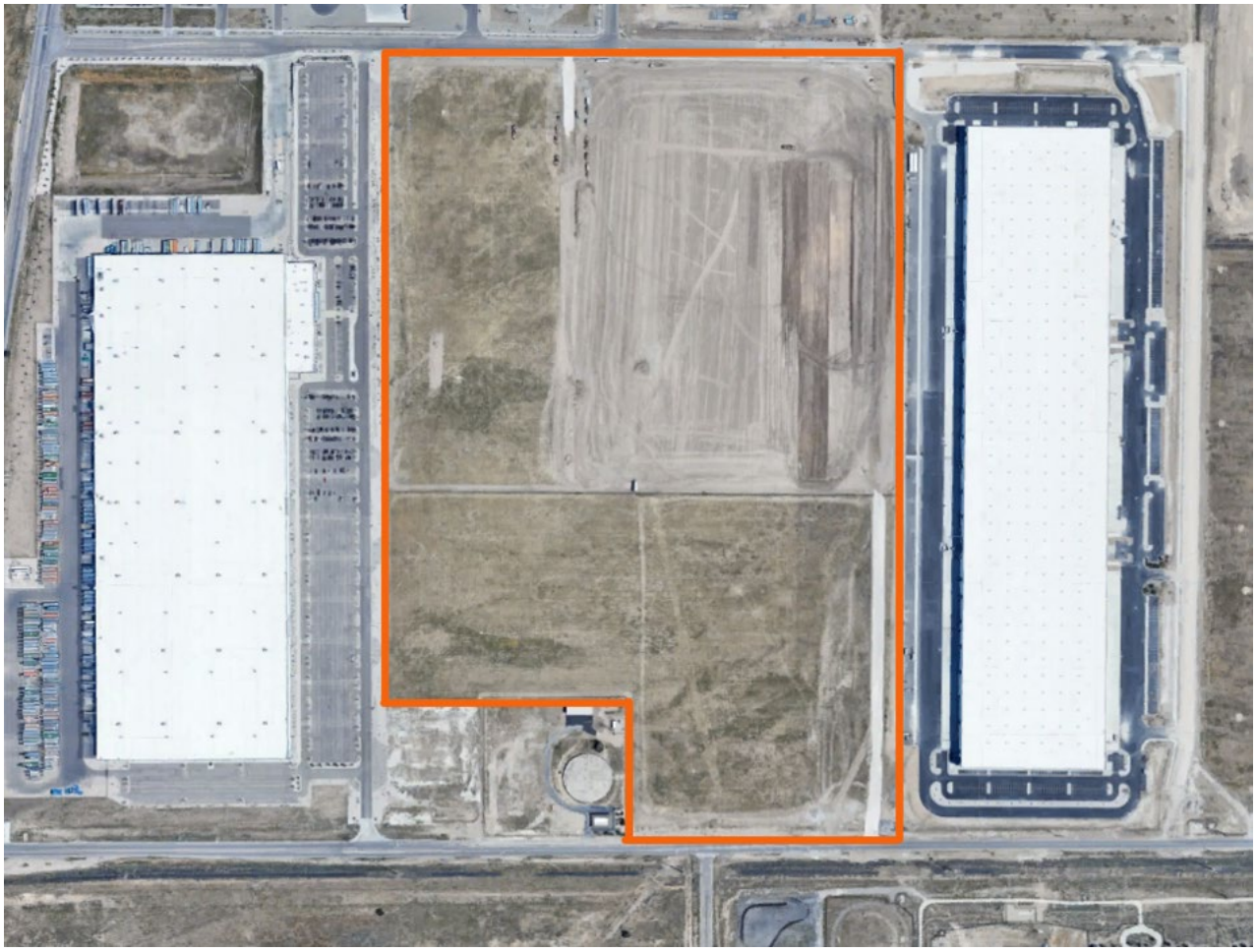
Cat 3516E Generator Scenario

- 112 3 MW CAT 3516E diesel-fired emergency line-up generators;
- Seven 1 MW CAT C32 diesel-fired emergency house generators; and
- 12 natural gas-fired turbines.

1.3 Plant Layout

The West Jordan Data Center location is shown in Figure 1-1, below.

Figure 1-1. West Jordan Data Center General Location



2. AIR DISPERSION MODELING DESCRIPTION

This section describes the air dispersion modeling analysis performed to estimate the ambient air impacts of Aligned's proposed operation of the West Jordan Data Center. All modeling results were compared to the NO_2 NAAQS for the 1-hour and annual averaging period, and the PM_{10} NAAQS for the 24-hour averaging period. The objective of the NAAQS analysis is to demonstrate, through air quality dispersion modeling, that emissions from a facility do not cause or contribute to an exceedance of the 1-hour/annual NO_2 NAAQS. Air dispersion modeling was conducted in accordance with R307-410-3 and 40 CFR Part 51, Appendix W Guideline on Air Quality Models.

2.1 Model Selection

Near-field dispersion modeling was performed using the latest version of the AERMOD modeling system, version 24142, which is an EPA approved, steady-state Gaussian mathematical plume model. AERMOD is composed of three modular components: AERMAP, the terrain preprocessor that characterizes the terrain and generates source and receptor elevations and surrounding hill height scales; AERMET, the meteorological preprocessor that processes raw surface and upper air meteorological observations for use by AERMOD; and AERMOD, the control module and modeling processor.

2.2 Meteorological Data

Meteorological data used in the dispersion modeling analysis was processed and provided by UDAQ.[1] Data consists of five individual years (2017 through 2021) of National Weather Service (NWS) surface data collected at the Salt Lake City Airport that were then concatenated into a five-year file. Concurrent upper air observations used in AERMET were obtained from the Salt Lake City Airport.

2.3 Terrain Elevations

Terrain elevations for the West Jordan Data Center's sources, receptors and buildings were determined using National Elevation Dataset (NED), the primary elevation data product of the United States Geologic Survey (USGS).[2] NED data are distributed in geographic coordinates in units of decimal degrees, and in conformance with the North American Datum of 1983 (NAD 83). The NED used for this analysis is at a resolution of 1/3 arc-second (about 10 meter) grid spacing. Elevations were converted from the NED grid spacing to the air dispersion model receptor spacing using the AERMOD preprocessor, AERMAP version 18081. All data obtained from the NED files was checked for completeness and spot-checked for accuracy.

2.4 Receptors

A modeling domain was developed for the near-field analyses to encompass the location of the maximum modeled concentration from Aligned's sources. Discrete receptor locations in AERMOD were based on UTM coordinates in the NAD83 datum, Zone 12N. An initial modeling grid extending a minimum of 10.0 kilometers from the West Jordan Data Center was established. The receptor grid was developed to ensure that maximum pollutant concentrations were captured by the model. The boundary is unchanged from previous dispersion modeling.

The model receptors consisted of boundary receptors and gridded receptors with the following spacing:

[1] Email from Dave Prey, UDAQ, November 15, 2024.
[2] NED data obtained at https://viewer.nationalmap.gov/basic/#/ downloaded December, 2024.

- The ambient air boundary was placed at the property line and consists of discrete receptors placed at 25-meter intervals.
- The tight grid contains 50-meter spaced receptors extending to at least 1,000 meters from the center of the West Jordan Data Center.
- The fine grid contains 100-meter spaced receptors extending to at least 2,000 meters from the center of the West Jordan data Center.
- The medium grid contains 500-meter spaced receptors extending to at least 5,000 meters from the center of the West Jordan data Center.
- The coarse grid contains 1000-meter spaced receptors extending to at least 10 kilometers from the center of the West Jordan Data Center.
- Additional receptors were placed on the roads immediately north and south of the West Jordan Data Center at 25-meter intervals.

Figure 2-1 and Figure 2-2 below show the ambient air boundary receptors (shown in purple below) and gridded off-site receptors (yellow). Figure 2-2 does not show the full extent of the coarse-grid receptors, but shows their spacing.

Figure 2-1. Boundary Receptors

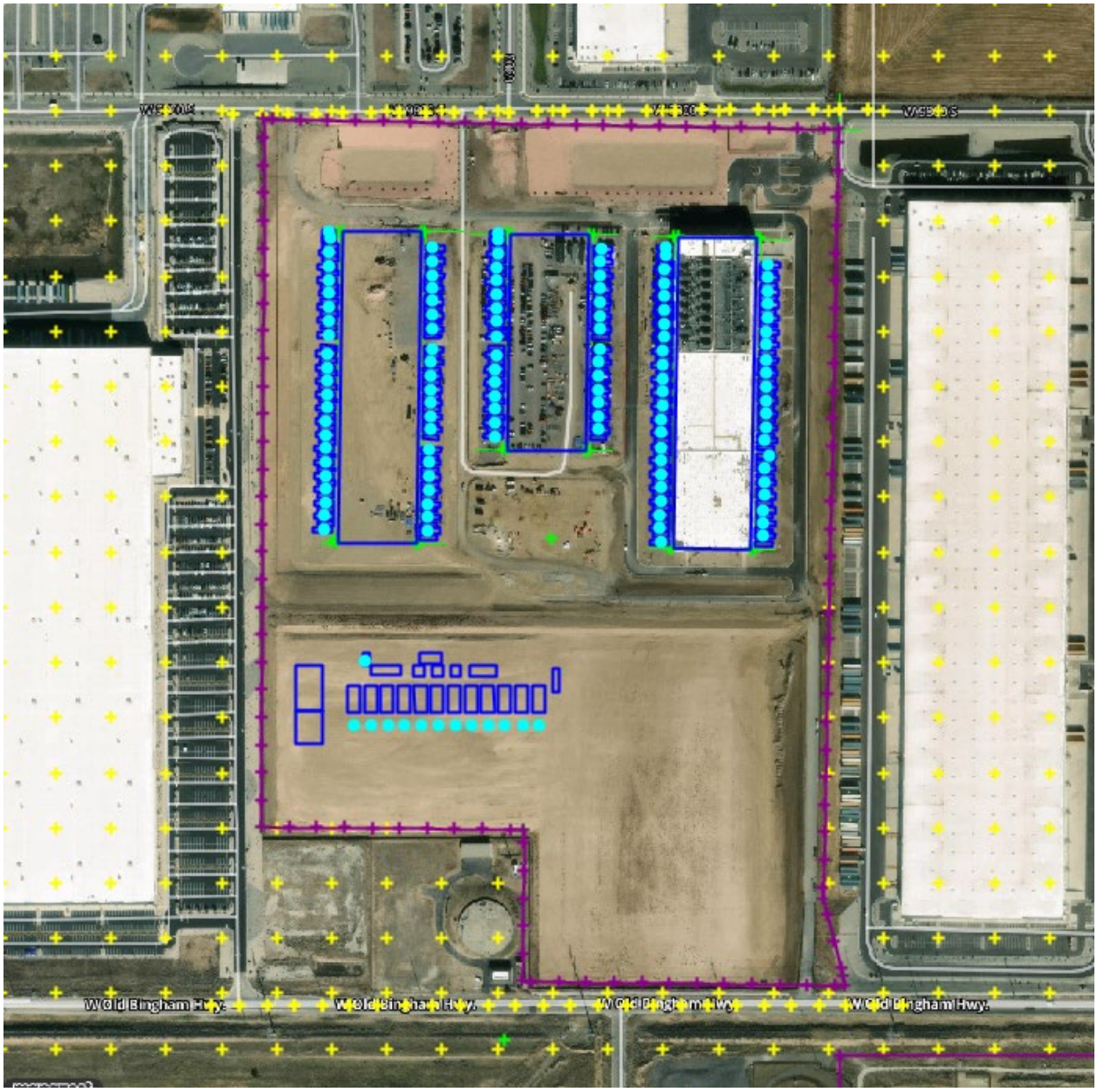
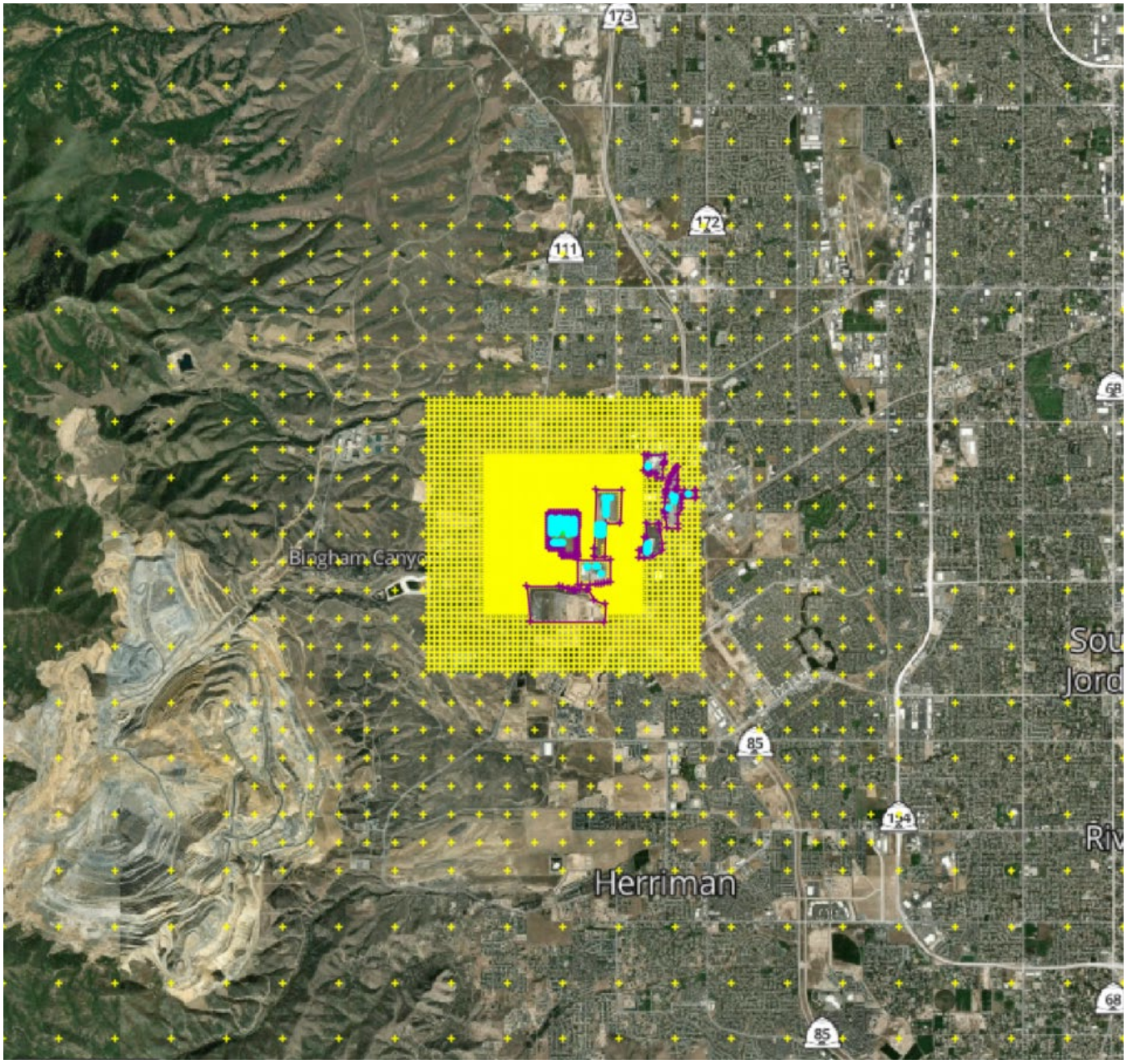


Figure 2-2. Fine, Medium, and Coarse Grid and Boundary Receptors



2.5 UTM Coordinate System

In all modeling analyses, input and output data files, the locations of emission sources, structures, and receptors were represented in the Universal Transverse Mercator (UTM) coordinate system and based on NAD83. In this grid, the world is divided into 60 north-south zones, each covering a strip 6° wide in longitude. The general area of the site is located in UTM Zone 12N. In each UTM zone, coordinates are measured north and east in meters. The northing values are measured continuously from zero at the equator, in a northerly direction. A central meridian through the middle of each 6° zone is assigned an easting value of 500,000 meters. Grid values to the east of this central meridian, as in the case of the site, are greater than 500,000 meters.

2.6 Building Downwash

Emission sources were evaluated in terms of their proximity to nearby structures. The following structures were included for the Building Profile Input Program (BPIP), which predicts the effects of building downwash:

- Three data center buildings;
- 119 generator enclosures;
- 112 uninterrupted power supply (UPS) housings;
- Twelve turbine enclosures;
- Three transformers;
- Three PDC structures;
- One admin building;
- One warehouse and maintenance building; and
- One ammonia storage structure.

These structures are listed in Appendix A with their associated model IDs.

Nearby Polygon Buildings Included in the PM_{10} Model

- TJADMIN
- TJEDL
- BLD_1
- BLD_2
- BLD_4
- BLD_5
- BLD_6MT
- BLD_6T2
- BLD_6T3
- BLD_7
- BLD_8
- BLD_9
- BLD_10T1
- BLD_10T2

3. NO_2 SOURCE PARAMETERS AND EMISSION RATES

3.1 NO_2 Point Source Parameters and Emission Rates

All diesel-fired emergency generators and natural gas-fired turbines were modeled as uncapped point sources. Each emergency generator and natural gas-fired turbine is equipped with several high efficiency control technologies. All point sources require release height, stack temperature, stack velocity, and stack diameter. This section explains the methodology to obtain the modeling parameters required for point sources. All inputs for stack source parameters can be seen in Appendix A of this modeling analysis.

3.1.1 Combustion Equipment Modeling Parameters and Emission Rates

The modeled point sources of NO_2 at the West Jordan Data Center consist of the equipment and their release parameters as seen in Table 3-1. Stack information was taken from on-site equipment or manufacturers' guarantees.

Table 3-1. Release Parameters for NO_2 Point Sources

Unit	Make	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
Diesel-Fired Emergency Generators	CAT C175-16	9.75	717.26	30.08	0.71
	CAT 3516E	9.75	756.43	27.09	0.71
	CAT C32	9.75	734.32	8.59	0.71
Natural Gas- Fired Turbines	Titan Solar 130	15.24	709.49	23.37	2.74

3.1.2 Combustion Equipment Operating Parameters

3.1.2.1 Natural Gas-Fired Turbines

All natural gas-fired turbines have been modeled as operating 24 hours per day, 7 days a week, 52 weeks a year in all modeled scenarios.

3.1.2.2 Diesel-Fired Emergency Generators

Outside of emergency situations, the diesel-fired emergency generators will only operate for testing and maintenance purposes. Aligned has evaluated various operating scenarios in which operating and maintenance may be conducted on the diesel-fired generators. Aligned has determined groupings of diesel-fired emergency generators to be operated concurrently for operating and maintenance purposes. Table 3-2 outlines these groupings. The groups were applied to both the generator scenarios described in Section 1.2. Operating scenarios are reflected in the corresponding modeling files submitted with this report. Additionally, all diesel-fired emergency generators were conservatively modeled to operate together any time between 6 AM and 6 PM.

Table 3-2. Diesel-Fired Emergency Generator Operating Groups

Source Group	Source 1	Source 2	Source 3
HG1	SLC05HG1	SLC06HG1	SLC07HG1
HG2	SLC05HG2	SLC06HG2	SLC07HG2
G1	SLC0501	SLC0701	SLC0601
G2	SLC0502	SLC0702	SLC0602
G3	SLC0503	SLC0703	SLC0603
G4	SLC0504	SLC0704	SLC0604
G5	SLC0505	SLC0705	SLC0605
G6	SLC0506	SLC0706	SLC0606
G7	SLC0507	SLC0707	SLC0607
G8	SLC0508	SLC0708	SLC0608
G9	SLC0509	SLC0709	SLC0609
G10	SLC0510	SLC0710	SLC0610
G11	SLC0511	SLC0711	SLC0611
G12	SLC0512	SLC0712	SLC0612
G13	SLC0513	SLC0713	SLC0613
G14	SLC0514	SLC0714	SLC0614
G15	SLC0515	SLC0715	SLC0615
G16	SLC0516	SLC0716	SLC0616
G17	SLC0517	SLC0717	SLC0617
G18	SLC0518	SLC0718	SLC0618
G19	SLC0519	SLC0719	SLC0619
G20	SLC0520	SLC0720	SLC0620
G21	SLC0521	SLC0721	SLC0621
G22	SLC0522	SLC0722	SLC0622
G23	SLC0523	SLC0723	SLC0623
G24	SLC0524	SLC0724	SLC0624
G25	SLC0525	SLC0725	SLC0625
G26	SLC0526	SLC0726	SLC0626
G27	SLC0527	SLC0727	SLC0627
G28	SLC0528	SLC0728	SLC0628
G29	SLC0529	SLC0729	
G30	SLC0530	SLC0730	
G31	SLC0531	SLC0731	
G32	SLC0532	SLC0732	
G33	SLC0533	SLC0733	
G34	SLC0534	SLC0734	
G35	SLC0535	SLC0735	
G36	SLC0536	SLC0736	
G37	SLC0537	SLC0737	

Source Group	Source 1	Source 2	Source 3
G38	SLC0538	SLC0738	
G39	SLC0539	SLC0739	
G40	SLC0540	SLC0740	
G41	SLC0541	SLC0741	
G42	SLC0542	SLC0742	
G43	SLC07HG3		

3.2 Nearby NO_2 Sources - Emission Rates

Nearby NO_2 sources included in models of the West Jordan Data Center consist of the following, as received from UDAQ:[3]

Nearby Point Source IDs

- GENN01
- GENN02
- GENN03
- GENN04
- GENN05
- GENN06
- GENN07
- GENN08
- GENN09
- GENN10
- GENN11
- GENN12
- GENN13
- GENN14
- GENN15
- GENN16
- GENN17
- GENN18
- GENN19
- GENN20
- GENN21
- GENN22
- GENN23
- GENN24
- GENN25
- GENN26
- GENN27
- GENN28
- GENN29
- GENN30
- GENN31
- GENN32
- GENN33
- GENN34
- GENN35
- GENN36
- OFFICE
- P3NP01
- P3NP02
- P3NP03
- P3NP04
- P3NP05
- P3NP06
- P3NP07
- P3NP08
- P3NP09
- P3NP10
- P3NP11
- P3NP12
- P3NP13
- P3NP14
- P3NP15
- P3NP16
- P3NP17
- P3NP18
- P2NP01
- P2NP02
- P2NP03
- P2NP04
- P2NP05
- P2NP06
- P2NP07
- P2NP08
- P2NP09
- P2NP10
- P2NP11
- P2NP12
- P2NP13
- P2NP14
- P2NP15
- P2NP16
- P2NP17
- P2NP18
- P4NP01
- P4NP02
- P4NP03
- P4NP04
- P4NP05
- P4NP06
- P4NP07
- P4NP08
- P4NP09
- P4NP10
- P4NP11
- P4NP12
- P4NP13
- P4NP14
- P4NP15
- P4NP16
- P4NP17
- P4NP18
- P5NP01
- P5NP02
- P5NP03
- P5NP04
- P5NP05
- P5NP06
- P5NP07
- P5NP08
- P5NP09
- P5NP10
- P5NP11
- P5NP12
- P5NP13
- P5NP14
- P5NP15
- P5NP16
- P5NP17
- P5NP18
- SLC1_G02
- SLC1_G03
- SLC1_G04
- SLC1_G05
- SLC2_G14
- HEATEXCH
- BOILER4
- SLC3_G30
- SLC3_G32
- STCK1
- STCK2
- STCK3
- STCK4
- STCK5
- STCK6
- STCK7
- STCK8
- STCK9
- STCK10
- STCK11
- STCK12
- STCK1NL
- STCK2NL
- STCK3NL
- STCK4NL
- STCK5NL
- STCK6NL
- STCK7NL
- STCK8NL
- STCK9NL
- STCK10NL
- STCK11NL
- STCK12NL
- GEN
- PLASMA96
- PLASMA60
- FICEP
- ROBOT
- PLASMA20
- OA_FPUMP

[3] Email from Dave Prey, UDAQ, November 15, 2024.

Nearby Capped Point Source IDs

- BOIL1

Nearby Volume Source IDs

- WELDING

4. PM_{10} SOURCE PARAMETERS AND EMISSION RATES

4.1 PM_{10} Point Source Parameters and Emission Rates

All diesel-fired emergency generators and natural gas-fired turbines were modeled as uncapped point sources. All point sources require release height, stack temperature, stack velocity, and stack diameter. This section explains the methodology to obtain the modeling parameters required for point sources. All inputs for stack source parameters can be seen in Appendix A of this modeling analysis.

4.1.1 Combustion Equipment Modeling Parameters and Emission Rates

The modeled point sources of PM_{10} at the West Jordan Data Center consist of the same equipment and associated release parameters as detailed in Section 3.1.1 of this report.

4.1.2 Combustion Equipment Operating Parameters

4.1.2.1 Natural Gas-Fired Turbines

All natural gas-fired turbines have been modeled as operating 24 hours per day, 7 days a week, 52 weeks a year in each operating scenario. This is consistent with the operating parameters detailed in Section 3.1.2.1 of this report.

4.1.2.2 Diesel-Fired Emergency Generators

The diesel-fired emergency generators will operate between the hours of 6 AM to 6 PM, as outlined in Section 3.1.2.2 of this report. However, as demonstrated in Appendix Tables A-4 and A-5 of Appendix A, the PM_{10} model meets the NAAQS without grouping the diesel-fired emergency generators into operating groups. Therefore, modeling the individual groupings of the diesel-fired emergency generators as described in Section 3.1.2 of this report, was not required.

4.2 Nearby PM_{10} Sources

Nearby PM_{10} sources included in models of the West Jordan Data Center consist of the following, as received from UDAQ:[4]

Nearby Point Source IDs

- GEN1
- GEN2
- GEN3
- GENSET
- FLARE1
- KILN3
- KILN4
- L3BH
- L4BH
- CRUSHER

[4] Email from Dave Prey, UDAQ, November 15, 2024.

Nearby Polygon Area

- FUGITIVE

5. NO_2 MODELING ANALYSIS

The NO_2 modeling analysis predicts ambient concentrations of NO_2 due to emissions from the West Jordan Data Center. The modeling output includes tabulated modeling results as compared to the NO_2 1-hour and annual NAAQS.

5.1 NO_2 Special Processing

The majority of the emissions of NO_X from air emission sources are in the form of nitric oxide (NO), whereas EPA has established a NAAQS for NO_2. EPA's "Guideline on Air Quality Models" describes a three-tiered screening approach to calculating NO_2 concentrations based on dispersion model predictions of NO_X concentrations.

The three tiers, arranged in order from simplest to most refined, are:

- Tier 1 – Assume full conversion of NO to NO_2, so that the NO_X predicted by AERMOD is 100% NO_2.
- Tier 2 – Ambient Ratio Method (ARM), where model predicted NO_X concentrations are multiplied by a NO_2/NO_X ambient ratio, derived from ambient monitoring data.
- Tier 3 – More detailed methods that account for the plume dispersion and chemistry may be considered on a case-by-case basis, including the Ozone Limiting Method (OLM) and the Plume Volume Molar Ratio Method (PVMRM).

For the NAAQS modeling of the West Jordan Data Center, a Tier 3 methodology utilizing OLM was used for the assessment of NO_2 impacts.

5.2 Background NO_2 Concentrations

Background concentrations for NO_2 for this modeling analysis were given by UDAQ from their Herriman Monitoring station.[5] The background data consists of design values calculated from data monitored from 2019-2021. The value used in the modeling analysis is the three-year average, high-third-high (H3H) of seasonal 1-hour NO_2 background. The background concentrations for NO_2 are presented in Table 5-1 below.

[5] Email from Dave Prey, UDAQ, November 15, 2024.

Table 5-1. UDAQ-Provided NO_2 Background Concentrations, H3H Seasonal 1-hour

Hour	3 Year Average (ppb)			
	Winter	Spring	Summer	Fall
1:00	26.467	13.233	9.5	12.467
2:00	24.133	12.833	10.3	11.5
3:00	23.4	12.633	10.133	11.933
4:00	21.3	12.233	9.3	10.667
5:00	21.867	10.6	8.333	10.1
6:00	23.367	14.3	10.267	13.567
7:00	24.767	17.467	11.4	17.433
8:00	28.267	18.1	10.833	19.6
9:00	25.967	15.667	8.9	16.467
10:00	22.2	12.333	6.967	12.5
11:00	20.167	8.867	5.967	9.967
12:00	20	8.8	5.367	9.233
13:00	20.333	7.4	4.433	8.033
14:00	19.433	6.467	3.733	7.533
15:00	20.333	7.133	3.567	8.5
16:00	21.8	7	3.7	11.267
17:00	24.767	6.633	3.267	13.267
18:00	33.567	7.5	3.9	15.833
19:00	33.1	7.633	4.8	16.567
20:00	32.367	9	7.5	13.433
21:00	30.567	9.833	7.267	13.967
22:00	28.267	11.633	8.567	14.633
23:00	27.333	11.6	12.9	17.067
24:00	27	12.167	11.533	13.233

5.3 Background Ozone Concentrations

Background concentrations of ozone in the Nephi area were given by UDAQ from their Herriman Monitoring station.[6] The background data consists of design values calculated from data monitored from 2019-2021. The value used in the modeling analysis is the three-year average, H3H of seasonal 1-hour ozone background. The background concentrations for ozone are presented in Table 5-2 below.

[6] Email from Dave Prey, UDAQ, November 15, 2024.

Table 5-2. UDAQ-Provided Ozone Background Concentrations, H3H Seasonal 1-hour

Hour	3 Year Average (ppm)			
	Winter	Spring	Summer	Fall
1.00	0.046	0.059	0.068	0.058
2:00	0.047	0.059	0.067	0.056
3:00	0.047	0.06	0.066	0.058
4:00	0.046	0.059	0.067	0.056
5:00	0.046	0.058	0.066	0.052
6:00	0.046	0.057	0.065	0.051
7:00	0.046	0.057	0.063	0.053
8:00	0.047	0.057	0.062	0.054
9:00	0.047	0.057	0.067	0.053
10:00	0.047	0.059	0.069	0.057
11:00	0.047	0.059	0.07	0.061
12:00	0.048	0.06	0.076	0.063
13:00	0.049	0.061	0.083	0.07
14:00	0.049	0.063	0.086	0.074
15:00	0.049	0.065	0.089	0.076
16:00	0.049	0.068	0.095	0.077
17:00	0.048	0.068	0.095	0.08
18:00	0.047	0.069	0.091	0.083
19:00	0.047	0.066	0.083	0.072
20:00	0.046	0.062	0.075	0.061
21:00	0.048	0.062	0.072	0.064
22:00	0.047	0.06	0.069	0.06
23:00	0.047	0.059	0.069	0.058
24:00	0.047	0.06	0.07	0.06

5.4 Modeled NO_2 Concentration

The resulting concentrations of 1-hour and annual NO_2 from this air dispersion modeling analysis were compared against the NO_2 1-hour and annual NAAQS to demonstrate that emissions from the West Jordan Data Center do not cause or contribute to an exceedance of the NO_2 1-hour and annual NAAQS. The primary NAAQS is the maximum concentration ceiling, measured in terms of total concentration of a pollutant in the atmosphere, which is defined as the "level of air quality which the U.S. EPA judges are necessary, with an adequate margin of safety, to protect the public health."[7] The 1-hour NO_2 NAAQS requires the 8th highest concentration over the five modeled years to be compared to the standard. The annual NO_2 NAAQS requires that the 1st highest high concentration over the five modeled years be compared to the standard. The modeled concentration was added to the background concentrations for comparison to the NAAQS. This calculation was completed based on results from the AERMOD modeling system.

[7] 40 CFR 50.2(b).

5.5 NO_2 NAAQS Analysis Results

A NAAQS analysis considers the impact from the sources at the West Jordan Data Center, nearby sources, and background concentrations to yield a total concentration which is then compared to the NAAQS which, for 1-hour and annual NO_2, is 188 and 100 µg/m^3, respectively. Appendix Tables A-1 and A-2 in Appendix A present the model-predicted concentrations from the West Jordan Data Center, nearby sources, and background concentrations for both the generator scenarios, according to the operating scenarios given in Section 3.1.2. These concentrations are compared to the 1-hour and annual NO_2 NAAQS.

In addition to this report, Aligned is providing the AERMOD Input and Output files for UDAQ's review. These will be submitted separately.

5.6 NO_2 Mitsubishi Method Analysis Results

For the 1-hour NO_2 modeling, the "Mitsubishi Method" was employed to demonstrate compliance at on-property receptors for nearby facilities, located to the north, east, and south of the West Jordan Data Center:[8]

Specifically, for one nearby facility at a time, the West Jordan Data Center and the other nearby facilities were modeled to obtain total concentrations at receptors located on the property of the nearby facility in question. For these models, the sources from the nearby facility in question were turned off within the model (i.e., for this subset of receptors, a separate model was executed with all nearby sources, excluding the sources from the nearby facility in question). This process was completed for the highest emitting source group from both generator scenarios for each nearby facility. The modeled concentrations from the NO_2 Mitsubishi Method analysis are provided in Appendix Table A-3 for reference.

[8] U.S. EPA Memorandum from Robert D. Bauman (Chief SO2/Particulate Matter Programs Branch) to Gerald Fontenot (Chief Air Programs Branch, Region VI), *Ambient Air,* October 17, 1989.

6. PM_{10} MODELING ANALYSIS

The modeling analysis predicts ambient concentrations of PM_{10} due to emissions from the West Jordan Data Center. The modeling output includes tabulated modeling results as compared to the PM_{10} 24-hour NAAQS.

6.1 Background PM_{10} Concentrations

Background concentrations for PM_{10} for this modeling analysis were given by UDAQ from their Herriman monitoring station.[9] The background data consists of monthly tabulated maximums of 24-hour PM_{10} for the years 2021-2023. The value used in the modeling analysis is the highest first high (H1H) monthly 24-hour value, except for data outliers, as determined by UDAQ. The background concentrations used for the modeling are presented in Table 6-1 below.

Table 6-1. UDAQ-Provided 24-hour PM_{10} Background Concentrations ($\mu g/m^3$)

Year	2021	2022	2023	3 Year
Month	Max	Max	Max	Adj H2H
1	39	48	19	48
2	39	35	48	48
3	62	37	25	62
4	64	79	53	79
5	68	73	36	73
6	58	51	59	59
7	63	47	53	63
8	91	65	78	91
9	87	99	60	99
10	26	52	39	52
11	38	64	51	64
12	41	42	38	42

6.2 Modeled PM_{10} Concentration

The resulting concentration of PM_{10} from this air dispersion modeling analysis was compared against the PM_{10} NAAQS to demonstrate that emissions from the West Jordan Data Center do not cause or contribute to an exceedance of the PM_{10} NAAQS. The primary NAAQS is the maximum concentration ceiling, measured in terms of total concentration of a pollutant in the atmosphere, which define the "level of air quality which the U.S. EPA judges are necessary, with an adequate margin of safety, to protect the public health."[10] The 24-hour PM_{10} NAAQS requires the 6th highest concentration over the five modeled years be compared to the standard. The modeled concentration was added to the monthly background concentrations for comparison to the NAAQS. This calculation was completed within the AERMOD modeling system.

[9] Email from Dave Prey, UDAQ, February 12, 2025.
[10] 40 CFR 50.2(b).

6.3 PM_{10} NAAQS Analysis Results

A NAAQS analysis considers the impact from all sources at the Facility West Jordan Data Center and background concentrations to yield a total concentration which is then compared to the NAAQS which, for 24-hour PM_{10}, is 150 µg/m^3. Appendix Tables A-4 and A-5 in Appendix A present the model-predicted concentrations from the West Jordan Data Center, nearby sources, and background concentrations for both generator scenarios, according to the operating scenarios given in Section 4.1.2.

In addition to this report, Aligned is providing the AERMOD Input and Output files for UDAQ's review. These will be submitted separately.

6.4 PM_{10} Mitsubishi Method Analysis Results

For the 24-hour PM_{10} modeling, the "Mitsubishi Method" was employed to demonstrate compliance at on-property receptors for nearby facilities, located to the north, east, and south of the West Jordan Data Center:[11]

Specifically, for one nearby facility at a time, the West Jordan Data Center and the other nearby facilities were modeled to obtain total concentrations at receptors located on the property of the nearby facility in question. For these models, the sources from the nearby facility in question were turned off within the model (i.e., for this subset of receptors, a separate model was executed with all nearby sources, excluding the sources from the nearby facility in question). As discussed in Section 4.1.2.2, the PM_{10} model meets the NAAQS without grouping the diesel-fired emergency generators into operating groups. Therefore, all PM_{10} sources were operated together for the Mitsubishi Method modeling analysis. The modeled concentrations from the PM_{10} Mitsubishi Method analysis are provided in Appendix Table A-6 for reference.

[11] U.S. EPA Memorandum from Robert D. Bauman (Chief SO_2/Particulate Matter Programs Branch) to Gerald Fontenot (Chief Air Programs Branch, Region VI), *Ambient Air,* October 17, 1989.

APPENDIX A. MODELING PARAMETERS, EMISSION RATES, AND BUILDINGS

Table A-1. NO_2 NAAQS Compliance Demonstration - CAT C3516E Engine Option Scenario

Source Group	Avg. Period	Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
G1	Annual	38.67	100	39%
G1	1-HR	143.20	188	76%
G2	Annual	38.65	100	39%
G2	1-HR	143.20	188	76%
G3	Annual	38.65	100	39%
G3	1-HR	143.20	188	76%
G4	Annual	38.64	100	39%
G4	1-HR	143.20	188	76%
G5	Annual	38.63	100	39%
G5	1-HR	143.20	188	76%
G6	Annual	38.63	100	39%
G6	1-HR	143.20	188	76%
G7	Annual	38.62	100	39%
G7	1-HR	143.20	188	76%
G8	Annual	38.62	100	39%
G8	1-HR	143.20	188	76%
G9	Annual	38.62	100	39%
G9	1-HR	143.20	188	76%
G10	Annual	38.62	100	39%
G10	1-HR	143.20	188	76%
G11	Annual	38.62	100	39%
G11	1-HR	143.20	188	76%
G12	Annual	38.62	100	39%
G12	1-HR	143.20	188	76%
G13	Annual	38.62	100	39%
G13	1-HR	143.20	188	76%
G14	Annual	38.62	100	39%
G14	1-HR	143.20	188	76%
G15	Annual	38.56	100	39%
G15	1-HR	143.20	188	76%
G16	Annual	38.55	100	39%
G16	1-HR	143.20	188	76%
G17	Annual	38.54	100	39%
G17	1-HR	143.20	188	76%
G18	Annual	38.53	100	39%
G18	1-HR	143.20	188	76%
G19	Annual	38.52	100	39%
G19	1-HR	143.20	188	76%
G20	Annual	38.51	100	39%
G20	1-HR	143.20	188	76%
G21	Annual	38.51	100	39%
G21	1-HR	143.20	188	76%
G22	Annual	38.54	100	39%
G22	1-HR	143.20	188	76%
G23	Annual	38.55	100	39%
G23	1-HR	143.20	188	76%

Source Group	Avg. Period	Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
G24	Annual	38.55	100	39%
G24	1-HR	143.20	188	76%
G25	Annual	38.55	100	39%
G25	1-HR	143.20	188	76%
G26	Annual	38.55	100	39%
G26	1-HR	143.20	188	76%
G27	Annual	38.56	100	39%
G27	1-HR	143.20	188	76%
G28	Annual	38.56	100	39%
G28	1-HR	143.20	188	76%
G29	Annual	38.47	100	38%
G29	1-HR	143.20	188	76%
G30	Annual	38.48	100	38%
G30	1-HR	143.20	188	76%
G31	Annual	38.49	100	38%
G31	1-HR	143.20	188	76%
G32	Annual	38.50	100	38%
G32	1-HR	143.20	188	76%
G33	Annual	38.51	100	39%
G33	1-HR	143.20	188	76%
G34	Annual	38.52	100	39%
G34	1-HR	143.20	188	76%
G35	Annual	38.53	100	39%
G35	1-HR	143.20	188	76%
G36	Annual	38.55	100	39%
G36	1-HR	143.20	188	76%
G37	Annual	38.56	100	39%
G37	1-HR	143.20	188	76%
G38	Annual	38.58	100	39%
G38	1-HR	143.20	188	76%
G39	Annual	38.60	100	39%
G39	1-HR	143.20	188	76%
G40	Annual	38.62	100	39%
G40	1-HR	143.20	188	76%
G41	Annual	38.64	100	39%
G41	1-HR	143.20	188	76%
G42	Annual	39.07	100	39%
G42	1-HR	143.20	188	76%
G43	Annual	38.22	100	38%
G43	1-HR	143.20	188	76%
HG1	Annual	38.44	100	38%
HG1	1-HR	143.20	188	76%
HG2	Annual	38.44	100	38%
HG2	1-HR	143.20	188	76%

1. The diesel-fired generator engines in each group will operate between 7 AM – 7 PM.
2. Each source group is incorporated within the corresponding air dispersion model files submitted with this report.
3. The 1-hour averaging period H8H is compared to the NAAQS. The annual averaging period H1H is compared to the NAAQS.

Table A-2. NO_2 NAAQS Compliance Demonstration - CAT C175-16 Engine Option Scenario

Source Group	Avg. Period	Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
G1	Annual	38.97	100	39%
G1	1-HR	148.91	188	79%
G2	Annual	38.94	100	39%
G2	1-HR	147.81	188	79%
G3	Annual	38.92	100	39%
G3	1-HR	147.69	188	79%
G4	Annual	38.90	100	39%
G4	1-HR	146.92	188	78%
G5	Annual	38.88	100	39%
G5	1-HR	143.41	188	76%
G6	Annual	38.86	100	39%
G6	1-HR	143.61	188	76%
G7	Annual	38.85	100	39%
G7	1-HR	143.52	188	76%
G8	Annual	38.85	100	39%
G8	1-HR	143.52	188	76%
G9	Annual	38.86	100	39%
G9	1-HR	146.78	188	78%
G10	Annual	38.86	100	39%
G10	1-HR	148.95	188	79%
G11	Annual	38.87	100	39%
G11	1-HR	147.69	188	79%
G12	Annual	38.88	100	39%
G12	1-HR	145.76	188	78%
G13	Annual	38.92	100	39%
G13	1-HR	144.72	188	77%
G14	Annual	38.96	100	39%
G14	1-HR	144.27	188	77%
G15	Annual	38.93	100	39%
G15	1-HR	149.96	188	80%
G16	Annual	38.91	100	39%
G16	1-HR	148.32	188	79%
G17	Annual	38.89	100	39%
G17	1-HR	150.47	188	80%
G18	Annual	38.87	100	39%
G18	1-HR	150.14	188	80%
G19	Annual	38.84	100	39%
G19	1-HR	149.04	188	79%
G20	Annual	38.82	100	39%
G20	1-HR	146.84	188	78%
G21	Annual	38.79	100	39%
G21	1-HR	143.57	188	76%
G22	Annual	38.82	100	39%
G22	1-HR	143.27	188	76%
G23	Annual	38.81	100	39%
G23	1-HR	143.38	188	76%

Source Group	Avg. Period	Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
G24	Annual	38.80	100	39%
G24	1-HR	143.57	188	76%
G25	Annual	38.80	100	39%
G25	1-HR	144.36	188	77%
G26	Annual	38.80	100	39%
G26	1-HR	146.24	188	78%
G27	Annual	38.81	100	39%
G27	1-HR	147.63	188	79%
G28	Annual	38.81	100	39%
G28	1-HR	148.53	188	79%
G29	Annual	38.68	100	39%
G29	1-HR	143.56	188	76%
G30	Annual	38.69	100	39%
G30	1-HR	145.06	188	77%
G31	Annual	38.70	100	39%
G31	1-HR	145.20	188	77%
G32	Annual	38.71	100	39%
G32	1-HR	146.70	188	78%
G33	Annual	38.70	100	39%
G33	1-HR	146.33	188	78%
G34	Annual	38.70	100	39%
G34	1-HR	145.68	188	77%
G35	Annual	38.71	100	39%
G35	1-HR	146.62	188	78%
G36	Annual	38.75	100	39%
G36	1-HR	144.99	188	77%
G37	Annual	38.79	100	39%
G37	1-HR	144.58	188	77%
G38	Annual	38.85	100	39%
G38	1-HR	143.20	188	76%
G39	Annual	38.90	100	39%
G39	1-HR	143.23	188	76%
G40	Annual	38.96	100	39%
G40	1-HR	143.23	188	76%
G41	Annual	39.01	100	39%
G41	1-HR	143.20	188	76%
G42	Annual	39.07	100	39%
G42	1-HR	143.20	188	76%
G43	Annual	38.22	100	38%
G43	1-HR	143.20	188	76%
HG1	Annual	38.58	100	39%
HG1	1-HR	143.20	188	76%
HG2	Annual	38.60	100	39%
HG2	1-HR	143.20	188	76%

1. The diesel-fired generator engines in each group will operate between 7 AM – 7 PM.
2. Each source group is incorporated within the corresponding air dispersion model files submitted with this report.
3. The 1-hour averaging period H8H is compared to the NAAQS. The annual averaging period H1H is compared to the NAAQS.

Table A-3. Mitsubishi Method NO_2 NAAQS Compliance Demonstration

Nearby Source[1]	Source Group[2]	Engine Option	Averaging Period	NAAQS (µg/m^3)	Max Model-Predicted Concentration (µg/m3)	Percent of NAAQS (%)[3]
PLBN1	G17	C175-16	1-HR	188	150.47	80.04
			Annual	100	37.11	37.11
	HG1	C3516E	1-HR	188	137.75	73.27
			Annual	100	33.05	33.05
SWK	G17	C175-16	1-HR	188	150.47	80.04
			Annual	100	37.09	37.09
	HG1	C3516E	1-HR	188	137.75	73.27
			Annual	100	33.04	33.04
Oracle	G17	C175-16	1-HR	188	137.76	73.27
			Annual	100	33.03	33.03
	HG1	C3516E	1-HR	188	137.76	73.27
			Annual	100	32.95	32.95
eBay	G17	C175-16	1-HR	188	150.47	80.04
			Annual	100	37.08	37.08
	HG1	C3516E	1-HR	188	137.76	73.28
			Annual	100	32.98	32.98
TJL	G17	C175-16	1-HR	188	150.47	80.04
			Annual	100	37.12	37.12
	HG1	C3516E	1-HR	188	137.76	73.28
			Annual	100	33.08	33.08
Novva	G17	C175-16	1-HR	188	150.46	80.03
			Annual	100	36.73	36.73
	HG1	C3516E	1-HR	188	128.74	68.48
			Annual	100	31.67	31.67

1. Aligned's diesel-fired generator engines will operate between 7 AM to 7 PM.

2. Each source group is incorporated within the corresponding air dispersion model files submitted with this report.

3. The 1-hour averaging period H8H is compared to the NAAQS. The annual averaging period H1H is compared to the NAAQS.

Table A-4. PM_{10} NAAQS Compliance Demonstration - CAT 3516E Engine Option Scenario

Source Group[1]	Pollutant	Averaging Period	Model-Predicted H6H Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS[2]
ALL	PM_{10}	24-hour	126.33	150	84%

1. Diesel-fired emergency generators will operate between the hours of 7 AM to 7 PM.

2. The 24-hour averaging period H6H is compared to the NAAQS.

Table A-5. PM_{10} NAAQS Compliance Demonstration - CAT C175-16 Engine Option Scenario

Source Group[1]	Pollutant	Averaging Period	Model-Predicted H6H Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS[2]
ALL	PM_{10}	24-hour	117.55	150	78%

1. Diesel-fired emergency generators will operate between the hours of 7 AM to 7 PM.

2. The 24-hour averaging period H6H is compared to the NAAQS.

Table A-6. Mitsubishi Method PM_{10} NAAQS Compliance Demonstration

Nearby Source[1]	Source Group	Engine Option	Averaging Period	NAAQS ($\mu g/m^3$)	Model-Predicted H6H Concentration ($\mu g/m^3$)	Percent of NAAQS (%)[2]
TRANSJORD	ALL	C175-16	24-HR	150	113.34	75.56
		C3516E	24-HR		126.67	84.45
INTBRICK	ALL	C175-16	24-HR		115.58	77.05
		C3516E	24-HR		126.67	84.45

1. Aligned's diesel-fired generator engines will operate between 7 AM to 7 PM.

2. The 24-hour averaging period H6H is compared to the NAAQS.

Table A-7. CAT C3516E Engine Option Scenario - NO_2 Uncapped Point Source Input Parameters

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC05HG1	C32	410802.8	4491794.0	1552.32	0.5226	9.75	734.32	8.59	0.7122
SLC0501	C3516E	410802.7	4491781.9	1552.62	1.7983	9.75	756.43	27.09	0.7122
SLC0502	C3516E	410802.2	4491768.8	1552.81	1.7983	9.75	756.43	27.09	0.7122
SLC0503	C3516E	410801.7	4491757.0	1552.96	1.7983	9.75	756.43	27.09	0.7122
SLC0504	C3516E	410802.2	4491745.0	1553.12	1.7983	9.75	756.43	27.09	0.7122
SLC0505	C3516E	410802.1	4491732.2	1553.27	1.7983	9.75	756.43	27.09	0.7122
SLC0506	C3516E	410801.5	4491720.1	1553.33	1.7983	9.75	756.43	27.09	0.7122
SLC0507	C3516E	410801.1	4491707.0	1553.28	1.7983	9.75	756.43	27.09	0.7122
SLC0508	C3516E	410800.5	4491694.2	1553.25	1.7983	9.75	756.43	27.09	0.7122
SLC0509	C3516E	410800.4	4491681.3	1553.27	1.7983	9.75	756.43	27.09	0.7122
SLC0510	C3516E	410800.7	4491670.1	1553.29	1.7983	9.75	756.43	27.09	0.7122
SLC0511	C3516E	410800.3	4491657.3	1553.42	1.7983	9.75	756.43	27.09	0.7122
SLC0512	C3516E	410799.8	4491645.0	1553.58	1.7983	9.75	756.43	27.09	0.7122
SLC0513	C3516E	410799.7	4491633.0	1553.74	1.7983	9.75	756.43	27.09	0.7122
SLC0514	C3516E	410799.4	4491620.1	1553.94	1.7983	9.75	756.43	27.09	0.7122
SLC0515	C3516E	410799.1	4491608.4	1554.16	1.7983	9.75	756.43	27.09	0.7122
SLC0516	C3516E	410799.4	4491595.8	1554.42	1.7983	9.75	756.43	27.09	0.7122
SLC0517	C3516E	410799.0	4491583.5	1554.70	1.7983	9.75	756.43	27.09	0.7122
SLC0518	C3516E	410798.9	4491571.7	1554.87	1.7983	9.75	756.43	27.09	0.7122
SLC0519	C3516E	410798.5	4491558.9	1555.02	1.7983	9.75	756.43	27.09	0.7122
SLC0520	C3516E	410798.1	4491546.9	1555.12	1.7983	9.75	756.43	27.09	0.7122
SLC0521	C3516E	410799.0	4491534.6	1555.21	1.7983	9.75	756.43	27.09	0.7122
SLC0522	C3516E	410891.7	4491539.6	1553.29	1.7983	9.75	756.43	27.09	0.7122
SLC0523	C3516E	410892.0	4491551.1	1553.14	1.7983	9.75	756.43	27.09	0.7122
SLC0524	C3516E	410892.2	4491563.4	1552.94	1.7983	9.75	756.43	27.09	0.7122
SLC0525	C3516E	410892.6	4491576.3	1552.64	1.7983	9.75	756.43	27.09	0.7122
SLC0526	C3516E	410892.6	4491588.0	1552.33	1.7983	9.75	756.43	27.09	0.7122
SLC0527	C3516E	410892.6	4491600.9	1551.94	1.7983	9.75	756.43	27.09	0.7122
SLC0528	C3516E	410896.9	4491612.6	1551.45	1.7983	9.75	756.43	27.09	0.7122
SLC0529	C3516E	410893.4	4491626.4	1551.05	1.7983	9.75	756.43	27.09	0.7122
SLC0530	C3516E	410893.7	4491637.9	1550.75	1.7983	9.75	756.43	27.09	0.7122
SLC0531	C3516E	410893.9	4491650.7	1550.54	1.7983	9.75	756.43	27.09	0.7122
SLC0532	C3516E	410894.3	4491662.5	1550.43	1.7983	9.75	756.43	27.09	0.7122
SLC0533	C3516E	410894.3	4491674.5	1550.34	1.7983	9.75	756.43	27.09	0.7122
SLC0534	C3516E	410894.3	4491687.6	1550.32	1.7983	9.75	756.43	27.09	0.7122
SLC0535	C3516E	410894.8	4491699.4	1550.37	1.7983	9.75	756.43	27.09	0.7122
SLC0536	C3516E	410894.7	4491712.8	1550.48	1.7983	9.75	756.43	27.09	0.7122
SLC0537	C3516E	410895.0	4491724.8	1550.67	1.7983	9.75	756.43	27.09	0.7122
SLC0538	C3516E	410895.2	4491737.4	1550.83	1.7983	9.75	756.43	27.09	0.7122
SLC0539	C3516E	410895.7	4491749.4	1550.80	1.7983	9.75	756.43	27.09	0.7122
SLC0540	C3516E	410895.6	4491761.1	1550.67	1.7983	9.75	756.43	27.09	0.7122
SLC0541	C3516E	410895.7	4491773.7	1550.49	1.7983	9.75	756.43	27.09	0.7122
SLC0542	C3516E	410896.1	4491785.7	1550.30	1.7983	9.75	756.43	27.09	0.7122
SLC07HG1	C32	410499.1	4491809.0	1561.27	0.5226	9.75	734.32	8.59	0.7122
SLC0701	C3516E	410499.0	4491796.9	1561.51	1.7983	9.75	756.43	27.09	0.7122
SLC0702	C3516E	410498.5	4491783.8	1561.80	1.7983	9.75	756.43	27.09	0.7122
SLC0703	C3516E	410498.0	4491772.0	1562.01	1.7983	9.75	756.43	27.09	0.7122
SLC0704	C3516E	410498.5	4491760.0	1562.15	1.7983	9.75	756.43	27.09	0.7122
SLC0705	C3516E	410498.3	4491747.2	1562.34	1.7983	9.75	756.43	27.09	0.7122
SLC0706	C3516E	410497.8	4491735.1	1562.53	1.7983	9.75	756.43	27.09	0.7122
SLC0707	C3516E	410497.8	4491722.0	1562.71	1.7983	9.75	756.43	27.09	0.7122
SLC0708	C3516E	410497.3	4491705.1	1562.96	1.7983	9.75	756.43	27.09	0.7122

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0709	C3516E	410496.6	4491692.2	1563.25	1.7983	9.75	756.43	27.09	0.7122
SLC0710	C3516E	410496.5	4491681.0	1563.47	1.7983	9.75	756.43	27.09	0.7122
SLC0711	C3516E	410496.7	4491668.2	1563.72	1.7983	9.75	756.43	27.09	0.7122
SLC0712	C3516E	410496.4	4491655.9	1564.02	1.7983	9.75	756.43	27.09	0.7122
SLC0713	C3516E	410495.9	4491643.9	1564.28	1.7983	9.75	756.43	27.09	0.7122
SLC0714	C3516E	410495.8	4491631.0	1564.53	1.7983	9.75	756.43	27.09	0.7122
SLC0715	C3516E	410495.5	4491619.3	1564.81	1.7983	9.75	756.43	27.09	0.7122
SLC0716	C3516E	410495.1	4491606.7	1564.98	1.7983	9.75	756.43	27.09	0.7122
SLC0717	C3516E	410495.4	4491594.4	1564.93	1.7983	9.75	756.43	27.09	0.7122
SLC0718	C3516E	410495.0	4491582.6	1564.89	1.7983	9.75	756.43	27.09	0.7122
SLC0719	C3516E	410494.9	4491569.8	1565.03	1.7983	9.75	756.43	27.09	0.7122
SLC0720	C3516E	410494.5	4491557.8	1565.28	1.7983	9.75	756.43	27.09	0.7122
SLC0721	C3516E	410494.1	4491545.5	1565.57	1.7983	9.75	756.43	27.09	0.7122
SLC0722	C3516E	410588.0	4491544.9	1561.61	1.7983	9.75	756.43	27.09	0.7122
SLC0723	C3516E	410588.3	4491556.4	1561.44	1.7983	9.75	756.43	27.09	0.7122
SLC0724	C3516E	410588.2	4491568.7	1561.38	1.7983	9.75	756.43	27.09	0.7122
SLC0725	C3516E	410589.0	4491581.6	1561.32	1.7983	9.75	756.43	27.09	0.7122
SLC0726	C3516E	410588.9	4491593.3	1561.25	1.7983	9.75	756.43	27.09	0.7122
SLC0727	C3516E	410589.0	4491606.2	1561.07	1.7983	9.75	756.43	27.09	0.7122
SLC0728	C3516E	410589.4	4491617.9	1560.90	1.7983	9.75	756.43	27.09	0.7122
SLC0729	C3516E	410589.9	4491636.5	1560.62	1.7983	9.75	756.43	27.09	0.7122
SLC0730	C3516E	410590.2	4491648.0	1560.47	1.7983	9.75	756.43	27.09	0.7122
SLC0731	C3516E	410590.1	4491660.8	1560.32	1.7983	9.75	756.43	27.09	0.7122
SLC0732	C3516E	410590.7	4491672.6	1560.18	1.7983	9.75	756.43	27.09	0.7122
SLC0733	C3516E	410590.8	4491684.6	1560.00	1.7983	9.75	756.43	27.09	0.7122
SLC0734	C3516E	410590.9	4491697.7	1559.84	1.7983	9.75	756.43	27.09	0.7122
SLC0735	C3516E	410591.3	4491709.5	1559.68	1.7983	9.75	756.43	27.09	0.7122
SLC0736	C3516E	410591.3	4491727.8	1559.40	1.7983	9.75	756.43	27.09	0.7122
SLC0737	C3516E	410591.7	4491739.8	1559.15	1.7983	9.75	756.43	27.09	0.7122
SLC0738	C3516E	410591.6	4491752.4	1558.93	1.7983	9.75	756.43	27.09	0.7122
SLC0739	C3516E	410592.2	4491764.4	1558.79	1.7983	9.75	756.43	27.09	0.7122
SLC0740	C3516E	410592.3	4491776.1	1558.67	1.7983	9.75	756.43	27.09	0.7122
SLC0741	C3516E	410592.3	4491788.7	1558.54	1.7983	9.75	756.43	27.09	0.7122
SLC0742	C3516E	410592.7	4491800.7	1558.38	1.7983	9.75	756.43	27.09	0.7122
SLC0601	C3516E	410651.1	4491795.7	1556.54	1.7983	9.75	756.43	27.09	0.7122
SLC0602	C3516E	410650.6	4491782.6	1556.79	1.7983	9.75	756.43	27.09	0.7122
SLC0603	C3516E	410650.0	4491770.8	1556.88	1.7983	9.75	756.43	27.09	0.7122
SLC0604	C3516E	410650.6	4491758.8	1556.89	1.7983	9.75	756.43	27.09	0.7122
SLC0605	C3516E	410650.5	4491746.0	1557.03	1.7983	9.75	756.43	27.09	0.7122
SLC0606	C3516E	410650.0	4491733.9	1557.28	1.7983	9.75	756.43	27.09	0.7122
SLC0607	C3516E	410650.6	4491720.8	1557.42	1.7983	9.75	756.43	27.09	0.7122
SLC0608	C3516E	410649.5	4491703.9	1557.65	1.7983	9.75	756.43	27.09	0.7122
SLC0609	C3516E	410648.8	4491691.0	1557.87	1.7983	9.75	756.43	27.09	0.7122
SLC0610	C3516E	410649.0	4491679.8	1558.06	1.7983	9.75	756.43	27.09	0.7122
SLC0611	C3516E	410648.7	4491667.0	1558.27	1.7983	9.75	756.43	27.09	0.7122
SLC0612	C3516E	410648.2	4491654.7	1558.46	1.7983	9.75	756.43	27.09	0.7122
SLC0613	C3516E	410648.1	4491642.7	1558.69	1.7983	9.75	756.43	27.09	0.7122
SLC0614	C3516E	410648.1	4491629.8	1558.98	1.7983	9.75	756.43	27.09	0.7122
SLC0615	C3516E	410741.9	4491636.0	1555.72	1.7983	9.75	756.43	27.09	0.7122
SLC0616	C3516E	410742.2	4491647.5	1555.59	1.7983	9.75	756.43	27.09	0.7122
SLC0617	C3516E	410742.1	4491660.3	1555.54	1.7983	9.75	756.43	27.09	0.7122
SLC0618	C3516E	410742.7	4491672.1	1555.45	1.7983	9.75	756.43	27.09	0.7122
SLC0619	C3516E	410742.8	4491684.1	1555.31	1.7983	9.75	756.43	27.09	0.7122

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0620	C3516E	410742.8	4491697.2	1555.18	1.7983	9.75	756.43	27.09	0.7122
SLC0621	C3516E	410743.3	4491709.0	1555.02	1.7983	9.75	756.43	27.09	0.7122
SLC0622	C3516E	410743.3	4491727.3	1554.90	1.7983	9.75	756.43	27.09	0.7122
SLC0623	C3516E	410743.6	4491739.3	1554.82	1.7983	9.75	756.43	27.09	0.7122
SLC0624	C3516E	410743.6	4491751.9	1554.76	1.7983	9.75	756.43	27.09	0.7122
SLC0625	C3516E	410744.2	4491763.9	1554.64	1.7983	9.75	756.43	27.09	0.7122
SLC0626	C3516E	410744.3	4491775.6	1554.54	1.7983	9.75	756.43	27.09	0.7122
SLC0627	C3516E	410744.2	4491788.2	1554.37	1.7983	9.75	756.43	27.09	0.7122
SLC0628	C3516E	410744.7	4491800.2	1554.09	1.7983	9.75	756.43	27.09	0.7122
SLC06HG1	C32	410651.2	4491807.8	1556.37	0.5226	9.75	734.32	8.59	0.7122
SLC05HG2	C32	410802.9	4491800.8	1552.12	0.5226	9.75	734.32	8.59	0.7122
SLC06HG2	C32	410651.3	4491814.3	1556.28	0.5226	9.75	734.32	8.59	0.7122
SLC07HG2	C32	410499.0	4491815.2	1561.15	0.5226	9.75	734.32	8.59	0.7122
SLC07HG3	C32	410531.50	4491427.10	1566.82	0.5226	9.75	734.32	8.59	0.7122

Table A-8. CAT C175 Engine Option Scenario - NO_2 Uncapped Point Source Input Parameters

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC05HG1	C32	410802.8	4491794.0	1552.32	0.5226	9.75	734.32	8.59	0.7122
SLC0501	C175	410802.7	4491781.9	1552.62	1.8488	9.75	717.26	30.08	0.7122
SLC0502	C175	410802.2	4491768.8	1552.81	1.8488	9.75	717.26	30.08	0.7122
SLC0503	C175	410801.7	4491757.0	1552.96	1.8488	9.75	717.26	30.08	0.7122
SLC0504	C175	410802.2	4491745.0	1553.12	1.8488	9.75	717.26	30.08	0.7122
SLC0505	C175	410802.1	4491732.2	1553.27	1.8488	9.75	717.26	30.08	0.7122
SLC0506	C175	410801.5	4491720.1	1553.33	1.8488	9.75	717.26	30.08	0.7122
SLC0507	C175	410801.1	4491707.0	1553.28	1.8488	9.75	717.26	30.08	0.7122
SLC0508	C175	410800.5	4491694.2	1553.25	1.8488	9.75	717.26	30.08	0.7122
SLC0509	C175	410800.4	4491681.3	1553.27	1.8488	9.75	717.26	30.08	0.7122
SLC0510	C175	410800.7	4491670.1	1553.29	1.8488	9.75	717.26	30.08	0.7122
SLC0511	C175	410800.3	4491657.3	1553.42	1.8488	9.75	717.26	30.08	0.7122
SLC0512	C175	410799.8	4491645.0	1553.58	1.8488	9.75	717.26	30.08	0.7122
SLC0513	C175	410799.7	4491633.0	1553.74	1.8488	9.75	717.26	30.08	0.7122
SLC0514	C175	410799.4	4491620.1	1553.94	1.8488	9.75	717.26	30.08	0.7122
SLC0515	C175	410799.1	4491608.4	1554.16	1.8488	9.75	717.26	30.08	0.7122
SLC0516	C175	410799.4	4491595.8	1554.42	1.8488	9.75	717.26	30.08	0.7122
SLC0517	C175	410799.0	4491583.5	1554.70	1.8488	9.75	717.26	30.08	0.7122
SLC0518	C175	410798.9	4491571.7	1554.87	1.8488	9.75	717.26	30.08	0.7122
SLC0519	C175	410798.5	4491558.9	1555.02	1.8488	9.75	717.26	30.08	0.7122
SLC0520	C175	410798.1	4491546.9	1555.12	1.8488	9.75	717.26	30.08	0.7122
SLC0521	C175	410799.0	4491534.6	1555.21	1.8488	9.75	717.26	30.08	0.7122
SLC0522	C175	410891.7	4491539.6	1553.29	1.8488	9.75	717.26	30.08	0.7122
SLC0523	C175	410892.0	4491551.1	1553.14	1.8488	9.75	717.26	30.08	0.7122
SLC0524	C175	410892.2	4491563.4	1552.94	1.8488	9.75	717.26	30.08	0.7122
SLC0525	C175	410892.6	4491576.3	1552.64	1.8488	9.75	717.26	30.08	0.7122
SLC0526	C175	410892.6	4491588.0	1552.33	1.8488	9.75	717.26	30.08	0.7122
SLC0527	C175	410892.6	4491600.9	1551.94	1.8488	9.75	717.26	30.08	0.7122
SLC0528	C175	410896.9	4491612.6	1551.45	1.8488	9.75	717.26	30.08	0.7122
SLC0529	C175	410893.4	4491626.4	1551.05	1.8488	9.75	717.26	30.08	0.7122
SLC0530	C175	410893.7	4491637.9	1550.75	1.8488	9.75	717.26	30.08	0.7122
SLC0531	C175	410893.9	4491650.7	1550.54	1.8488	9.75	717.26	30.08	0.7122
SLC0532	C175	410894.3	4491662.5	1550.43	1.8488	9.75	717.26	30.08	0.7122
SLC0533	C175	410894.3	4491674.5	1550.34	1.8488	9.75	717.26	30.08	0.7122
SLC0534	C175	410894.3	4491687.6	1550.32	1.8488	9.75	717.26	30.08	0.7122
SLC0535	C175	410894.8	4491699.4	1550.37	1.8488	9.75	717.26	30.08	0.7122
SLC0536	C175	410894.7	4491712.8	1550.48	1.8488	9.75	717.26	30.08	0.7122
SLC0537	C175	410895.0	4491724.8	1550.67	1.8488	9.75	717.26	30.08	0.7122
SLC0538	C175	410895.2	4491737.4	1550.83	1.8488	9.75	717.26	30.08	0.7122
SLC0539	C175	410895.7	4491749.4	1550.80	1.8488	9.75	717.26	30.08	0.7122
SLC0540	C175	410895.6	4491761.1	1550.67	1.8488	9.75	717.26	30.08	0.7122
SLC0541	C175	410895.7	4491773.7	1550.49	1.8488	9.75	717.26	30.08	0.7122
SLC0542	C175	410896.1	4491785.7	1550.30	1.8488	9.75	717.26	30.08	0.7122
SLC07HG1	C32	410499.1	4491809.0	1561.27	0.5226	9.75	734.32	8.59	0.7122
SLC0701	C175	410499.0	4491796.9	1561.51	1.8488	9.75	717.26	30.08	0.7122
SLC0702	C175	410498.5	4491783.8	1561.80	1.8488	9.75	717.26	30.08	0.7122
SLC0703	C175	410498.0	4491772.0	1562.01	1.8488	9.75	717.26	30.08	0.7122
SLC0704	C175	410498.5	4491760.0	1562.15	1.8488	9.75	717.26	30.08	0.7122
SLC0705	C175	410498.3	4491747.2	1562.34	1.8488	9.75	717.26	30.08	0.7122
SLC0706	C175	410497.8	4491735.1	1562.53	1.8488	9.75	717.26	30.08	0.7122
SLC0707	C175	410497.8	4491722.0	1562.71	1.8488	9.75	717.26	30.08	0.7122
SLC0708	C175	410497.3	4491705.1	1562.96	1.8488	9.75	717.26	30.08	0.7122

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0709	C175	410496.6	4491692.2	1563.25	1.8488	9.75	717.26	30.08	0.7122
SLC0710	C175	410496.5	4491681.0	1563.47	1.8488	9.75	717.26	30.08	0.7122
SLC0711	C175	410496.7	4491668.2	1563.72	1.8488	9.75	717.26	30.08	0.7122
SLC0712	C175	410496.4	4491655.9	1564.02	1.8488	9.75	717.26	30.08	0.7122
SLC0713	C175	410495.9	4491643.9	1564.28	1.8488	9.75	717.26	30.08	0.7122
SLC0714	C175	410495.8	4491631.0	1564.53	1.8488	9.75	717.26	30.08	0.7122
SLC0715	C175	410495.5	4491619.3	1564.81	1.8488	9.75	717.26	30.08	0.7122
SLC0716	C175	410495.1	4491606.7	1564.98	1.8488	9.75	717.26	30.08	0.7122
SLC0717	C175	410495.4	4491594.4	1564.93	1.8488	9.75	717.26	30.08	0.7122
SLC0718	C175	410495.0	4491582.6	1564.89	1.8488	9.75	717.26	30.08	0.7122
SLC0719	C175	410494.9	4491569.8	1565.03	1.8488	9.75	717.26	30.08	0.7122
SLC0720	C175	410494.5	4491557.8	1565.28	1.8488	9.75	717.26	30.08	0.7122
SLC0721	C175	410494.1	4491545.5	1565.57	1.8488	9.75	717.26	30.08	0.7122
SLC0722	C175	410588.0	4491544.9	1561.61	1.8488	9.75	717.26	30.08	0.7122
SLC0723	C175	410588.3	4491556.4	1561.44	1.8488	9.75	717.26	30.08	0.7122
SLC0724	C175	410588.2	4491568.7	1561.38	1.8488	9.75	717.26	30.08	0.7122
SLC0725	C175	410589.0	4491581.6	1561.32	1.8488	9.75	717.26	30.08	0.7122
SLC0726	C175	410588.9	4491593.3	1561.25	1.8488	9.75	717.26	30.08	0.7122
SLC0727	C175	410589.0	4491606.2	1561.07	1.8488	9.75	717.26	30.08	0.7122
SLC0728	C175	410589.4	4491617.9	1560.90	1.8488	9.75	717.26	30.08	0.7122
SLC0729	C175	410589.9	4491636.5	1560.62	1.8488	9.75	717.26	30.08	0.7122
SLC0730	C175	410590.2	4491648.0	1560.47	1.8488	9.75	717.26	30.08	0.7122
SLC0731	C175	410590.1	4491660.8	1560.32	1.8488	9.75	717.26	30.08	0.7122
SLC0732	C175	410590.7	4491672.6	1560.18	1.8488	9.75	717.26	30.08	0.7122
SLC0733	C175	410590.8	4491684.6	1560.00	1.8488	9.75	717.26	30.08	0.7122
SLC0734	C175	410590.9	4491697.7	1559.84	1.8488	9.75	717.26	30.08	0.7122
SLC0735	C175	410591.3	4491709.5	1559.68	1.8488	9.75	717.26	30.08	0.7122
SLC0736	C175	410591.3	4491727.8	1559.40	1.8488	9.75	717.26	30.08	0.7122
SLC0737	C175	410591.7	4491739.8	1559.15	1.8488	9.75	717.26	30.08	0.7122
SLC0738	C175	410591.6	4491752.4	1558.93	1.8488	9.75	717.26	30.08	0.7122
SLC0739	C175	410592.2	4491764.4	1558.79	1.8488	9.75	717.26	30.08	0.7122
SLC0740	C175	410592.3	4491776.1	1558.67	1.8488	9.75	717.26	30.08	0.7122
SLC0741	C175	410592.3	4491788.7	1558.54	1.8488	9.75	717.26	30.08	0.7122
SLC0742	C175	410592.7	4491800.7	1558.38	1.8488	9.75	717.26	30.08	0.7122
SLC0601	C175	410651.1	4491795.7	1556.54	1.8488	9.75	717.26	30.08	0.7122
SLC0602	C175	410650.6	4491782.6	1556.79	1.8488	9.75	717.26	30.08	0.7122
SLC0603	C175	410650.0	4491770.8	1556.88	1.8488	9.75	717.26	30.08	0.7122
SLC0604	C175	410650.6	4491758.8	1556.89	1.8488	9.75	717.26	30.08	0.7122
SLC0605	C175	410650.5	4491746.0	1557.03	1.8488	9.75	717.26	30.08	0.7122
SLC0606	C175	410650.0	4491733.9	1557.28	1.8488	9.75	717.26	30.08	0.7122
SLC0607	C175	410650.6	4491720.8	1557.42	1.8488	9.75	717.26	30.08	0.7122
SLC0608	C175	410649.5	4491703.9	1557.65	1.8488	9.75	717.26	30.08	0.7122
SLC0609	C175	410648.8	4491691.0	1557.87	1.8488	9.75	717.26	30.08	0.7122
SLC0610	C175	410649.0	4491679.8	1558.06	1.8488	9.75	717.26	30.08	0.7122
SLC0611	C175	410648.7	4491667.0	1558.27	1.8488	9.75	717.26	30.08	0.7122
SLC0612	C175	410648.2	4491654.7	1558.46	1.8488	9.75	717.26	30.08	0.7122
SLC0613	C175	410648.1	4491642.7	1558.69	1.8488	9.75	717.26	30.08	0.7122
SLC0614	C175	410648.1	4491629.8	1558.98	1.8488	9.75	717.26	30.08	0.7122
SLC0615	C175	410741.9	4491636.0	1555.72	1.8488	9.75	717.26	30.08	0.7122
SLC0616	C175	410742.2	4491647.5	1555.59	1.8488	9.75	717.26	30.08	0.7122
SLC0617	C175	410742.1	4491660.3	1555.54	1.8488	9.75	717.26	30.08	0.7122
SLC0618	C175	410742.7	4491672.1	1555.45	1.8488	9.75	717.26	30.08	0.7122
SLC0619	C175	410742.8	4491684.1	1555.31	1.8488	9.75	717.26	30.08	0.7122
SLC0620	C175	410742.8	4491697.2	1555.18	1.8488	9.75	717.26	30.08	0.7122
SLC0621	C175	410743.3	4491709.0	1555.02	1.8488	9.75	717.26	30.08	0.7122
SLC0622	C175	410743.3	4491727.3	1554.90	1.8488	9.75	717.26	30.08	0.7122
SLC0623	C175	410743.6	4491739.3	1554.82	1.8488	9.75	717.26	30.08	0.7122
SLC0624	C175	410743.6	4491751.9	1554.76	1.8488	9.75	717.26	30.08	0.7122
SLC0625	C175	410744.2	4491763.9	1554.64	1.8488	9.75	717.26	30.08	0.7122
SLC0626	C175	410744.3	4491775.6	1554.54	1.8488	9.75	717.26	30.08	0.7122
SLC0627	C175	410744.2	4491788.2	1554.37	1.8488	9.75	717.26	30.08	0.7122
SLC0628	C175	410744.7	4491800.2	1554.09	1.8488	9.75	717.26	30.08	0.7122
SLC06HG1	C32	410651.2	4491807.8	1556.37	0.5226	9.75	734.32	8.59	0.7122
SLC05HG2	C32	410802.9	4491800.8	1552.12	0.5226	9.75	734.32	8.59	0.7122
SLC06HG2	C32	410651.3	4491814.3	1556.28	0.5226	9.75	734.32	8.59	0.7122
SLC07HG2	C32	410499.0	4491815.2	1561.15	0.5226	9.75	734.32	8.59	0.7122
SLC07HG3	C32	410531.50	4491427.10	1566.82	0.5226	9.75	734.32	8.59	0.7122

Table A-9. Titan Solar 130 NO_2 Uncapped Point Source Input Parameters

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
TURB1	410521.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB2	410536.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB3	410552.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB4	410567.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB5	410582.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB6	410597.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB7	410613.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB8	410628.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB9	410643.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB10	410658.0	4491368	1566.824	0.4177237	15.24	709.4932	23.3743	2.7432
TURB11	410674.0	4491368	1566.824	0.4177237	15.24	709.49319	23.3743	2.7432
TURB12	410689.0	4491368	1566.824	0.4177237	15.24	709.49319	23.3743	2.7432

Table A-10. NO_2 Capped Point Source Input Parameters

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (k)	Stack Velocity (m/s)	Stack Diameter (m)
BOIL1	411519.2	4492181.3	1531.67	0.024705	2.44	435.93	7.45	0.15

Table A-11. NO_2 Nearby Uncapped Point Source Input Parameters

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (k)	Stack Velocity (m/s)	Stack Diameter (m)
GENN01	411449.0	4492171.40	1533.36	1.1134	12.80	751.483	42.36988	0.4599999
GENN02	411448.9	4492167.40	1533.44	1.1134	12.80	751.483	42.36988	0.4599999
GENN03	411448.8	4492164.00	1533.51	1.1134	12.80	751.483	42.36988	0.4599999
GENN04	411448.6	4492160.50	1533.59	1.1134	12.80	751.483	42.36987809	0.4599999
GENN05	411461.2	4492136.70	1533.82	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN06	411460.8	4492127.90	1533.94	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN07	411461.0	4492123.90	1533.98	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN08	411460.8	4492119.20	1534.04	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN09	411460.8	4492115.80	1534.07	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN10	411460.6	4492106.70	1534.15	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN11	411460.6	4492102.80	1534.17	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN12	411460.5	4492093.50	1534.24	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN13	411460.1	4492081.40	1534.31	1.0488	12.80	708.1501	34.29915466	0.4599999
GENN14	411460.1	4492072.50	1534.35	1.0651	12.80	738.1501	36.70446878	0.4599999
GENN15	411460.0	4492068.20	1534.36	1.0651	12.80	738.1501	36.70446878	0.4599999
GENN16	411459.8	4492059.50	1534.37	1.0756	12.80	753.1501	45.72936641	0.4599999
GENN17	411460.0	4492050.10	1534.34	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN18	411459.9	4492043.80	1534.40	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN19	411459.7	4492037.50	1534.49	0.9230	12.80	708.1501	34.29916	0.4599999
GENN20	411459.6	4492030.40	1534.64	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN21	411459.5	4492020.20	1534.79	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN22	411459.4	4492014.30	1534.87	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN23	411459.4	4492009.30	1534.92	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN24	411459.3	4492004.60	1534.97	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN25	411459.2	4492000.00	1535.01	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN26	411459.0	4491989.30	1534.97	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN27	411458.7	4491976.70	1534.87	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN28	411458.7	4491969.30	1534.83	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN29	411458.6	4491962.50	1534.85	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN30	411458.5	4491955.40	1534.92	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN31	411458.3	4491948.20	1535.02	1.9740	12.80	773.1501	58.06547568	0.4599999
GENN32	411458.0	4491931.10	1535.46	1.0756	12.80	753.1501	45.72936641	0.4599999
GENN33	411457.8	4491915.00	1535.78	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN34	411457.6	4491905.80	1535.75	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN35	411457.4	4491894.10	1535.72	0.9230	12.80	708.1501	34.29915466	0.4599999
GENN36	411457.2	4491884.10	1535.75	0.9230	12.80	708.1501	34.29915466	0.4599999
OFFICE	411546.4	4492186.40	1530.74	0.5814	2.78	804.15	52.47	0.2
P3NP01	411315.7	4491686.20	1541.53	0.0185	9.12	634.261	13.96744545	0.6096
P3NP02	411321.4	4491686.10	1541.40	0.0185	9.12	634.261	13.96744545	0.6096
P3NP03	411327.0	4491686.10	1541.26	0.0185	9.12	634.261	13.96744545	0.6096
P3NP04	411332.456	4491686.1	1541.12	0.0185	9.12	634.261	13.96744545	0.6096
P3NP05	411338.056	4491686	1540.98	0.0185	9.12	634.261	13.96744545	0.6096
P3NP06	411343.456	4491686	1540.83	0.0185	9.12	634.261	13.96744545	0.6096
P3NP07	411348.956	4491686	1540.70	0.0185	9.12	634.261	13.96744545	0.6096
P3NP08	411354.756	4491685.9	1540.56	0.0185	9.12	634.261	13.96744545	0.6096
P3NP09	411360.256	4491685.9	1540.42	0.0185	9.12	634.261	13.96744545	0.6096
P3NP10	411372.744	4491685.8	1540.08	0.0185	9.12	634.261	13.96744545	0.6096
P3NP11	411378.344	4491685.8	1539.93	0.0185	9.12	634.261	13.96744545	0.6096
P3NP12	411383.944	4491685.8	1539.79	0.0185	9.12	634.261	13.96744545	0.6096
P3NP13	411389.444	4491685.7	1539.63	0.0185	9.12	634.261	13.96744545	0.6096

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (k)	Stack Velocity (m/s)	Stack Diameter (m)
P3NP14	411395.044	4491685.7	1539.48	0.0185	9.12	634.261	13.96745	0.6096
P3NP15	411400.544	4491685.7	1539.33	0.0185	9.12	634.261	13.96744545	0.6096
P3NP16	411406.044	4491685.6	1539.18	0.0185	9.12	634.261	13.96744545	0.6096
P3NP17	411411.744	4491685.6	1539.00	0.0185	9.12	634.261	13.96744545	0.6096
P3NP18	411417.244	4491685.6	1538.80	0.0185	9.12	634.261	13.96744545	0.6096
P2NP01	411315.456	4491633.3	1542.63	0.0185	9.12	634.261	13.96744545	0.6096
P2NP02	411321.156	4491633.3	1542.50	0.0185	9.12	634.261	13.96744545	0.6096
P2NP03	411326.656	4491633.2	1542.36	0.0185	9.12	634.261	13.96744545	0.6096
P2NP04	411332.156	4491633.1	1542.22	0.0185	9.12	634.261	13.96744545	0.6096
P2NP05	411337.756	4491633.2	1542.08	0.0185	9.12	634.261	13.96744545	0.6096
P2NP06	411343.256	4491633.1	1541.95	0.0185	9.12	634.261	13.96744545	0.6096
P2NP07	411348.856	4491633.1	1541.82	0.0185	9.12	634.261	13.96744545	0.6096
P2NP08	411354.456	4491633	1541.68	0.0185	9.12	634.261	13.96744545	0.6096
P2NP09	411360.056	4491633	1541.53	0.0185	9.12	634.261	13.96744545	0.6096
P2NP10	411372.444	4491632.9	1541.12	0.0185	9.12	634.261	13.96744545	0.6096
P2NP11	411377.944	4491632.9	1540.92	0.0185	9.12	634.261	13.96744545	0.6096
P2NP12	411383.544	4491632.8	1540.72	0.0185	9.12	634.261	13.96744545	0.6096
P2NP13	411389.044	4491632.8	1540.52	0.0185	9.12	634.261	13.96744545	0.6096
P2NP14	411394.644	4491632.8	1540.30	0.0185	9.12	634.261	13.96744545	0.6096
P2NP15	411400.244	4491632.7	1540.08	0.0185	9.12	634.261	13.96744545	0.6096
P2NP16	411405.644	4491632.7	1539.86	0.0185	9.12	634.261	13.96744545	0.6096
P2NP17	411411.444	4491632.7	1539.63	0.0185	9.12	634.261	13.96744545	0.6096
P2NP18	411416.844	4491632.6	1539.43	0.0185	9.12	634.261	13.96744545	0.6096
P4NP01	411315.056	4491580.8	1543.02	0.0185	9.12	634.261	13.96744545	0.6096
P4NP02	411320.756	4491580.7	1542.84	0.0185	9.12	634.261	13.96744545	0.6096
P4NP03	411326.356	4491580.7	1542.69	0.0185	9.12	634.261	13.96744545	0.6096
P4NP04	411331.856	4491580.7	1542.54	0.0185	9.12	634.261	13.96744545	0.6096
P4NP05	411337.456	4491580.6	1542.41	0.0185	9.12	634.261	13.96744545	0.6096
P4NP06	411342.856	4491580.6	1542.29	0.0185	9.12	634.261	13.96744545	0.6096
P4NP07	411348.356	4491580.6	1542.18	0.0185	9.12	634.261	13.96744545	0.6096
P4NP08	411354.156	4491580.5	1542.06	0.0185	9.12	634.261	13.96744545	0.6096
P4NP09	411359.656	4491580.5	1541.93	0.0185	9.12	634.261	13.96744545	0.6096
P4NP10	411372.144	4491580.4	1541.65	0.0185	9.12	634.261	13.96744545	0.6096
P4NP11	411377.744	4491580.4	1541.52	0.0185	9.12	634.261	13.96744545	0.6096
P4NP12	411383.344	4491580.4	1541.40	0.0185	9.12	634.261	13.96744545	0.6096
P4NP13	411388.844	4491580.3	1541.28	0.0185	9.12	634.261	13.96744545	0.6096
P4NP14	411394.444	4491580.3	1541.13	0.0185	9.12	634.261	13.96744545	0.6096
P4NP15	411399.944	4491580.3	1540.97	0.0185	9.12	634.261	13.96744545	0.6096
P4NP16	411405.444	4491580.2	1540.79	0.0185	9.12	634.261	13.96744545	0.6096
P4NP17	411411.144	4491580.2	1540.58	0.0185	9.12	634.261	13.96744545	0.6096
P4NP18	411416.644	4491580.2	1540.36	0.0185	9.12	634.261	13.96744545	0.6096
P5NP01	411314.856	4491527.9	1543.22	0.0185	9.12	634.261	13.96744545	0.6096
P5NP02	411320.556	4491527.9	1543.08	0.0185	9.12	634.261	13.96744545	0.6096
P5NP03	411326.056	4491527.8	1542.95	0.0185	9.12	634.261	13.96744545	0.6096
P5NP04	411331.556	4491527.7	1542.83	0.0185	9.12	634.261	13.96744545	0.6096
P5NP05	411337.156	4491527.8	1542.72	0.0185	9.12	634.261	13.96744545	0.6096
P5NP06	411342.656	4491527.7	1542.62	0.0185	9.12	634.261	13.96744545	0.6096
P5NP07	411348.256	4491527.7	1542.52	0.0185	9.12	634.261	13.96744545	0.6096
P5NP08	411353.856	4491527.6	1542.41	0.0185	9.12	634.261	13.96744545	0.6096
P5NP09	411359.456	4491527.6	1542.30	0.0185	9.12	634.261	13.96744545	0.6096
P5NP10	411371.844	4491527.5	1542.02	0.0185	9.12	634.261	13.96744545	0.6096
P5NP11	411377.344	4491527.5	1541.89	0.0185	9.12	634.261	13.96744545	0.6096

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (k)	Stack Velocity (m/s)	Stack Diameter (m)
P5NP12	411382.944	4491527.4	1541.76	0.0185	9.12	634.261	13.96744545	0.6096
P5NP13	411388.444	4491527.4	1541.64	0.0185	9.12	634.261	13.96744545	0.6096
P5NP14	411394.044	4491527.4	1541.51	0.0185	9.12	634.261	13.96744545	0.6096
P5NP15	411399.644	4491527.3	1541.40	0.0185	9.12	634.261	13.96744545	0.6096
P5NP16	411405.044	4491527.3	1541.28	0.0185	9.12	634.261	13.96744545	0.6096
P5NP17	411410.844	4491527.3	1541.13	0.0185	9.12	634.261	13.96744545	0.6096
P5NP18	411416.244	4491527.2	1540.98	0.0185	9.12	634.261	13.96744545	0.6096
SLC1_G02	411283.5	4490966.15	1545.48	1.8264	5.71	668.13	16.56	0.7099999
SLC1_G03	411295.39	4490966.15	1545.53	1.8264	5.71	668.13	16.56	0.7099999
SLC1_G04	411307.75	4490966.15	1545.49	1.8264	5.71	668.13	16.56	0.7099999
SLC1_G05	411319.42	4490966.15	1545.54	1.8264	5.71	668.13	16.56	0.7099999
SLC2_G14	411383.48	4490827.99	1545.64	6.8537	6.71	735.43	33.7	0.6099999
HEATEXCH	412215.858	4492747.518	1506.62	0.7749	13.59	394.261	5.01921	1.524
BOILER4	412212.89	4492725	1506.55	0.0428	14.33	478.15	11.70869	0.813
SLC3_G30	411130.41	4490957.34	1550.71	1.2164	8.23	614.18	19.14	0.4600002
SLC3_G32	411130.82	4490943.95	1550.80	0.6630	3.84	706.19	7.42	0.4600002
STCK1	412204.073	4491301.529	1519.22	0.7564	4.88	763.1501	51.2064	0.4569997
STCK2	412204.417	4491308.364	1519.20	0.7564	4.88	763.1501	51.2064	0.4569997
STCK3	412204.835	4491314.398	1519.24	0.7564	4.88	763.1501	51.2064	0.4569997
STCK4	412205.835	4491320.942	1519.33	0.7564	4.88	763.1501	51.2064	0.4569997
STCK5	412207.417	4491334.038	1519.40	0.7564	4.88	763.1501	51.2064	0.4569997
STCK6	412208.199	4491340.51	1519.39	0.7564	4.88	763.1501	51.2064	0.4569997
STCK7	412208.5	4491346.466	1519.37	0.7564	4.88	763.1501	51.2064	0.4569997
STCK8	412209.64	4491353.211	1519.32	0.7564	4.88	763.1501	51.2064	0.4569997
STCK9	412201.52	4491257.3	1519.42	0.8467	6.50	729.261	96.10344	0.355
STCK10	412200.411	4491250.945	1519.18	0.8467	6.50	729.261	96.10344	0.355
STCK11	412195.48	4491241.01	1519.60	0.8518	5.14	713.706	107.47718	0.356
STCK12	412206.09	4491204.97	1519.70	0.2207	4.08	708.706	90.91869	0.204
STCK1NL	412204.073	4491301.529	1519.22	0.7564	4.88	763.1501	51.2064	0.4569997
STCK2NL	412204.417	4491308.364	1519.20	0.7564	4.88	763.1501	51.2064	0.4569997
STCK3NL	412204.835	4491314.398	1519.24	0.7564	4.88	763.1501	51.2064	0.4569997
STCK4NL	412205.835	4491320.942	1519.33	0.7564	4.88	763.1501	51.2064	0.4569997
STCK5NL	412207.417	4491334.038	1519.40	0.7564	4.88	763.1501	51.2064	0.4569997
STCK6NL	412208.199	4491340.51	1519.39	0.7564	4.88	763.1501	51.2064	0.4569997
STCK7NL	412208.5	4491346.466	1519.37	0.7564	4.88	763.1501	51.2064	0.4569997
STCK8NL	412209.64	4491353.211	1519.32	0.7564	4.88	763.1501	51.2064	0.4569997
STCK9NL	412201.52	4491257.3	1519.42	0.8467	6.50	729.261	96.10344	0.355
STCK10NL	412200.411	4491250.945	1519.18	0.8467	6.50	729.261	96.10344	0.355
STCK11NL	412195.48	4491241.01	1519.60	0.8518	5.14	713.706	107.47718	0.356
STCK12NL	412206.09	4491204.97	1519.70	0.2207	4.08	708.706	90.91869	0.204
GEN	412943.33	4492242.27	1497.19	1.3482	3.66	773.1501	12.93610824	0.18288
PLASMA96	412698	4492190	1505.44	0.1100	3.25	294.261	2.934486	1.143
PLASMA60	412698	4492180	1505.42	0.1100	3.72	294.261	4.406328	1.143
FICEP	412585	4491991	1504.51	0.1100	3.25	294.261	2.934486	1.143
ROBOT	412657	4492214	1505.24	0.1100	2.55	294.26	4.599502786	1.143
PLASMA20	412679	4492107	1505.46	0.0000	3.37	294.261	3.667462	1.143
OA_FPUMP	412202.8	4491280.72	1519.40	0.1207	3.05	764	45.44	0.06096

Table A-12. NO_2 Nearby Volume Source Input Parameters

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Release Height (m)	Init. lat. dim. (m)	Init. vert. dim. (m)
WELDING	412651.0	4492163.0	1505.45	0.000000	5.00	23.25	4.65

Table A-13. Rectangular Buildings.

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
HGEN5	410795.70	4491796.40	1552.47	3.05	4.90	11.90	91.03
Z48J900V	410810.30	4491789.60	1552.19	3.05	14.90	4.00	181.03
Z48J900W	410809.50	4491784.20	1552.34	3.05	17.10	4.70	181.03
Z48J900Z	410810.10	4491777.70	1552.44	3.05	14.90	4.00	181.03
Z48J9010	410809.10	4491770.90	1552.56	3.05	17.10	4.70	181.03
Z48J9011	410809.90	4491765.70	1552.60	3.05	14.90	4.00	181.03
Z48J9012	410808.70	4491758.90	1552.74	3.05	17.10	4.70	181.03
Z48J9013	410809.70	4491752.40	1552.82	3.05	14.90	4.00	181.03
Z48J9014	410809.30	4491747.00	1552.92	3.05	17.10	4.70	181.03
Z48J9015	410809.50	4491740.20	1553.01	3.05	14.90	4.00	181.03
Z48J9016	410808.70	4491734.80	1553.09	3.05	17.10	4.70	181.03
Z48J9017	410809.30	4491728.30	1553.14	3.05	14.90	4.00	181.03
Z48J9018	410808.50	4491722.90	1553.16	3.05	17.10	4.70	181.03
Z48J9019	410809.00	4491716.30	1553.13	3.05	14.90	4.00	181.03
Z48J901A	410807.90	4491709.50	1553.11	3.05	17.10	4.70	181.03
Z48J901B	410808.80	4491702.10	1553.03	3.05	14.90	4.00	181.03
Z48J901C	410807.20	4491696.70	1553.04	3.05	17.10	4.70	181.03
Z48J901D	410808.60	4491690.10	1552.99	3.05	14.90	4.00	181.03
Z48J901E	410807.60	4491683.70	1553.01	3.05	17.10	4.70	181.03
Z48J901F	410808.40	4491678.20	1552.96	3.05	14.90	4.00	181.03
Z48J901G	410807.70	4491672.10	1552.99	3.05	17.10	4.70	181.03
Z48J901H	410808.20	4491665.40	1553.00	3.05	14.90	4.00	181.03
Z48J901I	410807.00	4491659.50	1553.09	3.05	17.10	4.70	181.03
Z48J901J	410808.00	4491653.80	1553.10	3.05	14.90	4.00	181.03
Z48J901K	410806.90	4491647.50	1553.23	3.05	17.10	4.70	181.03
Z48J901L	410807.70	4491640.70	1553.30	3.05	14.90	4.00	181.03
Z48J901M	410806.90	4491635.30	1553.43	3.05	17.10	4.70	181.03
Z48J901N	410807.50	4491628.80	1553.53	3.05	14.90	4.00	181.03
Z48J901O	410806.50	4491623.00	1553.67	3.05	17.10	4.70	181.03
Z48J901P	410807.30	4491616.80	1553.75	3.05	14.90	4.00	181.03
Z48J901Q	410806.00	4491610.70	1553.92	3.05	17.10	4.70	181.03
Z48J901R	410807.10	4491604.30	1554.02	3.05	14.90	4.00	181.03
Z48J901S	410806.40	4491598.20	1554.19	3.05	17.10	4.70	181.03
Z48J901T	410806.90	4491591.50	1554.33	3.05	14.90	4.00	181.03
Z48J901U	410805.70	4491585.60	1554.49	3.05	17.10	4.70	181.03
Z48J901V	410806.70	4491579.90	1554.55	3.05	14.90	4.00	181.03
Z48J901W	410806.00	4491573.60	1554.65	3.05	17.10	4.70	181.03
Z48J901X	410806.50	4491567.80	1554.71	3.05	14.90	4.00	181.03
Z48J901Y	410805.70	4491561.40	1554.81	3.05	17.10	4.70	181.03
Z48J901Z	410806.30	4491554.90	1554.86	3.05	14.90	4.00	181.03
Z48J9020	410805.20	4491549.10	1554.94	3.05	17.10	4.70	181.03
Z48J9021	410806.00	4491542.90	1554.97	3.05	14.90	4.00	181.03
Z48J9022	410805.90	4491536.80	1555.04	3.05	17.10	4.70	181.03
Z48J9023	410901.50	4491542.20	1553.07	3.05	17.10	4.70	181.03
Z48J9024	410899.10	4491535.00	1553.19	3.05	14.90	4.00	181.03
Z48J9025	410899.30	4491546.90	1553.05	3.05	14.90	4.00	181.03
Z48J9026	410902.60	4491603.50	1551.64	3.05	17.10	4.70	181.03
Z48J9027	410900.60	4491596.30	1551.92	3.05	14.90	4.00	181.03

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
Z48J9028	410900.40	4491608.20	1551.52	3.05	14.90	4.00	181.03
Z48J9029	410902.20	4491578.60	1552.39	3.05	17.10	4.70	181.03
Z48J902A	410899.80	4491571.80	1552.62	3.05	14.90	4.00	181.03
Z48J902B	410900.00	4491583.70	1552.30	3.05	14.90	4.00	181.03
Z48J902C	410902.30	4491590.30	1552.06	3.05	17.10	4.70	181.03
Z48J902D	410902.20	4491565.70	1552.70	3.05	17.10	4.70	181.03
Z48J902E	410900.00	4491560.00	1552.84	3.05	14.90	4.00	181.03
Z48J902F	410901.70	4491554.00	1552.91	3.05	17.10	4.70	181.03
Z48J902G	410902.70	4491614.90	1551.26	3.05	17.10	4.70	181.03
Z48J902H	410903.00	4491628.70	1550.82	3.05	17.10	4.70	181.03
Z48J902I	410900.70	4491621.80	1551.06	3.05	14.90	4.00	181.03
Z48J902J	410900.80	4491633.40	1550.73	3.05	14.90	4.00	181.03
Z48J902K	410904.10	4491690.00	1550.10	3.05	17.10	4.70	181.03
Z48J902L	410902.10	4491682.80	1550.15	3.05	14.90	4.00	181.03
Z48J902M	410901.90	4491694.70	1550.17	3.05	14.90	4.00	181.03
Z48J902N	410903.70	4491665.10	1550.26	3.05	17.10	4.70	181.03
Z48J902O	410901.30	4491658.30	1550.35	3.05	14.90	4.00	181.03
Z48J902P	410901.50	4491671.00	1550.25	3.05	14.90	4.00	181.03
Z48J902Q	410903.80	4491676.80	1550.17	3.05	17.10	4.70	181.03
Z48J902R	410903.70	4491652.80	1550.35	3.05	17.10	4.70	181.03
Z48J902S	410901.50	4491646.50	1550.47	3.05	14.90	4.00	181.03
Z48J902T	410903.20	4491640.50	1550.55	3.05	17.10	4.70	181.03
Z48J902U	410904.30	4491701.40	1550.16	3.05	17.10	4.70	181.03
Z48J902V	410904.50	4491715.10	1550.30	3.05	17.10	4.70	181.03
Z48J902W	410902.70	4491707.90	1550.26	3.05	14.90	4.00	181.03
Z48J902X	410902.50	4491720.80	1550.44	3.05	14.90	4.00	181.03
Z48J902Y	410905.70	4491776.40	1550.30	3.05	17.10	4.70	181.03
Z48J902Z	410903.60	4491769.20	1550.43	3.05	14.90	4.00	181.03
Z48J9030	410903.50	4491781.10	1550.27	3.05	14.90	4.00	181.03
Z48J9031	410905.30	4491751.50	1550.55	3.05	17.10	4.70	181.03
Z48J9032	410902.80	4491744.70	1550.65	3.05	14.90	4.00	181.03
Z48J9033	410903.10	4491757.20	1550.56	3.05	14.90	4.00	181.03
Z48J9034	410905.30	4491763.20	1550.46	3.05	17.10	4.70	181.03
Z48J9035	410905.20	4491739.40	1550.58	3.05	17.10	4.70	181.03
Z48J9036	410903.00	4491732.90	1550.59	3.05	14.90	4.00	181.03
Z48J9037	410904.70	4491726.90	1550.50	3.05	17.10	4.70	181.03
Z48J9038	410905.80	4491787.80	1550.13	3.05	17.10	4.70	181.03
Z48J903A	410506.60	4491804.60	1561.17	3.05	14.90	4.00	181.03
Z48J903B	410505.80	4491799.20	1561.29	3.05	17.10	4.70	181.03
Z48J903C	410506.40	4491792.70	1561.40	3.05	14.90	4.00	181.03
Z48J903D	410505.40	4491785.90	1561.57	3.05	17.10	4.70	181.03
Z48J903E	410506.20	4491780.70	1561.64	3.05	14.90	4.00	181.03
Z48J903F	410505.00	4491773.90	1561.78	3.05	17.10	4.70	181.03
Z48J903G	410506.00	4491767.40	1561.83	3.05	14.90	4.00	181.03
Z48J903H	410505.60	4491762.00	1561.91	3.05	17.10	4.70	181.03
Z48J903I	410505.80	4491755.20	1561.98	3.05	14.90	4.00	181.03
Z48J903J	410504.90	4491749.80	1562.07	3.05	17.10	4.70	181.03
Z48J903K	410505.50	4491743.30	1562.11	3.05	14.90	4.00	181.03
Z48J903L	410504.80	4491737.90	1562.22	3.05	17.10	4.70	181.03

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
Z48J903M	410505.30	4491731.30	1562.30	3.05	14.90	4.00	181.03
Z48J903N	410504.60	4491724.50	1562.42	3.05	17.10	4.70	181.03
Z48J903O	410504.90	4491713.00	1562.53	3.05	14.90	4.00	181.03
Z48J903P	410504.00	4491707.60	1562.64	3.05	17.10	4.70	181.03
Z48J903Q	410504.70	4491701.00	1562.70	3.05	14.90	4.00	181.03
Z48J903R	410503.80	4491694.60	1562.86	3.05	17.10	4.70	181.03
Z48J903S	410504.50	4491689.10	1562.93	3.05	14.90	4.00	181.03
Z48J903T	410503.50	4491683.00	1563.09	3.05	17.10	4.70	181.03
Z48J903U	410504.20	4491676.30	1563.18	3.05	14.90	4.00	181.03
Z48J903V	410503.40	4491670.40	1563.34	3.05	17.10	4.70	181.03
Z48J903W	410504.10	4491664.70	1563.45	3.05	14.90	4.00	181.03
Z48J903X	410503.50	4491658.40	1563.64	3.05	17.10	4.70	181.03
Z48J903Y	410503.80	4491651.60	1563.76	3.05	14.90	4.00	181.03
Z48J903Z	410503.10	4491646.20	1563.91	3.05	17.10	4.70	181.03
Z48J9040	410503.60	4491639.70	1564.02	3.05	14.90	4.00	181.03
Z48J9041	410502.90	4491633.90	1564.17	3.05	17.10	4.70	181.03
Z48J9042	410503.40	4491627.70	1564.28	3.05	14.90	4.00	181.03
Z48J9043	410502.40	4491621.60	1564.48	3.05	17.10	4.70	181.03
Z48J9044	410503.10	4491615.20	1564.58	3.05	14.90	4.00	181.03
Z48J9045	410502.10	4491609.10	1564.72	3.05	17.10	4.70	181.03
Z48J9046	410502.90	4491602.40	1564.69	3.05	14.90	4.00	181.03
Z48J9047	410502.10	4491596.50	1564.69	3.05	17.10	4.70	181.03
Z48J9048	410502.70	4491590.80	1564.61	3.05	14.90	4.00	181.03
Z48J9049	410502.10	4491584.50	1564.61	3.05	17.10	4.70	181.03
Z48J904A	410502.50	4491578.70	1564.61	3.05	14.90	4.00	181.03
Z48J904B	410502.10	4491572.30	1564.72	3.05	17.10	4.70	181.03
Z48J904C	410502.30	4491565.80	1564.84	3.05	14.90	4.00	181.03
Z48J904D	410501.60	4491560.00	1564.99	3.05	17.10	4.70	181.03
Z48J904E	410502.00	4491553.80	1565.12	3.05	14.90	4.00	181.03
Z48J904F	410501.00	4491547.70	1565.30	3.05	17.10	4.70	181.03
Z48J904G	410597.80	4491547.50	1561.23	3.05	17.10	4.70	181.03
Z48J904H	410595.50	4491540.30	1561.41	3.05	14.90	4.00	181.03
Z48J904I	410595.60	4491552.20	1561.24	3.05	14.90	4.00	181.03
Z48J904J	410599.00	4491608.80	1560.76	3.05	17.10	4.70	181.03
Z48J904K	410596.90	4491601.60	1560.93	3.05	14.90	4.00	181.03
Z48J904L	410596.80	4491613.50	1560.74	3.05	14.90	4.00	181.03
Z48J904M	410598.60	4491583.90	1561.08	3.05	17.10	4.70	181.03
Z48J904N	410596.10	4491577.10	1561.16	3.05	14.90	4.00	181.03
Z48J904O	410596.40	4491589.00	1561.11	3.05	14.90	4.00	181.03
Z48J904P	410598.60	4491595.60	1560.98	3.05	17.10	4.70	181.03
Z48J904Q	410598.20	4491571.00	1561.09	3.05	17.10	4.70	181.03
Z48J904R	410596.20	4491565.30	1561.14	3.05	14.90	4.00	181.03
Z48J904S	410598.00	4491559.30	1561.10	3.05	17.10	4.70	181.03
Z48J904T	410599.10	4491620.20	1560.57	3.05	17.10	4.70	181.03
Z48J904U	410599.50	4491638.80	1560.31	3.05	17.10	4.70	181.03
Z48J904V	410597.10	4491631.90	1560.48	3.05	14.90	4.00	181.03
Z48J904W	410597.30	4491643.50	1560.33	3.05	14.90	4.00	181.03
Z48J904X	410600.70	4491700.10	1559.53	3.05	17.10	4.70	181.03
Z48J904Y	410598.20	4491692.90	1559.68	3.05	14.90	4.00	181.03

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
Z48J904Z	410598.50	4491704.80	1559.55	3.05	14.90	4.00	181.03
Z48J9050	410600.10	4491675.20	1559.91	3.05	17.10	4.70	181.03
Z48J9051	410598.10	4491668.40	1560.05	3.05	14.90	4.00	181.03
Z48J9052	410598.00	4491681.10	1559.87	3.05	14.90	4.00	181.03
Z48J9053	410600.30	4491686.90	1559.70	3.05	17.10	4.70	181.03
Z48J9054	410599.90	4491662.90	1560.06	3.05	17.10	4.70	181.03
Z48J9055	410597.90	4491656.60	1560.17	3.05	14.90	4.00	181.03
Z48J9056	410599.70	4491650.60	1560.19	3.05	17.10	4.70	181.03
Z48J9057	410600.80	4491711.50	1559.41	3.05	17.10	4.70	181.03
Z48J9058	410601.10	4491730.10	1559.14	3.05	17.10	4.70	181.03
Z48J9059	410599.10	4491722.90	1559.30	3.05	14.90	4.00	181.03
Z48J905A	410599.50	4491735.80	1559.07	3.05	14.90	4.00	181.03
Z48J905B	410602.30	4491791.40	1558.18	3.05	17.10	4.70	181.03
Z48J905C	410600.30	4491784.20	1558.33	3.05	14.90	4.00	181.03
Z48J905D	410600.50	4491796.10	1558.17	3.05	14.90	4.00	181.03
Z48J905E	410601.80	4491766.50	1558.53	3.05	17.10	4.70	181.03
Z48J905F	410599.80	4491759.70	1558.66	3.05	14.90	4.00	181.03
Z48J905G	410599.70	4491772.20	1558.52	3.05	14.90	4.00	181.03
Z48J905H	410602.00	4491778.20	1558.36	3.05	17.10	4.70	181.03
Z48J905I	410601.60	4491754.40	1558.69	3.05	17.10	4.70	181.03
Z48J905J	410599.60	4491747.90	1558.84	3.05	14.90	4.00	181.03
Z48J905K	410601.40	4491741.90	1558.92	3.05	17.10	4.70	181.03
Z48J905L	410602.40	4491802.80	1558.00	3.05	17.10	4.70	181.03
HGEN7	410492.00	4491811.40	1561.39	3.05	4.90	11.90	91.03
Z48J9084	410751.50	4491638.30	1555.31	3.05	17.10	4.70	181.03
Z48J9085	410749.50	4491631.40	1555.50	3.05	14.90	4.00	181.03
Z48J9086	410749.60	4491643.00	1555.34	3.05	14.90	4.00	181.03
Z48J9087	410752.60	4491699.60	1554.91	3.05	17.10	4.70	181.03
Z48J9088	410750.60	4491692.40	1555.03	3.05	14.90	4.00	181.03
Z48J9089	410750.90	4491704.30	1554.88	3.05	14.90	4.00	181.03
Z48J908A	410752.10	4491674.70	1555.14	3.05	17.10	4.70	181.03
Z48J908B	410750.10	4491667.90	1555.23	3.05	14.90	4.00	181.03
Z48J908C	410750.00	4491680.60	1555.16	3.05	14.90	4.00	181.03
Z48J908D	410752.30	4491686.40	1555.03	3.05	17.10	4.70	181.03
Z48J908E	410751.90	4491662.40	1555.17	3.05	17.10	4.70	181.03
Z48J908F	410749.90	4491656.10	1555.26	3.05	14.90	4.00	181.03
Z48J908G	410751.70	4491650.10	1555.21	3.05	17.10	4.70	181.03
Z48J908H	410752.80	4491711.00	1554.76	3.05	17.10	4.70	181.03
Z48J908I	410753.10	4491729.60	1554.60	3.05	17.10	4.70	181.03
Z48J908J	410751.10	4491722.40	1554.71	3.05	14.90	4.00	181.03
Z48J908K	410751.40	4491735.30	1554.61	3.05	14.90	4.00	181.03
Z48J908L	410754.20	4491790.90	1553.91	3.05	17.10	4.70	181.03
Z48J908M	410752.20	4491783.70	1554.13	3.05	14.90	4.00	181.03
Z48J908N	410752.50	4491795.60	1553.90	3.05	14.90	4.00	181.03
Z48J908O	410753.80	4491766.00	1554.27	3.05	17.10	4.70	181.03
Z48J908P	410751.80	4491759.20	1554.41	3.05	14.90	4.00	181.03
Z48J908Q	410751.70	4491771.70	1554.29	3.05	14.90	4.00	181.03
Z48J908R	410754.00	4491777.70	1554.14	3.05	17.10	4.70	181.03
Z48J908S	410753.60	4491753.90	1554.40	3.05	17.10	4.70	181.03

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
Z48J908T	410751.60	4491747.40	1554.53	3.05	14.90	4.00	181.03
Z48J908U	410753.30	4491741.40	1554.51	3.05	17.10	4.70	181.03
Z48J908V	410754.40	4491802.30	1553.69	3.05	17.10	4.70	181.03
SLC06HG	410644.10	4491810.20	1556.63	3.05	4.90	11.90	91.03
Z48J90AI	410658.70	4491803.40	1556.17	3.05	14.90	4.00	181.03
Z48J90AJ	410657.90	4491798.00	1556.26	3.05	17.10	4.70	181.03
Z48J90AK	410658.50	4491791.50	1556.36	3.05	14.90	4.00	181.03
Z48J90AL	410657.50	4491784.70	1556.52	3.05	17.10	4.70	181.03
Z48J90AM	410658.30	4491779.50	1556.57	3.05	14.90	4.00	181.03
Z48J90AN	410657.00	4491772.70	1556.66	3.05	17.10	4.70	181.03
Z48J90AO	410658.00	4491766.20	1556.64	3.05	14.90	4.00	181.03
Z48J90AP	410657.70	4491760.80	1556.65	3.05	17.10	4.70	181.03
Z48J90AQ	410657.90	4491754.00	1556.69	3.05	14.90	4.00	181.03
Z48J90AR	410657.10	4491748.60	1556.75	3.05	17.10	4.70	181.03
Z48J90AS	410657.70	4491742.10	1556.82	3.05	14.90	4.00	181.03
Z48J90AT	410657.00	4491736.70	1556.94	3.05	17.10	4.70	181.03
Z48J90AU	410657.50	4491730.10	1557.07	3.05	14.90	4.00	181.03
Z48J90AV	410657.40	4491723.30	1557.17	3.05	17.10	4.70	181.03
Z48J90AW	410657.10	4491711.80	1557.31	3.05	14.90	4.00	181.03
Z48J90AX	410656.20	4491706.40	1557.41	3.05	17.10	4.70	181.03
Z48J90AY	410657.00	4491699.80	1557.48	3.05	14.90	4.00	181.03
Z48J90AZ	410656.00	4491693.40	1557.61	3.05	17.10	4.70	181.03
Z48J90B0	410656.80	4491687.90	1557.67	3.05	14.90	4.00	181.03
Z48J90B1	410656.00	4491681.80	1557.78	3.05	17.10	4.70	181.03
Z48J90B2	410656.50	4491675.10	1557.87	3.05	14.90	4.00	181.03
Z48J90B3	410655.40	4491669.20	1558.00	3.05	17.10	4.70	181.03
Z48J90B4	410656.40	4491663.50	1558.05	3.05	14.90	4.00	181.03
Z48J90B5	410655.30	4491657.20	1558.17	3.05	17.10	4.70	181.03
Z48J90B6	410656.10	4491650.40	1558.24	3.05	14.90	4.00	181.03
Z48J90B7	410655.30	4491645.00	1558.37	3.05	17.10	4.70	181.03
Z48J90B8	410655.90	4491638.50	1558.52	3.05	14.90	4.00	181.03
Z48J90B9	410655.20	4491632.70	1558.67	3.05	17.10	4.70	181.03
HGEN51	410795.70	4491796.40	1552.47	3.05	4.90	11.90	91.03
HGEN71	410492.00	4491811.40	1561.39	3.05	4.90	11.90	91.03
SLC06HG1	410644.10	4491810.20	1556.63	3.05	4.90	11.90	91.03
HGEN52	410795.80	4491803.20	1552.31	3.05	4.90	11.90	91.03
SLC06HG2	410644.20	4491816.70	1556.52	3.05	4.90	11.90	91.03
HGEN72	410491.90	4491817.60	1561.27	3.05	4.90	11.90	91.03
T1_ENC	410515.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T2_ENC	410530.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T3_ENC	410545.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T4_ENC	410560.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T5_ENC	410575.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T6_ENC	410590.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T7_ENC	410606.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T8_ENC	410621.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T9_ENC	410636.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T10_ENC	410651.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
T11_ENC	410666.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)	X length (m)	Y length (m)	Angle (degree)
T12_ENC	410682.00	4491380.70	1566.82	10.67	11.40	24.10	-0.10
AMM_TNK	410700.10	4491419.40	1566.82	4.27	20.60	6.70	90.00
SLC07HG3	410528.90	4491434.10	1566.82	3.05	11.90	4.90	90.00

Table A-14. Polygon Buildings.

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)
SLC07	410510.9	4491815.8	1560.89	15.65
SLC06	410662.9	4491813.3	1555.97	15.65
SLC05	410814.6	4491811.1	1551.54	15.65
EEM_1	410535.8	4491422.5	1566.82	4.88
EEM_2	410625.2	4491413.5	1566.82	4.88
TRANS_1	410574.5	4491423.4	1566.82	5.72
TRANS_2	410591.1	4491423.2	1566.82	5.72
TRANS_3	410607.7	4491413.5	1566.82	5.72
EEM_3	410580.2	4491425.0	1566.82	4.88
ADMIN	410468.3	4491381.7	1566.82	6.10
WH/MNT	410468.3	4491381.7	1566.82	8.69

Table A-15. CAT 3516E Engine Option Scenario - PM_{10} Uncapped Point Source Input Parameters

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC05HG1	C32	410802.8	4491794.0	1552.32	0.014900	9.75	734.32	8.59	0.7112
SLC0501	C3516E	410802.7	4491781.9	1552.62	0.079217	9.75	756.43	27.09	0.7112
SLC0502	C3516E	410802.2	4491768.8	1552.81	0.079217	9.75	756.43	27.09	0.7112
SLC0503	C3516E	410801.7	4491757.0	1552.96	0.079217	9.75	756.43	27.09	0.7112
SLC0504	C3516E	410802.2	4491745.0	1553.12	0.079217	9.75	756.43	27.09	0.7112
SLC0505	C3516E	410802.1	4491732.2	1553.27	0.079217	9.75	756.43	27.09	0.7112
SLC0506	C3516E	410801.5	4491720.1	1553.33	0.079217	9.75	756.43	27.09	0.7112
SLC0507	C3516E	410801.1	4491707.0	1553.28	0.079217	9.75	756.43	27.09	0.7112
SLC0508	C3516E	410800.5	4491694.2	1553.25	0.079217	9.75	756.43	27.09	0.7112
SLC0509	C3516E	410800.4	4491681.3	1553.27	0.079217	9.75	756.43	27.09	0.7112
SLC0510	C3516E	410800.7	4491670.1	1553.29	0.079217	9.75	756.43	27.09	0.7112
SLC0511	C3516E	410800.3	4491657.3	1553.42	0.079217	9.75	756.43	27.09	0.7112
SLC0512	C3516E	410799.8	4491645.0	1553.58	0.079217	9.75	756.43	27.09	0.7112
SLC0513	C3516E	410799.7	4491633.0	1553.74	0.079217	9.75	756.43	27.09	0.7112
SLC0514	C3516E	410799.4	4491620.1	1553.94	0.079217	9.75	756.43	27.09	0.7112
SLC0515	C3516E	410799.1	4491608.4	1554.16	0.079217	9.75	756.43	27.09	0.7112
SLC0516	C3516E	410799.4	4491595.8	1554.42	0.079217	9.75	756.43	27.09	0.7112
SLC0517	C3516E	410799.0	4491583.5	1554.70	0.079217	9.75	756.43	27.09	0.7112
SLC0518	C3516E	410798.9	4491571.7	1554.87	0.079217	9.75	756.43	27.09	0.7112
SLC0519	C3516E	410798.5	4491558.9	1555.02	0.079217	9.75	756.43	27.09	0.7112
SLC0520	C3516E	410798.1	4491546.9	1555.12	0.079217	9.75	756.43	27.09	0.7112
SLC0521	C3516E	410799.0	4491534.6	1555.21	0.079217	9.75	756.43	27.09	0.7112
SLC0522	C3516E	410891.7	4491539.6	1553.29	0.079217	9.75	756.43	27.09	0.7112
SLC0523	C3516E	410892.0	4491551.1	1553.14	0.079217	9.75	756.43	27.09	0.7112
SLC0524	C3516E	410892.2	4491563.4	1552.94	0.079217	9.75	756.43	27.09	0.7112
SLC0525	C3516E	410892.6	4491576.3	1552.64	0.079217	9.75	756.43	27.09	0.7112
SLC0526	C3516E	410892.6	4491588.0	1552.33	0.079217	9.75	756.43	27.09	0.7112
SLC0527	C3516E	410892.6	4491600.9	1551.94	0.079217	9.75	756.43	27.09	0.7112
SLC0528	C3516E	410896.9	4491612.6	1551.45	0.079217	9.75	756.43	27.09	0.7112
SLC0529	C3516E	410893.4	4491626.4	1551.05	0.079217	9.75	756.43	27.09	0.7112
SLC0530	C3516E	410893.7	4491637.9	1550.75	0.079217	9.75	756.43	27.09	0.7112
SLC0531	C3516E	410893.9	4491650.7	1550.54	0.079217	9.75	756.43	27.09	0.7112
SLC0532	C3516E	410894.3	4491662.5	1550.43	0.079217	9.75	756.43	27.09	0.7112
SLC0533	C3516E	410894.3	4491674.5	1550.34	0.079217	9.75	756.43	27.09	0.7112
SLC0534	C3516E	410894.3	4491687.6	1550.32	0.079217	9.75	756.43	27.09	0.7112
SLC0535	C3516E	410894.8	4491699.4	1550.37	0.079217	9.75	756.43	27.09	0.7112
SLC0536	C3516E	410894.7	4491712.8	1550.48	0.079217	9.75	756.43	27.09	0.7112
SLC0537	C3516E	410895.0	4491724.8	1550.67	0.079217	9.75	756.43	27.09	0.7112
SLC0538	C3516E	410895.2	4491737.4	1550.83	0.079217	9.75	756.43	27.09	0.7112
SLC0539	C3516E	410895.7	4491749.4	1550.80	0.079217	9.75	756.43	27.09	0.7112
SLC0540	C3516E	410895.6	4491761.1	1550.67	0.079217	9.75	756.43	27.09	0.7112
SLC0541	C3516E	410895.7	4491773.7	1550.49	0.079217	9.75	756.43	27.09	0.7112
SLC0542	C3516E	410896.1	4491785.7	1550.30	0.079217	9.75	756.43	27.09	0.7112
SLC07HG1	C32	410499.1	4491809.0	1561.27	0.014900	9.75	734.32	8.59	0.7112
SLC0701	C3516E	410499.0	4491796.9	1561.51	0.079217	9.75	756.43	27.09	0.7112
SLC0702	C3516E	410498.5	4491783.8	1561.80	0.079217	9.75	756.43	27.09	0.7112
SLC0703	C3516E	410498.0	4491772.0	1562.01	0.079217	9.75	756.43	27.09	0.7112
SLC0704	C3516E	410498.5	4491760.0	1562.15	0.079217	9.75	756.43	27.09	0.7112
SLC0705	C3516E	410498.3	4491747.2	1562.34	0.079217	9.75	756.43	27.09	0.7112
SLC0706	C3516E	410497.8	4491735.1	1562.53	0.079217	9.75	756.43	27.09	0.7112
SLC0707	C3516E	410497.8	4491722.0	1562.71	0.079217	9.75	756.43	27.09	0.7112
SLC0708	C3516E	410497.3	4491705.1	1562.96	0.079217	9.75	756.43	27.09	0.7112

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0709	C3516E	410496.6	4491692.2	1563.25	0.079217	9.75	756.43	27.09	0.7112
SLC0710	C3516E	410496.5	4491681.0	1563.47	0.079217	9.75	756.43	27.09	0.7112
SLC0711	C3516E	410496.7	4491668.2	1563.72	0.079217	9.75	756.43	27.09	0.7112
SLC0712	C3516E	410496.4	4491655.9	1564.02	0.079217	9.75	756.43	27.09	0.7112
SLC0713	C3516E	410495.9	4491643.9	1564.28	0.079217	9.75	756.43	27.09	0.7112
SLC0714	C3516E	410495.8	4491631.0	1564.53	0.079217	9.75	756.43	27.09	0.7112
SLC0715	C3516E	410495.5	4491619.3	1564.81	0.079217	9.75	756.43	27.09	0.7112
SLC0716	C3516E	410495.1	4491606.7	1564.98	0.079217	9.75	756.43	27.09	0.7112
SLC0717	C3516E	410495.4	4491594.4	1564.93	0.079217	9.75	756.43	27.09	0.7112
SLC0718	C3516E	410495.0	4491582.6	1564.89	0.079217	9.75	756.43	27.09	0.7112
SLC0719	C3516E	410494.9	4491569.8	1565.03	0.079217	9.75	756.43	27.09	0.7112
SLC0720	C3516E	410494.5	4491557.8	1565.28	0.079217	9.75	756.43	27.09	0.7112
SLC0721	C3516E	410494.1	4491545.5	1565.57	0.079217	9.75	756.43	27.09	0.7112
SLC0722	C3516E	410588.0	4491544.9	1561.61	0.079217	9.75	756.43	27.09	0.7112
SLC0723	C3516E	410588.3	4491556.4	1561.44	0.079217	9.75	756.43	27.09	0.7112
SLC0724	C3516E	410588.2	4491568.7	1561.38	0.079217	9.75	756.43	27.09	0.7112
SLC0725	C3516E	410589.0	4491581.6	1561.32	0.079217	9.75	756.43	27.09	0.7112
SLC0726	C3516E	410588.9	4491593.3	1561.25	0.079217	9.75	756.43	27.09	0.7112
SLC0727	C3516E	410589.0	4491606.2	1561.07	0.079217	9.75	756.43	27.09	0.7112
SLC0728	C3516E	410589.4	4491617.9	1560.90	0.079217	9.75	756.43	27.09	0.7112
SLC0729	C3516E	410589.9	4491636.5	1560.62	0.079217	9.75	756.43	27.09	0.7112
SLC0730	C3516E	410590.2	4491648.0	1560.47	0.079217	9.75	756.43	27.09	0.7112
SLC0731	C3516E	410590.1	4491660.8	1560.32	0.079217	9.75	756.43	27.09	0.7112
SLC0732	C3516E	410590.7	4491672.6	1560.18	0.079217	9.75	756.43	27.09	0.7112
SLC0733	C3516E	410590.8	4491684.6	1560.00	0.079217	9.75	756.43	27.09	0.7112
SLC0734	C3516E	410590.9	4491697.7	1559.84	0.079217	9.75	756.43	27.09	0.7112
SLC0735	C3516E	410591.3	4491709.5	1559.68	0.079217	9.75	756.43	27.09	0.7112
SLC0736	C3516E	410591.3	4491727.8	1559.40	0.079217	9.75	756.43	27.09	0.7112
SLC0737	C3516E	410591.7	4491739.8	1559.15	0.079217	9.75	756.43	27.09	0.7112
SLC0738	C3516E	410591.6	4491752.4	1558.93	0.079217	9.75	756.43	27.09	0.7112
SLC0739	C3516E	410592.2	4491764.4	1558.79	0.079217	9.75	756.43	27.09	0.7112
SLC0740	C3516E	410592.3	4491776.1	1558.67	0.079217	9.75	756.43	27.09	0.7112
SLC0741	C3516E	410592.3	4491788.7	1558.54	0.079217	9.75	756.43	27.09	0.7112
SLC0742	C3516E	410592.7	4491800.7	1558.38	0.079217	9.75	756.43	27.09	0.7112
SLC0601	C3516E	410741.9	4491636.0	1555.72	0.079217	9.75	756.43	27.09	0.7112
SLC0602	C3516E	410742.2	4491647.5	1555.59	0.079217	9.75	756.43	27.09	0.7112
SLC0603	C3516E	410742.1	4491660.3	1555.54	0.079217	9.75	756.43	27.09	0.7112
SLC0604	C3516E	410742.7	4491672.1	1555.45	0.079217	9.75	756.43	27.09	0.7112
SLC0605	C3516E	410742.8	4491684.1	1555.31	0.079217	9.75	756.43	27.09	0.7112
SLC0606	C3516E	410742.8	4491697.2	1555.18	0.079217	9.75	756.43	27.09	0.7112
SLC0607	C3516E	410743.3	4491709.0	1555.02	0.079217	9.75	756.43	27.09	0.7112
SLC0608	C3516E	410743.3	4491727.3	1554.90	0.079217	9.75	756.43	27.09	0.7112
SLC0609	C3516E	410743.6	4491739.3	1554.82	0.079217	9.75	756.43	27.09	0.7112
SLC0610	C3516E	410743.6	4491751.9	1554.76	0.079217	9.75	756.43	27.09	0.7112
SLC0611	C3516E	410744.2	4491763.9	1554.64	0.079217	9.75	756.43	27.09	0.7112
SLC0612	C3516E	410744.3	4491775.6	1554.54	0.079217	9.75	756.43	27.09	0.7112
SLC0613	C3516E	410744.2	4491788.2	1554.37	0.079217	9.75	756.43	27.09	0.7112
SLC0614	C3516E	410744.7	4491800.2	1554.09	0.079217	9.75	756.43	27.09	0.7112
SLC0615	C3516E	410651.1	4491795.7	1556.54	0.079217	9.75	756.43	27.09	0.7112
SLC0616	C3516E	410650.6	4491782.6	1556.79	0.079217	9.75	756.43	27.09	0.7112
SLC0617	C3516E	410650.0	4491770.8	1556.88	0.079217	9.75	756.43	27.09	0.7112
SLC0618	C3516E	410650.6	4491758.8	1556.89	0.079217	9.75	756.43	27.09	0.7112
SLC0619	C3516E	410650.5	4491746.0	1557.03	0.079217	9.75	756.43	27.09	0.7112

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0620	C3516E	410650.0	4491733.9	1557.28	0.079217	9.75	756.43	27.09	0.7112
SLC0621	C3516E	410650.6	4491720.8	1557.42	0.079217	9.75	756.43	27.09	0.7112
SLC0622	C3516E	410649.5	4491703.9	1557.65	0.079217	9.75	756.43	27.09	0.7112
SLC0623	C3516E	410648.8	4491691.0	1557.87	0.079217	9.75	756.43	27.09	0.7112
SLC0624	C3516E	410649.0	4491679.8	1558.06	0.079217	9.75	756.43	27.09	0.7112
SLC0625	C3516E	410648.7	4491667.0	1558.27	0.079217	9.75	756.43	27.09	0.7112
SLC0626	C3516E	410648.2	4491654.7	1558.46	0.079217	9.75	756.43	27.09	0.7112
SLC0627	C3516E	410648.1	4491642.7	1558.69	0.079217	9.75	756.43	27.09	0.7112
SLC0628	C3516E	410648.1	4491629.8	1558.98	0.079217	9.75	756.43	27.09	0.7112
SLC06HG1	C32	410651.2	4491807.8	1556.37	0.014900	9.75	734.32	8.59	0.7112
SLC05HG2	C32	410802.9	4491800.8	1552.32	0.014900	9.75	734.32	8.59	0.7112
SLC06HG2	C32	410651.3	4491814.3	1556.37	0.014900	9.75	734.32	8.59	0.7112
SLC07HG2	C32	410499.0	4491815.2	1561.27	0.014900	9.75	734.32	8.59	0.7112
SLC07HG3	C32	410531.5	4491427.1	1566.82	0.014900	9.75	734.32	8.59	0.7112

Table A-16. CAT C175-16 Engine Option Scenario - PM_{10} Uncapped Point Source Input Parameters

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC05HG1	C32	410802.8	4491794.0	1552.32	0.014900	9.75	734.32	8.59	0.71
SLC0501	C175-16	410802.7	4491781.9	1552.62	0.047523	9.75	717.26	30.08	0.7112
SLC0502	C175-16	410802.2	4491768.8	1552.81	0.047523	9.75	717.26	30.08	0.7112
SLC0503	C175-16	410801.7	4491757.0	1552.96	0.047523	9.75	717.26	30.08	0.7112
SLC0504	C175-16	410802.2	4491745.0	1553.12	0.047523	9.75	717.26	30.08	0.7112
SLC0505	C175-16	410802.1	4491732.2	1553.27	0.047523	9.75	717.26	30.08	0.7112
SLC0506	C175-16	410801.5	4491720.1	1553.33	0.047523	9.75	717.26	30.08	0.7112
SLC0507	C175-16	410801.1	4491707.0	1553.28	0.047523	9.75	717.26	30.08	0.7112
SLC0508	C175-16	410800.5	4491694.2	1553.25	0.047523	9.75	717.26	30.08	0.7112
SLC0509	C175-16	410800.4	4491681.3	1553.27	0.047523	9.75	717.26	30.08	0.7112
SLC0510	C175-16	410800.7	4491670.1	1553.29	0.047523	9.75	717.26	30.08	0.7112
SLC0511	C175-16	410800.3	4491657.3	1553.42	0.047523	9.75	717.26	30.08	0.7112
SLC0512	C175-16	410799.8	4491645.0	1553.58	0.047523	9.75	717.26	30.08	0.7112
SLC0513	C175-16	410799.7	4491633.0	1553.74	0.047523	9.75	717.26	30.08	0.7112
SLC0514	C175-16	410799.4	4491620.1	1553.94	0.047523	9.75	717.26	30.08	0.7112
SLC0515	C175-16	410799.1	4491608.4	1554.16	0.047523	9.75	717.26	30.08	0.7112
SLC0516	C175-16	410799.4	4491595.8	1554.42	0.047523	9.75	717.26	30.08	0.7112
SLC0517	C175-16	410799.0	4491583.5	1554.70	0.047523	9.75	717.26	30.08	0.7112
SLC0518	C175-16	410798.9	4491571.7	1554.87	0.047523	9.75	717.26	30.08	0.7112
SLC0519	C175-16	410798.5	4491558.9	1555.02	0.047523	9.75	717.26	30.08	0.7112
SLC0520	C175-16	410798.1	4491546.9	1555.12	0.047523	9.75	717.26	30.08	0.7112
SLC0521	C175-16	410799.0	4491534.6	1555.21	0.047523	9.75	717.26	30.08	0.7112
SLC0522	C175-16	410891.7	4491539.6	1553.29	0.047523	9.75	717.26	30.08	0.7112
SLC0523	C175-16	410892.0	4491551.1	1553.14	0.047523	9.75	717.26	30.08	0.7112
SLC0524	C175-16	410892.2	4491563.4	1552.94	0.047523	9.75	717.26	30.08	0.7112
SLC0525	C175-16	410892.6	4491576.3	1552.64	0.047523	9.75	717.26	30.08	0.7112
SLC0526	C175-16	410892.6	4491588.0	1552.33	0.047523	9.75	717.26	30.08	0.7112
SLC0527	C175-16	410892.6	4491600.9	1551.94	0.047523	9.75	717.26	30.08	0.7112
SLC0528	C175-16	410896.9	4491612.6	1551.45	0.047523	9.75	717.26	30.08	0.7112
SLC0529	C175-16	410893.4	4491626.4	1551.05	0.047523	9.75	717.26	30.08	0.7112
SLC0530	C175-16	410893.7	4491637.9	1550.75	0.047523	9.75	717.26	30.08	0.7112
SLC0531	C175-16	410893.9	4491650.7	1550.54	0.047523	9.75	717.26	30.08	0.7112
SLC0532	C175-16	410894.3	4491662.5	1550.43	0.047523	9.75	717.26	30.08	0.7112
SLC0533	C175-16	410894.3	4491674.5	1550.34	0.047523	9.75	717.26	30.08	0.7112
SLC0534	C175-16	410894.3	4491687.6	1550.32	0.047523	9.75	717.26	30.08	0.7112
SLC0535	C175-16	410894.8	4491699.4	1550.37	0.047523	9.75	717.26	30.08	0.7112
SLC0536	C175-16	410894.7	4491712.8	1550.48	0.047523	9.75	717.26	30.08	0.7112
SLC0537	C175-16	410895.0	4491724.8	1550.67	0.047523	9.75	717.26	30.08	0.7112
SLC0538	C175-16	410895.2	4491737.4	1550.83	0.047523	9.75	717.26	30.08	0.7112
SLC0539	C175-16	410895.7	4491749.4	1550.80	0.047523	9.75	717.26	30.08	0.7112
SLC0540	C175-16	410895.6	4491761.1	1550.67	0.047523	9.75	717.26	30.08	0.7112
SLC0541	C175-16	410895.7	4491773.7	1550.49	0.047523	9.75	717.26	30.08	0.7112
SLC0542	C175-16	410896.1	4491785.7	1550.30	0.047523	9.75	717.26	30.08	0.7112
SLC07HG1	C32	410499.1	4491809.0	1561.27	0.014900	9.75	734.32	8.59	0.7112
SLC0701	C175-16	410499.0	4491796.9	1561.51	0.047523	9.75	717.26	30.08	0.7112
SLC0702	C175-16	410498.5	4491783.8	1561.80	0.047523	9.75	717.26	30.08	0.7112
SLC0703	C175-16	410498.0	4491772.0	1562.01	0.047523	9.75	717.26	30.08	0.7112
SLC0704	C175-16	410498.5	4491760.0	1562.15	0.047523	9.75	717.26	30.08	0.7112
SLC0705	C175-16	410498.3	4491747.2	1562.34	0.047523	9.75	717.26	30.08	0.7112
SLC0706	C175-16	410497.8	4491735.1	1562.53	0.047523	9.75	717.26	30.08	0.7112
SLC0707	C175-16	410497.8	4491722.0	1562.71	0.047523	9.75	717.26	30.08	0.7112

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0708	C175-16	410497.3	4491705.1	1562.96	0.047523	9.75	717.26	30.08	0.7112
SLC0709	C175-16	410496.6	4491692.2	1563.25	0.047523	9.75	717.26	30.08	0.7112
SLC0710	C175-16	410496.5	4491681.0	1563.47	0.047523	9.75	717.26	30.08	0.7112
SLC0711	C175-16	410496.7	4491668.2	1563.72	0.047523	9.75	717.26	30.08	0.7112
SLC0712	C175-16	410496.4	4491655.9	1564.02	0.047523	9.75	717.26	30.08	0.7112
SLC0713	C175-16	410495.9	4491643.9	1564.28	0.047523	9.75	717.26	30.08	0.7112
SLC0714	C175-16	410495.8	4491631.0	1564.53	0.047523	9.75	717.26	30.08	0.7112
SLC0715	C175-16	410495.5	4491619.3	1564.81	0.047523	9.75	717.26	30.08	0.7112
SLC0716	C175-16	410495.1	4491606.7	1564.98	0.047523	9.75	717.26	30.08	0.7112
SLC0717	C175-16	410495.4	4491594.4	1564.93	0.047523	9.75	717.26	30.08	0.7112
SLC0718	C175-16	410495.0	4491582.6	1564.89	0.047523	9.75	717.26	30.08	0.7112
SLC0719	C175-16	410494.9	4491569.8	1565.03	0.047523	9.75	717.26	30.08	0.7112
SLC0720	C175-16	410494.5	4491557.8	1565.28	0.047523	9.75	717.26	30.08	0.7112
SLC0721	C175-16	410494.1	4491545.5	1565.57	0.047523	9.75	717.26	30.08	0.7112
SLC0722	C175-16	410588.0	4491544.9	1561.61	0.047523	9.75	717.26	30.08	0.7112
SLC0723	C175-16	410588.3	4491556.4	1561.44	0.047523	9.75	717.26	30.08	0.7112
SLC0724	C175-16	410588.2	4491568.7	1561.38	0.047523	9.75	717.26	30.08	0.7112
SLC0725	C175-16	410589.0	4491581.6	1561.32	0.047523	9.75	717.26	30.08	0.7112
SLC0726	C175-16	410588.9	4491593.3	1561.25	0.047523	9.75	717.26	30.08	0.7112
SLC0727	C175-16	410589.0	4491606.2	1561.07	0.047523	9.75	717.26	30.08	0.7112
SLC0728	C175-16	410589.4	4491617.9	1560.90	0.047523	9.75	717.26	30.08	0.7112
SLC0729	C175-16	410589.9	4491636.5	1560.62	0.047523	9.75	717.26	30.08	0.7112
SLC0730	C175-16	410590.2	4491648.0	1560.47	0.047523	9.75	717.26	30.08	0.7112
SLC0731	C175-16	410590.1	4491660.8	1560.32	0.047523	9.75	717.26	30.08	0.7112
SLC0732	C175-16	410590.7	4491672.6	1560.18	0.047523	9.75	717.26	30.08	0.7112
SLC0733	C175-16	410590.8	4491684.6	1560.00	0.047523	9.75	717.26	30.08	0.7112
SLC0734	C175-16	410590.9	4491697.7	1559.84	0.047523	9.75	717.26	30.08	0.7112
SLC0735	C175-16	410591.3	4491709.5	1559.68	0.047523	9.75	717.26	30.08	0.7112
SLC0736	C175-16	410591.3	4491727.8	1559.40	0.047523	9.75	717.26	30.08	0.7112
SLC0737	C175-16	410591.7	4491739.8	1559.15	0.047523	9.75	717.26	30.08	0.7112
SLC0738	C175-16	410591.6	4491752.4	1558.93	0.047523	9.75	717.26	30.08	0.7112
SLC0739	C175-16	410592.2	4491764.4	1558.79	0.047523	9.75	717.26	30.08	0.7112
SLC0740	C175-16	410592.3	4491776.1	1558.67	0.047523	9.75	717.26	30.08	0.7112
SLC0741	C175-16	410592.3	4491788.7	1558.54	0.047523	9.75	717.26	30.08	0.7112
SLC0742	C175-16	410592.7	4491800.7	1558.38	0.047523	9.75	717.26	30.08	0.7112
SLC0601	C175-16	410741.9	4491636.0	1555.72	0.047523	9.75	717.26	30.08	0.7112
SLC0602	C175-16	410742.2	4491647.5	1555.59	0.047523	9.75	717.26	30.08	0.7112
SLC0603	C175-16	410742.1	4491660.3	1555.54	0.047523	9.75	717.26	30.08	0.7112
SLC0604	C175-16	410742.7	4491672.1	1555.45	0.047523	9.75	717.26	30.08	0.7112
SLC0605	C175-16	410742.8	4491684.1	1555.31	0.047523	9.75	717.26	30.08	0.7112
SLC0606	C175-16	410742.8	4491697.2	1555.18	0.047523	9.75	717.26	30.08	0.7112
SLC0607	C175-16	410743.3	4491709.0	1555.02	0.047523	9.75	717.26	30.08	0.7112
SLC0608	C175-16	410743.3	4491727.3	1554.90	0.047523	9.75	717.26	30.08	0.7112
SLC0609	C175-16	410743.6	4491739.3	1554.82	0.047523	9.75	717.26	30.08	0.7112
SLC0610	C175-16	410743.6	4491751.9	1554.76	0.047523	9.75	717.26	30.08	0.7112
SLC0611	C175-16	410744.2	4491763.9	1554.64	0.047523	9.75	717.26	30.08	0.7112
SLC0612	C175-16	410744.3	4491775.6	1554.54	0.047523	9.75	717.26	30.08	0.7112
SLC0613	C175-16	410744.2	4491788.2	1554.37	0.047523	9.75	717.26	30.08	0.7112
SLC0614	C175-16	410744.7	4491800.2	1554.09	0.047523	9.75	717.26	30.08	0.7112
SLC0615	C175-16	410651.1	4491795.7	1556.54	0.047523	9.75	717.26	30.08	0.7112
SLC0616	C175-16	410650.6	4491782.6	1556.79	0.047523	9.75	717.26	30.08	0.7112
SLC0617	C175-16	410650.0	4491770.8	1556.88	0.047523	9.75	717.26	30.08	0.7112

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
SLC0618	C175-16	410650.6	4491758.8	1556.89	0.047523	9.75	717.26	30.08	0.7112
SLC0619	C175-16	410650.5	4491746.0	1557.03	0.047523	9.75	717.26	30.08	0.7112
SLC0620	C175-16	410650.0	4491733.9	1557.28	0.047523	9.75	717.26	30.08	0.7112
SLC0621	C175-16	410650.6	4491720.8	1557.42	0.047523	9.75	717.26	30.08	0.7112
SLC0622	C175-16	410649.5	4491703.9	1557.65	0.047523	9.75	717.26	30.08	0.7112
SLC0623	C175-16	410648.8	4491691.0	1557.87	0.047523	9.75	717.26	30.08	0.7112
SLC0624	C175-16	410649.0	4491679.8	1558.06	0.047523	9.75	717.26	30.08	0.7112
SLC0625	C175-16	410648.7	4491667.0	1558.27	0.047523	9.75	717.26	30.08	0.7112
SLC0626	C175-16	410648.2	4491654.7	1558.46	0.047523	9.75	717.26	30.08	0.7112
SLC0627	C175-16	410648.1	4491642.7	1558.69	0.047523	9.75	717.26	30.08	0.7112
SLC0628	C175-16	410648.1	4491629.8	1558.98	0.047523	9.75	717.26	30.08	0.7112
SLC06HG1	C32	410651.2	4491807.8	1556.37	0.014900	9.75	734.32	8.59	0.7112
SLC05HG2	C32	410802.9	4491800.8	1552.32	0.014900	9.75	734.32	8.59	0.7112
SLC06HG2	C32	410651.3	4491814.3	1556.37	0.014900	9.75	734.32	8.59	0.7112
SLC07HG2	C32	410499.0	4491815.2	1561.27	0.014900	9.75	734.32	8.59	0.7112
SLC07HG3	C32	410531.5	4491427.1	1566.82	0.014900	9.75	734.32	8.59	0.71

Table A-17. Titan Solar 130 PM_{10} Uncapped Point Source Input Parameters

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (K)	Stack Velocity (m/s)	Stack Diameter (m)
TURB1	410521.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB2	410536.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB3	410552.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB4	410567.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB5	410582.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB6	410597.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB7	410613.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB8	410628.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB9	410643.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB10	410658.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB11	410674.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432
TURB12	410689.0	4491368	1566.824	0.13607	15.24	709.4932	23.374304	2.7432

Table A-18. PM_{10} Nearby Uncapped Point Source Input Parameters

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate (g/s)	Stack Height (m)	Stack Temp. (k)	Stack Velocity (m/s)	Stack Diameter (m)
GEN1		410165.0	4490199.0	1575.40	0.047849	10.97	728.54	85.92	0.31
GEN2		410165.0	4490194.0	1575.44	0.047849	10.97	704.04	86.20	0.31
GEN3		410165.0	4490189.0	1575.46	0.047849	10.97	720.43	88.27	0.31
FLARE1		410180.0	4490229.7	1575.04	0.198777	12.19	717.65	4.60	1.83
GENSET		410169.9	4490114.4	1576.08	0.025200	1.83	820.93	62.12	0.08
KILN3		413805.0	4491415.5	1487.74	1.091142	16.76	318.71	9.46	1.49
L3BH	Line 3 Baghouse	413686.8	4491478.3	1487.96	0.016155	2.44	305.37	14.06	0.46
KILN4	scrubber	413737.2	4491876.9	1486.02	0.500212	24.38	322.04	9.58	1.83
L4BH	Line 4 baghouse	413621.5	4491724.3	1486.81	0.030516	1.22	303.15	19.70	0.46
CRUSHER	primary from SLEIS	413562.9	4491539.3	1492.42	0.070559	12.19	295.37	0.64	0.82

Table A-19. PM_{10} Nearby Polygon Area

ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Emission Rate ($g/s\text{-}m^2$)	Release Height (m)	Init. Vert. dim.
FUGITIVE	413790.8	4491189.0	1491.94	0.000000758	0.91	3.00

Table A-20. PM_{10} Nearby Polygon Buildings.

ID	Description	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Height (m)
TJADMIN		410169.1	4490113.2	1576.15	9.14
TJEDL		410182.0	4490199.0	1575.37	7.16
BLD_1		413578.6	4491501.5	1492.68	8.23
BLD_2		413714.9	4491654.9	1487.80	9.14
BLD_4		413798.1	4491435.0	1487.74	10.67
BLD_5		413816.9	4491447.3	1487.74	10.67
BLD_6MT	Main Tier	413745.9	4491399.5	1487.73	6.40
BLD_6T2	Tier 2	413663.7	4491602.3	1487.73	9.14
BLD_6T3	Tier 3	413758.7	4491409.5	1487.73	11.89
BLD_7		413623.0	4491520.2	1487.91	12.19
BLD_8		413613.0	4491598.8	1487.92	9.14
BLD_9		413619.6	4491606.7	1487.71	14.63
BLD_10T1	Build_10.T1	413600.9	4491715.2	1486.65	10.67
BLD_10T2	Build_10.T2	413614.1	4491725.0	1486.65	12.80

Credit Card Payment Receipt

Your payment was successfully processed.

Please print this page as a receipt for your records.

Item	Quantity	Item Amount	Total
NSR - Pre-Payment of Notice of Intent Approval ... *Pre-Payment of Notice of Intent Approval Order ($2500) and Filing Fee ($575). Fee schedule provid...*	1	$3,075.00	$3,075.00
Total Amount:			**$3,075.00**

Payment Processing Details

Order Number: f4b3027e-cbf7-410f-a02c-a93626e6cca3

Date of Transaction: 05/08/2025

Amount Charged:	$3,075.00
Name on Card:	Tim Stephenson
Credit Card Number:	**********4003
Credit Card Type:	American Express

Utah.gov Home | Utah.gov Terms of Use | Utah.gov Privacy Policy | Translate Utah.gov

Copyright © 2025 State of Utah - All rights reserved.

UTAH DIVISION OF AIR QUALITY – NOTICE OF INTENT

Aligned Data Centers (WJU) PropCo, LLC



Modification of Approval Order
DAQE-AN162210001-24

Prepared by:
TRINITY CONSULTANTS
4525 Wasatch Boulevard
Suite 150
Salt Lake City, Utah 84104
(801) 272-3000

Submitted on Behalf of:
Aligned Data Centers (WJU) PropCo, LLC

June 2025

TABLE OF CONTENTS

TABLE OF CONTENTS I

1. EXECUTIVE SUMMARY 1-1

2. GENERAL INFORMATION 2-1
   - 2.1 Source Identification Summary 2-1
   - 2.2 Area Designation 2-1
   - 2.3 Source Size Determination 2-1
   - 2.4 Notice of Intent Forms 2-2
   - 2.5 Notice of Intent Fees 2-2

3. DESCRIPTION OF PROJECT AND PROCESS 3-1
   - 3.1 Description of Project and Process 3-1
     - *Natural Gas-Fired Turbines* 3-1
     - *Diesel-Fired Emergency Generators* 3-1
   - 3.2 Site Plan 3-1

4. EMISSIONS RELATED INFORMATION 4-1
   - 4.1 Natural Gas-Fired Turbines 4-1
     - *Calculation Methodology* 4-1
     - *GHG Emissions* 4-3
     - *HAP Emissions* 4-4
   - 4.2 Diesel-Fired Emergency Generators 4-4
   - 4.3 Storage Tanks 4-6
     - *VOC Emissions* 4-6
     - *HAP Emissions* 4-6

5. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS 5-1
   - 5.1 BACT Methodology 5-1
     - *Step 1 – Identify All Control Technologies* 5-1
     - *Step 2 – Eliminate Technically Infeasible Options* 5-1
     - *Step 3 - Rank Remaining Control Technologies by Control Effectiveness* 5-2
     - *Step 4 - Evaluate Most Effective Controls and Document Results* 5-2
     - *Step 5 - Select BACT* 5-3
   - 5.2 BACT Analyses 5-3

6. EMISSION IMPACT ANALYSIS 6-1

7. NONATTAINMENT/MAINTENANCE AREAS - OFFSETTING 7-1
   - 7.1 Offset Applicability 7-1
     - *$PM_{2.5}$ Offsets (UAC R307-403)* 7-1
     - *Ozone Offsets (UAC R307-420)* 7-1
     - *PM_{10} Offsets (UAC R307-421)* 7-1

8. APPLICABLE REGULATIONS 8-1
   - 8.1 UDAQ Air Quality Rules 8-1
   - 8.2 Federal Rules: National Emission Standards for Hazardous Air Pollutants 8-5
   - 8.3 Federal Rules: New Source Performance Standards 8-6

APPENDIX A. FORMS **8-1**

APPENDIX B. EMISSIONS CALCULATIONS

APPENDIX C. MANUFACTURING SPECIFICATION SHEETS

APPENDIX D. BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

1. EXECUTIVE SUMMARY

Aligned Data Centers (Aligned) is submitting this Notice of Intent (NOI) air permit application to the Utah Division of Air Quality (UDAQ) to modify Approval Order (AO) DAQE-AN162210001-24 for the data center in West Jordan, Utah (West Jordan Data Center). The West Jordan Data Center is located within an area of Salt Lake County which is currently designated as a serious nonattainment area (NAA) for the 2006 24-hour National Ambient Air Quality Standards (NAAQS) for particulate matter (PM) with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), a NAA for sulfur dioxide (SO_2), a serious NAA for the 2015 8-hour NAAQS for ozone[1], and an attainment area for all other criteria pollutants.[2]

Aligned proposes to modify the AO to install 12 simple cycle natural gas-fired turbines (turbines) to provide primary power for the data center buildings. Additionally, Aligned seeks to revise the West Jordan Data Center's AO to reduce the quantity of 3,100-kilowatt (kW) diesel-fired emergency generators and the associated fuel tanks from 182 to 112 and the quantity of 1,000 kW diesel-fired emergency generators and associated tanks from ten to seven

This NOI air permit application is being submitted in accordance with the Utah Division of Air Quality's (UDAQ's) rules, Utah Administrative Code (UAC) R307-401 and includes all supporting documentation to obtain authorization for the installations described above. The proposed operations constitute a minor modification at a minor source. Air dispersion modeling has been conducted for nitrogen dioxide (NO_2) and PM with an aerodynamic diameter of 10 microns or less (PM_{10}) to demonstrate that the operations will not cause or contribute to an exceedance of the respective NAAQS. Appendix B Table B-1 summarizes the emissions resulting from Aligned's operations.

[1] 40 CFR Part 81. Federal Register / Vol. 89, No. 236 / Monday, December 9, 2024 / Rules and Regulations.
[2] Per U.S. EPA Green Book, Utah Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants, current as of April 24, 2025.

2. GENERAL INFORMATION

The following section contains the information requested under the "Source Identification Information" section of UDAQ's Form 1 *Notice of Intent (NOI) Application Checklist*.

2.1 Source Identification Summary

- Company Name: Aligned Data Centers (WJU) PropCo, LLC
- Address: 6800 W 9800 South, West Jordan, Utah 84081
- County: Salt Lake County
- UTM Coordinates: 410,705 m E, 4,491,561 m N, Zone 12
- Primary SIC Code: 7376 – Computer Facilities Management Services
- Current AO: DAQE-AN162210001-24

All correspondence regarding this submission should be addressed to:

Mr. Tim Stephenson, PMP, PMI-SCP
Director, Power Generation
2800 Summit Avenue
Plano, TX 75074
Phone: (215) 680-4063
Email: Tim.Stephenson@aligneddc.com

Mr. Michael Welch
Chief Technology Officer (CTO)
2800 Summit Avenue
Plano, TX 75074
Phone: (203) 981-6922
Email: Michael.Welch@aligneddc.com

2.2 Area Designation

The West Jordan Data Center is located within an area of Salt Lake County that is classified as in attainment for all pollutants with exception to the following: (1) $PM_{2.5}$ for which it is classified as a serious NAA; (2) Ozone (2015 Standard) for which it is classified as a serious NAA; and (3) SO_2. The PM_{10} nonattainment area was redesignated as a maintenance area by the EPA, effective as of March 27, 2020.

2.3 Source Size Determination

The West Jordan Data Center is currently designated as a synthetic minor source. This proposed project will be a minor modification. After completion of this proposed modification, the site will be a major source of NO_X.

2.4 Notice of Intent Forms

The following UDAQ forms have been included with this NOI air permit application:

- Form 1 – Notice of Intent (NOI) Application Checklist
- Form 2 – Company Information/Notice of Intent (NOI)
- Form 4 – Project Information
- Form 5 – Emissions Information Criteria/GHGs/HAPs
- Form 22 – Combustion Turbine

2.5 Notice of Intent Fees

Aligned will use the UDAQ's Payment Portal to prepay the following UDAQ NOI air permit application fees associated with this submittal:

"Application Filing Fee" for the "New Minor Source or Minor Modification at Minor or Major Source" category = $575
"Application Review Fee" for the "New Minor Source or Minor Modification at Minor or Major Source" category in maintenance or non-attainment areas = $2,500

Total UDAQ fees = $3,075

Aligned understands that the total permit review fee is based on the total actual time spent by UDAQ staff processing this NOI air permit application. Upon issuance of the AO, if the total review time is more than 20 standard hours, UDAQ will invoice Aligned at $125 per hour for the additional time above 20 standard hours.

3. DESCRIPTION OF PROJECT AND PROCESS

3.1 Description of Project and Process

The Aligned West Jordan Data Center will house servers for Aligned's clients. Air emissions from the West Jordan Data Center will result from the equipment used to provide primary and backup power to the data center buildings.

Natural Gas-Fired Turbines

Aligned proposes to add 12 new natural gas-fired simple cycle turbines to provide primary power to the West Jordan Data Center. These turbines will be located in the space previously designated for buildings 8 and 9 and the associated diesel-fired emergency generators that are being removed as part of this project.

Aligned's natural gas-fired turbines will operate as needed, year-round to provide primary power to the West Jordan Data Center. Due to the transient nature of data center power requirements, the electrical load required by the data hall will vary. Aligned's system of turbines will have multiple additional units on 'hot standby mode' (i.e. not operational) to ensure availability for load response and redundancy for Aligned's customers. To account for this redundancy, the turbines' potential to emit (PTE) is calculated based on the maximum pound per megawatt-hour (lb/MWh) operating scenario, with a proposed limit of 1,012,305.6 MWh per rolling 12-month period. This methodology is described further in Section 4 of this application.

Diesel-Fired Emergency Generators

Per DAQE-AN162210001-24, the West Jordan Data Center is currently permitted to operate the following equipment for backup power:

- 182 diesel-fired emergency generators with a maximum rating of 3,100 kW (either Cat Model C175-16 or Cat Model C3516);
- Ten Cat Model C32 1,000 kW diesel-fired emergency generators; and
- 192 diesel fuel storage tanks.

Aligned proposes to reduce the quantity of diesel-fired emergency generators and their associated diesel fuel storage tanks to the following:

- 112 diesel-fired emergency generators with a maximum rating of 3,100 kW (either Cat Model C175-16 or Cat Model C3516);
- Seven Cat Model C32 1,000 kW diesel-fired emergency generators; and
- 119 diesel storage tanks.

Aligned proposes to revise the sitewide rolling 12-month period fuel usage limit from the current permitted limit of 511,945 gallons of diesel fuel per year to 314,888 gallons per year to reflect the reduction in the quantity of diesel-fired emergency generators on site.

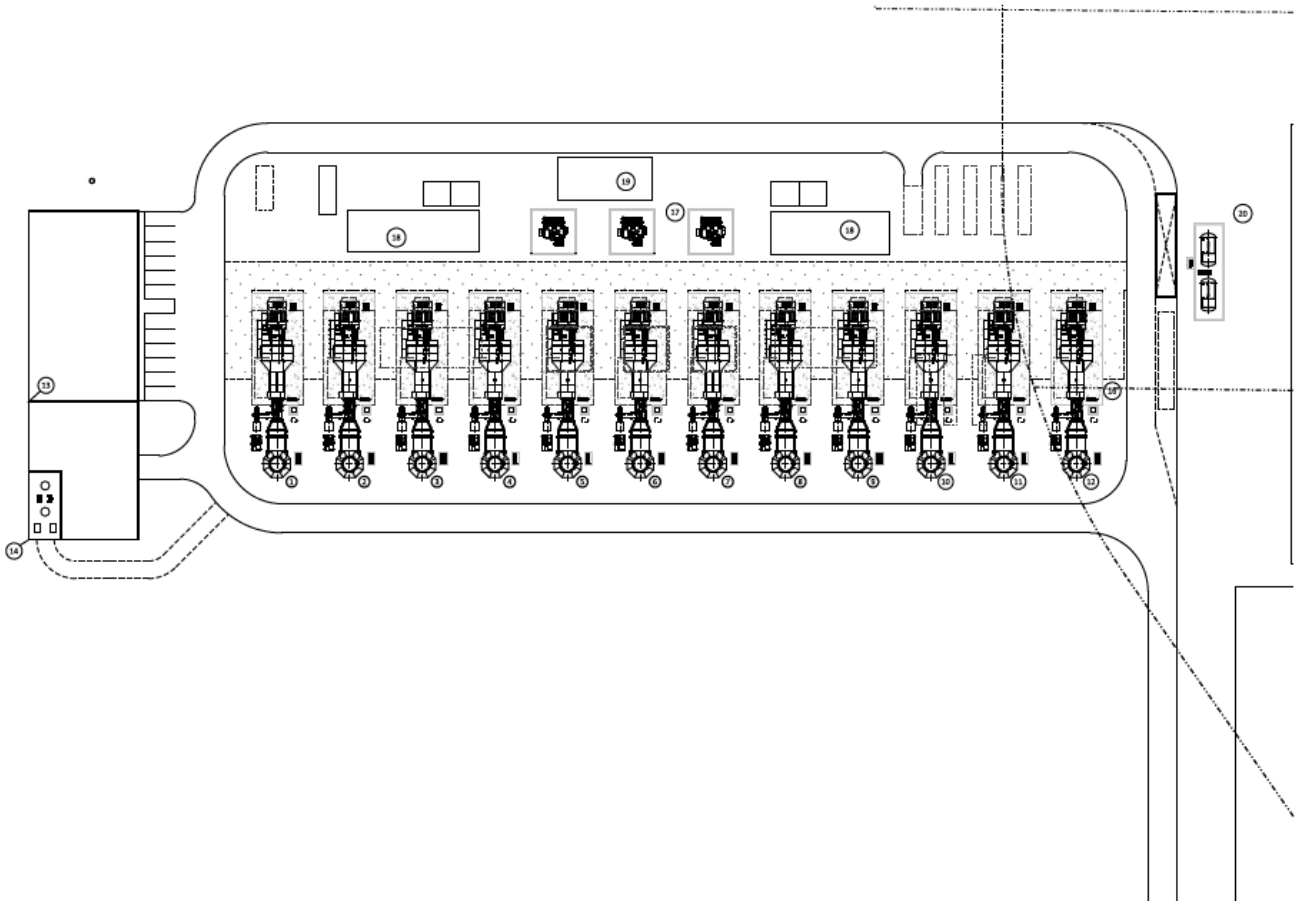
3.2 Site Plan

Figure 3-1 shows the property where the proposed buildings at the West Jordan Data Center will be located. A more detailed layout of the buildings can be found in Figure 3-2 on the following page.

Figure 3-1. General Location



Figure 3-2. New Equipment Layout



4. EMISSIONS RELATED INFORMATION

This section details the methodology used to calculate controlled and uncontrolled emissions for criteria pollutants, greenhouse gases, and hazardous air pollutants (HAPs) associated with each new unit and its associated fugitives as regulated by R307-401-5(2)(b). Detailed emission calculation tables are included in Appendix B. A comparison to the major source thresholds is also shown in Appendix B.

4.1 Natural Gas-Fired Turbines

Emission calculations for each of the proposed natural gas-fired turbines are based on emission factors, power output, and fuel consumption per manufacturer specification sheets. The calculations performed account for the selective catalytic reduction (SCR) system, which activates after a warm-up period when the exhaust gas reaches a threshold temperature. NH_3 emissions resulting from the SCR system are also accounted for in the emissions calculations. CO emissions are controlled by a catalytic oxidation system, which has a warm-up period before activation, but does not produce additional emissions. Start up and shut down time is used to account for uncontrolled NO_X and CO emissions. See Section 5 of this NOI air permit application for more detail regarding these control technologies.

Criteria pollutant and greenhouse gas emissions are calculated based on turbine manufacturer data, considering various ambient temperatures and operating load conditions. The number of turbines required is determined by the minimum needed to produce the maximum power required by the data center (115.56 MW) under each operating condition.

All potential operating scenarios are evaluated to determine the maximum sitewide PTE, including lower load conditions where the total power output from all 12 turbines falls below 115.56 MW. For PTE calculations, the highest emissions recorded across various load levels are used to establish the sitewide PTE value. Consequently, the emissions calculations in Appendix B present multiple load conditions, enabling UDAQ to verify that the highest possible emission rates have been properly accounted for in the sitewide PTE determination.

Calculation Methodology

NO_X and NH_3 emission factors are first converted from emission guarantees given in parts per million volume dry (ppmvd) to pounds per million British thermal units (lb/MMBtu) for both controlled and uncontrolled emission factors using the following equation:

$$\text{Emission Factor}\left(\frac{\text{lb}}{\text{MMBtu}}\right) = \left(\frac{P \times V_{@0\%O2} \times MW_{NOX}}{R \times \text{T}}\right)\left(\frac{lb}{ft^3}\right) \times \text{F}\left(\frac{ft^3}{MM\text{Btu}}\right)$$

Where:

P: Pressure = 1 atm

MW_{NOX}: Molecular weight of NO_X = 46.01 lb/lbmol or Molecular Weight of NH_3 = 17.03 lb/lbmol

R: Ideal gas constant = 0.7302$\left(\frac{ft^3 \times \text{atm}}{lbmol \times \text{R}}\right)$

T: Standard temperature = 527.67 Rankine

F: EPA conversion factor = 8710 $\left(\frac{ft^3}{\text{MMBtu}}\right)$

$V_{@0\%O2}$: Corrected NO_X factor at 0% O_2 ppmvd/ 10^6

$$V_{O2} = \left(NO_x(ppmvd) \times \frac{1}{10^6}\right) \times \left(\frac{20.9 - 0}{20.9 - C_{O2}(\%)}\right)$$

C_{O2}: Concentration of oxygen given in emission guarantee = 15 %

The emissions factors for NO_X and NH_3 are then converted from lb/MMBtu to pounds per megawatt hour (lb/MWh) by multiplying the converted emission factor by fuel consumption and dividing by the power output. The NO_X and NH_3 emission factors are converted using the following equation:

$$\text{Emission Factor } \left(\frac{\text{lb}}{\text{MWh}}\right) = \frac{\text{Emission Factor } \left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Fuel Consumption} \left(\frac{\text{MMBtu}}{\text{hr}}\right)}{\text{Power Output (MW)}}$$

VOC and CO PTE emissions are calculated first by converting the pound per hour (lb/hr) emission factors into lb/MWh using the following equation:

$$\text{Emission Factor } \left(\frac{\text{lb}}{\text{MWh}}\right) = \frac{\text{Emission Factor } \left(\frac{\text{lb}}{\text{hr}}\right)}{\text{Power Output (MW)}}$$

Annual emission rates for NO_X, NH_3, and CO are calculated accounting for the applied control technologies by multiplying the controlled and uncontrolled emission factors by the corresponding hours of controlled and uncontrolled operation time, appropriate conversation factors, and total number of turbines using the following equation:

$$\begin{aligned}\text{Annual Emission Rate (tpy)} = &\Bigg(\Big(\text{Controlled Emission Factor } \left(\frac{\text{lb}}{\text{MWh}}\right) \times \text{Power Output (MW)} \times \text{Controlled Operation } \left(\frac{\text{hr}}{\text{yr}}\right)\Big) \\ &+ \Bigg(\text{Uncontrolled Emission Factor } \left(\frac{\text{lb}}{\text{MWh}}\right) \times \text{Power Output (MW)} \\ &\times \text{Uncontrolled Operation } \left(\frac{\text{hr}}{\text{yr}}\right)\Bigg)\Bigg) \times \text{Number of Turbines} \times \text{Conversion} \left(\frac{1 \text{ ton}}{2{,}000 \text{ lbs}}\right)\end{aligned}$$

NH_3 emissions only occur when the SCR system is operating; therefore, NH_3 emissions are calculated excluding uncontrolled operating time.

SO_2 emissions are calculated using the grain/dscf sulfur content of the natural gas that will be delivered to the site. The emission factor is converted to a lb/MWh value using the following equation:

$$\begin{aligned}&\text{Emission Factor } \left(\frac{\text{lb}}{\text{MWh}}\right) \\ &= \frac{\text{Sulfur Content of Natural Gas } \left(\frac{\text{grain}}{\text{dscf}}\right)}{\text{HHV of Natural Gas } \left(\frac{\text{Btu}}{\text{scf}}\right)} \times \text{Conversion} \left(\frac{10^6 \text{ Btu}}{\text{MMBtu}}\right) \times \text{Conversion} \left(\frac{\text{lb}}{7000 \text{ grains}}\right) \\ &\times \frac{\text{Fuel Consumption} \left(\frac{\text{MMBtu}}{\text{hr}}\right)}{\text{Power Output (MW)}}\end{aligned}$$

PM lb/MWh emission factors are established by converting a lb/MMBtu AP-42 emission factor[3] using the following equation:

$$\text{Emission Factor}\left(\frac{\text{lb}}{\text{MWh}}\right) = \text{Emission Factor}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \frac{\text{Fuel Consumption}\left(\frac{\text{MMBtu}}{\text{hr}}\right)}{\text{Power Output (MW)}}$$

Annual emissions rates for PM_{10}, $PM_{2.5}$, VOC, and SO_2 are calculated by multiplying the lb/MWh emission factors emissions factors by the power output, then multiplying by the appropriate conversion factors, annual hours of operation, and number of turbines. Emission factors for PM_{10} and $PM_{2.5}$ are conservatively assumed to be equivalent. PM_{10}, $PM_{2.5}$, VOC, and SO_2 annual emission rates are calculated using the following equation:

$$\begin{aligned}&\text{Annual Emission Rate (tpy)}\\ &= \text{Emission Factor}\left(\frac{\text{lb}}{\text{MWh}}\right) \times \text{Power Output (MW)} \times \text{Annual Operation Hours}\left(\frac{\text{hr}}{\text{yr}}\right)\\ &\times \text{Number of Turbines} \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right)\end{aligned}$$

GHG Emissions

GHG pollutants expected to be emitted from the natural gas-fired turbines include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The CO_2 emission factor is obtained from the manufacturer specification sheet and standard emission factors for CH_4 and N_2O for natural gas combustion are provided in 40 CFR Part 98, Subpart C, Table C-1 and Table C-2. The global warming potential for each relevant pollutant is obtained from 40 CFR Part 98, Subpart A, Table A-1. Calculations for GHG pollutants are based on the emission factor for each GHG pollutant, relevant global warming potential, fuel consumption, and relevant conversion factors.

$$\begin{aligned}&\text{Carbon Dioxide Equivalent } (CO_2e) \text{ Annual Emission Rate (tpy)}\\ &= \Bigg(\Bigg(\Big(\text{Emission Factor } CH_4\left(\frac{\text{kg}}{\text{MMBtu}}\right) \times \text{GWP } CH_4\\ &+ \text{Emission Factor } N_2O\left(\frac{\text{kg}}{\text{MMBtu}}\right)\\ &\times \text{GWP } N_2O\Big) \times \text{Fuel Consumption}\left(\frac{\text{MMBtu}}{\text{hr}}\right) \times \text{Conversion}\left(\frac{2.2\text{ lbs}}{1\text{ kg}}\right)\Bigg)\\ &+ \text{Emission Factor } CO_2\left(\frac{\text{lb}}{\text{hr}}\right) \times \text{GWP } CO_2\Bigg) \times \text{Annual hours of operation}\left(\frac{\text{hr}}{\text{yr}}\right)\\ &\times \text{Number of Turbines} \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right)\end{aligned}$$

[3] U.S. EPA AP-42 Section 3.1 Table 3.1-2a

HAP Emissions

HAP emissions are conservatively determined using the maximum power output and fuel consumption. Emission factors for HAPs are obtained from AP-42, Section 3.1, Table 3.1-3. and 3.4-4. HAP emissions are calculated using the following equation:[4]

$$\text{HAP Annual Emission Rate (tpy)} = \text{Emission Factor}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \times \frac{\text{Maximum Fuel Consumption}\left(\frac{\text{MMBtu}}{\text{hr}}\right)}{\text{Power Output (MW)}} \times \text{Maximum Yearly Power Generated}\left(\frac{\text{MWh}}{\text{yr}}\right) \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right)$$

Manufacturer specification sheets for the turbines can be found in Appendix C.

4.2 Diesel-Fired Emergency Generators

Emission calculations are performed for each of the proposed diesel-fired emergency generators with a proposed cap on annual fuel usage of 314,888 gallons/year for testing and maintenance. Calculations for the criteria pollutants are based on the annual fuel usage at the maximum power output of each engine. Each of the 119 engines are EPA Tier 2 rated and will be installed with SCR add-on units. This will effectively reduce the emissions from each generator to be compliant with EPA's Tier 4-final standard for a generator set.[5] PM, PM_{10}, $PM_{2.5}$, VOC, and CO PTE emissions are calculated by multiplying the emission factors per manufacturer specification sheets by the power output, annual fuel usage, and appropriate conversion factors, then dividing by the fuel consumption per manufacturer specification sheets. Emission factors for PM_{10} and $PM_{2.5}$ are conservatively assumed to be equivalent. PM_{10}, $PM_{2.5}$, VOC, and CO annual emission rates are calculated using the following equation:

$$\text{Annual Emission Rate (tpy)} = \frac{\text{Emission Factor}\left(\frac{\text{grams}}{\text{hp-hr}}\right) \times \text{Power Output (hp)}}{\text{Fuel Consumption}\left(\frac{\text{gal}}{\text{hr}}\right)} \times \text{Conversion}\left(\frac{0.0022\text{ lbs}}{\text{gram}}\right) \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right) \times \text{Annual Fuel Usage}\left(\frac{\text{gal}}{\text{yr}}\right) \times \text{Number of Diesel Fired Emergency Generators}$$

NO_X emissions are calculated by multiplying the emission factors by the power output, annual fuel usage, emission reduction efficiency, and appropriate conversion factors. Emission factors are obtained from manufacturer specification sheets and emission reduction efficiency are taken from control technology specifications. NO_X annual emissions rates are calculated using the following equation:

[4] U.S. EPA AP-42 Section 3.1 Table 3.1-3
[5] 40 CFR 1039.101(b)

$$\text{Annual Emission Rate (tpy)} = \frac{\text{Emission Factor}\left(\frac{\text{grams}}{\text{hp-hr}}\right) \times \text{Power Output [hp]}}{\text{Fuel Consumption}\left(\frac{\text{gal}}{\text{hr}}\right)} \times (1 - \text{Control Efficiency}(\%)) \times \text{Annual Fuel Usage}\left(\frac{\text{gal}}{\text{yr}}\right) \times \text{Conversion}\left(\frac{0.0022\ \text{lbs}}{\text{gram}}\right) \times \text{Conversion}\left(\frac{1\ \text{ton}}{2{,}000\ \text{lbs}}\right) \times \text{Number of Diesel Fired Emergency Generators}$$

Annual and monthly testing of the diesel-fired emergency generators will be conducted under varying loads. The modeling report included with this submittal will dictate the number of engines that can be tested at a time. For the purposes of PTE calculations, the highest emissions from the various loads have been counted toward the sitewide PTE value. Therefore, the emissions calculations in Appendix B show multiple loads, such that UDAQ may verify that the highest possible emissions rates have been accounted for in the sitewide PTE value.

The diesel-fired emergency generators at the West Jordan Data Center will be using ultra-low sulfur diesel (ULSD) fuel. The emission factor for SO_2 is based on a fuel sulfur content of 0.0015% for ultra-low sulfur diesel fuel, as defined under 40 CFR 80, Subpart I, Section 80.510(c)(1). The SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 (10/96) is used in the emission calculations and accounts for the fuel sulfur content. SO_2 annual emissions are calculated using the following equation.

$$SO_2\ \text{Annual Emission Rate (tpy)} = \frac{\text{Emission Factor}\left(\frac{\text{lb}}{\text{hp-hr}}\right) \times \text{Power Output [hp]}}{\text{Fuel Consumption}\left(\frac{\text{gal}}{\text{hr}}\right)} \times \text{Conversion}\left(\frac{1\ \text{ton}}{2{,}000\ \text{lbs}}\right) \times \text{Annual Fuel Usage}\left(\frac{\text{gal}}{\text{yr}}\right) \times \text{Number of Diesel Fired Emergency Generators}$$

GHG pollutants expected to be emitted from the diesel-fired emergency generators include CO_2, CH_4, and N_2O. Standard emission factors for CO_2, CH_4, and N_2O are provided in 40 CFR Part 98, Subpart C, Table C-1, and Table C-2. The global warming potential for each relevant pollutant is obtained from 40 CFR Part 98, Subpart A, Table A-1. Calculations for GHG pollutants are based on the emission factor for each GHG pollutant, relevant global warming potential, annual fuel usage, and relevant conversion factors.

$$\text{Carbon Dioxide Equivalent } (CO_2e)\ \text{Annual Emission Rate (tpy)} = \left(\text{Emission Factor } CO_2\left(\frac{\text{kg}}{\text{MMBtu}}\right) \times \text{GWP } CO_2 + \text{Emission Factor } CH_4\left(\frac{\text{kg}}{\text{MMBtu}}\right) \times \text{GWP } CH_4 + \text{Emission Factor } N_2O\left(\frac{\text{kg}}{\text{MMBtu}}\right) \times \text{GWP } N_2O\right) \times \text{Fuel Usage}\left(\frac{\text{gal}}{\text{yr}}\right) \times \text{Conversion}\left(\frac{1\ \text{ton}}{2000\ \text{lbs}}\right) \times \text{Number of Diesel Fired Emergency Generators}$$

HAP emissions are determined using the maximum heat input and annual fuel usage. Emission factors for HAPs are obtained from AP-42, Section 3.4, Tables 3.4-3 and 3.4-4.[6]

$$\text{HAP Annual Emission Rate (tpy)} = \text{Emission Factor}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Heating Value of Diesel}\left(\frac{\text{MMBtu}}{\text{gal}}\right) \times \text{Fuel Usage}\left(\frac{\text{gal}}{\text{yr}}\right)$$

[6] U.S. EPA AP-42 Section 3.4 Tables 3.4-3 and 3.4-4

$$\times \text{Number of Diesel Fired Emergency Generators} \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right)$$

Manufacturer specification sheets for the emergency generators can be found in Appendix C.

4.3 Storage Tanks

The West Jordan Data Center has diesel belly tanks associated with each diesel-fired emergency generator, situated underneath each engine. Emissions for each tank were calculated per AP-42, Section 5.2.

Emission from the diesel belly tanks include VOCs and HAPs and are dependent on fuel throughput, which is equivalent to the proposed sitewide fuel limit of the diesel-fired emergency generators. A safety factor of two was applied to the emissions, resulting in a conservative estimate of tank emissions.

VOC Emissions

Emissions from the filling of each belly tank are calculated per AP-42, Section 5.2: Transportation and Marketing of Petroleum Liquids. Specifically, equations contained in Section 5.2.2.1.1 (Loading Losses) are utilized.

$$L_L\left(\frac{\text{lb}}{10^3\text{gal}}\right) = 12.46\frac{\text{SPM}}{\text{T}}\left(1-\frac{\text{eff}}{100}\right)(\text{SF})$$

L_L = loading loss (lb/[10^3 gal of liquid loaded])
S = saturation factor for "splash loading: dedicated normal service" (Table 5.2-1)
P = true vapor pressure of diesel (psia) (Table 7.1-2)
M = vapor molecular weight of diesel (Table 7.1-2)
T = temperature of diesel (Rankine)
eff = overall reduction efficiency
SF = safety factor of two (2)

The loading loss is then multiplied by the belly tank diesel throughput in the following equation:

$$\text{VOC Annual Emission Rate (tpy)} = L_L\left(\frac{\text{lb}}{10^3\text{gal}}\right) \times \text{Diesel Usage}\left(\frac{\text{gal}}{\text{yr}}\right) \times \text{Conversion}\left(\frac{10^3\text{ gal}}{1{,}000\text{ gal}}\right) \times \text{Conversion}\left(\frac{1\text{ ton}}{2{,}000\text{ lbs}}\right)$$

HAP Emissions

HAP emissions from the diesel belly tanks are based on vapor weight percents of diesel fuel from TankESP. The weight percents were multiplied by the VOC loading loss as seen in the following equation:

$$\text{HAP Annual Emission Rate (tpy)} = \text{VOC Annual Emission Rate (tpy)} \times \text{HAP wt \%}$$

The HAPs speciation provided by TankESP is detailed in Table 4-1.

Table 4-1. TankESP HAPs Speciation

Pollutant	Vapor HAP Composition (wt %)
Benzene	1.64%
Ethylbenzene	2.3%
Hexane (n-)	0.3%
Naphthalene	0.3%
Toluene	18.2%
Xylene	44%

5. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

In the State of Utah, under R307-401-5(2)(d), Notice of Intent, every facility, operation, or process that proposes any activity that would emit an air contaminant into the air, must consider Best Available Control Technology (BACT) for a proposed new source or modification.[7] The following BACT analysis addresses all proposed natural gas-fired turbines but excludes the diesel-fired emergency generators and associated diesel storage tanks, as this project does not propose the addition of any of these emission units.

The Aligned Data Centers facility has 12 natural gas-fired turbines that are each rated at 16 megawatts (MW) and less than 250 MMBtu/hr. These turbines provide the primary power for the data center buildings at the West Jordan Data Center.

5.1 BACT Methodology

In a memorandum dated December 1, 1987, the EPA stated its preference for a "top-down" BACT analysis for PSD applications;[8] because UDAQ requires BACT to be installed even when a facility is not subject to PSD requirements. Aligned has followed EPA guidance in preparing this BACT analysis. The first step in this approach is to determine the most stringent control available for a similar or identical source or source category for the emission unit in question. If it can be shown that this level of control is technically, environmentally, or economically infeasible or inappropriate on the basis of energy concerns for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This procedure continues until there are no remaining significant or exceptional technical, environmental, economic, or energy-related objections that can prevent the elimination of the BACT option(s) under review.

Presented below are the five basic steps of a top-down BACT review as identified by the EPA.[9]

Step 1 – Identify All Control Technologies

Available control technologies are identified for each emission unit in question. The following methods are used to identify potential technologies: (1) researching the RACT/BACT/LAER Clearinghouse (RBLC) database; (2) surveying regulatory agencies; (3) drawing from previous engineering experience; (4) surveying air pollution control equipment vendors; and (5) surveying available literature.

Step 2 – Eliminate Technically Infeasible Options

After the identification of control options, an analysis is conducted to eliminate technically infeasible options. A control option is eliminated from consideration if there are process-specific conditions that prohibit the implementation of the control. Additionally, EPA's Draft New Source Review Workshop Manual states that "in cases where the level of control in a permit is not expected to be achieved in practice (e.g., a source has received a permit but the project was cancelled, or every operating source at that permitted level has been physically unable to achieve compliance with the limit), the level of control (but not necessarily the technology) may be eliminated from further consideration."[10] Therefore, even if a permit lists a BACT or BACT emission limit, it is possible that the control technology (or limit) may not have been demonstrated in practice.

[7] UAC R307-401-5(2)(d)
[8] U.S. EPA, Office of Air and Radiation. Memorandum from J.C. Potter to the Regional Administrators. Washington, D.C. December 1, 1987.
[9] U.S. EPA. Draft New Source Review Workshop Manual, Chapter B. Research Triangle Park, North Carolina. October 1990.
[10] Ibid.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Once technically infeasible options are removed from consideration, the remaining options are ranked based on their control effectiveness. If there is only one remaining option, or if all of the remaining technologies could achieve equivalent control efficiencies, ranking based on control efficiency is not required.

Step 4 - Evaluate Most Effective Controls and Document Results

Beginning with the most efficient control option in the ranking, detailed economic, energy, and environmental impact evaluations are performed. If a control option is determined to be economically feasible without adverse energy or environmental impacts, it is not necessary to evaluate the remaining options with lower control efficiencies.

The economic evaluation centers on the cost effectiveness of the control option. Costs of installing and operating control technologies are estimated and annualized following the methodologies outlined in the EPA's Control Cost Manual (CCM)[11] and other industry resources. Cost effectiveness is expressed in dollars per ton of pollutant controlled. Objective analyses of energy and environmental impacts associated with each option are also conducted.

Economic analyses are performed to compare total costs (capital and annual) for potential control technologies as appropriate. Capital costs include the initial cost of the components intrinsic to the complete control system. Operating costs include the financial requirements to operate the control system on an annual basis and include overhead, maintenance, outages, raw materials, and utilities.

The capital cost estimating technique is based on a factored method of determining direct and indirect installation costs. This technique is a modified version of the Lang Method whereby installation costs are expressed as a function of known equipment costs. This method is consistent with the latest U.S. EPA guidance manual on estimating control technology costs.[12]

Total purchased equipment cost represents the delivered cost of the control equipment, auxiliary equipment, and instrumentation. Auxiliary equipment consists of all the structural, mechanical, and electrical components required for efficient operation of the device. Auxiliary equipment costs can be provided directly by representative vendors, or they can be estimated as a straight percentage of the basic equipment cost obtained directly from representative vendors. Direct installation costs consist of the direct expenditures for materials and labor for site preparation, foundations, structural steel, erection, piping, electrical, painting, and facilities. Indirect installation costs include engineering and supervision of contractors, construction and field expenses, construction fees, and contingencies.[13] Other indirect costs include equipment startup, performance testing, working capital, and interest during construction.

Annualized costs are composed of direct and indirect operating costs. Direct annual costs include labor, maintenance, replacement parts, raw materials, utilities, and waste disposal. Indirect operating costs include plant overhead, taxes, insurance, general administration, and capital charges. Except for overhead, indirect operating costs are calculated as a percentage of the total capital costs. The indirect capital costs are based on the capital recovery factor (CRF) defined as:

[11] U.S. EPA, Office of Air Quality Planning and Standards. EPA Control Cost Manual, 7th edition. EPA 452/B-02-001. Research Triangle Park, NC. November 2017. As Accessed April 24, 2025.
[12] Ibid.
[13] Ibid.

$$CRF = \frac{i(1+i)^n}{(1+i)^n - 1}$$

where i is the annual interest rate and n is the equipment life in years. The economic life of a control system is typically 10 to 20 years. For example, a 10-year equipment economic life with an average interest rate of 7% results in a CRF of 0.1424.

Step 5 - Select BACT

In the final step, one pollutant-specific control option is proposed as BACT for each emission unit under review based on evaluations from the previous step.

5.2 BACT Analyses

The turbines proposed for the West Jordan Data Center are well designed, efficient, reliable, and will be operated using good combustion practices using pipeline quality natural gas. The selected turbines use SCR and Catalytic Oxidizers. The tables in Appendix D contain the top down BACT analyses for each applicable pollutant emitted from the proposed turbines.

6. EMISSION IMPACT ANALYSIS

Table B-1 in Appendix B compares total proposed emissions of each criteria pollutant to relevant thresholds contained in R307-403-4 through 6, and R307-410-4. As shown in Table B-1, the proposed emissions increase associated with this project for PM_{10}, $PM_{2.5}$, and NO_2 exceed UDAQ modeling thresholds. Air dispersion modeling has been conducted for PM_{10} and NO_2 that demonstrates the impacts of the sitewide criteria pollutant emissions from the proposed changes and will be presented to UDAQ with this submittal in a separate document. An air dispersion modeling analysis was not conducted for $PM_{2.5}$ due to its nonattainment status in Salt Lake County.

7. NONATTAINMENT/MAINTENANCE AREAS - OFFSETTING

7.1 Offset Applicability

$PM_{2.5}$ Offsets (UAC R307-403)

$PM_{2.5}$ offset or emission reduction credit (ERC) requirements are recorded in UAC R307-403 and are required for sources located in nonattainment areas that are a major source of $PM_{2.5}$ (i.e., 70 tpy of direct $PM_{2.5}$ or individual $PM_{2.5}$ precursors) or have a major modification of an existing source with an emissions increase greater than 10 tpy of direct $PM_{2.5}$, 40 tpy of SO_2, 40 tpy of NO_X, 40 tpy of VOCs, or 70 tpy of NH_3 according to R307-403.[14] The proposed project does not exceed MSTs for $PM_{2.5}$, and the West Jordan Data Center is not an existing major source. Therefore, the project is not considered a major modification, and the $PM_{2.5}$ offset requirement from R307-403 does not apply.

Ozone Offsets (UAC R307-420)

Ozone offset requirements are outlined in UAC R307-420-3. NO_X and VOC offsets are applicable to new major sources or major modifications of major sources located within or impacting an ozone nonattainment area of the NAAQS. In summary, new major sources or major modifications located in Davis County or Salt Lake County shall offset the proposed increase in VOC and/or NO_X emissions. For R307-420 to apply, the emission increase of a project must be enough by itself to either surpass MSTs, which are 50 tpy of NO_X and 50 tpy of VOC emissions, or if the source is an existing major source, the emissions increase of a project must be greater than the significant emission rates, which are 25 tpy of NO_X and 25 tpy of VOC emissions.[15] If a project meets these definitions and exceeds the applicable thresholds, then NO_X and/or VOC offsets are required at a ratio of 1.2:1.[16] Because the West Jordan Data Center is an existing minor source, and the project increase of 47.29 tpy of NO_X and 24.02 tpy of VOC resulting from the addition of the turbines is less than the major source thresholds of 50 tpy of NO_X and 50 tpy of VOC for a new source, R307-420 does not apply to this project.

PM_{10} Offsets (UAC R307-421)

PM_{10} offset requirements are described in UAC R307-421-2. They apply to new or modified sources that are located in, or impact, Salt Lake County or Utah County and have the potential to emit or cause an increase in SO_2 or NO_X greater than or equal to 25 tpy or more.[17] If a project meets this definition and surpasses these thresholds, offsets are required at a ratio of 1:1 for emission increases between 25 tpy and 50 tpy, and at a ratio of 1.2:1 for emission increases greater than 50 tpy.[18] The West Jordan Data Center is located in Salt Lake County and is proposing an emissions increase of 47.29 tpy of NO_X, therefore offsets are required at a ratio of 1:1. Aligned intends to apply 48 tpy of NO_X ERCs from the Salt Lake County PM_{10} and Ozone ERC Registry to this NOI air permit application to satisfy the requirements of R307-421.

[14] UAC R307-403-5. Particulate Matter Nonattainment Areas
[15] UAC R307-420-3. Applicability.
[16] UAC R307-420-3(2). Applicability; UAC R307-420-5. Contingency Measure: Offsets for Oxides of Nitrogen.
[17] UAC R307-421-3. Offset Requirements.
[18] UAC R307-421-3(b). Offset Requirements.

8. APPLICABLE REGULATIONS

8.1 UDAQ Air Quality Rules

Aligned has evaluated the applicability of each rule under the Utah Administrative Code (UAC) Title R307. Rules generally applicable to Aligned but not affected by this project have not been addressed.

Table 8-1. Evaluation of UDAQ Air Quality Rules

Reference	Regulation Name	Applicability	
		Yes	No
R307-101	[1] General Requirements	X	
R307-102	[1] General Requirements: Broadly Applicable Requirements	X	
R307-103	[1] Administrative Procedures	X	
R307-104	[2] Conflict of Interest		X
R307-105	[1] General Requirements: Emergency controls	X	
R307-107	[1] General Requirements: Breakdowns	X	
R307-110	[1] General Requirements: State Implementation Plan	X	
R307-115	[1] General Conformity	X	
R307-120	General Requirements: Tax Exemption for Air Pollution Control Equipment		X
R307-121	General Requirements: Clean Air and Efficient Vehicle Tax Credit		X
R307-122	General Requirements: Heavy Duty Vehicle Tax Credit		X
R307-123	General Requirements: Clean Fuels and Vehicle Technology Grant and Loan Program		X
R307-124	General Requirements: Conversion to Alternative Fuel Grant Program		X
R307-125	Clean Air Retrofit, Replacement, and Off-Road Technology Program		X
R307-130	[1] General Penalty Policy	X	
R307-135	Enforcement Policy for Asbestos Hazard Emergency Response Act		X
R307-150	[1] Emission Inventories	X	
R307-165	Emission Testing		X
R307-170	Continuous Emission Monitoring Program		X
R307-201	[1] Emission Standards: General Emission Standards	X	
R307-202	Emission Standards: General Burning		X

Reference	Regulation Name	Applicability	
		Yes	No
R307-203	Emission Standards: Sulfur Content of Fuels		X
R307-204	Emission Standards: Smoke Management		X
R307-205	Emission Standards: Fugitive Emissions and Fugitive Dust		X
R307-206	Emission Standards: Abrasive Blasting		X
R307-207	Residential Fireplaces and Solid Fuel Burning Devices		X
R307-208	Outdoor Wood Boilers		X
R307-210	[1] Standards of Performance for New Stationary Sources	X	
R307-214	[1] National Emission Standards for Hazardous Air Pollutants	X	
R307-220	Emission Standards: Plan for Designated Facilities		X
R307-221	Emission Standards: Emission Controls for Existing Municipal Solid Waste Landfills		X
R307-222	Emission Standards: Existing incinerator for Hospital, Medical, Infectious Waste		X
R307-223	Emission Standards: Existing Small Municipal Waste Combustion Units		X
R307-224	Mercury Emission Standards: Coal Fired Electric Generating Units		X
R307-230	NO_X Emission Limits for Natural Gas-Fired Water Heaters		X
R307-250	Western Backstop Sulfur Dioxide Trading Program		X
R307-301	Utah and Weber Counties: Oxygenated Gasoline Program as a Contingency Measure		X
R307-302	Solid Fuel Burning Devices		X
R307-303	Commercial Cooking		X
R307-304	Solvent Cleaning		X
R307-305	Nonattainment and Maintenance Areas for PM_{10}: Emission Standards	X	
R307-306	PM_{10} Nonattainment and Maintenance Areas: Abrasive Blasting		X
R307-307	Road Salting and Sanding		X
R307-309	Nonattainment and Maintenance Areas for PM_{10} and $PM_{2.5}$: Fugitive Emissions and Fugitive Dust		X

Reference	Regulation Name	Applicability	
		Yes	No
R307-310	Salt Lake County: Trading of Emission Budgets for Transportation Conformity		X
R307-311	Utah County: Trading of Emission Budgets for Transportation Conformity		X
R307-312	Aggregate Processing Operations for $PM_{2.5}$ Nonattainment Areas		X
R307-320	Ozone Maintenance Areas and Ogden City: Employer Based Trip Reduction		X
R307-325	Ozone Nonattainment and Maintenance Areas: General Requirements	X	
R307-326	Ozone Nonattainment and Maintenance Areas: Control of Hydrocarbon Emissions in Petroleum Refineries		X
R307-327	Ozone Nonattainment and Maintenance Areas: Petroleum Liquid Storage		X
R307-328	Gasoline Transfer and Storage		X
R307-335	Degreasing		X
R307-341	Ozone Nonattainment and Maintenance Areas: Cutback Asphalt		X
R307-342	Adhesives and Sealants		X
R307-343	Wood Furniture Manufacturing Operations		X
R307-344	Paper, Film, and Foil Coatings		X
R307-345	Fabric and Vinyl Coatings		X
R307-346	Metal Furniture Surface Coatings		X
R307-347	Large Applicable Surface Coatings		X
R307-348	Magnet Wire Coatings		X
R307-349	Flat Wood Panel Coating		X
R307-350	Appliance Pilot Light		X
R307-351	Graphic Arts		X
R307-352	Metal Container, Closure, and Coil Coatings		X
R307-353	Plastic Parts Coatings		X
R307-354	Automotive Refinishing Coatings		X
R307-355	Aerospace Manufacture and Rework Facilities		X
R307-356	Appliance Pilot Light		X
R307-357	Consumer Products		X
R307-361	Architectural Coatings		X
R307-401	[1] Permit: New and Modified Sources	X	

Reference	Regulation Name	Applicability	
		Yes	No
R307-403	[3] Permits: New and Modified Sources in Nonattainment and Maintenance Areas	X	
R307-405	Permits: Major Sources in Attainment or Unclassified Areas (PSD)		X
R307-406	[2] Visibility		X
R307-410	Permits: Emission Impact Analysis	X	
R307-414	Permits: Fees for Approval Orders	X	
R307-415	[1] Permits: Operating Permit Requirements		X
R307-417	Permits: Acid Rain Sources		X
R307-420	[3] Permits: Ozone Offset Requirements in Salt Lake County and Utah County		X
R307-421	[3] Permits: PM_{10} Offset Requirements in Salt Lake County and Utah County	X	
R307-424	Permits: Mercury Requirements for Electric Generating Units		X
R307-501 to 511	Oil and Gas Industry		X
R307-801	Utah Asbestos Rule		X
R307-840	Lead-Based Paint Program Purpose, Applicability, and Definitions		X
R307-841	Residential Property and Child-Occupied Facility Renovation		X
R307-842	Lead-Based Paint Activities		X

1. The subject rule is or could be applicable to the Aligned data center; however, this rule is not specific to operational compliance requirements and is therefore not discussed in this NOI air permit application.
2. At the time of submission of this NOI air permit application, this rule does not apply.
3. Refer to Section 7 of this NOI application for a detailed discussion on offset applicability from these rules.

UAC R307-305 Nonattainment and Maintenance Areas for PM_{10}: Emission Standards

Visible emissions exceeding the opacity standards for short time periods as the result of initial warm-up, soot blowing, cleaning of grates, building of boiler fires, cooling, etc., caused by start-up or shutdown of a facility, installation or operation, or unavoidable combustion irregularities which do not exceed three minutes in length are not to be deemed in violation provided that the director finds that adequate control technology has been applied. The owner or operator shall minimize visible and non-visible emissions during start-up or shutdown of a facility, installation, or operation through the use of adequate control technology and proper procedures.

UAC R307-325 Ozone Nonattainment and Maintenance Areas: General Requirements

The West Jordan Data Center is located in the Northern Wasatch Front Ozone Nonattainment area and produces VOCs as part of its operations. This rule is therefore applicable. Aligned will ensure that VOC

containing materials are not spilled, discarded, stored in open containers, or handled in any other manner that would result in greater evaporation of VOCs than would have if reasonably available control technology (RACT) had been applied.

UAC R307-410-8 Permits: Permit New and Modified Sources – Approval Order

(1) The director will issue an AO if all conditions and regulations have been met.

(a) The degree of pollution control for emissions, to include fugitive emissions and fugitive dust, is at least best available control technology. When determining best available control technology for a new or modified source in an ozone nonattainment or maintenance area that will emit VOCs or NO_X, best available control technology shall be at least as stringent as any Control Technique Guidance document that has been published by EPA that is applicable to the source.

(b) The proposed installation will meet the applicable requirements of:

(i) R307-403, Permits: New and Modified Sources in Nonattainment Areas and Maintenance Areas;
(ii) R307-405, Permits: Major Sources in Attainment or Unclassified Areas (PSD);
(iii) R307-406, Visibility;
(iv) R307-410, Emissions Impact Analysis;
(v) R307-420, Permits: Ozone Offset Requirements in Davis and Salt Lake Counties;
(vi) R307-210, National Standards of Performance for New Stationary Sources;
(vii) National Primary and Secondary Ambient Air Quality Standards;
(viii) R307-214, National Emission Standards for Hazardous Air Pollutants;
(ix) R307-110, General Requirements. Utah State Implementation Plan; and
(x) All other provisions of R307.

(2) Aligned's AO will require that all pollution control equipment be adequately and properly maintained.
(3) Receipt of an AO does not relieve any owner or operator of the responsibility to comply with the provisions of R307 or the State Implementation Plan.

BACT provisions specified in UAC R307-401 have been applied through control equipment installed and monitoring conditions.

The West Jordan Data Center will comply with all applicable requirements detailed above.

8.2 Federal Rules: National Emission Standards for Hazardous Air Pollutants

The NESHAP federal regulations found in Title 40 of the Code of Federal Regulations (40 CFR) Part 61 and 63 are emission standards for HAPs. NESHAP are applicable to both major sources of HAPs (facilities that exceed the major source thresholds of 10 tpy of a single HAP and 25 tpy of any combination of HAPs from stationary sources) as well as non-major sources (termed "area sources"). NESHAPs (40 CFR Part 63) applies to sources in specifically regulated industrial source classifications (Clean Air Act Section 112(d)) or on a case-by-case basis (Clean Air Act Section 112(g)) for facilities not regulated as a specific industrial source type.

This document only addresses regulatory applicability for area sources and does not include standards for major sources.

Subpart A – General Provisions

NESHAP Subpart A, *General Provisions*, contains national emissions standards for HAPs defined in Section 112(b) of the Clean Air Act. All affected sources, which are subject to another NESHAP are subject to the general provisions of NESHAP Subpart A, unless specifically excluded by the source specific NEHSAP. Subpart A requires initial notification, performance testing, recordkeeping, and monitoring, provides reference methods, and mandates general control device requirements for all other subparts. The following sections detailing each subpart requirements also include requirements that are referenced to Subpart A.

Subpart YYYY - Stationary Combustion Turbines

NESHAP Subpart YYYY, *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines,* applies to stationary combustion turbines located at a major source of HAPs. The West Jordan Data Center is not a major source of HAPs, as total sitewide HAP emissions amount to less than 10 tons per year for an individual HAP and less than 25 tons per year of total HAPs.

8.3 Federal Rules: New Source Performance Standards

NSPS requires new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. The following section details the applicability of NSPS regulations to the West Jordan Data Center operations.

Subpart A – General Provisions

All affected sources subject to source-specific NSPS are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification, performance testing, recordkeeping, and monitoring, provides reference methods, and mandates general control device requirements for all other subparts.

Subpart GG - Standards of Performance for Stationary Gas Turbines

NSPS Subpart GG, *Standards of Performance for Stationary Gas Turbines,* applies to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour and commenced construction, modification, or reconstruction after October 3, 1977 and before February 18, 2005. As the proposed turbines are constructed after this date range, Subpart GG will not apply.

Subpart KKKK Standards of Performance for Stationary Combustion Turbines

Subpart KKKK, *Standards of Performance for Stationary Combustion Turbines*, is applicable to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per units that commenced construction, modification, or reconstruction after February 18, 2005. The proposed turbines are applicable to this subpart and will follow the NO_X compliance requirements for turbines that do not use water or steam injection controls. The proposed turbines will comply via the use of performance tests. Additionally, the proposed turbines will be subject to the SO_2 emission standard which requires the burning of low-sulfur fuel.

Aligned will perform annual performance tests in accordance with § 60.4400 to demonstrate continuous compliance.[19] If the NO_X emission result from the performance test is less than or equal to 75 percent of the

[19] 40 CFR 60.4340(a)

NO_X emission limit for the turbine, Aligned may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_X emission limit for the turbine, Aligned will resume annual performance tests.

In accordance with 40 CFR 60.4365, Aligned intends to be exempt from monitoring the total sulfur content of the fuel. Aligned will demonstrate that the fuel to be combusted in the turbine will not exceed potential sulfur emissions of 0.06 lb SO_2/MMBtu heat input. Aligned will comply via submittal of documentation of fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the natural gas is 20 grains of sulfur or less per 100 standard cubic feet.

Subpart KKKKa New Source Performance Standards for Stationary Combustion Turbines and Stationary Gas Turbines

NSPS KKKKa is a proposed rule that will serve in place of NSPS KKKK when it is promulgated and is applicable to natural gas-fired turbines that commenced construction, modification, or reconstruction after the date of publication in the federal register. As the proposed turbines will be constructed after this date, NSPS Subpart KKKKa will apply to this project. The proposed turbines installed fall under the category "new or reconstructed turbines with capacity factor >40 percent and base load rating <= 250 MMBtu/hr that fire natural gas. According to this rule, the best system of emission reduction (BSER) for limiting NO_X is declared as combustion controls with SCR held to a standard of 3 ppm corrected to 15% O_2. The proposed turbines will meet this standard; this is discussed further in the BACT discussion located in Section 6 of this NOI air permit application. Additionally, the proposed turbines will remain subject to the SO_2 emission standards that are also present in Subpart KKKK.

NSPS Subpart TTTTa - Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units

NSPS TTTTa is applicable to stationary combustion turbines that commence construction or reconstruction after May 23, 2023 with a base load rating greater than 260 gigajoules per hour (GJ/h) (250 MMBtu/h) of fossil fuel (either alone or in combination with any other fuel) and also serves a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system. The proposed turbines have a base load rating of less than 250 MMBtu/hr, therefore this rule is not applicable.

APPENDIX A. FORMS

Form 1
Notice of Intent (NOI) Application Checklist

Date June 2025

Company Aligned Data Centers PropCo, LLC

Utah Division of Air Quality
New Source Review Section

Source Identification Information [R307-401-5]

1. Company name, mailing address, physical address and telephone number ☑
2. Company contact (Name, mailing address, and telephone number) ☑
3. Name and contact of person submitting NOI application (if different than 2) ☑
4. Source Universal Transverse Mercator (UTM) coordinates ☑
5. Source Standard Industrial Classification (SIC) code ☑
6. Area designation (attainment, maintenance, or nonattainment) ☑
7. Federal/State requirement applicability (NAAQS, NSPS, MACT, SIP, etc.) ☑
8. Source size determination (Major, Minor, PSD) ☑
9. Current Approval Order(s) and/or Title V Permit numbers ☑

NOI Application Information: [R307-401]

1. Detailed description of the project and source process ☑
2. Discussion of fuels, raw materials, and products consumed/produced ☑
3. Description of equipment used in the process and operating schedule ☑
4. Description of changes to the process, production rates, etc. ☑
5. Site plan of source with building dimensions, stack parameters, etc. ☑

6. Best Available Control Technology (BACT) Analysis [R307-401-8]
   A. BACT analysis for all new and modified equipment ☑

7. Emissions Related Information: [R307-401-2(b)]
   A. Emission calculations for each new/modified unit and site-wide (Include PM_{10}, $PM_{2.5}$, NO_x, SO_2, CO, VOCs, HAPs, and GHGs) ☑
   B. References/assumptions, SDS, for each calculation and pollutant ☑
   C. All speciated HAP emissions (list in lbs/hr) ☑

8. Emissions Impact Analysis – Approved Modeling Protocol [R307-410]
   A. Composition and physical characteristics of effluent (emission rates, temperature, volume, pollutant types and concentrations) ☑

9. Nonattainment/Maintenance Areas – Major NSR/Minor (offsetting only) [R307-403]
   A. NAAQS demonstration, Lowest Achievable Emission Rate, Offset requirements ☑ N/A ☐
   B. Alternative site analysis, Major source ownership compliance certification ☐ N/A ■

10. Major Sources in Attainment or Unclassified Areas (PSD) [R307-405, R307-406]
    A. Air quality analysis (air model, met data, background data, source impact analysis) ☐ N/A ■
    B. Visibility impact analysis, Class I area impact ☐ N/A ■
11. Signature on Application ☑

Note: The Division of Air Quality will not accept documents containing confidential information or data. Documents containing confidential information will be returned to the Source submitting the application.

Document Date: 02/28/2018
DAQ 2018-002271

Form 2
Company Information/Notice of Intent (NOI)

Date June 2025

Utah Division of Air Quality
New Source Review Section

Application for: ☑ **Initial Approval Order** ☑ **Approval Order Modification**

General Owner and Source Information

1. Company name and mailing address:
Aligned Data Centers PropCo, LLC
2800 Summit Ave.
Plano, TX 75074
Phone No.: (203) 981-6922
Fax No.: ( )

2. Company** contact for environmental matters:
Michael Welch
Phone no.: (203)981-6922
Email: Michael.Welch@aligneddc.c
*** Company contact only; consultant or independent contractor contact information can be provided in a cover letter*

3. Source name and physical address (if different from above):
6800 W 9800 S
West Jordan, UT 84081
Phone no.: (203)981-6922
Fax no.: ( )

4. Source Property Universal Transverse Mercator coordinates (UTM), including System and Datum:
UTM: 12
X: 410705
Y: 4491561

5. The Source is located in: Salt Lake County

6. Standard Industrial Classification Code (SIC)
7376

7. If request for modification, AO# to be modified: DAQE #_____ DATED: ____/____/____

8. Brief (50 words or less) description of process.
See section 3 of NOI.

Electronic NOI

9. A complete and accurate electronic NOI submitted to DAQ Permitting Mangers Jon Black (*jlblack@utah.gov*) or Alan Humpherys (ahumpherys@utah.gov) can expedite review process. Please mark application type.

Hard Copy Submittal ☑ Electronic Copy Submittal ☑ Both ☐

Authorization/Signature

I hereby certify that the information and data submitted in and with this application is completely true, accurate and complete, based on reasonable inquiry made by me and to the best of my knowledge and belief.

Signature: Title:

_____ Name (Type or print)	Telephone Number: ( ) Email:	Date:

Document Date: 02/28/2018
DAQ-2018-002272

Form 4
Project Information

Company Aligned Data Centers PropCo, LLC

Site West Jordan

Utah Division of Air Quality
New Source Review Section

AIR QUALITY

Process Data - For Modification/Amendment ONLY

1. Permit Number DAQE-AN162210001-24

If submitting a new permit, then use Form 3

Requested Changes

2. Name of process to be modified/added:

On-Site Power Generation

End product of this process:

Power

3. Permit Change Type:

	New	Increase*
Equipment	☑	☐
Process	☑	☐

Condition Change _____

Other _____

Other _____

Other _____

4. Does new emission unit affect existing permitted process limits?

Yes ☐ No ☐

5. Condition(s) Changing:

See NOI Section 3.1

6. Description of Permit/Process Change**

See NOI Section 3.1

7. New or modified materials and quantities used in process. **

Material	Quantity Annually
See NOI Section 3.1	

8. New or modified process emitting units **

Emitting Unit(s)	Capacity(s)	Manufacture Date(s)
See NOI Section 3.1		

**If the permit being modified does not include CO_2e or $PM_{2.5}$, the emissions need to be calculated and submitted to DAQ, which may result in an emissions increase and a public comment period.*

***If additional space is required, please generate a document to accommodate and attach to form.*

Document Date: 02/28/2018
DAQ 2018-002274

Form 5
Emissions Information
Criteria/GHGs/ HAP's
Utah Division of Air Quality
New Source Review Section

Company Aligned Data Centers PropCo, LLC

Site West Jordan

Potential to Emit* Criteria Pollutants & GHGs			
Criteria Pollutants	**Permitted Emissions (tons/yr)**	**Emissions Increases (tons/yr)**	**Proposed Emissions (tons/yr)**
PM_{10} Total			
PM_{10} Fugitive	See Attached for Emissions Information		
$PM_{2.5}$			
NO_x			
SO_2			
CO			
VOC			
VOC Fugitive			
NH_3			
Greenhouse Gases	**CO_2e**	**CO_2e**	**CO_2e**
CO_2			
CH_4	See Attached for Emissions Information		
N_2O			
HFCs			
PFCs			
SF_6			
Total CO2e			

**Potential to emit to include pollution control equipment as defined by R307-401-2.*

Hazardous Air Pollutants** *(**Defined in Section 112(b) of the Clean Air Act)*				
Hazardous Air Pollutant***	**Permitted Emissions (tons/yr)**	**Emission Increase (tons/yr)**	**Proposed Emission (tons/yr)**	**Emission Increase (lbs/hr)**
See Attached for Emissions Information				
Total HAP				

**** Use additional sheets for pollutants if needed*

Document Date: 02/28/2018
DAQ 2018-002284

Utah Division of Air Quality
New Source Review Section

Form 22
Combustion Turbines

Company: Aligned Data Centers PropCo, LLC
Site/Source: West Jordan
Date: June 2025

Equipment Information

See emissions calculations

1. Manufacturer: Titan
   Model Number: 130CT

2. Operating time of Emission Source:

	AVERAGE	MAXIMUM
Hours/day		24
Days/week		7
Weeks/year		52

3. Manufacturer's rated output at baseload, ISO: ~~16.53~~ ☑ MW or ☐ hp
   Proposed site operating range: ☑ MW or ☐ hp
   Manufacturer's rated heat rate at baseload, ISO: _____ (BTU/kW-hr)

4. Percent of annual heat input:
   Dec-Feb _____% Mar-May _____% Jun-Aug _____% Sep-Nov _____%

Gas Firing

5. Origin of gas:
   ☑ Pipeline ☐ Distillate fuel oil gasification ☐ Other liquid fuel gasification ☐ Solid fuel gasification ☐ Byproduct, specify source: _____

6. Are you on an interruptible gas supply:
   ☐ Yes ☑ No
   If "yes", specify alternate fuel:
   _____

7. Annual consumption of fuel: _____ scf

*8. Heat content: _____ BTU/scf

*9. Sulfur content: _____ % by wt.

10. Maximum firing rate: _____ scf/hr

11. Average firing rate: _____ scf/hr

*If the gas fired is pipeline grade natural gas, these items need not be completed.

Oil Fired

12. Grade of oil, Number: ☐ 1 ☐ 2 ☐ 4 ☐ 5 ☐ 6 ☐ Other: specify _____

13. Annual consumption: _____ gallons

14. Heat content: _____ ☐ BTU/lb ☐ BTU/gal

15. Sulfur content: _____ % by wt.

16. Ash content _____ % by wt.

17. Direction of firing: ☐ horizontal ☐ tangential ☐ other: specify _____

18. Average firing rate: _____ gal/hr

19. Maximum firing rate: _____ gal/hr

Form 22 – Combustion Turbines

Operation

20. Application: ☐ Electric generation
x ___Base load ____Peaking
☐ Driving pump/compressor
☐ Exhaust heat recovery
☐ Other – Specify _____

21. Cycle: ☐ Simple cycle simple
☐ Regenerative cycle
☐ Cogeneration
☐ Combined cycle

22. Is turbine equipped with exhaust heat recovery equipment? ☐ Yes ☐ No
If yes, supply the size, flow rate, steam output capacity and temperature profile.

23. Is turbine equipped with duct burners? ☐ Yes ☐ No
If yes, provide burner description, fuel usage, combustion air input and location of the burners. Show all heat transfer surface locations with the waste heat boiler and temperature profile.

Emissions Data

24. Attach manufacturer's information showing emissions of NO_x, CO, VOC, SO_x, PM_{10} and $PM_{2.5}$ for each proposed fuel at turbine loads and site ambient temperatures representative of the range of proposed operation. The information must be sufficient to determine maximum hourly and annual emission rates. Annual emissions may be based on a conservatively low approximation of site annual average temperature. Provide emissions in pounds per hour and except for PM_{10} and $PM_{2.5}$, parts per million by volume at actual conditions and corrected to dry, 15% oxygen conditions.

Method of Emission Control:

☐ Lean premix combustors ☐ Oxidation catalyst ☐ Water injection ☐ Other – Specify _____
☐ Other low-NO_x combustor ☐ SCR catalyst ☐ Steam injection _____

Additional Information

25. On separate sheets provide the following:
A. Details regarding principle of operation of emission controls. If add-on equipment is used, provide make and model and manufacturer's information. Example details include: controller input variables and operational algorithms for water or ammonia injection systems, combustion mode versus turbine load for variable mode combustors, etc.
B. Exhaust parameter information on attached form.

Emissions Calculations (PTE)

26. Calculated emissions for this device

PM_{10} _____Lbs/hr_____ Tons/yr
$PM_{2.5}$ _____Lbs/hr_____ Tons/yr
NO_x _____Lbs/hr_____ Tons/yr
SO_x _____Lbs/hr_____ Tons/yr
CO _____Lbs/hr_____ Tons/yr
VOC _____Lbs/hr_____ Tons/yr
CO_2 _____Tons/yr
CH_4 _____Tons/yr
N_2O _____Tons/yr
HAPs_____ Lbs/hr (speciate)_____Tons/yr (speciate)

Submit calculations as an appendix. If other pollutants are emitted, include the emissions in the appendix.

Instructions Form 22 – Combustion Turbine

NOTE: 1. **Submit this form in conjunction with Form 1 and Form 2.**

2. Call the Division of Air Quality (DAQ) at **(801) 536-4000** if you have problems or questions in filling out this form. Ask to speak with a New Source Review engineer. We will be glad to help!

1. Indicate the manufacturer and the model number of the equipment.
2. Complete the fuel burning equipment's average and maximum operating schedule in hours per day, days per week, and weeks per year.
3. Specify the manufacturer's rated output and heat rate at baseload corresponding to International Standard Organization (ISO) conditions in megawatts (MW) or horsepower (hp). Also indicated what the proposed site operating range is in megawatts or horsepower.
4. Supply the percent of annual heat input by season for a year's time. The four seasons should total to 100%.
5. Indicate what the origin of the gas used in the turbine is.
6. Indicate if the gas supply can be interrupted and what the backup fuel is in case this happens.
7. Specify what the annual consumption of fuel is in standard cubic feet.
8. Indicate what the heat content is of the fuel.
9. Indicate what percent of sulfur is in the fuel.
10. Supply the maximum firing rate in standard cubic feet.
11. Supply the average firing rate in standard cubic feet.
12. Indicate the grade of oil being used.
13. Supply the annual consumption calculated in gallons of oil.
14. Indicate the heat content of the oil in BTU/lb or BTU/gal.
15. Indicate the sulfur content of the oil in percent by weight.
16. Indicate the ash content of the oil.
17. Indicate what the firing direction is.
18. Supply the average firing rate of oil.
19. Supply the maximum firing rate of oil.
20. Indicate what the turbine will be used for.
21. Indicate what type of cycle the turbine will have.
22. Indicate whether or not the turbine is equipped with exhaust heat recovery equipment and what the specifications of that equipment are.
23. Indicate whether or not the turbine is equipped with duct burners and provide specifications on the burners.
24. Provide manufacturer's emission information for the turbine. Also indicate what method of emission control will be used.
25. Provide details of the operation of emission controls and exhaust parameter information.
26. Supply calculations for all criteria pollutants, greenhouse gases and HAPs. Use AP42 or Submit the Manufacturers data used to complete your calculations.

f:\aq\ENGINEER\GENERIC\Forms 2010\Form22 Turbines.doc
Revised 12/20/10

APPENDIX B. EMISSIONS CALCULATIONS

Table B-1. Turbines - Parameters

Parameter	Value	Units
Number of CTGs	12	-
Hours of Operation	8760	(hr/yr)
Max Power Demand	108	(MW)
Percentage Safety Factor for Power Generation	7%	%
Max Power Generated	115.56	(MW)
Max Yearly Power Generated all Turbines	1,012,305.60	(MWh/yr)

Table B-2. Turbines - Startup (SU) and Shutdown (SD) Inputs

Parameter[1]	Value	Units
Number of Startups (SU) per year per CTG	52	(events/yr)
Number of Startups (SD) per year per CTG	52	(events/yr)
Duration of SU Event	15	(mins)
Duration of SD Event	15	(mins)
Total Hours of SU per CTG	13	(hours)
Total Hours of SD per CTG	13	(hours)
Hours of Normal Operation	8734	(hours)

1. SUSD Assumptions per Black & Veatch and Trinity engineering estimates.

Table B-3. Diesel Fired Emergency Generators - Parameters

Parameter	Value	Units
Number of CAT 3516 or C-175 Emergency Generators	112	-
Number of CAT C32 Emergency Generators	7	-
Hours of Operation	14	(hr/yr)

Table B-4. Solar Titan 130 CT (with SCR) PTE Emissions

Units	Emissions (tpy)									
	CO	NO_X	NO_2	PM_{10}	$PM_{2.5}$	SO_2	VOC	NH_3	CO_2e	Total HAPs
Solar Titan 130 CT	28.46	47.29	47.29	41.96	41.96	8.90	24.02	43.29	748,281.38	5.55
Primary Generator Operation Scenario Revised[1a]	5.17	15.01	15.01	0.30	0.30	0.04	0.37	-	3,535.44	0.09
Alternate Generator Operation Scenario Revised[1b]	8.77	13.87	13.87	0.50	0.50	0.04	0.43	-	3,565.72	0.09
Maximum Generator Revised PTE[2]	8.77	15.01	15.01	0.50	0.50	0.04	0.43	-	3,565.72	0.09
Maximum Tank Revised PTE[2]	-	-	-	-	-	-	0.01	-	-	5.68E-03
Project Increase	**28.46**	**47.29**	**47.29**	**41.96**	**41.96**	**8.90**	**24.02**	**43.29**	**748281.38**	**5.55**
Currently Permitted PTE[3]	**14.25**	**24.34**	**24.34**	**0.81**	**0.81**	**0.06**	**0.71**		**5780**	**0.16**
New Sitewide PTE	**37.23**	**62.30**	**62.30**	**42.46**	**42.46**	**8.94**	**24.46**	**43.29**	**751,847.10**	**5.64**
Potentially Applicable Major NSR Program	PSD	NNSR	PSD	PSD	NNSR	NNSR	NNSR	NNSR	NA	NA
Major Source Threshold[4]	250	50	250	250	70	70	50	70	75,000	10/25
Threshold Exceeded?[5]	No	No	No	No	No	No	No	No	Yes	No
Modeling Thresholds[6]	100	40	40	15	10	40	25	-	-	See HAP Summary
Threshold Exceeded?[5]	No	Yes	Yes	Yes	Yes	No	No	-	-	-
R307-420 Threshold	-	50	-	-	-	-	50	-	-	-
Threshold Exceeded?	-	No	-	-	-	-	No	-	-	-
R307-421 Threshold	-	25	-	-	-	25	-	-	-	-
Threshold Exceeded?	-	Yes	-	-	-	No	-	-	-	-

1. PTE scenarios altered from the PTE per DAQE-AN162210001-24. This altered PTE accounts for the emissions from the following operation scenarios:
   a. Primary Operation Scenario: 112 Cat Model C175-16 and 10 Cat C32
   b. Alternate Operation Scenario: 112 Cat Model 3516E and 10 Cat C32
2. Maximum Revised PTE accounts for the maximum emitting scenario between the Primary Operation Scenario and the Alternate Operation Scenario.
3. Currently permitted PTE from DAQE-AN162210001-24
4. Major source thresholds are defined by 40 CFR section 51.165(a)(1)(iv)(A).
5. The emissions increase resulting from the addition of the CTGs is exclusively considered when comparing to thresholds.
6. Modeling threshold is stated in UDAQ Emissions Impact Assessment Guidelines under Table 1: Total Controlled Emission Rates for New Sources or Emissions Increase.

Table B-5. Project Annual Potential HAP Emissions

Pollutant	Maximum Generator Emissions (lb/hr)	Titan 130 CT Hourly Emissions (lb/hr)
1,1,2,2-Tetrachloroethane	-	-
1,1,2-Trichloroethane	-	-
1,3-Butadiene	-	5.31E-04
1,3-Dichloropropene	-	-
2-Methylnaphthalene	-	-
2,2,4-Trimethylpentane	-	-
Acenaphthene	-	-
Acenaphthylene	-	-
Acetaldehyde	0.08	0.05
Acrolein	0.02	7.90E-03
Benzene	2.42	1.48E-02
Benzo(b)fluoranthene	-	-
Benzo(e)pyrene	-	-
Benzo(g,h,i)perylene	-	-
Biphenyl	-	-
Butyr/Isobutyraldehyde	-	-
Carbon Tetrachloride	-	-
Chlorobenzene	-	-
Chloroform	-	-
Chrysene	-	-
Ethylbenzene	4.41E-05	0.04
Ethylene Dibromide	-	-
Fluoranthene	-	-
Fluorene	-	-
Formaldehyde	0.25	0.88
Methanol	-	-
Methylene Chloride	-	-
Hexane	6.61E-06	-
Naphthalene	0.40	-
PAH	-	2.71E-03
Phenanthrene	-	-
Phenol	-	-
Propylene	8.69	-
Propylene Oxide	-	0.04
Pyrene	-	-
Styrene	-	-
Tetrachloroethane	-	-
Toluene	0.88	0.16
Vinyl Chloride	-	-
Xylenes	0.60	0.08

Table B-6. Turbines - Parameters

Parameter	Value	Units
Number of CTGs	12	-
Hours of Operation	8760	(hr/yr)
Max Power Demand	108	(MW)
Max Power Generated	115.56	(MW)
Max Yearly Power Generated all Turbines	1,012,305.60	(MWh/yr)
Total Hours of SU per CTG	13	(hours)
Total Hours of SD per CTG	13	(hours)
Hours of Normal Operation	8734	(hours)

Table B-7. Turbines - Operating Parameters

Parameter	Units												
Ambient Air Temperature	(F)	103.4			51.0			32.0			-4.0		
Load Condition	(%)	100%	75%	50%	100%	75%	50%	100%	75%	50%	100%	75%	50%
NET CTG Output	(kW)	11046.00	8284.00	5523.00	13537.00	10153.00	6769.00	14153.00	10615.00	7077.00	15324.00	11492.00	7662.00
NET CTG Output	(MW)	11.05	8.28	5.52	13.54	10.15	6.77	14.15	10.62	7.08	15.32	11.49	7.66
CTG Fuel Consumption (LHV)	(MMBtu/hr)	114.33	92.28	75.58	132.42	107.18	86.87	137.55	111.05	89.72	147.41	118.88	95.58
CTG Fuel Consumption (HHV)[2]	(MMBtu/hr)	126.91	102.43	83.89	146.99	118.97	96.43	152.68	123.27	99.59	163.63	131.96	106.09
Number of Turbines needed for MW Generation[1]	-	11.00	12.00	12.00	9.00	12.00	12.00	9.00	11.00	12.00	8.00	11.00	12.00

1. Number of CTGs to reach max power requirement (115.56 MW) <= 12 turbines that are on site.

2. Conversion factor for natural gas from LHV to HHV assumed to be 1.11 1.11

Table B-8. Turbines - Emission Rates (lb/hr)

Pollutant	Units	Hourly Emissions												References
Ambient Air Temperature	(F)	103.4			51.0			32.0			-4.0			
Load Condition	(%)	100%	75%	50%	100%	75%	50%	100%	75%	50%	100%	75%	50%	
CO	(lb/hr)	0.55	0.45	0.37	0.64	0.52	0.42	0.67	0.54	0.44	0.72	0.58	0.47	1
NO_X	(lb/hr)	0.94	0.75	0.62	1.08	0.88	0.71	1.12	0.91	0.73	1.21	0.97	0.78	2
VOC	(lb/hr)	0.47	0.38	0.31	0.55	0.45	0.36	0.58	0.46	0.38	0.62	0.50	0.40	1
PM_{10}	(lb/hr)	0.84	0.68	0.55	0.97	0.79	0.64	1.01	0.81	0.66	1.08	0.87	0.70	3
$PM_{2.5}$	(lb/hr)	0.84	0.68	0.55	0.97	0.79	0.64	1.01	0.81	0.66	1.08	0.87	0.70	3
SO_2	(lb/hr)	0.178	0.143	0.117	0.206	0.167	0.135	0.214	0.173	0.139	0.229	0.185	0.149	4,5
NH_3	(lb/hr)	0.87	0.70	0.57	1.00	0.81	0.66	1.04	0.84	0.68	1.12	0.90	0.72	2
CO_2	(lb/hr)	14795.15	11947.57	9779.93	17242.16	13959.93	11310.02	17927.34	14476.98	11691.19	19253.01	15530.95	12481.02	--
CH_4	(lb/hr)	1.40E-04	1.13E-04	9.25E-05	1.62E-04	1.31E-04	1.06E-04	1.68E-04	1.36E-04	1.10E-04	1.80E-04	1.45E-04	1.17E-04	6a
N_2O	(lb/hr)	1.21E-06	1.32E-06	1.32E-06	9.92E-07	1.32E-06	1.32E-06	9.92E-07	1.21E-06	1.32E-06	8.82E-07	1.21E-06	1.32E-06	6a
CO_2e	(lb/hr)	14795.15	11947.57	9779.94	17242.17	13959.93	11310.03	17927.35	14476.99	11691.19	19253.01	15530.95	12481.03	6b

1. CO and VOC emission factors are provided by Black and Veatch.

2. NO_X and NH_3 factors are calculated based off of PPM guarantees and are converted using the F Factor conversion methodology- see Table B-13 and Table B-14.

3. PM emission factor from AP-42 Section 3.1 Table 3.1-2a. Conservatively assuming $PM=PM_{10}=PM_{2.5}$

6.60E-03 (lb/MMBtu)

4. Natural gas sulfur composition

0.01 (grain/dscfm)

5. High Heating Value (HHV) of natural gas

1020.0 (Btu/Scf)

6

a. (lb/hr) =40 CFR 98 Table C-1 Emission Factor (kg/MMBtu) *CTG Fuel Consumption (MMBtu/h) * Conversion (lb/kg)

CH_4 0.001 (kg/MMBtu)

N_2O 1.00E-04 (kg/MMBtu)

b. CO_2e is the sum of GHG constituents multiplied by their

1 CO_2 GWP

28 CH_4 GWP

265 N_2O GWP

Table B-9. Turbines - Uncontrolled (Startup (SU) and Shutdown (SD)) Emissions

Pollutant	Hourly Emissions		Reference
	(lb/hr)	(lb/MWh)	
CO	5.40	3.52E-01	--
NO_x	5.43	3.54E-01	1

1. Uncontrolled NOx emissions factors are calculated based off of PPM guarantees and are converted using the F Factor conversion methodology - see Table B-13.

Table B-10. Turbines - Emission Rates (lb/MWh)

Pollutant	Units	Hourly Emissions											
Ambient Air Temperature	(F)	103.4			51.0			32.0			-4.0		
Load Condition	(%)	100%	75%	50%	100%	75%	50%	100%	75%	50%	100%	75%	50%
CO	(lb/MWh)	5.00E-02	5.38E-02	6.61E-02	4.76E-02	5.13E-02	6.24E-02	4.73E-02	5.09E-02	6.18E-02	4.70E-02	5.05E-02	6.09E-02
NO_x	(lb/MWh)	0.085	0.091	0.112	0.080	0.086	0.105	0.079	0.086	0.104	0.079	0.085	0.102
VOC	(lb/MWh)	4.30E-02	4.62E-02	5.68E-02	4.09E-02	4.41E-02	5.37E-02	4.07E-02	4.38E-02	5.30E-02	4.04E-02	4.34E-02	5.23E-02
PM_{10}	(lb/MWh)	7.58E-02	8.16E-02	1.00E-01	7.17E-02	7.73E-02	9.40E-02	7.12E-02	7.66E-02	9.29E-02	7.05E-02	7.58E-02	9.14E-02
$PM_{2.5}$	(lb/MWh)	7.58E-02	8.16E-02	1.00E-01	7.17E-02	7.73E-02	9.40E-02	7.12E-02	7.66E-02	9.29E-02	7.05E-02	7.58E-02	9.14E-02
SO_2	(lb/MWh)	1.61E-02	1.73E-02	2.13E-02	1.52E-02	1.64E-02	2.00E-02	1.51E-02	1.63E-02	1.97E-02	1.50E-02	1.61E-02	1.94E-02
NH_3	(lb/MWh)	0.078	0.084	0.104	0.074	0.080	0.097	0.074	0.079	0.096	0.073	0.078	0.094
CO_2e	(lb/MWh)	1339.41	1442.25	1770.77	1273.71	1374.96	1670.86	1266.68	1363.82	1652.00	1256.40	1351.46	1628.95

Table B-11. Turbines - Yearly Emissions (tpy)

Pollutant	Units	Yearly Emissions[1]												MAX Emissions	References
Ambient Air Temperature	(F)	103.4			51.0			32.0			-4.0				
Load Condition	(%)	100%	75%	50%	100%	75%	50%	100%	75%	50%	100%	75%	50%		
CO	(tpy)	27.09	23.81	19.44	25.87	27.87	22.52	26.91	26.51	23.29	25.71	28.46	24.88	**28.46**	1
NO_x	(tpy)	45.48	40.01	32.70	43.13	46.50	37.60	44.80	44.16	38.84	42.68	47.29	41.39	**47.29**	--
VOC	(tpy)	22.87	20.12	16.49	21.82	23.54	19.09	22.69	22.38	19.73	21.67	24.02	21.08	**24.02**	--
PM_{10}	(tpy)	40.35	35.53	29.10	38.24	41.27	33.45	39.72	39.20	34.55	37.84	41.96	36.80	**41.96**	--
$PM_{2.5}$	(tpy)	40.35	35.53	29.10	38.24	41.27	33.45	39.72	39.20	34.55	37.84	41.96	36.80	**41.96**	--
SO_2	(tpy)	8.56	7.54	6.18	8.12	8.76	7.10	8.43	8.32	7.33	8.03	8.90	7.81	**8.90**	--
NH_3	(tpy)	41.63	36.66	30.02	39.45	42.57	34.51	40.98	40.44	35.64	39.04	43.29	37.97	**43.29**	1
CO_2e	(tpy)	712831	627964	514033	679686	733734	594455	706696	697501	614489	674626	748281	656003	**748281.38**	--

1. Anuual emissions account for both controlled and uncontrolled operating hours

2. SUSD Operations:

Hours of SU:	13	(hours)
Hours of SD:	13	(hours)
Hours of Normal Operation:	8734	(hours)

Table B-12. Turbines - HAPS Emissions

Pollutant[1]	Emission Factor[1]	Emission Factor	Yearly Emissions[2]	Also a VOC, not a HC?
	(lb/MMBtu)	(lb/MWh)	(tpy)	
1,3-Butadiene	4.30E-07	4.59E-06	2.32E-03	No
Acetaldehyde	4.00E-05	4.27E-04	2.16E-01	Yes
Acrolein	6.40E-06	6.83E-05	3.46E-02	Yes
Benzene	1.20E-05	1.28E-04	6.49E-02	No
Ethylbenzene	3.20E-05	3.42E-04	1.73E-01	No
Formaldehyde	7.10E-04	7.58E-03	3.84	Yes
PAH	2.20E-06	2.35E-05	1.19E-02	No
Propylene Oxide	2.90E-05	3.10E-04	1.57E-01	No
Toluene	1.30E-04	1.39E-03	7.03E-01	No
Xylenes	6.40E-05	6.83E-04	3.46E-01	No
		Max HAP	**3.84**	
		Total HAP	**5.55**	

1. HAPs and corresponding emissions factors from AP-42 Table 3.1-3.

2. Site Wide Energy Production:

1,012,305.60 (MWh/yr)

Table B-13. NO_X Emission Factor PPM Conversion

Parameter	Uncontrolled	Controlled	Unit
Emission Guarantee (ppmvd)	9	2	(ppmvd)
C at 15% O_2	9.00E-06	2.00E-06	(ppmvd $NO_X/10^6$)
V @ 0% O_2	3.19E-05	7.08475E-06	Corrected (ppmvd $NO_X/10^6$)
Molecular weight of NO_2	46.01	46.01	(lb/mol)
Standard Temp	527.67	527.67	(R)
Pressure	1.00	1.00	(atm)
R (gas constant)	0.7302	0.7302	(ft^3*atm)/(mol*R)
m	3.81E-06	8.45912E-07	(lb/ft^3)
F Factor Natural Gas[1]	8710	8710	(ft^3/MMBtu)
F*m	3.32E-02	7.37E-03	(lb/MMBtu)

1. F Factor for distillate oil from EPA Method 19 Table 19-2.

Table B-14. NH_3 Emission Factor PPM Conversion

Parameter	Value	Unit
Emission Guarantee (ppmvd)	5	(ppmvd)
C at 15% O_2	5.00E-06	ppmvd ($NH_3/10^6$)
V @ 0% O_2	1.77E-05	Corrected (ppmvd NH_3 $/10^6$)
Molecular weight of NH_3	17.03	(lb/mol)
Standard Temp	527.67	(R)
Pressure	1.00	(atm)
R (gas constant)	0.73	(ft^3*atm)/(mol*R)
m	7.83E-07	(lb/ft^3)
F Factor Natural Gas[1]	8710	(ft^3/MMBtu)
F*m	6.82E-03	(lb/MMBtu)

1. F Factor for distillate oil from EPA Method 19 Table 19-2.

Table B-15. Generators - Parameters

Parameter	Cat Model C3516E	Cat Model C175-16	Cat C32
Engine Model Number	Cat 3516E	Cat C175-16	Cat C32
Annual Hours of Operation (hr/yr)[1]	14	14	14
Total Number of Generators	112	112	7
Maximum Number Generators Operating in One Hour	1	1	1
Engine Maximum Power Output - 100% Load (ekW)[2]	3,000	3,100	1,000
Engine Maximum Power Output - 100% Load (hp)	4,393	4,376	1,341
Engine Maximum Power Output - 80% Load (hp)	3,557	3,501	--
Engine Maximum Power Output - 10% Load (hp)	590.00	438.00	--
100% Load Fuel Consumption per Engine (gal/hr)[2]	208.20	209.00	71.90
Heating Value of Diesel (MMBtu/gal)[3]	0.138	0.138	0.138
Fuel Type	Diesel	Diesel	Diesel
Fuel Sulfur Content (%)[4]	0.0015	0.0015	0.0015

1. Inclusive of testing and maintenance.
2. Per CAT Diesel Generator performance data sheets.
3. Per 40 CFR 98, Table C–1 to Subpart C for Distillate Fuel Oil No. 2.
4. From EPA, "Diesel Fuel Standards and Rulemakings", https://www.epa.gov/diesel-fuel-standards/diesel-fuel-standards-and-rulemakings.

Table B-16. Generators - Criteria Pollutant and GHG Engine Emission Factors

Pollutant	Emission Factor 100%	Emission Factor 80%	Emission Factor 10%	Emissions 100%	Emissions 80%	References
	(g/hp-hr)	(g/hp-hr)	(g/hp-hr)	(lb/gal)	(lb/gal)	
Cat 3516E						
$PM/PM_{10}/PM_{2.5}$	0.060	0.09	0.04	2.79E-03	4.12E-03	1
Uncontrolled NO_x	6.76	4.86	12.82	0.31	0.22	--
Controlled NO_x	0.54	0.39	1.03	0.03	0.02	--
VOC	0.06	0.06	0.36	2.79E-03	2.69E-03	2
CO	1.20	1.30	4.68	5.58E-02	5.84E-02	--
SO_2	--	--	--	2.56E-04	2.47E-04	3
CO_2	--	--	--	22.50	--	4
CH_4	--	--	--	9.13E-04	--	4
N_2O	--	--	--	1.83E-04	--	4
CO_2e	--	--	--	22.58	--	5
Cat C175-16						
$PM/PM_{10}/PM_{2.5}$	0.040	0.05	0.29	1.85E-03	2.14E-03	1
Uncontrolled NO_x	7.26	6.52	8.18	0.34	0.30	--
Controlled NO_x	0.51	0.46	0.57	0.02	0.02	--
VOC	0.05	0.06	0.75	2.31E-03	2.60E-03	2
CO	0.63	0.97	4.17	2.91E-02	4.43E-02	--
SO_2	--	--	--	2.54E-04	2.52E-04	3
CO_2	--	--	--	22.50	--	4
CH_4	--	--	--	9.13E-04	--	4
N_2O	--	--	--	1.83E-04	--	4
CO_2e	--	A	--	22.58	--	5
Cat C32						
$PM/PM_{10}/PM_{2.5}$	0.04	--	--	1.64E-03	--	1
Uncontrolled NO_x	5.97	5.97	5.97	0.25	--	--
Controlled NO_x	0.60	0.60	0.60	0.02	--	--
VOC	0.03	--	--	1.23E-03	--	2
CO	0.24	--	--	0.01	--	--
SO_2	--	--	--	2.26E-04	--	3
CO_2	--	--	--	23	--	4
CH_4	--	--	--	9.13E-04	--	4
N_2O	--	--	--	1.83E-04	--	4
CO_2e	--	--	--	22.58	--	5

1. It is conservatively assumed that emission factors for PM_{10} and $PM_{2.5}$ are equivalent to the emission factor for PM.

2. It is conservatively assumed that hydro-carbons (HC) are equivalent to the emission VOCs.

3. AP-42 Section 3.4, Table 3.4-1, SO_x emission factor, based on 0.0015% sulfur 1.21E-05 (lb/hp-hr)

4. Emission factor from 40 CFR 98 Table C1 and Table C2

CO_2:	73.96	(kg/MMBtu)
CH_4:	0.003	(kg/MMBtu)
N_2O:	0.0006	(kg/MMBtu)

5. CO_2e is the sum of GHG constituents multiplied by their respective global warming potential (i.e. 1 for CO_2, 28 for CH_4, and 265 for N_2O), per Table A-1, 40 CFR 98, Subpart A.

Table B-17. Generators - NO_x Control Parameters

Pollutant	Control Efficiency[1]
CAT C32 - NO_x	90%
CAT 3516E - NO_x	92%
CAT C175 - NO_x	93%

1. Based on Information provided by SCR manufacturer..

Table B-18. Generators - Engine Operating Times

Operating details	Controlled/Uncontrolled	Annual Operating Time (hr/yr)	Operating details	Uncontrolled	Controlled
Time at 100%	Controlled	6.70	Time at 100% load	28%	72%
Time at 80%	Controlled	4.00	Time 80% load	16%	84%
Time at 100%	Uncontrolled	2.55	Cat C32 Time at 100% load	24%	76%
Time at 80%	Uncontrolled	0.75			
Total Annual Operating Time (hr)		**14.00**			

1. Start up time: 0.15 (hr)
2. Number of startups:
   - 100% load: 12
   - 80% load: 5
   - Additional startups: 5

Table B-19. Generators - Criteria Pollutant and GHG Potential to Emit

Pollutant	Potential to Emit per Engine		Total Potential to Emit all Engines	
	(lb/hr)[1]	(tpy)[2]	(lb/hr)[3]	(tpy)[4]
Cat 3516E				
PM	0.63	4.40E-03	0.63	0.49
NO_x	17.34	0.12	17.34	13.60
VOC	0.54	3.81E-03	0.54	0.43
CO	11.15	0.08	11.15	8.74
SO_2[5]	0.05	3.49E-04	0.05	0.04
CO_2	4,432	31.02	4,432	3,475
CH_4	0.18	1.26E-03	0.18	0.14
N_2O	0.04	2.52E-04	0.04	0.03
CO_2e	4,447	31.13	4,447	3,486
Cat C175-16				
PM	0.38	2.64E-03	0.38	0.30
NO_x	18.80	0.1316	18.80	14.74
VOC	0.47	3.27E-03	0.47	0.37
CO	6.55	0.05	6.55	5.13
SO_2[5]	0.05	3.47E-04	0.05	0.04
CO_2	4,394	30.76	4,394	3444.59
CH_4	0.18	1.25E-03	0.18	0.14
N_2O	0.04	2.50E-04	0.04	0.03
CO_2e	4,408	30.86	4,408	3455.90
Cat C32				
PM	0.12	8.3E-04	0.12	5.79E-03
NO_x	5.51	0.0386	5.51	0.27
VOC	0.09	6.2E-04	0.09	4.35E-03
CO	0.71	5.0E-03	0.71	0.03
SO_2	0.02	1.1E-04	0.02	7.97E-04
CO_2	1,618	11.32	1,618	79.27
CH_4	0.07	4.59E-04	0.07	3.22E-03
N_2O	0.01	9.19E-05	0.01	6.43E-04
CO_2e	1,623	11.36	1,623	79.54

Table B-20. Generators - Criteria Pollutant and GHG Potential to Emit Summary

Pollutant	Potential to Emit for Cat 3516E Engines	Potential to Emit for Cat C175-16 Engines	Potential to Emit for C32 Engines	Total Potential to Emit for Cat 3516E Option (Cat 3516E + C32)	Total Potential to Emit for all Cat C175-16 Option (Cat C175-16+ C32)	Total Max Potential to Emit for all Engines
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
PM	0.49	0.30	5.79E-03	0.50	0.30	0.50
NO_x	13.60	14.74	0.27	13.87	15.01	15.01
VOC	0.43	0.37	4.35E-03	0.43	0.37	0.43
CO	8.74	5.13	0.03	8.77	5.17	8.77
SO_2	0.04	0.04	7.97E-04	0.04	0.04	0.04
CO_2	3,475	3444.59	79.27	3554.04	3523.86	3554.04
CH_4	0.14	0.14	3.22E-03	0.14	0.14	0.14
N_2O	0.03	0.03	6.43E-04	0.03	0.03	0.03
CO_2e	3,486	3455.90	79.54	3565.72	3535.44	3565.72

Table B-21. Generators - HAPs Emissions- Per Generator

Pollutant	Emission Factor[1]	Potential Emissions per Cat 3516E	Potential Emissions per Cat C175-16	Potential Emissions per Cat C32	Potential Emissions per Cat 3516E	Potential Emissions per Cat C175-16	Potential Emissions per Cat C32
	(lb/MMBtu)	(lb/gal)	(lb/gal)	(lb/gal)	(tpy)	(tpy)	(tpy)
Benzene	7.76E-04	1.07E-04	1.07E-04	1.07E-04	1.48E-04	1.46E-04	5.39E-05
Toluene	2.81E-04	3.88E-05	3.88E-05	3.88E-05	5.35E-05	5.30E-05	1.95E-05
Xylenes	1.93E-04	2.66E-05	2.66E-05	2.66E-05	3.67E-05	3.64E-05	1.34E-05
Propylene	2.79E-03	3.85E-04	3.85E-04	3.85E-04	5.31E-04	5.26E-04	1.94E-04
Formaldehyde	7.89E-05	1.09E-05	1.09E-05	1.09E-05	1.50E-05	1.49E-05	5.48E-06
Acetaldehyde	2.52E-05	3.48E-06	3.48E-06	3.48E-06	4.79E-06	4.75E-06	1.75E-06
Acrolein	7.88E-06	1.09E-06	1.09E-06	1.09E-06	1.50E-06	1.49E-06	5.47E-07
Naphthalene	1.30E-04	1.79E-05	1.79E-05	1.79E-05	2.47E-05	2.45E-05	9.03E-06
Max HAP		**3.85E-04**	**3.85E-04**	**3.85E-04**	**5.31E-04**	**5.26E-04**	**1.94E-04**
Total HAPs		**5.91E-04**	**5.91E-04**	**5.91E-04**	**8.15E-04**	**8.08E-04**	**2.97E-04**

1. Emission factors from AP-42 Section 3.4, Tables 3.4-3 and 3.4-4

Table B-22. Generators - HAPs Emissions - All Generators

Pollutant	Emission Factor	Potential Emissions - Cat 3516E	Potential Emissions - Cat C175-16	Potential Emissions - Cat C32	Potential Emissions - Cat 3516E	Potential Emissions - Cat C175-16	Potential Emissions - Cat C32	Total Potential to Emit for Cat 3516E Option (Cat 3516E + C32)	Total Potential to Emit for all Cat C175-16 Option (Cat C175-16+ C32)	Total Max Potential Emissions for all Engines	Also a VOC, not a HC?
	(lb/MMBtu)	(lb/gal)	(lb/gal)	(lb/gal)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	
Benzene	7.76E-04	1.20E-02	1.20E-02	7.50E-04	1.65E-02	1.64E-02	3.77E-04	1.69E-02	1.68E-02	0.02	No
Toluene	2.81E-04	4.34E-03	4.34E-03	2.71E-04	5.99E-03	5.94E-03	1.37E-04	6.12E-03	6.07E-03	0.01	No
Xylenes	1.93E-04	2.98E-03	2.98E-03	1.86E-04	4.11E-03	4.08E-03	9.38E-05	4.21E-03	4.17E-03	0.00	No
Propylene	2.79E-03	4.31E-02	4.31E-02	2.70E-03	5.95E-02	5.89E-02	1.36E-03	6.08E-02	6.03E-02	0.06	No
Formaldehyde	7.89E-05	1.22E-03	1.22E-03	7.62E-05	1.68E-03	1.67E-03	3.84E-05	1.72E-03	1.71E-03	1.72E-03	Yes
Acetaldehyde	2.52E-05	3.89E-04	3.89E-04	2.43E-05	5.37E-04	5.32E-04	1.23E-05	5.49E-04	5.45E-04	5.49E-04	Yes
Acrolein	7.88E-06	1.22E-04	1.22E-04	7.61E-06	1.68E-04	1.66E-04	3.83E-06	1.72E-04	1.70E-04	1.72E-04	Yes
Naphthalene	1.30E-04	2.01E-03	2.01E-03	1.26E-04	2.77E-03	2.75E-03	6.32E-05	2.83E-03	2.81E-03	2.83E-03	No
Max HAP		**0.04**	**0.04**	**2.70E-03**	**5.95E-02**	**5.89E-02**	**1.36E-03**	**6.08E-02**	**6.03E-02**	**0.06**	
Total HAPs		**0.07**	**0.07**	**4.14E-03**	**9.13E-02**	**9.05E-02**	**2.08E-03**	**9.33E-02**	**9.25E-02**	**0.09**	

Table B-23. Site Fuel Usage

Engine	Percent Load	Fuel Usage by Load (gal/yr)		Annual Fuel Usage (gal/yr)[1]	
		Per Engine	Total	Per Engine	Total
Cat 3516E	100%	1,925.9	215,695.2	2,758	308,848
	80%	831.7	93,153.2		
Cat C175-16	100%	1,933.3	216,524.0	2,734	306,166
	80%	800.4	89,642.0		
Cat C32	100%	1,006.6	7,046.2	1,007	7,046
	80%	-	-		
Site Totals				3,764	**315,895**

1. Annual Hours of Operation:

Table B-24. Cat 3516E Performance Data[1]

Description	Load	Fuel Consumption (Gal/hr)	Standard Temp (F)	Engine Outlet Temp (F)	Exhaust Flow (cfm)	NOx (g/hp-hr)	CO (g/hp-hr)	THC (g/hp-hr)	PM (g/hp-hr)
Full Load	100%	208.2	32	901.9	22803	6.76	1.2	0.06	0.06
Annual Testing	80%	175.1	32	913.3	19872.8	4.856	1.304	0.06	0.092
	75%	168.1	32	917.3	19421.7	4.38	1.33	0.06	0.1
Idle	10%	36.7	32	671.9	4545.1	12.82	4.68	0.36	0.04

1. Performace data received from specification sheets

Table B-25. Cat C175-16 Performance Data[1]

Description	Load	Fuel Consumption (Gal/hr)	Standard Temp (F)	Engine Outlet Temp (F)	Exhaust Flow (cfm)	NOx (g/hp-hr)	CO (g/hp-hr)	THC (g/hp-hr)	PM (g/hp-hr)
Full Load	100%	209	32	890.4	25320.3	7.26	0.63	0.05	0.04
	90%	187.6	32		22758.0	6.99	0.84	0.05	0.04
Annual Testing	80%	168.5	32	868	20653.4	6.52	0.97	0.06	0.05
	75%	160.4	32		19883.5	6.28	1.03	0.06	0.05
Idle	10%	34	32	569.8	5561.0	8.18	4.17	0.75	0.29

1. Performace data received from specification sheets

Table B-26. Tank Parameters

Engine Tanks	Throughput (gal/yr)[1]
Belly Tanks	308,848
House Belly Tanks	7,046
Total	**315,895**

1. Max annual fuel usage accounting for 14 (hr/yr) of operation for each proposed engine.

Table B-27. Tank Annual VOC Potential to Emit

VOC Emissions[1]	
Loading loss emission factor (lb/10^3 gal)[2]	0.03
Loading loss all belly tanks (lb/yr)[3,4]	17.02
Loading loss all belly tanks (tpy)	**8.51E-03**
Average hourly total loading loss all belly tanks (lb/hr)[5]	1.94E-03

1. Includes (1) vapors formed in the empty tank by evaporation of residual product from previous loads, (2) vapors transferred to the tank in vapor balance systems as product is being unloaded, and (3) vapors generated in the tank as the new product is being loaded.

2. AP 42 Section 5.2 Transportation and Marketing

$$L_L = 12.46 \frac{SPM}{T}\left(1 - \frac{eff}{100}\right)$$

Where,

L_L, loading loss (lb/[10^3 gal of liquid loaded]) =	0.03
S, saturation factor[a] =	1.45
P, true vapor pressure of diesel (psia)[b] =	6.00E-03
M, vapor molecular weight of diesel (lb/lb-mol)[b] =	130.00
T, Temperature (R)[b] =	522.97
eff, overall reduction efficiency =	0.00

a) AP 42 Table 5.2-1, for splash loading and dedicated normal service.

b) AP 42 Table 7.1-7 (°F) 63.3

3. Conversion factors:

1000 gal/Mgal

4. Safety Factor: 2

5. Annual operating time (hr/yr): 8760

Table B-28. Tank Annual HAP Potential to Emit

Pollutant	Vapor HAP Composition (wt %)[1]	Average Total Hourly Emissions All Belly Tanks (lb/hr)	Total Annual Emissions All Belly Tanks (tpy)
Benzene	1.64%	3.19E-05	1.40E-04
Ethylbenzene	2.3%	4.41E-05	1.93E-04
Hexane	0.3%	6.61E-06	2.89E-05
Naphthalene	0.3%	5.64E-06	2.47E-05
Toluene	18.2%	3.54E-04	1.55E-03
Xylene	44.0%	8.54E-04	3.74E-03
		Max HAPs	**3.74E-03**
		Total HAPs	**5.68E-03**

1. Determined from TankESP HAPs speciation.

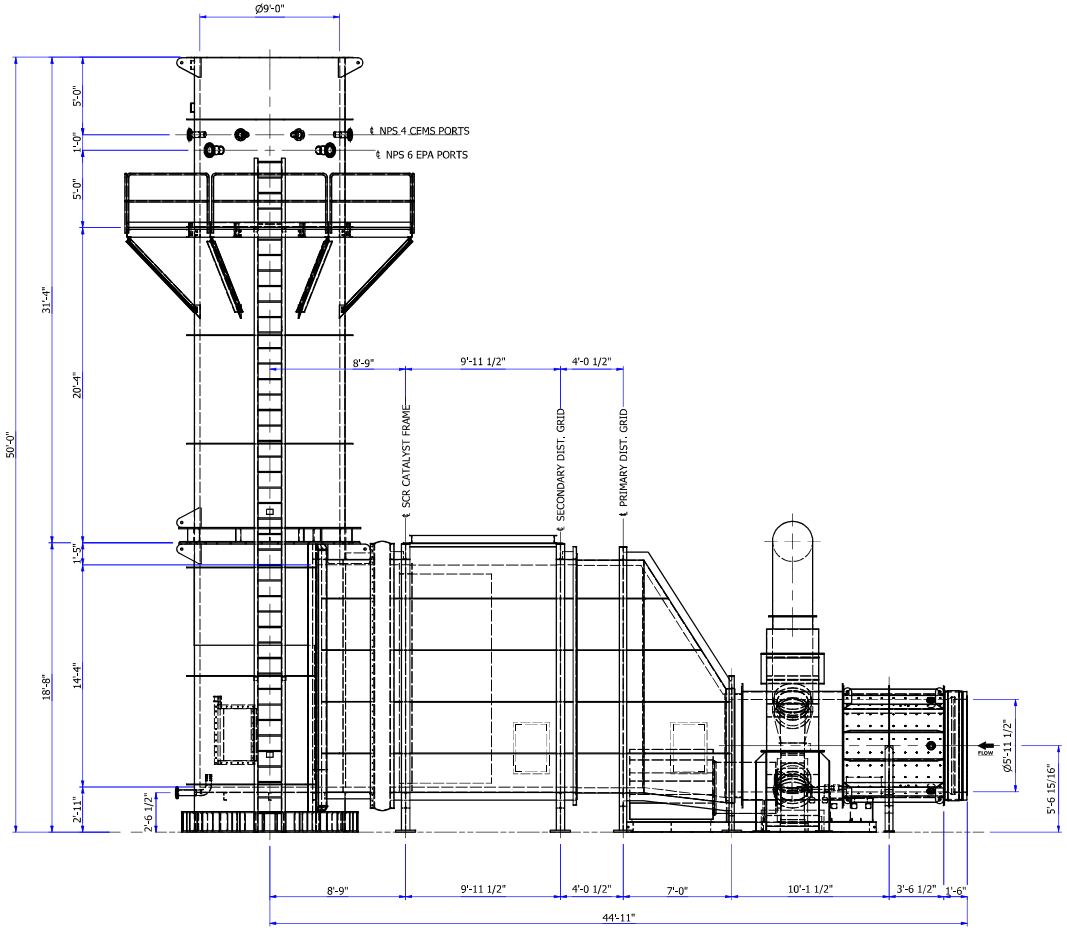
2. Annual operating time (hr/yr): 8760

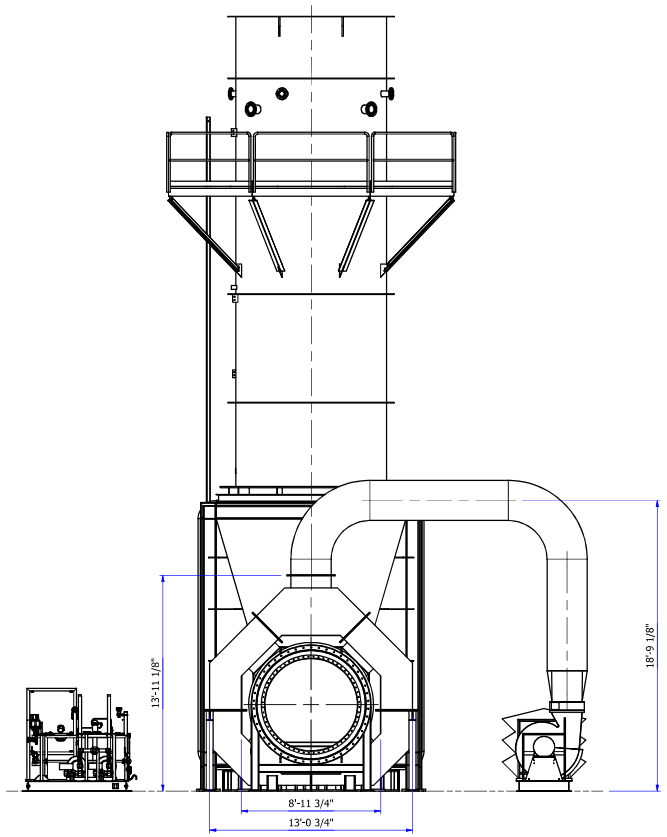
APPENDIX C. MANUFACTURING SPECIFICATION SHEETS

THIS DRAWING IS PRELIMINARY REPRESENTING LAYOUT ONLY.
ALL DIMENSIONS SHALL BE FINALIZED AFTER FORMAL PURCHASE ORDER AND COMPLETE ENGINEERING APPROVAL.

ENERGYLINK INTERNATIONAL PROPOSAL DRAWING

NOTES:
1. DRAWING REPRESENTATION IS FOR OVERALL SIZE AND ARRANGEMENT ONLY. REFER TO PROPOSAL DOCUMENT FOR SCOPE DEFINITION AND EXCEPTIONS.
2. DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.





All information contained within this drawing, is the exclusive property of ENERGY LINK
This design information is CONFIDENTIAL and must not be reproduced or distributed to outside parties without consent of ENERGY LINK. By using this drawing the user agrees to abide by these foregoing terms and conditions.

ENERGY LINK

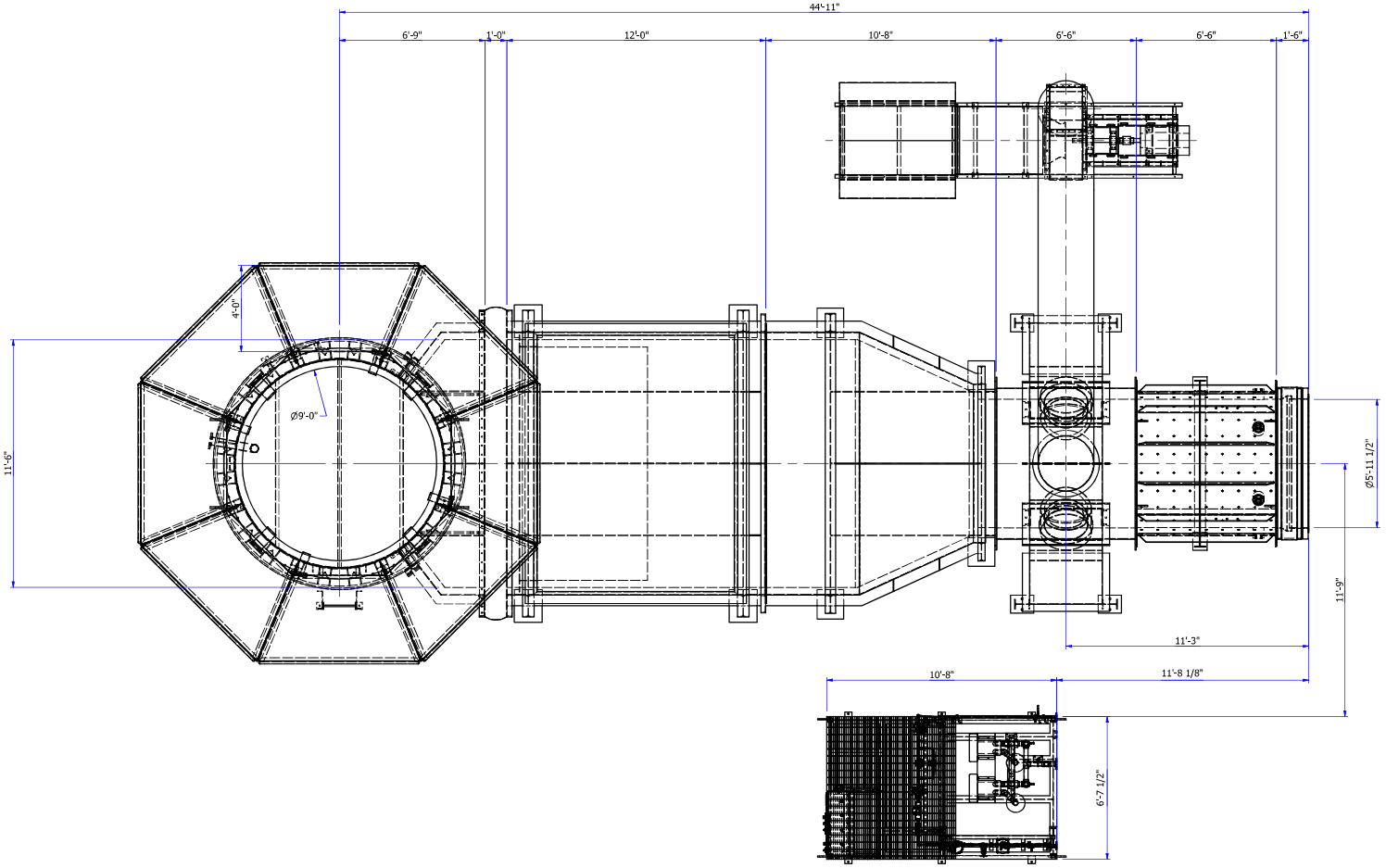
SOLAR TURBINES
SLC DATA CENTER

SOLAR TITAN 130 CATALYST SYSTEM GENERAL ARRANGEMENT

DRAWN	AM	DRAWING No.	REV
CHECKED		Q24152-CS1-T130	A
APPROVED (ENG)			
RELEASED (PM)		SHEET 1 OF 2	

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING



PLAN VIEW

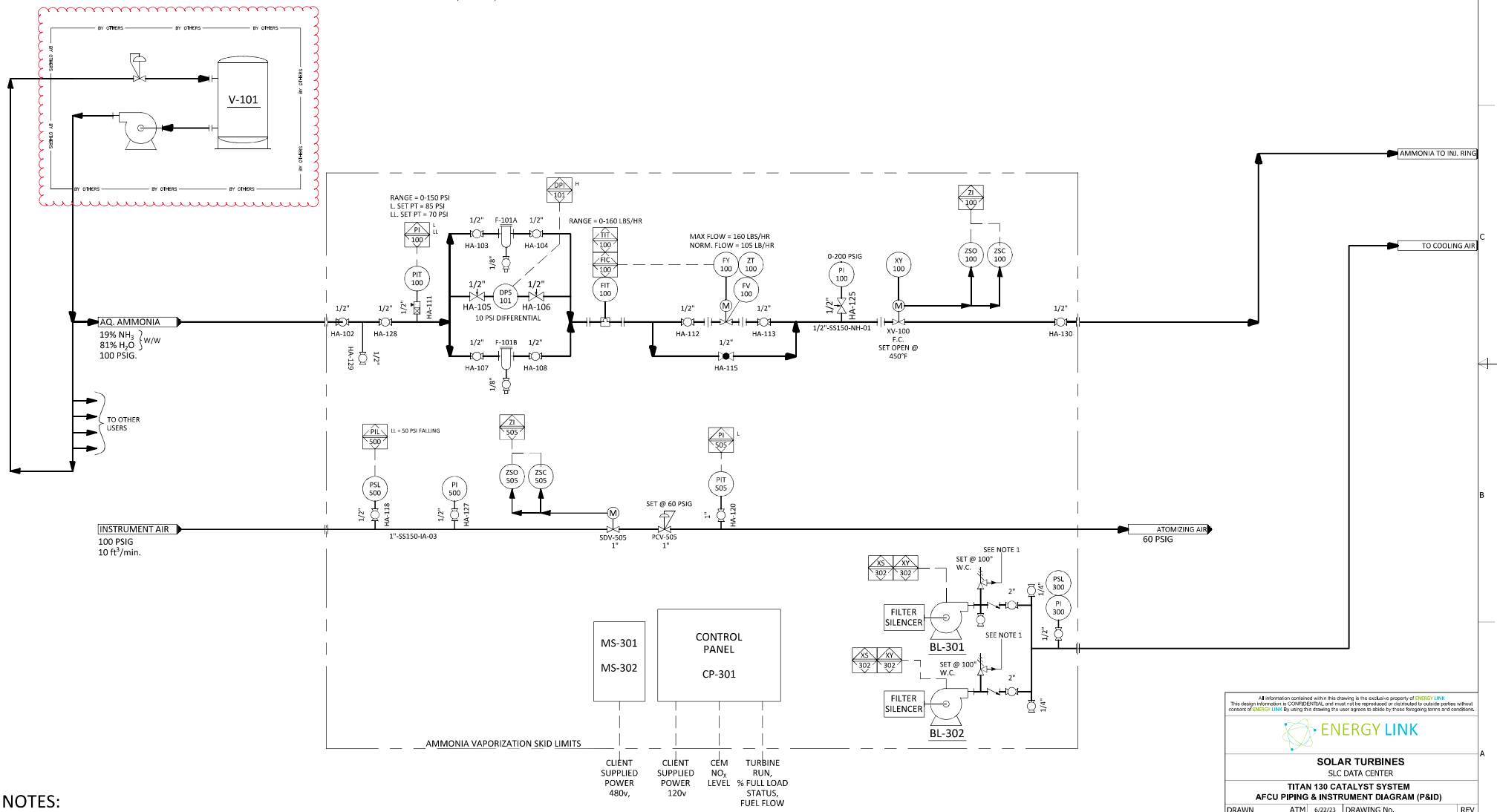
All information contained within this drawing is the exclusive property of ENERGY LINK
This design information is CONFIDENTIAL and must not be reproduced or distributed to outside parties without consent of ENERGY LINK. By using this drawing the user agrees to abide by these foregoing terms and conditions.

ENERGY LINK

SOLAR TURBINES
SLC DATA CENTER

SOLAR TITAN 130 CATALYST SYSTEM
GENERAL ARRANGEMENT

DRAWN	AM	DRAWING No.	REV
CHECKED		Q24152-CS1-T130	A
APPROVED (ENG)			
RELEASED (PM)		SHEET 2 OF 2	



NOTES:
1. VENT TO SAFE AREA

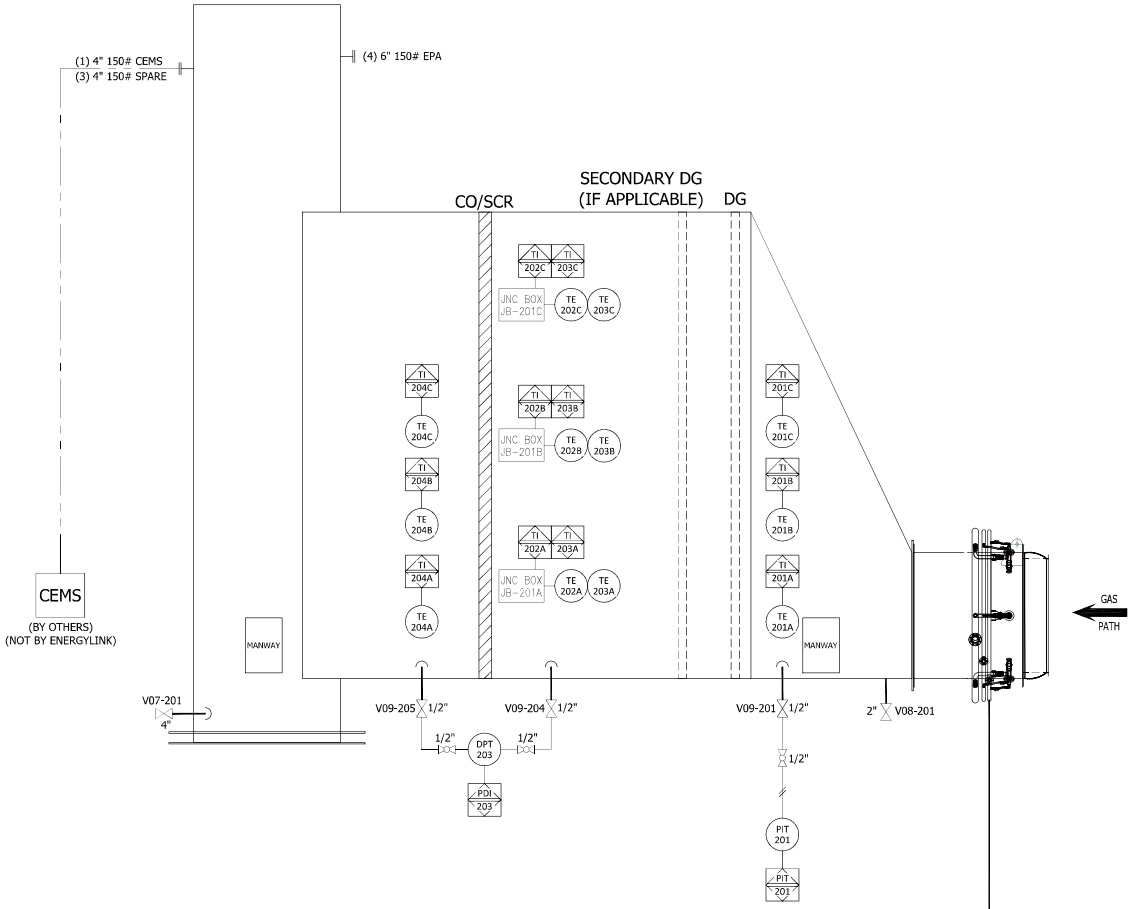
All information contained within this drawing is the exclusive property of ENERGY LINK. This design information is CONFIDENTIAL and must not be reproduced or distributed to outside parties without consent of ENERGY LINK. By using this drawing the user agrees to abide by these foregoing terms and conditions.

ENERGY LINK

SOLAR TURBINES
SLC DATA CENTER
TITAN 130 CATALYST SYSTEM
AFCU PIPING & INSTRUMENT DIAGRAM (P&ID)

DRAWN	ATM	6/22/23	DRAWING No.	REV
CHECKED	KN	6/22/23	Q24152-AS1-0010	0
ENGINEERING	JW	6/22/23		
RELEASED	AM	6/22/23	SHEET 1 OF 2	

REFER TO XXXXX-AS1-0010 SHT.1
FOR P&ID SYMBOLS AND LEGEND



REV	DESCRIPTION	BY	DATE	CHECKED	ENGINEERING	APPROVED
0	ISSUED FOR CONSTRUCTION	ATM	6/30/21	JW	JW	AM

All information contained within this drawing is the exclusive property of ENERGY LINK
This design information is CONFIDENTIAL and must not be reproduced or distributed to outside parties without consent of ENERGY LINK. By using this drawing the user agrees to abide by these foregoing terms and conditions.

ENERGY LINK

SOLAR TURBINES
SLC DATA CENTER

TITAN 130 CATALYST SYSTEM PIPING & INSTRUMENT DIAGRAM (P&ID)

DRAWN	ATM	7/20/20	DRAWING No.	REV
CHECKED	JW	7/20/20	Q24152-AS1-0010	0
ENGINEERING	JW	7/24/20		
RELEASED	AM	7/24/20	SHEET 2 OF 2	

APPENDIX D. BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

Process	Pollutant
Natural Gas Turbines <250 MMBtu/hr	NO_X

Step Number	Description of Step Components		Dry Low-NOx Burner (DLNB)	Selective Catalytic Reduction (SCR)	Good Combustion Practices (GCP)
Step 1	Identify Air Pollution Control Technologies	RBLC & Other Databases Emission Rate Range	11 ppm	2-25 ppm	2 g/bhp-hr
		Proposed limit based on KKKKa	3 ppm	3 ppm	25 ppm
Step 2	Eliminate Technically Infeasible Control Options	Description of Technology	DLNB technology uses advanced burners in order to reduce NOx formation. Refer to section 5.1.10 for more information regarding this process.	SCR systems introduce a liquid reducing agent into the flue gas stream which reacts with flue gas NOx. In the presence of the catalyst and oxygen, it reduces NOx into nitrogen and water vapor. Refer to section 5.1.10 for more information regarding this process.	GCP requires multiple components be followed to reduce NOx production. Refer to section 5.1.10 for more information regarding this process.
	Feasibility Discussions	Feasible or Infeasible?	Technically Feasible; DLNB technology is proposed for use.	Technically Feasible; SCR systems are proposed for use.	Technically Feasible; Good Combustion Practices are proposed for use.
Step 3	Ranking Remaining Control Technologies	Overall Control Effciency	N/A	N/A	N/A
Step 4	Economic Considerations		N/A	N/A	N/A
Step 5	Select BACT		Dry Low NOx Burners, Selective Catalytic Reduction (2 ppm), and Good Combustion Practices.		

Process	Pollutant
Natural Gas Turbines <250 MMBtu/hr	VOC

Step Number	Description of Step Components		Catalytic Oxidation	Good Combustion Practices (GCP)
Step 1	Identify Air Pollution Control Technologies	RBLC & Other Databases Emission Rate Range	2 ppm	Variable
Step 2	Eliminate Technically Infeasible Control Options	Description of Technology	Catalytic Oxidation allows complete oxidation to occur, using platinum and palladium for VOC incineration. Efficiency is dependent on exhaust flow rate and composition. Refer to section 5.3.2 for more information regarding this process.	GCP requires multiple components be followed to reduce NOx production. Refer to section 5.1.15 for more information regarding this process.
	Feasibility Discussions	Feasible or Infeasible?	Technically Feasible; Catalytic Oxidation technology is proposed for use.	Technically Feasible; Good Combustion Practices are proposed for use.
Step 3	Ranking Remaining Control Technologies	Overall Control Effciency	N/A	N/A
Step 4	Economic Considerations		N/A	N/A
Step 5	Select BACT		Catalytic Oxidation (2.0 ppm) and Good Combustion Practices.	

Process	Pollutant
Natural Gas Turbines <250 MMBtu/hr	CO

Step Number	Description of Step Components		Catalytic Oxidation	Good Combustion Practices (GCP)
Step 1	Identify Air Pollution Control Technologies	RBLC & Other Databases Emission Rate Range	2-3.5 ppm	4 g/bhp-hr or 36 ppm
Step 2	Eliminate Technically Infeasible Control Options	Description of Technology	Catalytic Oxidation allows complete oxidation to occur, using platinum and palladium for CO incineration. Efficiency is dependent on exhaust flow rate and composition. Refer to section 5.3.2 for more information regarding this process.	GCP requires multiple components be followed to reduce CO production. Refer to section 5.1.10 for more information regarding this process.
	Feasibility Discussions	Feasible or Infeasible?	Technically Feasible; Catalytic Oxidation technology is proposed for use.	Technically Feasible; Good Combustion Practices are proposed for use.
Step 3	Ranking Remaining Control Technologies	Overall Control Effciency	N/A	N/A
Step 4	Economic Considerations		N/A	N/A
Step 5	Select BACT		Catalytic Oxidation (2.0 ppm) and Good Combustion Practices.	

Process	Pollutant
Natural Gas Turbines <250 MMBtu/hr	SO_X

Step Number	Description of Step Components		Low Sulfur Fuel	Good Combustion Practices (GCP)
Step 1	Identify Air Pollution Control Technologies	RBLC & Other Databases Emission Rate Range	4 ppm	0.0056 lb/hr
Step 2	Eliminate Technically Infeasible Control Options	Description of Technology	Fuel selection of a lower sulfur content. Refer to section 5.1.10 for more information.	GCP requires multiple components be followed to reduce NOx production. Refer to section 5.1.10 for more information regarding this process.
	Feasibility Discussions	Feasible or Infeasible?	Technically Infeasible; Fuel contains 24.10 ppm of sulfur content.	Technically Feasible; Good Combustion Practices are proposed for use.
Step 3	Ranking Remaining Control Technologies	Overall Control Effciency	N/A	N/A
Step 4	Economic Considerations		N/A	N/A
Step 5	Select BACT		Use of pipeline quality natural gas and good combustion practices.	

Process	Pollutant
Natural Gas Turbines <250 MMBtu/hr	$PM_{10}/PM_{2.5}$

Step Number	Description of Step Components		Fuel Selection	Good Combustion Practices (GCP)
Step 1	Identify Air Pollution Control Technologies	RBLC & Other Databases Emission Rate Range	4 ppm	4.5 lb/hr
Step 2	Eliminate Technically Infeasible Control Options	Description of Technology	The use of natural gas that is pipeline quality or low in sulfur concentration. Refer to section 5.1.25 for more information.	GCP requires multiple components be followed to reduce NOx production. Refer to section 5.1.25 for more information regarding this process.
	Feasibility Discussions	Feasible or Infeasible?	Technically Feasible; Fuel selection is proposed for use.	Technically Feasible; Good Combustion Practices are proposed for use.
Step 3	Ranking Remaining Control Technologies	Overall Control Effciency	N/A	N/A
Step 4	Economic Considerations		N/A	N/A
Step 5	Select BACT		Use of pipeline quality natural gas and good combustion practices.	