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March 28, 2025

Via Electronic Filing

Ms. Tanowa Troupe
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: Will-Power OH, LLC, Case No. 25-0185-EL-BLN

Dear Ms. Troupe:

On March 7, 2025, Will-Power Ohio, LLC filed a Letter of Notification ("LON") for the construction, operation, and maintenance of the Socrates South Power Generation Project ("Socrates South"), a 200 Megawatt behind the meter state-of-the-art natural gas simple cycle power generation facility located in New Albany, Licking County, Ohio. As an update to the LON, attached is a copy of the Permit-to-Install ("PTI") for air pollution sources.

The Ohio Environmental Protection Agency has determined that the application is preliminarily and administratively complete. This determination does not imply that the application is approvable, only that all of the necessary material has been submitted in order to continue the review. This technical review is the next step in processing the application in order to reach a final permit approval or denial.

Please note, that even though the PTI application refers to the "Plato South Facility", Plato South is the same project as Socrates South.

Please contact me if you have any questions.

Sincerely,

Dylan F. Borchers
Kara H. Herrnstein
Attorneys for Will-Power OH, LLC

Attachment

Cc: Andrew Conway (w/Attachment)

Trinity Consultants
440 Polaris Pkwy, Ste 275 Westerville, OH 43082 / P 614.568.8851 / F 614.433.0734 / **trinityconsultants.com**

March 14, 2025

Morgan Fissel
Ohio EPA – Division of Air Pollution Control
Central District Office
50 W. Town Street, Suite 700
Columbus, Ohio 43215

RE: Request for Approval of Site Preparation Activities – Plato South
Will-Power OH LLC – Licking County, OH

Dear Morgan Fissel:

Will-Power OH LLC (Will-Power) is submitting this application for a Permit to Install (PTI) to authorize the installation and operation of an electric generating station in New Albany, OH (Plato South, Facility ID 0145000614).

As described in the application, the proposed project will not meet the definition of a major stationary source, and Will-Power has not requested any synthetic minor limitations to avoid these classifications. Therefore, pending Ohio EPA's determination that the application is administratively complete, Will-Power hereby notifies Ohio EPA that the following site preparation activities will occur at Plato South prior to the receipt of a final PTI in accordance with Ohio Administrative Code (OAC) 3745-31-33(F).

- Installing electrical service for air contaminant sources and air pollution control equipment up to the service panel for the new equipment;
- Installing piping and sewers up to the point of connection to any air contaminant sources or air pollution control equipment;
- Installing inlet air and exhaust duct work with the exception of final connections to the air contaminant sources and air pollution control equipment;
- Installing concrete footers, foundations, pads, and platforms for the buildings or for equipment;
- Installing permanent roadways and parking areas not requiring a PTI;
- Storing parts and equipment of the air contaminant sources and air pollution control equipment;
- Construction of new or expanded buildings or the renovation or upgrading of existing buildings in preparation for the installation of new or modified air contaminant sources and air pollution control equipment; and
- Delivery of components of the air contaminant sources and air pollution control equipment. As described in OAC 3745-31-33(F)(8)(a) and (b), equipment to be installed in existing buildings may be secured in its final location, and equipment to be installed in buildings yet to be constructed may be secured in its final location or located anywhere on the property. Will-Power will not operate the equipment or connect utilities, piping, or duct work to the equipment until the PTI has been issued.

***

Will-Power appreciates Ohio EPA's consideration of these proposed site preparation activities. If you have any questions or comments about the information presented in this letter, please do not hesitate to contact Michael Callegari at (832) 794-0612.

Sincerely,

WILL-POWER OH LLC

Michael Callegari
Senior Environmental Specialist

PERMIT TO INSTALL APPLICATION

Will-Power OH LLC / New Albany, OH

Plato South

Prepared By:

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440 Polaris Parkway
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(614) 433-0733

March 2025

Project 253601.0018

Trinity Consultants

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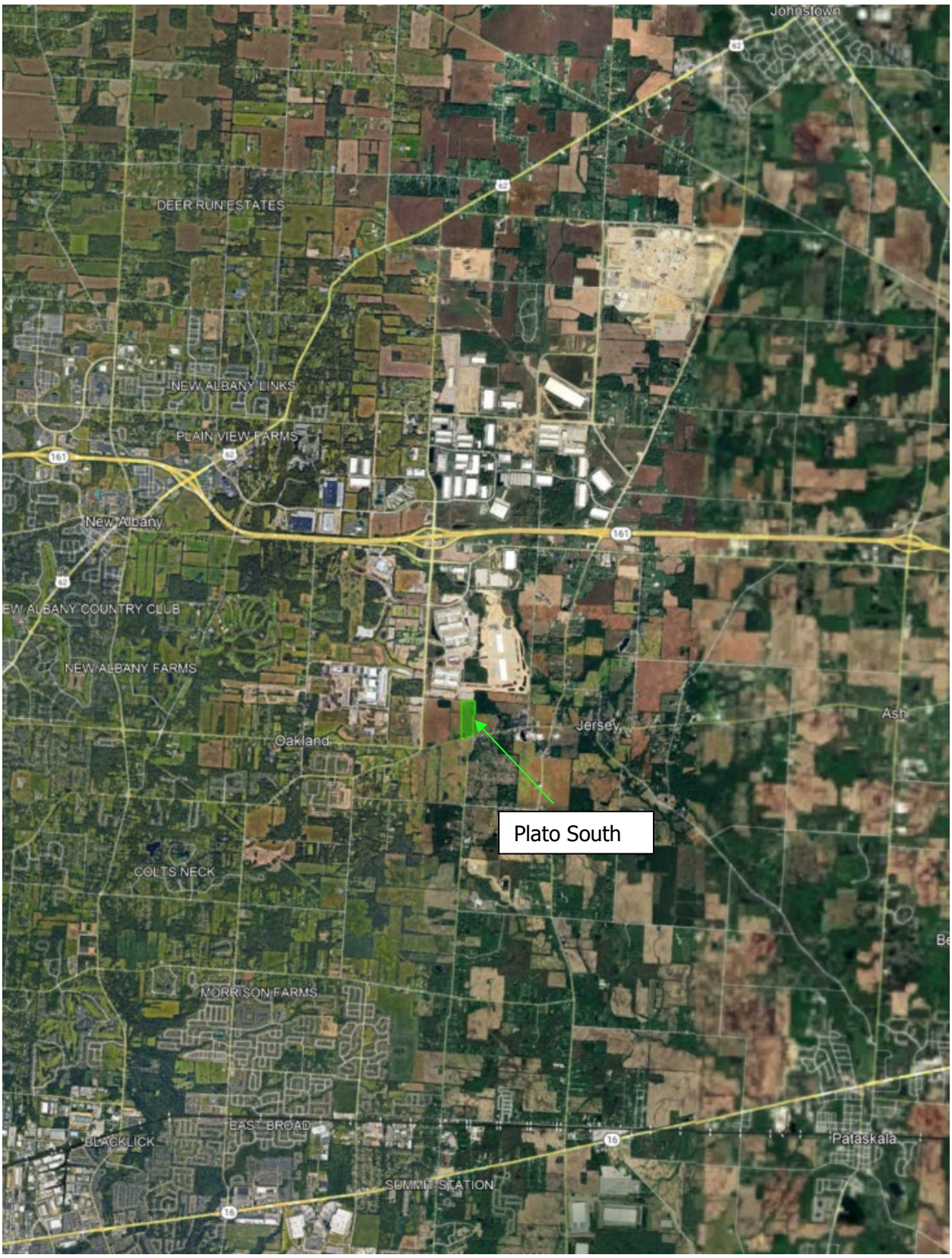
1. APPLICATION OVERVIEW

With this Permit to Install (PTI) application, Will-Power OH LLC (Will-Power) is requesting approval for the installation and subsequent operation of an electric generating station in New Albany, OH (Plato South). Plato South will provide electric power exclusively and directly to an adjacent customer.

1.1 Facility Location

Plato South will be located in New Albany, Ohio. Figure 1-1 is an area map that shows the site location relative to predominant geographical features such as highways and railroads.

Figure 1-1. Area Map for Plato South



1.2 Project Description

Will-Power is requesting issuance of a Permit to Install (PTI) for each of the following emission units. Each of the units is listed with its proposed Ohio EPA Emission Unit Identification Number (EUID).

- Generator Engines #1 through #15 (P001-P015) – Fifteen (15) Caterpillar G3520 natural gas-fired 4-stroke lean-burn reciprocating engines each rated at 2,500 kilowatts (kW) and each equipped with an oxidation catalyst and selective catalytic reduction (SCR) system.
- Generator Turbines #1 through #9 (P016-P024) – Nine (9) Solar Titan 130 natural gas-fired turbines each rated at 17 megawatts (MW) and each equipped with an oxidation catalyst and SCR system.
- Generator Turbines #10 through #12 (P025-P027) – Three (3) Solar Titan 250 natural gas-fired turbines each rated at 23 MW and each equipped with an oxidation catalyst and SCR system.
- Generator Turbines #13 through #15 (P028-P030) – Three (3) Siemens SGT400 natural gas-fired turbines each rated at 16 MW and each equipped with an oxidation catalyst and SCR system.

Plato South will also include the following emissions sources that are either exempt from air permitting requirements or eligible for alternative authorizations as noted below.

- Line Heaters #1 through #15 (B001-B015) – Fifteen (15) natural gas fired heaters each rated at 1 million British thermal units per hour (MMBtu/hr). Air contaminant emissions from each unit will be less than ten (10) pounds per day; therefore, these units qualify for the de minimis exemption in OAC 3745-15-05(B).
- Emergency Engines #1 through #8 (P031-P038) – Eight (8) diesel-fired emergency engines each rated at 1,000 horsepower (hp). Will-Power will submit Permit-by-Rule (PBR) registrations for these emergency engines under separate cover.

1.3 Proposed Project Emissions

Table 1-1 provides a summary of the potential annual emissions attributable to the project, including particulate matter (filterable only), particulate matter with an aerodynamic diameter of less than 10 microns, and particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM/PM_{10}/PM_{2.5}$); nitrogen oxides (NO_X); sulfur dioxide (SO_2); carbon monoxide (CO); volatile organic compounds (VOC); ammonia (NH_3); total hazardous air pollutants (HAP); formaldehyde (HCHO, the highest single HAP emitted by the facility); and greenhouse gases expressed as carbon dioxide equivalents (CO_2e). The detailed calculation documentation is provided in Appendix A.

Table 1-1. Potential Emissions for Plato South

EU ID	Emission Unit Description	Project Annual Emissions (tpy)								
		NO_X	CO	SO_2	$PM/PM_{10}/PM_{2.5}$	VOC	NH_3	HCHO	Total HAP	CO_2e
P001-P015	Generator Engines #1-15	55.5	49.2	13.9	14.5	36.7	13.96	11.6	28.48	169,983
P016-P024	Generator Turbines #1-9	92.1	96.9	64.2	44.4	38.8	113.9	1.4	2.69	786,794
P025-P027	Generator Turbines #10-12	37.8	39.7	26.2	18.1	15.95	44.98	0.6	1.10	320,703
P028-P030	Generator Turbines #13-15	26.53	28.9	18.5	12.8	12.3	31.9	1.4	1.74	226,560
P031-P038	Emergency Engines #1-8	20.28	2.65	1.70E-04	0.13	0.13	-	1.10E-03	2.31E-02	2,290
B001-B015	Line Heaters #1-15	6.44	5.41	3.86E-02	0.49	0.35	-	4.83E-03	0.12	7,693
Facility-wide PTE		**238.59**	**222.81**	**122.71**	**90.31**	**104.11**	**204.69**	**14.95**	**34.15**	**1,514,024**

2. REGULATORY APPLICABILITY

This section presents information to either confirm non-applicability of or demonstrate compliance with potentially applicable federal and state air permitting and regulatory requirements.

2.1 Federal Permitting Applicability

2.1.1 Prevention of Significant Deterioration (PSD) & Nonattainment New Source Review (NANSR) Applicability

The major New Source Review (NSR) program applies to major sources of criteria pollutants and involves either the Prevention of Significant Deterioration (PSD) or Nonattainment New Source Review (NANSR) depending on the attainment status of the airshed in which the project is occurring.

2.1.1.1 PSD Applicability

The applicability of PSD is evaluated for proposed construction, reconstruction, and modification projects that result in an emission increase of a regulated NSR pollutant for which the area is in attainment with the National Ambient Air Quality Standards (NAAQS). Licking County has been designated "in attainment" or "unclassifiable" for all regulated NSR pollutants.[1] Because Plato South will not generate steam, the facility will not be considered a "fossil fuel fired steam electric plant" as listed in OAC 3745-31-01(M)(5)(b)(i) but will instead be subject to the general PSD major source threshold of 250 tpy provided in OAC 3745-31-01(M)(5)(b)(ii).

Will-Power and the customer have entered into a contractual agreement clarifying that Plato South and the adjacent customer are not "under the control of the same person" and are therefore separate stationary sources pursuant to OAC 3745-31-01(S)(10).

Table 1-1 in Section 1.3 of this application demonstrates that facility-wide potential emissions from Plato South for each of the NSR-regulated pollutants are all below the major source threshold of 250 tpy. Therefore, Will-Power is not subject to PSD review for the proposed project.

2.1.1.2 NANSR Applicability

The applicability of NANSR is evaluated for proposed construction, reconstruction, and modification projects that result in an emission increase of a regulated NSR pollutant for which the area is not attaining the NAAQS. Because Licking County has been designated as "in attainment" or "unclassifiable" for all regulated NSR pollutants, NANSR does not apply to the proposed project.

2.1.2 Title V Operating Permit Program Applicability

The Title V operating permit program consolidates state and federal requirements applicable to major sources into a single comprehensive operating permit for the purposes of facilitating ongoing compliance. In accordance with OAC 3745-77, sources with a potential to emit (PTE) of 100 tpy or more for criteria pollutants, 25 tpy or more for total HAP, or 10 tpy or more for any individual HAP are considered major sources for which applicants must obtain a Title V operating permit.

[1] Attainment designations for Ohio counties are established in 40 C.F.R. § 81.336.

Will-Power will submit an application for a Title V operating permit within 12 months of commencing operation of Plato South.

2.2 New Source Performance Standards

The federal New Source Performance Standards (NSPS) require new, modified, or reconstructed sources to control emissions to the level that is achievable by the best system of emissions reduction as specified in the provisions of the applicable rule. The following section of this report provides applicability determinations for each of the NSPS to which the new and modified emission units are potentially subject.

In addition to the specific standards described below, Will-Power must also comply with the general provisions of Title 40, Code of Federal Regulations, Part 60 (40 CFR Part 60), Subpart A, which establish notification, recordkeeping, testing, monitoring, and reporting requirements for all sources subject to a particular NSPS.

2.2.1 40 CFR Part 60, Subpart IIII – Compression Ignition Internal Combustion Engines

Affected sources under 40 CFR 60, Subpart IIII (NSPS IIII), include stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005, and that were manufactured after April 1, 2006. Emergency Engines P031-P038 will be subject to the requirements of NSPS IIII, as noted below.

In accordance with 40 CFR 60.4205(b), owners and operators of CI ICE must comply with the emission standards established in 40 CFR 60.4202 for all pollutants. Pursuant to 40 CFR 60.4211(c), Will-Power has purchased engines certified to comply with these emissions standards.

2.2.2 40 CFR Part 60, Subpart JJJJ – Spark Ignition Internal Combustion Engines

Affected sources under 40 CFR 60, Subpart JJJJ (NSPS JJJJ), include stationary spark ignition (SI) internal combustion engines (ICE) that commence construction after June 12, 2006, and that were manufactured after July 1, 2007, for engines rated at a capacity greater than 500 hp. Generator Engines P001-P015 will be subject to the requirements of NSPS JJJJ, as noted below.

In accordance with 40 CFR 60.4233(e), owners and operators of SI ICE rated at capacities greater than 100 hp must comply with the emission standards established in Table 1 to NSPS JJJJ for all pollutants. Pursuant to 40 CFR 60.4243(b)(2)(ii), Will-Power must keep a maintenance plan and conduct an initial performance test as well as subsequent performance tests every 8,760 hours or three (3) years, whichever comes first to demonstrate compliance.

2.2.3 40 CFR Part 60, Subpart KKKK – Stationary Combustion Turbines

Affected sources under 40 CFR 60, Subpart KKKK (NSPS KKKK), include stationary combustion turbines that commence construction after February 18, 2005 that are rated at a capacity greater than 10 MMBtu/hr. Generator Turbines P016-P030 will be subject to the requirements of NSPS KKKK, as noted below.

In accordance with 40 CFR 60.4320(a) and Table 1 to NSPS KKKK, new natural gas-fired turbines with maximum heat input capacities greater than 50 MMBtu/hr and less than or equal to 850 MMBtu/hr must comply with a NO_X limit of 25 parts per million (ppm) at 15 percent oxygen or 1.2 pounds per megawatt hour (lb/MWh). Will-Power will conduct performance testing pursuant to 40 CFR 60.4340(a) to demonstrate compliance with this standard.

In accordance with 40 CFR 60.4330(a)(1) and (2), emissions of SO_2 from stationary combustion turbines must not exceed 0.90 lb/MWh or the sulfur content of fuel burned in stationary combustion turbines must not exceed 0.060 pounds of SO_2 per million British thermal units. Pursuant to 40 CFR 60.4365(a), Will-Power will maintain a valid tariff sheet specifying the maximum total sulfur content in the natural gas as no greater than 20 grains of sulfur per 100 standard cubic feet or less than 0.060 pounds of SO_2 per million British thermal units.

2.2.4 40 CFR Part 60, Subpart KKKKa – Stationary Combustion Turbines

US EPA proposed amendments to NSPS KKKK on December 13, 2024. If US EPA finalizes these amendments, Will-Power will comply with any applicable requirements in the final standards.

2.2.5 40 CFR Part 60, Subpart TTTTa – Stationary Combustion Turbines

Affected sources under 40 CFR 60, Subpart TTTTa (NSPS TTTTa) include stationary combustion turbines constructed after May 23, 2023 with a base load rating greater than 250 MMBtu/hr. None of the turbines at Plato South will be rated at a heat input capacity greater than 250 MMBtu/hr. Therefore, the stationary combustion turbines at Plato South are not subject to NSPS TTTTa.

2.3 National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAPs), located in 40 CFR Part 63, are typically applicable to specific categories of sources that have the potential to emit HAP in levels greater than 10 tpy for any individual HAP or 25 tpy for any combination of HAPs (i.e., major HAP sources). Emissions and operational limitations provided in the NESHAPs are established on the basis of a Maximum Achievable Control Technology (MACT) determination for a particular major source category.

As demonstrated in Table 1-1, the facility will be considered a major source of HAPs. The following section of this report provides applicability determinations for each of the NESHAP standards to which Plato South is potentially subject.

In addition to the specific standards described below, Will-Power must also comply with the general provisions of 40 C.F.R. Part 63, Subpart A, which establish notification, recordkeeping, testing, monitoring, and reporting requirements for all sources that are subject to a particular NESHAP standard.

2.3.1 40 CFR Part 63, Subpart YYYY – Stationary Combustion Turbines

Affected sources under 40 CFR 63, Subpart YYYY (MACT YYYY) include gas fired stationary combustion turbines installed after January 14, 2003. Generator Turbines P016-P030 will be subject to the requirements of MACT YYYY, as noted below.

In accordance with 40 CFR 63.6100 and Table 1 to MACT YYYY, lean pre-mix gas fired stationary combustion turbines must limit the concentration of formaldehyde to 91 parts per billion by volume on a dry basis at 15-percent oxygen except during startup. Will-Power will conduct performance testing pursuant to 40 CFR 63.6110(a) to demonstrate compliance with this standard.

2.3.2 40 CFR Part 63, Subpart ZZZZ – Reciprocating Internal Combustion Engines

Affected sources under 40 CFR 63, Subpart ZZZZ (i.e., "the RICE MACT") include stationary reciprocating internal combustion engines (RICE) installed after June 12, 2006. Generator Engines P001-P015 and Emergency Engines P031-P038 will be subject to the requirements of the RICE MACT, as noted below.

In accordance with 40 CFR 63.6590(b)(1)(i), the Emergency Engines P031-P038 are subject only to initial notification requirements and are not subject to any other requirements under the RICE MACT.

In accordance with 40 CFR 63.6600(b) and Table 2a to the RICE MACT, 4-stroke lean burn (4SLB) stationary RICE greater than 500 hp at major sources of HAP must reduce CO emissions by at least 93 percent or must limit the concentration of formaldehyde to 14 parts per million by volume on a dry basis at 15-percent oxygen. The Generator Engines P001-P015 will be subject to these emission standards. Will-Power will conduct performance testing pursuant to 40 CFR 63.6610(a) and Table 4 to the RICE MACT to demonstrate compliance with this standard.

2.3.3 40 CFR 63, Subpart DDDDD – Boilers and Process Heaters

Affected sources under 40 CFR 63, Subpart DDDDD (i.e., "the Boiler MACT") include process heaters designed to burn "gas 1 fuels" (e.g., natural gas). The Line Heaters B001-B015 will be subject to the requirement in Table 3 of the Boiler MACT to conduct a tune-up every 5 years as specified in 40 CFR 63.7540.

2.3.4 40 CFR 63, Subpart UUUUU – Coal and Oil-Fired Electric Utility Steam Generating Units

The standards of 40 CFR 63, Subpart UUUUU (the Utility Mercury Air Toxics Standard [Utility MATS]) apply to coal or oil-fired electric utility steam generating units. The turbines and engines at Plato South will not be subject to the standards of the Utility MATS given that these units will fire only natural gas.

2.4 Cross State Air Pollution Rule

As stated in 40 CFR 97.4(a)(1)(i)(C), the Cross State Air Pollution Rule (CSAPR) applies to units serving a generator with a nameplate capacity greater than 25 megawatts and producing electricity for sale. None of the turbines or engines at Plato South will be serving generators with a nameplate capacity greater than 25 megawatts. Therefore, these units are not subject to CSAPR.

2.5 Acid Rain Programs

As stated in 40 CFR 72.7(a) and (b), new units meeting the following criteria are exempt from the Acid Rain Program:

- The unit serves one or more generators with total nameplate capacity of 25 megawatts or less;
- The unit burns fuel that does not include coal or coal-derived fuel; and
- Burns gaseous fuel with an annual average sulfur content of 0.05 percent or less by weight.

The turbines and engines at Plato South will meet each of these criteria, and Will-Power will submit a certification to this effect to US EPA and Ohio EPA pursuant to 40 CFR 72.7(b)(2). Therefore, the turbines and engines at Plato South will not be subject to the Acid Rain Program.

2.6 Risk Management Plan

Will-Power will store ammonia at Plato South in quantities exceeding the thresholds provided in Table 1 to 40 CFR 68, Subpart F. Therefore, Will-Power will develop and implement a Risk Management Plan (RMP) for Plato South.

2.7 State of Ohio Regulatory Applicability

2.7.1 OAC 3745-14 – NO_X Budget Trading

As stated in OAC 3745-14-01(C)(1)(a)(iii), Ohio's NO_X Budget Trading Program applies to units serving a generator with a nameplate capacity greater than 25 megawatts and producing electricity for sale. None of the turbines or engines at Plato South will be serving generators with a nameplate capacity greater than 25 megawatts. Therefore, these units are not subject to Ohio's NO_X Budget Trading Program.

2.7.2 OAC 3745-17-07 – Control of Visible Emissions from Stationary Sources

OAC 3745-17-07(A) restricts visible emissions from stacks to no more than 20 percent as a six-minute average except for periods no longer than six consecutive minutes in any sixty-minute period during which visible emissions are restricted to 60 percent as a six-minute average. The turbines and engines at Plato South will be subject to this visible emissions limitation. The Line Heaters B001-B015 are de minimis under OAC 3745-15-05(B) and exempt from all emissions standards in the Ohio Administrative Code.

2.7.3 OAC 3745-17-10 – Restrictions on Particulate Emissions from Fuel Burning Equipment

OAC 3745-17-10 applies to facilities in which fuel, including any product or by-product of a manufacturing process, is burned for the primary purpose of producing heat or power by indirect heat transfer. The turbines and engines at Plato South do not operate by way of indirect heat transfer. Therefore, these units are not subject to this section. The Line Heaters B001-B015 operate by way of indirect heat transfer, but these units are de minimis under OAC 3745-15-05(B) and exempt from all emissions standards in the Ohio Administrative Code.

2.7.4 OAC 3745-17-11 – Restrictions on Particulate Emissions from Industrial Processes

The turbines at Plato South will be subject to the emission limitation of 0.04 pounds of PM per MMBtu in OAC 3745-17-11(B)(4), and the engines at Plato South will be subject to the emission limitation of 0.062 pounds of PM per MMBtu in OAC 3745-17-11(B)(5)(b).

2.7.5 OAC 3745-18-06 – Restrictions on Sulfur Dioxide Emissions

In accordance with OAC 3745-18-06(A), the turbines, engines, and heaters at Plato South are exempt from this section because these units exclusively fire natural gas.

2.7.6 OAC 3745-103 – Acid Rain Permits

As stated in OAC 3745-103-03(A) and (B), new units meeting the following criteria are exempt from the Acid Rain Program:

- The unit serves one or more generators with total nameplate capacity of 25 megawatts or less;
- The unit burns fuel that does not include coal or coal-derived fuel; and
- Burns gaseous fuel with an annual average sulfur content of 0.05 percent or less by weight.

The turbines and engines at Plato South will meet each of these criteria, and Will-Power will submit a certification to this effect to US EPA and Ohio EPA pursuant to OAC 3745-103-03(B)(2). Therefore, the turbines and engines at Plato South will not be subject to the Acid Rain Program.

2.7.7 OAC 3745-110-03 – Nitrogen Oxides – Reasonably Available Control Technology

As stated in OAC-3745-110-03(K)(17), sources issued operating permits restricting NO_X emissions to less than 25 tons per year are not subject to Ohio's Reasonably Available Control Technology (RACT) program for NO_X.

As described in Section 3 of this application report, Will-Power is requesting BAT limits for Generator Engines P001-P015 and Generator Turbines P016-P030 that will restrict NO_X emissions from each unit to less than 25 tons per year, and as described in Section 2.1.2 of this application report, Will-Power will submit an application to incorporate these limits into a Title V operating permit for Plato South. Therefore, Generator Engines P001-P015 and Generator Turbines P016-P030 will not be subject to the NO_X RACT program.

The Emergency Engines P031-P038 are standby units that will operate less than 500 hours per year, and Will-Power will maintain records of the hours of operation. Therefore, these units are not subject to the NO_X RACT program pursuant to OAC-3745-110-03(K)(2).

3. BEST AVAILABLE TECHNOLOGY REVIEW

Pursuant to the provisions added to Ohio Revised Code (ORC) Chapter 3704 as a result of Senate Bill 265, sources modified or constructed after August 3, 2009, are to have rule-based best available technology (BAT) limits established by Ohio EPA for specific source categories. However, Ohio EPA has yet to promulgate the rule-based BAT limits. To address this regulatory gap, the Ohio EPA's Division of Air Pollution Control (DAPC) released a memo (February 2014 Memo) indicating that permits filed on or after August 3, 2009, must go through an interim case-by-case BAT procedure.[2]

The first step in determining BAT, according to the February 2014 Memo, is to review MACT, GACT, BACT, and LAER applicability. The next step is to determine whether the operations are of the type and size that are regulated by Reasonable Available Control Technology (RACT) requirements for VOC emissions.

The third step in the BAT analysis is to determine BAT on a case-by-case basis by: 1) reviewing past BAT determinations, and 2) determining the format for the BAT limit, which should be expressed in one of the following ways:

(1) Work practices;
(2) Source design characteristics or design efficiency of applicable air contaminant control devices;
(3) Raw material specifications or throughput limitations averaged over a 12-month rolling period; or
(4) Monthly allowable emissions averaged over a 12-month rolling period.

Alternatively, applicants may request BAT limits in a format consistent with Ohio EPA's historic approach for implementing BAT prior to Senate Bill 265. These "traditional BAT" limits should be established on a short-term (i.e., pound per hour) and long-term (i.e., ton per year) basis and should include ongoing monitoring and recordkeeping requirements.

Will-Power hereby requests short-term and long-term BAT limits for emissions of NO_X, CO, and VOC from each of the Generator Engines P001-P015 and Generator Turbines P016-P030 at Plato South consistent with the emission rates provided in Appendix A. Uncontrolled emissions of PM and SO_2 from each unit will be less than 10 tons per year and are therefore exempt from BAT.

[2] Ohio EPA Memo from Mike Hopkins, Assistant Chief, Permitting, DAPC, to Permit Writers and Reviewers "BAT Requirements for Permits Issued On or After February 7, 2014" dated February 7, 2014, which supersedes the BAT guidance issued on August 30, 2013. Ohio's BAT policy will be in place only until such time when the Ohio EPA develops and promulgates rules that define BAT in accordance with Ohio Revised Code (ORC) 3704.03(T) requirements.

4. OHIO MODELING REQUIREMENTS

Air dispersion modeling is sometimes necessary to demonstrate that a source will not: 1) violate Ohio EPA's policy whereby no new source exceeds the Ohio Acceptable Incremental Impact (AII) levels (i.e., consumes more than half of the available PSD increments), or 2) causes ground-level concentrations that exceed Ohio EPA's Maximum Allowable Ground Level Concentrations (MAGLCs) for toxic air pollutants.[3] This section of the application describes the analysis that was conducted to address Ohio modeling requirements for the proposed project.

4.1 Criteria Pollutant Modeling Analysis

Engineering Guide #69: Air Dispersion Modeling Guidance (Engineering Guide #69) requires that increases in allowable emissions of regulated NSR pollutants from all new or modified sources be evaluated to determine whether the increases in allowable emissions exceed the Ohio modeling significant emission rates (SERs). For each regulated NSR pollutant for which the increase in allowable emissions exceeds the applicable SER, an air dispersion modeling analysis is required to demonstrate that the ambient incremental impact is less than the Ohio AII levels (one half of any PSD increment). Table 4-1 lists the Ohio modeling SERs and the corresponding Ohio AII levels.

Table 4-1. Ohio Modeling Significant Emission Rates

Pollutant	Ohio Modeling SER (tpy)	Ohio Acceptable Incremental Impact ($\mu g/m^3$)
PM_{10}	15	8.5 – Annual
		15 – 24-hr
$PM_{2.5}$	10	2 – Annual
		4.5 – 24-hr
NO_2	40	12.5 – Annual
		188 – 1-hr
SO_2	40	10 – Annual
		45.5 – 24-hr
		256 – 3-hr
		196 – 1-hr
CO	100	2,500 – 8-hr
		10,000 – 1-hr

As demonstrated in Table 1-1, the total allowable emissions increase from the proposed project exceeds the SER for NO_X, PM_{10}, $PM_{2.5}$, SO_2, and CO. Therefore, Will-Power will submit an air dispersion modeling analysis under separate cover.

[3] Engineering Guide #69: Air Dispersion Modeling Guidance, Ohio EPA Air Quality Modeling and Planning Section, 2018

4.2 Air Toxics Modeling Analysis

Item 1 of Ohio EPA's Engineering Guide #69 requires air dispersion modeling for each toxic pollutant for which the increase in allowable emissions exceeds one (1) tpy.[4] The air dispersion modeling must demonstrate that the ambient incremental impact is less than the Maximum Allowable Ground Level Concentrations (MAGLCs) established in accordance with Ohio EPA guidance as required by ORC 3704.03(F)(4)(b).[5]

As demonstrated in Appendix A, the proposed project will result in potential emissions of formaldehyde and ammonia exceeding 1 tpy. Therefore, Will-Power will submit an air toxics modeling analysis under separate cover. The project will also result in potential emissions of acetaldehyde, acrolein, methanol, and toluene greater than 1 tpy, but these emissions originate solely from fossil fuel combustion and are also regulated under MACT standards as described in Sections 2.3.1 and 2.3.2 of this application. Therefore, these emissions are not subject to air toxics modeling requirements pursuant to Questions 9 and 10 in Ohio EPA's Engineering Guide #70.

[4] Air toxic pollutants include any pollutant listed in OAC 3745-114-01.

[5] ORC 3704.03(F)(4)(b) requires that applicable MAGLCs be determined in accordance with Option A: Review of New Sources of Air Toxic Emissions, Ohio EPA Air Quality Modeling and Planning Section (May 1986).

APPENDIX A. PTE CALCULATIONS

Will-Power OH LLC

Table A.1 - Facility-wide Potential Emissions

EU ID	Description	NO_X (tpy)	CO (tpy)	SO_2 (tpy)	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	VOC (tpy)	NH_3 (tpy)	HCHO (tpy)	Total HAP (tpy)	CO_2e (tpy)
P001	CAT G3520 #1	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P002	CAT G3520 #2	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P003	CAT G3520 #3	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P004	CAT G3520 #4	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P005	CAT G3520 #5	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P006	CAT G3520 #6	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P007	CAT G3520 #7	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P008	CAT G3520 #8	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P009	CAT G3520 #9	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P010	CAT G3520 #10	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P011	CAT G3520 #11	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P012	CAT G3520 #12	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P013	CAT G3520 #13	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P014	CAT G3520 #14	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P015	CAT G3520 #15	3.70	3.28	0.92	0.97	0.97	0.97	2.45	0.93	0.77	1.90	11,332
P016	Solar Titan 130 #1	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P017	Solar Titan 130 #2	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P018	Solar Titan 130 #3	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P019	Solar Titan 130 #4	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P020	Solar Titan 130 #5	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P021	Solar Titan 130 #6	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P022	Solar Titan 130 #7	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P023	Solar Titan 130 #8	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P024	Solar Titan 130 #9	10.23	10.77	7.13	4.93	4.93	4.93	4.31	12.65	0.16	0.30	87,422
P025	Solar Titan 250 #1	12.61	13.24	8.72	6.03	6.03	6.03	5.32	14.99	0.19	0.37	106,901
P026	Solar Titan 250 #2	12.61	13.24	8.72	6.03	6.03	6.03	5.32	14.99	0.19	0.37	106,901
P027	Solar Titan 250 #3	12.61	13.24	8.72	6.03	6.03	6.03	5.32	14.99	0.19	0.37	106,901
P028	Siemens SGT-400 #1	8.84	9.65	6.16	4.26	4.26	4.26	4.08	10.62	0.46	0.58	75,520
P029	Siemens SGT-400 #2	8.84	9.65	6.16	4.26	4.26	4.26	4.08	10.62	0.46	0.58	75,520
P030	Siemens SGT-400 #3	8.84	9.65	6.16	4.26	4.26	4.26	4.08	10.62	0.46	0.58	75,520
P031	Emergency Engine #1	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P032	Emergency Engine #2	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P033	Emergency Engine #3	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P034	Emergency Engine #4	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P035	Emergency Engine #5	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P036	Emergency Engine #6	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P037	Emergency Engine #7	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
P038	Emergency Engine #8	2.54	0.33	2.12E-05	0.02	0.02	0.02	0.02	0.00	1.38E-04	2.89E-03	286
B001	Line Heater #1	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B002	Line Heater #2	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B003	Line Heater #3	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B004	Line Heater #4	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B005	Line Heater #5	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B006	Line Heater #6	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B007	Line Heater #7	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B008	Line Heater #8	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B009	Line Heater #9	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B010	Line Heater #10	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B011	Line Heater #11	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B012	Line Heater #12	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B013	Line Heater #13	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B014	Line Heater #14	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
B015	Line Heater #15	0.43	0.36	2.58E-03	0.03	0.03	0.03	0.02	0.00	3.22E-04	8.11E-03	513
	TOTAL	**238.59**	**222.81**	**122.71**	**90.31**	**90.31**	**90.31**	**104.19**	**204.69**	**14.95**	**34.15**	**1,514,024**

Will-Power OH LLC
Table A.2 - Potential Emissions - CAT G3520 (w/SCR) (P001-P015)

OPERATING DATA

Maximum Power Output	2,500	kW	*Manufacturer's specifications*
Maximum Heat Input Capacity	22.10	MMBtu/hr	*Manufacturer's specifications*
Exhaust Flow Rate	8,011.27	scfm	*Manufacturer's specifications*
Operating Time	8,760	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb
Ammonia Molecular Weight	17.0310	lb/lbmol
Gas Constant	0.7302	atm-ft^3/lbmol/R
Energy Conversion	1,000	kW/MW

EMISSION FACTORS

Pollutant			
NO_x	0.33	lb/MW-hr	*Manufacturer's specifications*
CO	0.29	lb/MW-hr	*Manufacturer's specifications*
SO_2	9.55E-03	lb/MMBtu	*Assumes complete conversion of gas sulfur content of 0.01% by weight*
$PM/PM_{10}/PM_{2.5}$	0.0100	lb/MMBtu	*AP-42 Section 3.2*
VOC	0.22	lb/MW-hr	*Manufacturer's specifications*
Ammonia	10	ppm	*Worst-case ammonia slip through SCR*
Formaldehyde	7.05E-02	lb/MW-hr	*Manufacturer's specifications*
Total HAP (excludes formaldehyde)	1.16E-02	lb/MMBtu	*AP-42 Section 3.2 with 40% catalyst control*
CO_2	53.06	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	1.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	1.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/MMBtu) x Maximum Heat Input (MMBtu/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	0.83	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
CO	0.73	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
SO_2	0.21	
$PM/PM_{10}/PM_{2.5}$	0.22	
VOC	0.56	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
Ammonia	0.21	*= Ammonia (ppm) / 10^6 * Exhaust Flow Rate (scfm) * 60 (min/hr) * 1 (atm) / 527.67 (Rank) / 0.7302 (atm-ft3/lbmol/R) * MW (lb/lbmol)*
Formaldehyde	0.18	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
Total HAP (includes formaldehyde)	0.43	
CO_2	2,585	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	4.87E-02	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	4.87E-03	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	3.62	
CO	3.18	
SO_2	0.92	
$PM/PM_{10}/PM_{2.5}$	0.97	
VOC (includes formaldehyde)	2.43	
Ammonia	0.93	
Formaldehyde	0.77	
Total HAP (includes formaldehyde)	1.90	
CO_2	11,321	
CH_4	0.21	
N_2O	0.02	
CO_2e	11,332	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

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Table A.3 - Potential Emissions - Engine Startup and Shutdown Events (P001-P015)

OPERATING DATA

Startup Duration	20	minutes	*Operational experience*
Shutdown Duration	20	minutes	*Operational experience*
Startup Frequency	30	events/yr	
Shutdown Frequency	30	events/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton

EMISSION FACTORS

Pollutant	***Startup***	***Shutdown***		
NO_x	2.46	2.46	lb/event	*Assumes no SCR or catalyst control*
CO	3.45	3.45	lb/event	*Assumes no SCR or catalyst control*
VOC	0.51	0.51	lb/event	*Assumes no SCR or catalyst control*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Startup Emissions (lb/event) + Shutdown Emissions (lb/event) + [Engine Normal Hourly Emissions (lb/hr)] / 2

Pollutant	***(lb/hr)***	
NO_x	5.34	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*
CO	7.27	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*
VOC	1.31	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

*Potential Emissions (tpy) = [Startup Emissions (lb/event) * Startup Frequency (events/yr) + Shutdown Emissions (lb/event) * Shutdown Frequency (events/yr)] / 2,000 (lb/ton)*

Pollutant	***(tpy)***
NO_x	0.07
CO	0.10
VOC	0.02

Will-Power OH LLC
Table A.4 - Potential Emissions - Solar Titan 130-23001S (w/SCR) (P016-P024)

OPERATING DATA

Maximum Power Output	17,174	kW	*Manufacturer's specifications*
Maximum Heat Input Capacity	170	MMBtu/hr	*Manufacturer's specifications*
Exhaust Flow Rate	108,936.24	scfm	*Manufacturer's specifications*
Operating Time	8,760	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb
Ammonia Molecular Weight	17.0310	lb/lbmol
Gas Constant	0.7302	atm-ft^3/lbmol/R
Energy Conversion	1,000	kW/MW

EMISSION FACTORS

Pollutant			
NO_x	0.13	lb/MW-hr	*Manufacturer's specifications*
CO	0.12	lb/MW-hr	*Manufacturer's specifications*
SO_2	9.55E-03	lb/MMBtu	*Assumes complete conversion of gas sulfur content of 0.01% by weight*
$PM/PM_{10}/PM_{2.5}$	0.0066	lb/MMBtu	*AP-42 Table 3.1-2a*
VOC (excludes formaldehyde)	0.05	lb/MW-hr	*Manufacturer's specifications*
Ammonia	10	ppm	*Worst-case ammonia slip through SCR*
Formaldehyde	2.10E-04	lb/MMBtu	*Manufacturer's specifications*
Total HAP (excludes formaldehyde)	1.90E-04	lb/MMBtu	*AP-42 Table 3.1-3 with 40% catalyst control*
CO_2	53.06	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	1.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	1.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/MMBtu) x Maximum Heat Input (MMBtu/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	2.31	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
CO	2.06	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
SO_2	1.63	
$PM/PM_{10}/PM_{2.5}$	1.12	
VOC (includes formaldehyde)	0.90	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
Ammonia	2.89	*= Ammonia (ppm) / 10^6 * Exhaust Flow Rate (scfm) * 60 (min/hr) * 1 (atm) / 527.67 (Rank) / 0.7302 (atm-ft3/lbmol/R) * MW (lb/lbmol)*
Formaldehyde	3.58E-02	
Total HAP (includes formaldehyde)	0.07	
CO_2	19,939	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	3.76E-01	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	3.76E-02	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	10.11	
CO	9.03	
SO_2	7.13	
$PM/PM_{10}/PM_{2.5}$	4.93	
VOC (includes formaldehyde)	3.95	
Ammonia	12.65	
Formaldehyde	0.16	
Total HAP (includes formaldehyde)	0.30	
CO_2	87,332	
CH_4	1.65	
N_2O	0.16	
CO_2e	87,422	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

Will-Power OH LLC
Table A.5 - Potential Emissions - Solar Titan 250-31900S (w/SCR) (P025-P027)

OPERATING DATA

Maximum Power Output	23,864	kW	*Manufacturer's specifications*
Maximum Heat Input Capacity	208	MMBtu/hr	*Manufacturer's specifications*
Exhaust Flow Rate	129,086.18	scfm	*Manufacturer's specifications*
Operating Time	8,760	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb
Ammonia Molecular Weight	17.0310	lb/lbmol
Gas Constant	0.7302	atm-ft^3/lbmol/R
Energy Conversion	1,000	kW/MW

EMISSION FACTORS

Pollutant			
NO_x	0.12	lb/MW-hr	*Manufacturer's specifications*
CO	0.11	lb/MW-hr	*Manufacturer's specifications*
SO_2	9.55E-03	lb/MMBtu	*Assumes complete conversion of gas sulfur content of 0.01% by weight*
$PM/PM_{10}/PM_{2.5}$	0.0066	lb/MMBtu	*AP-42 Table 3.1-2a*
VOC (excludes formaldehyde)	0.05	lb/MW-hr	*Manufacturer's specifications*
Ammonia	10	ppm	*Worst-case ammonia slip through SCR*
Formaldehyde	2.10E-04	lb/MMBtu	*Manufacturer's specifications*
Total HAP (excludes formaldehyde)	1.90E-04	lb/MMBtu	*AP-42 Table 3.1-3 with 40% catalyst control*
CO_2	53.06	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	1.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	1.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/MMBtu) x Maximum Heat Input (MMBtu/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	2.85	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
CO	2.63	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
SO_2	1.99	
$PM/PM_{10}/PM_{2.5}$	1.38	
VOC (includes formaldehyde)	1.13	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
Ammonia	3.42	*= Ammonia (ppm) / 10^6 * Exhaust Flow Rate (scfm) * 60 (min/hr) * 1 (atm) / 527.67 (Rank) / 0.7302 (atm-ft3/lbmol/R) * MW (lb/lbmol)*
Formaldehyde	4.38E-02	
Total HAP (includes formaldehyde)	0.08	
CO_2	24,382	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	4.60E-01	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	4.60E-02	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	12.49	
CO	11.50	
SO_2	8.72	
$PM/PM_{10}/PM_{2.5}$	6.03	
VOC (includes formaldehyde)	4.96	
Ammonia	14.99	
Formaldehyde	0.19	
Total HAP (includes formaldehyde)	0.37	
CO_2	106,791	
CH_4	2.01	
N_2O	0.20	
CO_2e	106,901	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

Will-Power OH LLC
Table A.6 - Potential Emissions - Siemens SGT-400 (w/SCR) (P028-P030)

OPERATING DATA

Maximum Power Output	15,765	kW	*Manufacturer's specifications*
Maximum Heat Input Capacity	147	MMBtu/hr	*Manufacturer's specifications*
Exhaust Flow Rate	91,458.04	scfm	*Manufacturer's specifications*
Operating Time	8,760	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb
Ammonia Molecular Weight	17.0310	lb/lbmol
Gas Constant	0.7302	atm-ft^3/lbmol/R
Energy Conversion	1,000	kW/MW

EMISSION FACTORS

Pollutant			
NO_x	0.13	lb/MW-hr	*Manufacturer's specifications*
CO	0.11	lb/MW-hr	*Manufacturer's specifications*
SO_2	9.55E-03	lb/MMBtu	*Assumes complete conversion of gas sulfur content of 0.01% by weight*
$PM/PM_{10}/PM_{2.5}$	0.0066	lb/MMBtu	*AP-42 Table 3.1-2a*
VOC (excludes formaldehyde)	0.05	lb/MW-hr	*Manufacturer's specifications*
Ammonia	10	ppm	*Worst-case ammonia slip through SCR*
Formaldehyde	7.10E-04	lb/MMBtu	*Manufacturer's specifications*
Total HAP (excludes formaldehyde)	1.90E-04	lb/MMBtu	*AP-42 Table 3.1-3 with 40% catalyst control*
CO_2	53.06	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	1.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	1.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/MMBtu) x Maximum Heat Input (MMBtu/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	1.99	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
CO	1.80	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
SO_2	1.41	
$PM/PM_{10}/PM_{2.5}$	0.97	
VOC (includes formaldehyde)	0.85	*= Emission Factor (lb/MW-hr) x Maximum Power Output (kW) / 1,000 kW/MW*
Ammonia	2.43	*= Ammonia (ppm) / 10^6 * Exhaust Flow Rate (scfm) * 60 (min/hr) * 1 (atm) / 527.67 (Rank) / 0.7302 (atm-ft3/lbmol/R) * MW (lb/lbmol)*
Formaldehyde	1.05E-01	
Total HAP (includes formaldehyde)	0.13	
CO_2	17,224	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	3.25E-01	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	3.25E-02	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	8.72	
CO	7.91	
SO_2	6.16	
$PM/PM_{10}/PM_{2.5}$	4.26	
VOC (includes formaldehyde)	3.72	
Ammonia	10.62	
Formaldehyde	0.46	
Total HAP (includes formaldehyde)	0.58	
CO_2	75,443	
CH_4	1.42	
N_2O	0.14	
CO_2e	75,520	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

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Table A.7 - Potential Emissions - Turbine Startup and Shutdown Events (P016-P030)

OPERATING DATA

Startup Duration	20	minutes	*Operational experience*
Shutdown Duration	20	minutes	*Operational experience*
Startup Frequency	30	events/yr	
Shutdown Frequency	30	events/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton

EMISSION FACTORS

Pollutant	***Startup***	***Shutdown***		
NO_x	4.00	4.00	lb/event	*Manufacturer's specifications*
CO	64.00	52.00	lb/event	*Manufacturer's specifications*
VOC	12.00	12.00	lb/event	*Manufacturer's specifications*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Startup Emissions (lb/event) + Shutdown Emissions (lb/event) + [Titan 250 Normal Hourly Emissions (lb/hr)] / 2

Pollutant	***(lb/hr)***	
NO_x	9.43	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*
CO	117.31	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*
VOC	24.57	*Conservatively includes 1 startup event, 1 shutdown event, and 30 minutes of normal operation*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

*Potential Emissions (tpy) = [Startup Emissions (lb/event) * Startup Frequency (events/yr) + Shutdown Emissions (lb/event) * Shutdown Frequency (events/yr)] / 2,000 (lb/ton)*

Pollutant	***(tpy)***
NO_x	0.12
CO	1.74
VOC	0.36

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Table A.8 - Potential Emissions - C15 Emergency Engines (P031-P038)

OPERATING DATA

Maximum Power Output	1,000	hp	*Manufacturer's specifications*
Maximum Heat Input Capacity	7.00	MMBtu/hr	*Manufacturer's specifications*
Operating Time	500	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb

EMISSION FACTORS

Pollutant			
NO_x	1.01E-02	lb/hp-hr	*Manufacturer's specifications*
CO	1.32E-03	lb/hp-hr	*Manufacturer's specifications*
SO_2	1.21E-05	lb/MMBtu	*AP-42 Table 3.4-1 with 15 ppm sulfur in diesel*
$PM/PM_{10}/PM_{2.5}$	6.61E-05	lb/hp-hr	*Manufacturer's specifications*
VOC	6.61E-05	lb/hp-hr	*Manufacturer's specifications*
Formaldehyde	7.89E-05	lb/MMBtu	*AP-42 Table 3.4-3*
Total HAP	1.57E-03	lb/MMBtu	*AP-42 Tables 3.4-3 and 3.4-4*
CO_2	73.96	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	3.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	6.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/MMBtu) x Maximum Heat Input (MMBtu/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	10.14	*= Emission Factor (lb/hp-hr) x Maximum Power Output (hp)*
CO	1.32	*= Emission Factor (lb/hp-hr) x Maximum Power Output (hp)*
SO_2	8.49E-05	
$PM/PM_{10}/PM_{2.5}$	0.07	*= Emission Factor (lb/hp-hr) x Maximum Power Output (hp)*
VOC	0.07	*= Emission Factor (lb/hp-hr) x Maximum Power Output (hp)*
Formaldehyde	5.52E-04	
Total HAP	1.16E-02	
CO_2	1,141	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	4.63E-02	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	9.26E-03	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	2.54	
CO	0.33	
SO_2	2.12E-05	
$PM/PM_{10}/PM_{2.5}$	0.02	
VOC	0.02	
Formaldehyde	1.38E-04	
Total HAP (includes formaldehyde)	2.89E-03	
CO_2	285	
CH_4	1.16E-02	
N_2O	2.31E-03	
CO_2e	286	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

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Table A.9 - Potential Emissions - Line Heaters (B001-B015)

OPERATING DATA

Maximum Heat Input Capacity	1	MMBtu/hr	*Manufacturer's specifications*
Standard Heat Content	1,020	Btu/scf	
Fuel Usage	9.80E-04	mmscf/hr	
Operating Time	8,760	hr/yr	

DIMENSIONAL ANALYSIS

Mass Conversion	2,000	lb/ton
Mass Conversion	0.4536	kg/lb

EMISSION FACTORS

Pollutant			
NO_x	100	lb/mmscf	*AP-42 Table 1.4-1*
CO	84	lb/mmscf	*AP-42 Table 1.4-1*
SO_2	0.6	lb/mmscf	*AP-42 Table 1.4-2*
$PM/PM_{10}/PM_{2.5}$	7.6	lb/mmscf	*AP-42 Table 1.4-2*
VOC	5.5	lb/mmscf	*AP-42 Table 1.4-2*
Formaldehyde	7.50E-02	lb/mmscf	*AP-42 Table 1.4-3*
Total HAP	1.89	lb/mmscf	*AP-42 Tables 1.4-3 and 1.4-4*
CO_2	53.06	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CH_4	1.00E-03	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
N_2O	1.00E-04	kg/MMBtu	*40 CFR 98 Tables C-1 and C-2.*
CO_2 - GWP	1.00		*Table A-1 to Subpart A of 40 CFR Part 98*
CH_4 - GWP	28.00		*Table A-1 to Subpart A of 40 CFR Part 98*
N_2O - GWP	265.00		*Table A-1 to Subpart A of 40 CFR Part 98*

POTENTIAL EMISSIONS CALCULATIONS - HOURLY

Potential Emissions (lb/hr) = Emission Factor (lb/mmscf) x Fuel Usage (mmscf/hr), unless otherwise specified

Pollutant	***(lb/hr)***	
NO_x	0.10	
CO	0.08	
SO_2	5.88E-04	
$PM/PM_{10}/PM_{2.5}$	7.45E-03	
VOC	5.39E-03	
Formaldehyde	7.35E-05	
Total HAP	1.85E-03	
CO_2	117	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
CH_4	2.20E-03	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*
N_2O	2.20E-04	*= Maximum Heat Input (MMBtu/hr) x Emission Factor (kg/MMBtu) / 0.45 (kg/lb)*

POTENTIAL EMISSIONS CALCULATIONS - ANNUALLY

Potential Emissions (tpy) = Hourly Emission Rate (lb/hr) x Operating Time (hr/yr) / 2000 (lb/ton), unless otherwise specified.

Pollutant	***(tpy)***	
NO_x	0.43	
CO	0.36	
SO_2	2.58E-03	
$PM/PM_{10}/PM_{2.5}$	0.03	
VOC	0.02	
Formaldehyde	3.22E-04	
Total HAP (includes formaldehyde)	8.11E-03	
CO_2	512	
CH_4	9.66E-03	
N_2O	9.66E-04	
CO_2e	513	*= Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP x Annual N_2O Emissions (tpy) x N_2O GWP*

Summary: Text Supplement to Letter of Notification - Permit-to-Install electronically filed by Teresa Orahood on behalf of Dylan F. Borchers.