# Standard Air Permit Application Packet

GALAXY HELIOS I LLC

JANUARY 2025

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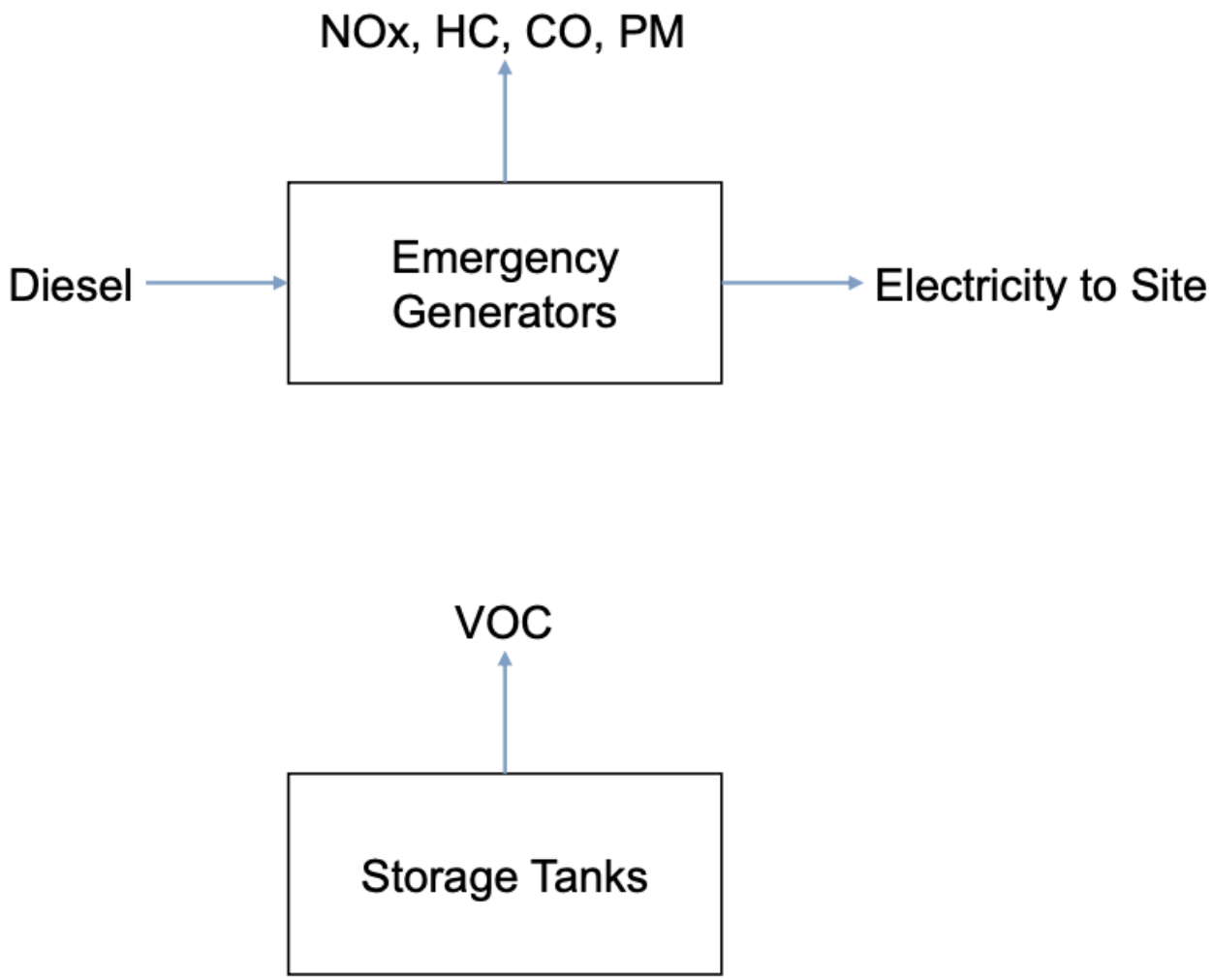
# Process Description

Helios is a datacenter which requires that electrical power from emergency generators in case of any power outage.

The normal operation of the Helios Datacenter emergency generators will be for periodic testing only. Our potential to emit is based on 11,918 hours for all engines. If local power is interrupted, the emergency generators will power the Helios Datacenter such that there is no interruption in services to customers; however, this usage of the emergency generators is not considered “normal operation” as it only occurs as a result of an emergency even (i.e., a power outage). As such, the intended “normal” operation of periodic testing and exercising events are the basis of the operating hours used in the Air Standard Permit.

The emergency generators will be powered by diesel fuel. The emergency generators are certified as meeting the U.S. EPA Tier 2 emission standards. Each engine will be equipped with a respective individual belly tank for storage of fuel.

# Process Flow Diagram



# Regulatory Applicability

This section presents information demonstrating how 's proposed will be in compliance with all rules and regulations of the TCEQ and the intent of the Texas Clean Air Act (TCAA), including applicable sections of 30 TAC §116 Subchapter F and the Standard Permit for Electric Generating Units. Each requirement is listed below followed by a discussion of how the site meets the respective requirement.

| State Regulatory Applicability |
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**30 TAC Chapter 101, Subchapter A – General Rules**

*§101.2 Multiple Air Contaminant Sources or Properties.*
*(a) In an area where an additive effect occurs from the accumulation of air contaminants from two or more sources on a single property or from two or more properties, such that the level of air contaminants exceeds the ambient air quality standards established by the commission, and each source or each property is emitting no more than the allowed limit for an air contaminant for a single source or from a single property, further reduction of emissions from each source or property shall be made as determined by the commission.*
*(b) Two or more property owners, or operators acting on behalf of a property owner, may petition the commission to have their properties designated a single property for purposes of demonstrating compliance with commission regulations and the control of air emissions.*
*(1) The use of this section is intended for:*
*(A) a property under the control of a single entity that has been or will be divided and placed under the control of separate entities, creating a new property line configuration; or*
*(B) properties operated or intended to be operated as an integrated plant or plants where individual facilities are owned by separate entities, but all facilities are under the control of a single entity.*
*(2) The petition shall be subject to the following criteria.*
*(A) The properties must be contiguous except for intervening roads, railroads, and/or rights-of-way, which are a part of the property. Emission points separated by a public right-of-way cannot be combined into a single property designation.*
*(B) All owners of real property, including but not limited to, fee interest owners and leaseholders, within the single property designation boundary must consent to the agreement. Owners of mineral interests only are not required to consent to the agreement.*
*(C) The petition shall include the following information:*
*(i) a general description of the manner in which the control of emissions and demonstration of compliance with commission regulations will be administered and controlled;*
*(ii) designation of the party or parties who accept responsibility for off-property impacts;*

*(iii) the existing account number(s) for each petitioner; and*

*(iv) a description of how the petitioners meet the requirements of this rule.*

*(D) The petition shall be accompanied by:*

*(i) a copy of a sworn written agreement between the property owners who consent to having their properties so designated which must detail the mechanisms of control exercised on both properties;*

*(ii) a United States Geological Survey map or equivalent indicating:*

*(I) geographical features such as roads, watercourses, and prominent landmarks;*

*(II) present land uses in the areas surrounding the area to be included;*

*(III) the boundaries of the petitioners' properties; and*

*(IV) the area to be included in the single property designation; and*

*(iii) any other information needed by the commission in its review of the petition.*

*(E) The executive director or commission may place such conditions on the approval of the petition as appropriate to avoid a condition of air pollution or ensure compliance with state and federal regulations.*

*(F) The executive director may approve a petition for single property designation or an amendment to an existing designation unless otherwise prohibited by law if:*

*(i) the petition meets all relevant statutory and administrative criteria;*

*(ii) the petition does not raise new issues that require the interpretation of commission policy; and*

*(iii) the public interest counsel does not raise objections.*

*(c) In this section, the terms "property" or "properties" includes leasehold and fee interests in real property, and it does not include mineral interests.*

**Galaxy Helios I LLC does not intend to petition the TCEQ to have its property designated as a single property with any other property for the purposes of demonstrating compliance with TCEQ regulations and the control of air emissions.**

*§101.3 Circumvention. No person shall use any plan, activity, device or contrivance which the executive director determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of the Act or regulations. Air introduced for dilution purposes only is considered a circumvention of the regulations.*

**Galaxy Helios I LLC intends to operate the facilities in accordance with the representations made in this air quality standard permit application.**

*§101.4 Nuisance. No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property.*

**Galaxy Helios I LLC will not discharge air contaminants in such concentration and of such duration that they will or may tend to be injurious to or adversely affect human health or welfare, animal life, vegetation, or property, or interfere with the normal use and enjoyment of animal life, vegetation, or property.**

*§101.5 Traffic Hazard. No person shall discharge from any source whatsoever such quantities of air contaminants, uncombined water, or other materials which cause or have a tendency to cause a traffic hazard or an interference with normal road use.*

**No discharge of air contaminants, uncombined water or other materials from the project will cause or have a tendency to cause a traffic hazard or an interference with normal road use.**

*§101.8 Sampling.*

*(a) Any person owning or operating a source which emits air contaminants into the air of this state shall, upon request by the board or the executive director, conduct sampling to determine the opacity, rate, composition, and/or concentration of such emissions. Sampling shall be conducted at a frequency and within a period of time which are reasonable as specified by the board or executive director. The sampling method shall be specified by the board or the executive director and, further, the sampling shall be conducted so as to reflect with reasonable accuracy the above listed characteristics of such emissions.*

*(b) Any person affected by subsection (a) of this section may request the executive director to approve alternate sampling techniques or other means to determine the opacity, rate, composition, and/or concentration of emissions. The executive director may approve such alternate methods or means if it can be demonstrated that such alternatives will be substantially equivalent to the sampling methods specified by the executive director or the board.*

*(c) If requested to obtain air contaminants emission data pursuant to subsection (a) of this section, the owner or operator shall attest to and report the results so obtained to the executive director within a reasonable time specified by and on forms furnished by the executive director.*

*(d) Copies of all data, the computations, and results obtained under subsection (a) of this section shall be retained by the owner or operator of a source for at least five years and shall be made available to the board, or any members, employees or agents thereof, and to any local air pollution control agencies, during regular business hours*

**All stack testing and sampling will meet requirements in §101.8 and data will be maintained and reported as required.**

*§101.9 Sampling Port. Any person, at the request of the board, shall provide in connection with each flue a power source near the point of testing in addition to such sampling and testing facilities and sampling ports, including safe and easy access thereto, exclusive of instruments and sensing devices, as may be necessary for the board to determine the nature and quality of emissions which are or may be discharged as a result of source operations. Evidence and data based on these samples and calculations may be used to substantiate violations of the Act, rules, and regulations. Agents of the board shall be permitted to sample the stacks during operating hours.*

**Galaxy Helios I LLC will comply with TCEQ requests regarding the location of sampling ports as required by §101.9.**

*§101.10 Emission Inventory Requirements*.

(a) Applicability. The owner or operator of an account or source in the State of Texas or on waters that extend 9.0 nautical miles from the shoreline meeting one or more of the following conditions shall submit emissions inventories or related data as required in subsection (b) of this section to the commission on media approved by the commission:

(1) an account which meets the definition of a major facility/stationary source, as defined in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions);

(2) any account in an ozone nonattainment area emitting a minimum of ten tons per year (tpy) volatile organic compounds (VOC), 25 tpy nitrogen oxides ($NO_X$), or 100 tpy or more of any other contaminant subject to National Ambient Air Quality Standards (NAAQS);

(3) any account that emits 0.5 tpy or more of lead (Pb);

(4) any account that emits or has the potential to emit 100 tpy or more of any contaminant, except for greenhouse gases as listed in §101.1 of this title (relating to Definitions) individually or collectively;

(5) any account which emits or has the potential to emit 10 tpy of any single or 25 tpy of aggregate hazardous air pollutants as defined in Federal Clean Air Act (FCAA), §112(a)(1); and

(6) any minor industrial source, area source, non-road mobile source, or mobile source of emissions subject to special inventories under subsection (b)(3) of this section. For purposes of this section, the term "area source" means a group of similar activities that, taken collectively, produce a significant amount of air pollution.

(b) Types of inventories.

(1) Initial emissions inventory. Accounts, as identified in subsection (a)(1), (2), (3), (4), or (5) of this section, shall submit an initial emissions inventory (IEI) for any criteria pollutant or hazardous air pollutant (HAP) that has not been identified in a previous inventory. The IEI shall consist of actual emissions of VOC, $NO_X$, carbon monoxide (CO), sulfur dioxide ($SO_2$), Pb, particulate matter with an aerodynamic diameter less than or equal to 10 micrometers ($PM_{10}$), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$), any other contaminant subject to an NAAQS, emissions of all HAPs identified in FCAA, §112(b), or any other contaminant requested by the commission from individual emission units within an account. For purposes of this section, the term "actual emission" is the actual rate of emissions of a pollutant from an emissions unit as it enters the atmosphere. The reporting year will be the calendar year or seasonal period as designated by the commission. Reported emission activities must include annual routine emissions; excess emissions occurring during maintenance activities, including start-ups and shutdowns; and emissions resulting from upset conditions. For the ozone nonattainment areas, the inventory shall also include typical weekday emissions that occur during the summer months. For CO nonattainment areas, the inventory shall also include typical weekday emissions that occur during the winter months. Emission calculations must follow methodologies as identified in subsection (c) of this section.

(2) Statewide annual emissions inventory update (AEIU). Accounts meeting the applicability requirements during an inventory reporting period as identified in subsection (a)(1), (2), (3), (4), or (5) of this section shall submit an AEIU that consists of actual

emissions as identified in paragraph (1) of this subsection if any of the following criteria are met. If none of the following criteria are met, a letter certifying such shall be submitted instead:

(A) any change in operating conditions, including start-ups, permanent shut-downs of individual units, or process changes at the account, that results in at least a 5.0% or 5 tpy, whichever is greater, increase or reduction in total annual emissions of VOC, $NO_X$, CO, $SO_2$, Pb, $PM_{10}$, or $PM_{2.5}$ from the most recently submitted emissions data of the account; or

(B) a cessation of all production processes and termination of operations at the account.

(3) Special inventories. Upon request by the executive director or a designated representative of the commission, any person owning or operating a source of air emissions which is or could be affected by any rule or regulation of the commission shall file emissions-related data with the commission as necessary to develop an inventory of emissions. Owners or operators submitting the requested data may make special procedural arrangements with the Emissions Assessment Section to submit data separate from routine emission inventory submissions or other arrangements as necessary to support claims of confidentiality.

(c) Calculations. Actual measurement with continuous emissions monitoring systems (CEMS) is the preferred method of calculating emissions from a source. If CEMS data is not available, other means for determining actual emissions may be utilized in accordance with detailed instructions of the commission. Sample calculations representative of the processes in the account must be submitted with the inventory.

(d) Certifying statements.

(1) A certifying statement, required by FCAA, §182(a)(3)(B), is to be signed by the owner(s) or operator(s) and shall accompany each emissions inventory to attest that the information contained in the inventory is true and accurate to the best knowledge of the certifying official.

(2) A certifying statement, required by Texas Health and Safety Code, §382.0215(f) is to be signed by the owner(s) or operators(s) required to submit an emissions inventory and shall be submitted with each emission inventory if no emissions events were experienced at the site during the reporting year to the best knowledge of the certifying official.

(e) Reporting requirements. The IEI or subsequent AEIUs shall contain emissions data from the previous calendar year and shall be due on March 31 of each year or as directed by the commission. Owners or operators submitting emissions data may make special procedural arrangements with the Emissions Assessment Section to submit data separate from routine emission inventory submissions or other arrangements as necessary to support claims of confidentiality. Emissions-related data submitted under a special inventory request made under subsection (b)(3) of this section are due as detailed in the letter of request.

(f) Enforcement. Failure to submit emissions inventory data as required in this section shall result in formal enforcement action under Texas Water Code, Chapter 7.

**Galaxy Helios I LLC will comply with all applicable TCEQ emission inventory requirements.**

*§101.20 Compliance with Environmental Protection Agency Standards. Any person owning or operating a source of air contaminants shall comply with the following requirements:*

*(1) any applicable new source performance standards promulgated by the Environmental Protection Agency (EPA) pursuant to the Federal Clean Air Act, §111, as amended;*

*(2) any applicable emissions standards for hazardous air pollutants promulgated by the EPA pursuant to the Federal Clean Air Act, §112, as amended; and*

*(3) the conditions of any permit issued by the EPA pursuant to 40 Code of Federal Regulations §52.21, concerning the prevention of significant deterioration of air quality.*

**Galaxy Helios I LLC is not subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines under 40 CFR 60 Subpart JJJJ because the engines are certified diesel units and not natural gas, gasoline or LPG-fired engines. Galaxy Helios I LLC is not subject to the National Emission Standards for Hazardous Air Pollutants for Source Categories under 40 CFR 63 and is not subject to federal prevention of significant deterioration review.**

*§101.21 The National Primary and Secondary Ambient Air Quality Standards. The National Primary and Secondary Ambient Air Quality Standards as promulgated pursuant to section 109 of the Federal Clean Air Act, as amended, will be enforced throughout all parts of Texas.*
**Galaxy Helios I LLC will comply with all National Ambient Air Quality Standards.**

*§101.24 Inspection Fees.*
*(a) Applicability. The owner or operator of each account to which this rule applies shall remit to the commission an inspection fee each fiscal year. A fiscal year is defined as the period from September 1 through August 31. A fiscal year, having the same number as the next calendar year, begins on the September 1 prior to that calendar year. An account subject to both an inspection fee and emissions fee, under §101.27 of this title (relating to Emissions Fees), is required to pay only the greater of the two fees. Each account will be assessed a separate inspection fee. The inspection fee shall apply to each account which contains one or more of the types of plants, facilities, and/or processes described in subsection (f) of this section, including permitted and non-permitted facilities. References for the industrial categories used are provided in the Standard Industrial Classification (SIC) Manual (Executive Office of the President, Office of Management and Budget, 1987). If more than one SIC category can apply to an account, the fee assessed shall be the highest fee listed for the applicable classifications in the fee schedule. Provisions of this section apply to all accounts, including accounts which have not been assigned specific commission identification numbers. The owner or operator of an account subject to an inspection fee is responsible for contacting the commission to obtain an identification number. The commission will not initiate the combination or separation of accounts solely for fee assessment purposes. If an account is operated at any time during the fiscal year for which the fee is assessed, a full inspection fee is due. If the commission is notified in writing that the account is not and will not be in operation during that fiscal year, a fee will not be due.*
**Galaxy Helios I LLC is not subject to an inspection fee.**

*§101.27 Emission Fee***.**

*(a) Applicability. The owner or operator of an account that is required to obtain a federal operating permit as described in Chapter 122 of this title (relating to Federal Operating Permits Program) shall remit to the commission an emissions fee each fiscal year. A fiscal year is defined as the period from September 1 through August 31. A fiscal year, having the same number as the next calendar year, begins on the September 1 prior to that calendar year. Each account will be assessed a separate emissions fee. An account subject to both an emissions fee and an inspection fee, under §101.24 of this title (relating to Inspection Fees), is required to pay only the greater of the two fees. The commission will not initiate the combination or separation of accounts solely for fee assessment purposes. If an account is operated at any time during the fiscal year that a fee is being assessed, a full emissions fee is due. If the commission is notified in writing that the account is not and will not be in operation during that fiscal year, a fee will not be due.*

**Galaxy Helios I LLC is not required to obtain a federal operating permit and therefore is not required to submit an emission fee.**

**30 TAC Chapter 101, Subchapter F – Emissions Events and Scheduled Maintenance, Startup, and Shutdown Activities**

*§101.201 Emissions Event Reporting and Recordkeeping Requirement.*

**Galaxy Helios I LLC will follow the notification, recordkeeping and reporting requirements in §101.201 should a reportable emissions event as defined in §101.1 occur.**

*§101.211 Scheduled MSS Reporting and Recordkeeping Requirement.*

**Galaxy Helios I LLC will comply with the MSS reporting and recordkeeping requirements in §101.211 applicable to the sources in this registration.**

*§101.221-§101.224 Operational Requirements, Demonstrations, and Actions to Reduce Excessive Emissions.*

**Galaxy Helios I LLC will comply with the requirements of these sections to the extent that they apply to the sources in this registration.**

*§101.231-§101.233 Variances.*

**Galaxy Helios I LLC reserves the right to petition for a variance, if necessary, following the procedures in §101.231-§101.233.**

**30 TAC Chapter 101, Subchapter H – Emissions Banking and Trading.**

**Galaxy Helios I LLC is located in Dickens County which is not affected by the Mass Emissions Cap and Trade Program.**

**30 TAC Chapter 101, Subchapter J – Expedited Permitting**

**Galaxy Helios I LLC is requesting TCEQ to expedite the processing of this registration. The construction of a data center in Dickens County will provide a significant economic boost to the region by creating 240+ new jobs and offering employment opportunities across various skill levels. This influx of jobs will stimulate local businesses, increase demand for housing and services and generate additional tax revenue contributing to the county's long-term economic growth and stability.**

**30 TAC §116.615 – General Conditions**

*(1) Protection of public health and welfare. The emissions from the facility, including dockside vessel emissions, must comply with all applicable rules and regulations of the commission adopted under Texas Health and Safety Code, Chapter 382, and with the intent of the Texas Clean Air Act (TCAA), including protection of health and property of the public*
**The emissions from Galaxy Helios I LLC will comply with all applicable rules and regulations of the commission.**

*(2) Standard permit representations. All representations with regard to construction plans, operating procedures, and maximum emission rates in any registration for a standard permit become conditions upon which the facility or changes thereto, must be constructed and operated. It is unlawful for any person to vary from such representations if the change will affect that person's right to claim a standard permit under this section. Any change in condition such that a person is no longer eligible to claim a standard permit under this section requires proper authorization under §116.110 of this title (relating to Applicability). Any changes in representations are subject to the following requirements:*

*(A) For the addition of a new facility, the owner or operator shall submit a new registration incorporating existing facilities with a fee, in accordance with §116.611 and §116.614 of this title, (relating to Registration to use a Standard Permit and Standard Permit Fees) prior to commencing construction. If the applicable standard permit requires public notice, construction of the new facility or facilities may not commence until the new registration has been issued by the executive director.*

*(B) For any change in the method of control of emissions, a change in the character of the emissions, or an increase in the discharge of the various emissions, the owner or operator shall submit written notification to the executive director describing the change(s), along with the designated fee, no later than 30 days after the change.*

*(C) For any other change to the representations, the owner or operator shall submit written notification to the executive director describing the change(s) no later than 30 days after the change.*

*(D) Any facility registered under a standard permit which contains conditions or procedures for addressing changes to the registered facility which differ from subparagraphs (A) - (C) of this paragraph shall comply with the applicable requirements of the standard permit in place of subparagraphs (A) - (C) of this paragraph.*

**All representations regarding construction plans, operating procedures, and maximum emission rates provided in this application will be adhered to. No modifications will be made unless properly authorized in accordance with §116.110 of this title.**

*(3) Standard permit in lieu of permit amendment. All changes authorized by standard permit to a facility previously permitted under §116.110 of this title shall be administratively incorporated into that facility's permit at such time as the permit is amended or renewed.*
**This application is not being submitted in lieu of a permit amendment.**

*(4) Construction progress. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office not later than 15 working days after occurrence of the event, except where a different time period is specified for a particular standard permit.*
**Start of construction, construction interruptions exceeding 45 days and completion of construction shall be reported to the appropriate regional office no later than 15 days after occurrence of the event.**

*(5) Start-up notification*

*(A) The appropriate air program regional office of the commission and any other air pollution control agency having jurisdiction shall be notified prior to the commencement of operations of the facilities authorized by a standard permit in such a manner that a representative of the executive director may be present.*

*(B) For phased construction, which may involve a series of units commencing operations at different times, the owner or operator of the facility shall provide separate notification for the commencement of operations for each unit.*

*(C) Prior to beginning operations of the facilities authorized by the permit, the permit holder shall identify to the Office of Permitting, Remediation, and Registration, the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program).*

*(D) A particular standard permit may modify start-up notification requirements.*

**Galaxy Helios I LLC will notify the proper agencies of the commencement of operations.**

*(6) Sampling requirements. If sampling of stacks or process vents is required, the standard permit holder shall contact the commission's appropriate regional office and any other air pollution control agency having jurisdiction prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The standard permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant.*
**If sampling of stacks or vents is required, the appropriate regional office and air pollution control agencies having jurisdiction shall be notified. The facility will only use approved sampling and testing procedures and will provide sampling facilities as well as conduct the sampling or contracting with an independent consultant.**

*(7) Equivalency of methods. The standard permit holder shall demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the standard permit. Alternative methods must be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the standard permit.*

**Any alternatives to emission control, sampling or other emission tests methods or monitoring that differ from the conditions of the standard permit will be authorized by the executive director prior to their use in fulfilling permit requirements.**

*(8) Recordkeeping. A copy of the standard permit along with information and data sufficient to demonstrate applicability of and compliance with the standard permit shall be maintained in a file at the site and made available at the request of representatives of the executive director, the United States Environmental Protection Agency, or any air pollution control agency having jurisdiction. For facilities that normally operate unattended, this information shall be maintained at the nearest staffed location within Texas specified by the standard permit holder in the standard permit registration. This information must include, but is not limited to, production records and operating hours. Additional recordkeeping requirements may be specified in the conditions of the standard permit. Information and data sufficient to demonstrate applicability of and compliance with the standard permit must be retained for at least two years following the date that the information or data is obtained. The copy of the standard permit must be maintained as a permanent record.*

**A copy of the standard permit as well as information and data sufficient to demonstrate applicability and compliance with the standard permit shall be maintained at the site and made available upon request by representatives of the executive director, the United States Environmental Protection Agency, or air pollution control agencies having jurisdiction.**

*(9) Maintenance of emission control. The facilities covered by the standard permit may not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. Notification for emissions events and scheduled maintenance shall be made in accordance with §101.201 and §101.211 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; and Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements).*

**No facilities authorized by this standard permit shall be operated unless all air pollution capture and abatement equipment is maintained in good working order and operating properly. Appropriate notification shall be made in accordance with §101.201 and §101.211 of this title.**

*(10) Compliance with rules. Registration of a standard permit by a standard permit applicant constitutes an acknowledgment and agreement that the holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the claiming of the standard permit. If more than one state or federal rule or regulation or permit condition are applicable, the most stringent limit or condition shall*

*govern. Acceptance includes consent to the entrance of commission employees and designated representatives of any air pollution control agency having jurisdiction into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the standard permit.*
**Galaxy Helios I LLC will comply with applicable rules, regulations, and orders of the commission issued in conformity with the Texas Clean Air Act.**

*(11) Distance limitations, setbacks, and buffer zones. Notwithstanding any requirement in any standard permit, if a standard permit for a facility requires a distance, setback, or buffer from other property or structures as a condition of the permit, the determination of whether the distance, setback, or buffer is satisfied shall be made on the basis of conditions existing at the earlier of:*

*(A) the date new construction, expansion, or modification of a facility begins; or*

*(B) the date any application or notice of intent is first filed with the commission to obtain approval for the construction or operation of the facility.*

**No condition of the Air Quality Standard Permit for Electric Generating Units contains distance limitations, setbacks, or buffer zones.**

**Air Quality Standard Permit for Electric Generating Units**

*(3) Administrative Requirements*

*(A) Electric generating units shall be registered in accordance with 30 TAC §116.611, Registration to Use a Standard Permit, using a current Form PI-1S. Units that meet the conditions of this standard permit do not have to meet 30 TAC § 116.610(a)(1), Applicability.*

**Galaxy Helios I LLC will submit the registration according in accordance with 30 TAC §116.61.**

*(B) Registration applications shall comply with 30 TAC § 116.614, Standard Permit Fees, for any single unit or multiple units at a site with a total generating capacity of 1 megawatt (MW) or greater. The fee for units or multiple units with a total generating capacity of less than 1 MW at a site shall be $100.00. The fee shall be waived for units or multiple units with a total generating capacity of less than 1 MW at a site that have certified nitrogen oxides (NOx) emissions that are less than 10 percent of the standards required by this standard permit. Renewable fuel - fuel produced or derived from animal or products, byproducts or wastes, or other renewable biomass sources, excluding fossil fuels. Renewable fuels may include, but are not limited to, ethanol, biodiesel, and biogas fuels.*

**A fee of $1,400 ($900 registration fee and $500 expedite fee) will accompany this registration.**

*(C) No owner or operator of an electric generating unit shall begin construction and/or operation without first obtaining written approval from the executive director.*

**Written approval will be obtained before construction of the units begins.**

*(D) Records shall be maintained and provided upon request to the Texas Commission on Environmental Quality (TCEQ) for the following:*

*(i) Hours of operation of the unit;*

*(ii) Maintenance records, maintenance schedules, and/or testing reports for the unit to document re-certification of emission rates as required by subsection (4)(G) below; and*

*(iii) Records to document compliance with the fuel sulfur limits in subsection (4)(C).*

***Applicable records shall be maintained and provided upon request.***

*(E) Electric generators powered by gas turbines must meet the applicable conditions, including testing and performance standards, of Title 40 Code of Federal Regulations (CFR) Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, and applicable requirements of 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Combustion Turbines.*

**Gas Turbines do not power the units.**

*(F) Compliance with this standard permit does not exempt the owner or operator from complying with any applicable requirements of 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, or 30 TAC Chapter 114,Control of Air Pollution from Motor Vehicles.*

**Galaxy Helios I LLC is in Dickens County and the units are stationary, therefor this section does not apply.**

*(4) General Requirements*

*(A)Emissions of NOx from the electric generating unit shall be certified by the manufacturer or by the owner or operator in pounds of pollutant per megawatt hour (lb/MWh). This certification must be displayed on the name plate of the unit or on a label attached to the unit. Test results from U.S. Environmental Protection Agency (EPA) reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director used to verify this certification shall be provided upon request to the TCEQ. The unit must operate on the same fuel(s) for which the unit was certified.*

**Each electric generating unit installed will be certified by the manufacturer.**

*(B) Electric generating units that use combined heat and power (CHP) may take credit for the heat recovered from the exhaust of the combustion unit to meet the emission standards in subsections (4)(D), (4)(E), and (4)(F). Credit shall be at the rate of one MWh for each 3.4 million British Thermal Units of heat recovered. The following requirements must be met to take credit for CHP for units not sold and certified as an integrated package by the manufacturer:*

*(i) The owner or operator must provide as part of the application documentation of the heat recovered, electric output, efficiency of the generator alone, efficiency of the generator including CHP, and the use for the non-electric output, and*
*(ii) The heat recovered must equal at least 20 percent of the total energy output of the CHP unit.*

**This section does not apply, as heat is not recovered for other processes.**

*(C) Fuels combusted in these electric generating units are limited to:*
*(iii) Liquid fuels (including liquid renewable fuel) not containing waste oils or solvents and containing less than 0.05 percent by weight sulfur.*

**The fuel will be diesel.**

*(D) Except as provided in subsections (4)(F) and (4)(H), NOx emissions for units 10 MW or less shall meet the following limitations based upon the date the unit is installed and the region in which it operates:*
*West Texas Region:*
*(i) Units operating more than 300 hours per year - 3.11 lb/MWh;*

**Galaxy Helios I LLC units are less than 10 MW, therefore this section is not applicable.**

*(ii) Units operating 300 hours or less per year - 21 lb/MWh. Units certified to comply with applicable Tier 1, 2, or 3 emission standards in 40 CFR Part 89, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines, are deemed to satisfy this emission limit.*

**The average NOX emissions is 15.89 lb/MWh.**

*(F) Electric generating units firing any gaseous or liquid fuel that is at least 75 percent landfill gas, digester gas, stranded oil field gas, or renewable fuel content by volume, shall meet a NOx emission limit of 1.90 lb/MWh. Units in West Texas with a capacity of 10 MW or less that fire at least 75 percent landfill gas, digester gas, stranded oilfield gases, or gaseous or liquid renewable fuel by volume, must comply with the applicable West Texas NOx limit in subsection (4)(D).*

**Galaxy Helios I LLC units will not use the fuel described, therefore this does not apply.**

*(G)To ensure continuing compliance with the emissions limitations, the owner or operator shall re-certify a unit every 16,000 hours of operation, but no less frequently than every three years. Re-certification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required NOx standard or by third party testing of the unit using appropriate EPA reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director to demonstrate that the unit still meets the required emission standards. After re-certification, the unit must operate on the same fuel(s) for which the unit was re-certified.*

**Each engine will be re-certified as applicable.**

*(H) The NOX emission limits in subsections (4)(D)-(4)(F) are subject to the following exceptions:*

*(i) The hourly NOx emission limits do not apply at times when the ambient air temperature at the location of the unit is less than 0 degrees Fahrenheit.*

*(ii) At times when a unit is operating at less than 80% of rated load, an alternative NOx emission standard for that unit may be determined by multiplying the applicable emission standard in subsections (4)(D)-(4)(F) by the rated load of the EGU (in MW), to produce an allowable hourly mass NOx emission rate. In order to use this alternative standard, an owner or operator must maintain records that demonstrate compliance with the alternative emission standard, and make such records available to the TCEQ or any local air pollution control agency with jurisdiction upon request.*

**Galaxy Helios I LLC will comply with this section as applicable.**

## Federal Regulatory Applicability

### 40 CFR Part 60 – Standards of Performance for New Stationary Sources

*Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

**Galaxy Helios I LLC is not subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines under 40 CFR 60 Subpart JJJJ because the engines are certified diesel units and not natural gas, gasoline or LPG-fired engines.**

# EGU Emissions Data Summary

Emissions data for CAT 3516E – See “Emissions Summary CAT 3516E” file.

| Load | BHP | NOx (g/hr) | CO (g/hr) | HC (g/hr) | PM (g/hr) |
|---|---|---|---|---|---|
| 100% | 4393 | 24589 | 2899 | 190 | 200.9 |
| 75% | 3347 | 12160 | 2470 | 142 | 249.8 |
| 50% | 2294 | 6934 | 1673 | 118 | 229.1 |
| 25% | 1236 | 8735 | 2077 | 84 | 253.7 |
| 10% | 590 | 6302 | 1535 | 160 | 16.6 |

Conversion to lb/hr

| Load | BHP | NOx (lb/hr) | CO (lb/hr) | HC (lb/hr) | PM (lb/hr) |
|---|---|---|---|---|---|
| 100% | 4393 | 54.21 | 6.39 | 0.42 | 0.44 |
| 75% | 3347 | 26.81 | 5.45 | 0.31 | 0.55 |
| 50% | 2294 | 15.29 | 3.69 | 0.26 | 0.51 |
| 25% | 1236 | 19.26 | 4.58 | 0.19 | 0.56 |
| 10% | 590 | 13.89 | 3.38 | 0.35 | 0.04 |

Tons/yr per unit @ running for "Hours of Operation/year"

| Load | BHP | NOx (tpy) | CO (tpy) | HC (tpy) | PM (tpy) |
|---|---|---|---|---|---|
| 100% | 4393 | 4.47 | 0.53 | 0.03 | 0.04 |
| 75% | 3347 | 2.21 | 0.45 | 0.03 | 0.05 |
| 50% | 2294 | 1.26 | 0.30 | 0.02 | 0.04 |
| 25% | 1236 | 1.59 | 0.38 | 0.02 | 0.05 |
| 10% | 590 | 1.15 | 0.28 | 0.03 | 0.00 |

Potential Emissions per unit

| Load | # Units* | NOx (tpy) | CO (tpy) | HC (tpy) | PM (tpy) |
|---|---|---|---|---|---|
| 100% | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75% | 103 | 227.80 | 46.27 | 2.66 | 4.68 |
| 50% | 11 | 13.87 | 4.22 | 0.09 | 0.00 |
| 25% | 2 | 3.18 | 1.20 | 0.02 | 0.00 |
| 10% | 4 | 4.58 | 1.28 | 0.04 | 0.00 |

Potential Facility-Wide Emissions for Data Center

| | # Units* | NOx (tpy) | CO (tpy) | HC (tpy) | PM (tpy) |
|---|---|---|---|---|---|
| **Totals** | 120 | 249.44 | 52.97 | 2.81 | 4.68 |

**Constants**

| | | |
|---|---|---|
| gal/Mgal | 1000 | |
| g/kg | 1000 | |
| g/lb | 453.59 | |
| PM lb/MMBtu | 0.0077 | (From U.S. EPA AP-42) |
| Btu/MMBtu | 1000000 | |
| Bhp/kw | 1.341 | |
| Btu/bhp | 7000 | |
| lbs/ton | 2000 | |
| | | |
| Hours of Operation/year* | 165 | |

**Assumptions**

*Hours of operation limited to keep NOx < 250 tpy

# EGU Emissions Data Per Unit

Emissions data for CAT 3516E – See “Emissions Per Unit CAT 3516E” file.

| EPN | FIN | Name | Load Served | Estimated Load (KW) | Est Load % | Rounded Load % | MW @ Rounded Load % | NOx Emission Rate (lb/MWh) | NOx Emission Rate (lb/hr) | NOx Emission Rate (TPY) | CO Emission Rate (lb/hr) | CO Emission Rate (TPY) | HC Emission Rate (lb/hr) | HC Emission Rate (TPY) | PM Emission Rate (lb/hr) | PM Emission Rate (TPY) | Stack/ Building Height (ft) | Stack Diameter (ft) | Stack Velocity (fps) | Stack Temp (°F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEN-S-01 | GEN-S-01 | South Emergency Generator #1 | Building | 750 | 25% | 25% | 0.8 | 25.68 | 19.26 | 1.59 | 4.58 | 0.38 | 0.19 | 0.02 | 0.56 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-02 | GEN-S-02 | South Emergency Generator #2 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-03 | GEN-S-03 | South Emergency Generator #3 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-04 | GEN-S-04 | South Emergency Generator #4 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-05 | GEN-S-05 | South Emergency Generator #5 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-06 | GEN-S-06 | South Emergency Generator #6 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-07 | GEN-S-07 | South Emergency Generator #7 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-08 | GEN-S-08 | South Emergency Generator #8 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-09 | GEN-S-09 | South Emergency Generator #9 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-10 | GEN-S-10 | South Emergency Generator #10 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-11 | GEN-S-11 | South Emergency Generator #11 | IB Catcher | 50 | 2% | 10% | 0.3 | 46.3 | 13.89 | 1.15 | 3.38 | 0.28 | 0.35 | 0.03 | 0.04 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-12 | GEN-S-12 | South Emergency Generator #12 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-13 | GEN-S-13 | South Emergency Generator #13 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-14 | GEN-S-14 | South Emergency Generator #14 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-15 | GEN-S-15 | South Emergency Generator #15 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-16 | GEN-S-16 | South Emergency Generator #16 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-17 | GEN-S-17 | South Emergency Generator #17 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-18 | GEN-S-18 | South Emergency Generator #18 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-19 | GEN-S-19 | South Emergency Generator #19 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-20 | GEN-S-20 | South Emergency Generator #20 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-21 | GEN-S-21 | South Emergency Generator #21 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-22 | GEN-S-22 | South Emergency Generator #22 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-23 | GEN-S-23 | South Emergency Generator #23 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-24 | GEN-S-24 | South Emergency Generator #24 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-25 | GEN-S-25 | South Emergency Generator #25 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-26 | GEN-S-26 | South Emergency Generator #26 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-27 | GEN-S-27 | South Emergency Generator #27 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-28 | GEN-S-28 | South Emergency Generator #28 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-29 | GEN-S-29 | South Emergency Generator #29 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-30 | GEN-S-30 | South Emergency Generator #30 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-31 | GEN-S-31 | South Emergency Generator #31 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-32 | GEN-S-32 | South Emergency Generator #32 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-33 | GEN-S-33 | South Emergency Generator #33 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-34 | GEN-S-34 | South Emergency Generator #34 | IB Catcher | 50 | 2% | 10% | 0.3 | 46.3 | 13.89 | 1.15 | 3.38 | 0.28 | 0.35 | 0.03 | 0.04 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-35 | GEN-S-35 | South Emergency Generator #35 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-36 | GEN-S-36 | South Emergency Generator #36 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-37 | GEN-S-37 | South Emergency Generator #37 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-38 | GEN-S-38 | South Emergency Generator #38 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-39 | GEN-S-39 | South Emergency Generator #39 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-40 | GEN-S-40 | South Emergency Generator #40 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-41 | GEN-S-41 | South Emergency Generator #41 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-42 | GEN-S-42 | South Emergency Generator #42 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-43 | GEN-S-43 | South Emergency Generator #43 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-S-44 | GEN-S-44 | South Emergency Generator #44 | Building | 1000 | 33% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |

| EPN | FIN | Name | Load Served | Estimated Load (KW) | Est Load % | Rounded Load % | MW @ Rounded Load % | NOx Emission Rate (lb/MWh) | NOx Emission Rate (lb/hr) | NOx Emission Rate (TPY) | CO Emission Rate (lb/hr) | CO Emission Rate (TPY) | HC Emission Rate (lb/hr) | HC Emission Rate (TPY) | PM Emission Rate (lb/hr) | PM Emission Rate (TPY) | Stack/ Building Height (ft) | Stack Diameter (ft) | Stack Velocity (fps) | Stack Temp (°F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEN-N-01 | GEN-N-01 | North Emergency Generator #1 | Building | 750 | 25% | 25% | 0.8 | 25.68 | 19.26 | 1.59 | 4.58 | 0.38 | 0.19 | 0.02 | 0.56 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-02 | GEN-N-02 | North Emergency Generator #2 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-03 | GEN-N-03 | North Emergency Generator #3 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-04 | GEN-N-04 | North Emergency Generator #4 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-05 | GEN-N-05 | North Emergency Generator #5 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-06 | GEN-N-06 | North Emergency Generator #6 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-07 | GEN-N-07 | North Emergency Generator #7 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-08 | GEN-N-08 | North Emergency Generator #8 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-09 | GEN-N-09 | North Emergency Generator #9 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-10 | GEN-N-10 | North Emergency Generator #10 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-11 | GEN-N-11 | North Emergency Generator #11 | IB Catcher | 50 | 2% | 10% | 0.3 | 46.3 | 13.89 | 1.15 | 3.38 | 0.28 | 0.35 | 0.03 | 0.04 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-12 | GEN-N-12 | North Emergency Generator #12 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-13 | GEN-N-13 | North Emergency Generator #13 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-14 | GEN-N-14 | North Emergency Generator #14 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-15 | GEN-N-15 | North Emergency Generator #15 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-16 | GEN-N-16 | North Emergency Generator #16 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-17 | GEN-N-17 | North Emergency Generator #17 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-18 | GEN-N-18 | North Emergency Generator #18 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-19 | GEN-N-19 | North Emergency Generator #19 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-20 | GEN-N-20 | North Emergency Generator #20 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-21 | GEN-N-21 | North Emergency Generator #21 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-22 | GEN-N-22 | North Emergency Generator #22 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-23 | GEN-N-23 | North Emergency Generator #23 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-24 | GEN-N-24 | North Emergency Generator #24 | FFP/CI Distributed Redunda | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-25 | GEN-N-25 | North Emergency Generator #25 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-26 | GEN-N-26 | North Emergency Generator #26 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-27 | GEN-N-27 | North Emergency Generator #27 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-28 | GEN-N-28 | North Emergency Generator #28 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-29 | GEN-N-29 | North Emergency Generator #29 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-30 | GEN-N-30 | North Emergency Generator #30 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-31 | GEN-N-31 | North Emergency Generator #31 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-32 | GEN-N-32 | North Emergency Generator #32 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-33 | GEN-N-33 | North Emergency Generator #33 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-34 | GEN-N-34 | North Emergency Generator #34 | IB Catcher | 50 | 2% | 10% | 0.3 | 46.3 | 13.89 | 1.15 | 3.38 | 0.28 | 0.35 | 0.03 | 0.04 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-35 | GEN-N-35 | North Emergency Generator #35 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-36 | GEN-N-36 | North Emergency Generator #36 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-37 | GEN-N-37 | North Emergency Generator #37 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-38 | GEN-N-38 | North Emergency Generator #38 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-39 | GEN-N-39 | North Emergency Generator #39 | IB Active | 1881 | 63% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-40 | GEN-N-40 | North Emergency Generator #40 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-41 | GEN-N-41 | North Emergency Generator #41 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-42 | GEN-N-42 | North Emergency Generator #42 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-43 | GEN-N-43 | North Emergency Generator #43 | GPU Distributed Redundant | 1789 | 60% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-N-44 | GEN-N-44 | North Emergency Generator #44 | Building | 1000 | 33% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-01 | GEN-C-01 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |

| EPN | FIN | Name | Load Served | Estimated Load (KW) | Est Load % | Rounded Load % | MW @ Rounded Load % | NOx Emission Rate (lb/MWh) | NOx Emission Rate (lb/hr) | NOx Emission Rate (TPY) | CO Emission Rate (lb/hr) | CO Emission Rate (TPY) | HC Emission Rate (lb/hr) | HC Emission Rate (TPY) | PM Emission Rate (lb/hr) | PM Emission Rate (TPY) | Stack/ Building Height (ft) | Stack Diameter (ft) | Stack Velocity (fps) | Stack Temp (°F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEN-C-02 | GEN-C-02 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-03 | GEN-C-03 | Chiller Emergency Generator #3 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-04 | GEN-C-04 | Chiller Emergency Generator #4 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-05 | GEN-C-05 | Chiller Emergency Generator #5 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-06 | GEN-C-06 | Chiller Emergency Generator #6 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-07 | GEN-C-07 | Chiller Emergency Generator #7 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-08 | GEN-C-08 | Chiller Emergency Generator #8 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-09 | GEN-C-09 | Chiller Emergency Generator #9 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-10 | GEN-C-10 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-11 | GEN-C-11 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-12 | GEN-C-12 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-13 | GEN-C-13 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-14 | GEN-C-14 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-15 | GEN-C-15 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-16 | GEN-C-16 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-17 | GEN-C-17 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-18 | GEN-C-18 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-19 | GEN-C-19 | Chiller Emergency Generator #1 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-20 | GEN-C-20 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-21 | GEN-C-21 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-22 | GEN-C-22 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-23 | GEN-C-23 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-24 | GEN-C-24 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-25 | GEN-C-25 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-26 | GEN-C-26 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-27 | GEN-C-27 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-28 | GEN-C-28 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-29 | GEN-C-29 | Chiller Emergency Generator #2 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-30 | GEN-C-30 | Chiller Emergency Generator #3 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-31 | GEN-C-31 | Chiller Emergency Generator #3 | 3 Chiller | 2199 | 73% | 75% | 2.3 | 11.91 | 26.81 | 2.21 | 5.45 | 0.45 | 0.31 | 0.03 | 0.55 | 0.05 | 31.2 | 3.0 | 22.3 | 898.0 |
| GEN-C-32 | GEN-C-32 | Chiller Emergency Generator #3 | 2 Chiller | 1466 | 49% | 50% | 1.5 | 10.2 | 15.29 | 1.26 | 3.69 | 0.30 | 0.26 | 0.02 | 0.51 | 0.00 | 31.2 | 3.0 | 22.3 | 898.0 |

# Generator Information

See “CAT Generator Information” file for additional information.

## Cat® 3516E

### High Power Density (HPD) Diesel Generator Sets

CAT®

Image shown may not reflect actual configuration

| | |
|---|---|
| Bore – mm (in) | 170 (6.69) |
| Stroke – mm (in) | 215 (8.46) |
| Displacement – L (in³) | 78.1 (4766) |
| Compression Ratio | 13.9:1 |
| Aspiration | TA |
| Fuel System | MEUI |
| Governor Type | ADEM™ A5 |

| Standby 60 Hz ekW (kVA) | Mission Critical 60 Hz ekW (kVA) | Prime 60 Hz ekW (kVA) | Emissions Performance |
|---|---|---|---|
| 3000 (3750) | 3000 (3750) | 2725 (3406) | U.S. EPA Certified for Emergency Stationary Applications (Tier 2) |

### Features

**Cat® Diesel Engine**
- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emissions standards
- Reliable performance proven in thousands of applications worldwide
- Certified alternative fuels including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD) and Hydrotreated Renewable Diesel (HRD) which meet EN 15940 or ASTM D975 can be used or blended with EN 590 diesel

**Generator Set Package**
- Accepts 100% block load in one step
- Meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

**Alternators**
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

**Cooling System**
- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

**Cat Energy Control System (ECS)**
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements
- Graphical touchscreen display
- Easily upgradeable

**Warranty**
- 24 months/1000-hour warranty for standby and mission critical ratings
- Extended service protection is available to provide extended coverage options

**Worldwide Product Support**
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

**Financing**
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

## Standard and Optional Equipment

### Engine

***Air Cleaner***
- ■ Dual Element
- ❑ Service Indicator

***Muffler***
- ❑ Industrial grade (15 dB)
- ❑ Critical grade (25 dB)
- ❑ Hospital grade (35 dB)

***Starting***
- ❑ Standard batteries
- ❑ Oversized batteries
- ■ Dual electric starting motors
- ❑ Air starter(s)
- ■ Jacket water heater

### Alternator

***Output voltage***
- ■ 480V ❑ 12470V
- ❑ 600V ❑ 13200V
- ❑ 4160V ❑ 13800V

***Temperature Rise (over 40°C ambient)***
- ❑ 150°C
- ❑ 125°C/130°C

***Winding type***
- ■ Random wound
- ❑ Form wound

***Excitation***
- ❑ Internal excitation (IE)
- ■ Permanent magnet (PM)

***Attachments***
- ❑ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

### Power Termination

***Type***
- ❑ Bus bar
- ❑ Circuit breaker
- ❑ 5000A ❑ UL
- ❑ 3-pole ❑ 4-pole
- ❑ Manually operated
- ❑ Electrically operated

***Trip Unit***
- ❑ LSI ❑ LSI-G
- ❑ LSIG-P

### Control System

***Controller***
- ■ Cat ECS 100
- ❑ Cat ECS 200
- ❑ EMCP 4.4

***Attachments***
- ❑ Local annunciator module
- ■ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

### Charging

- ❑ Battery charger – 10A
- ❑ Battery charger – 20A
- ❑ Battery charger – 35A

### Vibration Isolators

- ■ Spring
- ❑ Seismic rated

### Cat Connect

***Connectivity***
- ■ Ethernet
- ❑ Cellular

### Extended Service Options

***Terms***
- ❑ 2 year (prime)
- ❑ 3 year
- ■ 5 year
- ❑ 10 year

***Coverage***
- ❑ Silver
- ❑ Gold
- ■ Platinum
- ❑ Platinum Plus

### Ancillary Equipment

- ❑ Automatic transfer switch (ATS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

### Certifications

- ❑ ULC 2200 Listed
- ■ IBC seismic certification

**Note:** *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

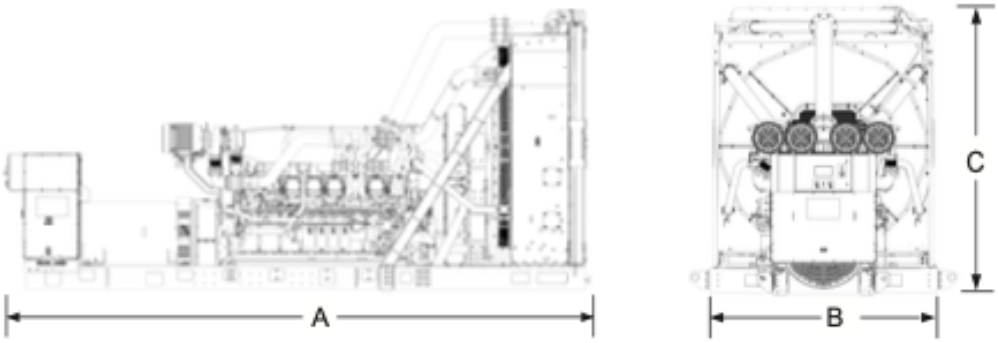
## Package Performance

| Performance | Standby | | Mission Critical | | Prime | |
|---|---|---|---|---|---|---|
| Engine Speed | 1800 rpm | | 1800 rpm | | 1800 rpm | |
| Frequency | 60 Hz | | 60 Hz | | 60 Hz | |
| Gen set power rating with fan | 3000 ekW | | 3000 ekW | | 2725 ekW | |
| Gen set power rating with fan @ 0.8 power factor | 3750 kVA | | 3750 kVA | | 3406 kVA | |
| Emissions | Tier 2 (EPA ESE) | | Tier 2 (EPA ESE) | | Tier 2 (EPA ESE) | |
| Performance number | EM4716-02 | | EM4718-02 | | EM4720-02 | |
| **Fuel Consumption** | | | | | | |
| 100% load with fan – L/hr (gal/hr) | 773.2 | (204.3) | 773.2 | (204.3) | 711.2 | (187.9) |
| 75% load with fan – L/hr (gal/hr) | 624.2 | (164.9) | 624.2 | (164.9) | 581.6 | (153.7) |
| 50% load with fan – L/hr (gal/hr) | 467.5 | (123.5) | 467.5 | (123.5) | 438.1 | (115.7) |
| 25% load with fan – L/hr (gal/hr) | 246.4 | (65.1) | 246.4 | (65.1) | 229.2 | (60.6) |
| **Cooling System** | | | | | | |
| Radiator air flow restriction (system) – kPa (in. water) | 0.12 | (0.48) | 0.12 | (0.48) | 0.12 | (0.48) |
| Radiator air flow – m³/min (cfm) | 3476 | (122753) | 3476 | (122753) | 3476 | (122753) |
| Engine coolant capacity – L (gal) | 179.0 | (47.3) | 179.0 | (47.3) | 179.0 | (47.3) |
| Radiator coolant capacity – L (gal) | 255.0 | (67.4) | 255.0 | (67.4) | 255.0 | (67.4) |
| Total coolant capacity – L (gal) | 434.0 | (114.7) | 434.0 | (114.7) | 434.0 | (114.7) |
| **Inlet Air** | | | | | | |
| Combustion air inlet flow rate – m³/min (cfm) | 246.1 | (8690.9) | 246.1 | (8690.9) | 230.3 | (8133.7) |
| **Exhaust System** | | | | | | |
| Exhaust stack gas temperature – °C (°F) | 483.3 | (902.0) | 483.3 | (902.0) | 484.5 | (904.1) |
| Exhaust gas flow rate – m³/min (cfm) | 645.8 | (22806.2) | 645.8 | (22806.2) | 600.2 | (21192.9) |
| Exhaust system backpressure (maximum allowable) – kPa (in. water) | 7.0 | (28.1) | 7.0 | (28.1) | 7.0 | (28.1) |
| **Heat Rejection** | | | | | | |
| Heat rejection to jacket water – kW (Btu/min) | 917 | (52144) | 917 | (52144) | 854 | (48592) |
| Heat rejection to exhaust (total) – kW (Btu/min) | 3091 | (175769) | 3091 | (175769) | 2875 | (163492) |
| Heat rejection to aftercooler – kW (Btu/min) | 944 | (53683) | 944 | (53683) | 827 | (47047) |
| Heat rejection to atmosphere from engine – kW (Btu/min) | 158 | (8993) | 158 | (8993) | 154 | (8766) |
| Heat rejection from alternator – kW (Btu/min) | 119 | (6739) | 119 | (6739) | 108 | (6119) |
| **Emissions* (Nominal) - Full Load** | | | | | | |
| NOx mg/Nm³ (g/hp-h) | 2610.4 | (5.63) | 2610.4 | (5.63) | 2311.6 | (5.02) |
| CO mg/Nm³ (g/hp-h) | 305.9 | (0.66) | 305.9 | (0.66) | 404.8 | (0.89) |
| HC mg/Nm³ (g/hp-h) | 17.4 | (0.04) | 17.4 | (0.04) | 15.0 | (0.04) |
| PM mg/Nm³ (g/hp-h) | 17.6 | (0.05) | 17.6 | (0.05) | 22.6 | (0.06) |
| **Emissions* (Potential Site Variation) - Full Load** | | | | | | |
| NOx mg/Nm³ (g/hp-h) | 3132.5 | (6.76) | 3132.5 | (6.76) | 2773.9 | (6.02) |
| CO mg/Nm³ (g/hp-h) | 550.6 | (1.20) | 550.6 | (1.20) | 728.7 | (1.60) |
| HC mg/Nm³ (g/hp-h) | 23.1 | (0.06) | 23.1 | (0.06) | 19.9 | (0.05) |
| PM mg/Nm³ (g/hp-h) | 24.6 | (0.06) | 24.6 | (0.06) | 31.6 | (0.08) |

*mg/Nm³ levels are corrected to 5% $O_2$. Contact your local Cat dealer for further information*

**3516E Diesel Generator Sets**
**High Power Density (HPD)**
**Electric Power**

## Weights and Dimensions




| Rating ekW (kVA) | Dim "A" mm (in) | Dim "B" mm (in) | Dim "C" mm (in) | Dry Weight kg (lb) |
|---|---|---|---|---|
| 3000 (3750) | 7678 (302.3) | 2874 (113.2) | 3639 (143.3) | 20 380 (44,930) |

**Note:** *For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.*

## Ratings Definitions

**Standby**
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**Mission Critical**
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated ekW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**Prime**
Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

**Applicable Codes and Standards**
AS 1359, ULC 2200 3rd edition, UL 489, UL 869A, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

**Data Center Applications**
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

**Fuel Rates**
Fuel consumption reported in accordance with ISO 3046-1, based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 15°C (59°F) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

www.cat.com/electricpower



3516 PGJL
LEHE2570-05 (05/23)