APPENDIX ICE

REQUIREMENTS FOR INTERNAL COMBUSTION ENGINES

This Title V facility contains stationary internal combustion engines that have been exempted from the requirement to obtain an air construction permit because they qualify for one of the categorical exemptions listed in Rule 62-210.300(3)(a), Florida Administrative Code (F.A.C.). However, they are included in this permit as regulated emissions units because they are subject to one or more of the following federal rules:

- 40 CFR 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
- 40 CFR 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

The below listed engines are subject to the specified federal rules.

E.U. ID No.	Brief Description of Engine	Year Built	Displacement or Horsepower	Rule Applicability
-108	Emergency Diesel Power Generator (CI RICE) (Cummins Inc., Model QSL9-G3 NR3)	2008	399 HP	IIII
-109	Emergency Diesel Fire Water Pump (CI RICE) (104 HP, Worthington Corp., Model No. Size 5)	1960	104 HP	ZZZZ

NSPS Subpart IIII Conditions for EU 108

ICE. 1. This diesel fueled compression ignition (CI) reciprocating internal combustion engine (RICE) is used to provide emergency power for the onsite Stormwater Treatment System in case of a power loss from the primary power provider. The RICE has displacement less than 10 liters per cylinder and is 2007 model year or later unit. The RICEs shall be certified to meet the emission limits and shall be installed, configured, and operated in accordance with the manufacturer's instructions. The RICE must meet the emissions standards over the entire life of the engine. [40 CFR 60.4206 and 40 CFR 60.4211(a) and (c)]

ICE.2. The following emission limits shall be met for EU 108: [40 CFR 60.4202(a)(2)]

NMHC + NO_X (g/kW-hr)/(g/bhp-hr)	**CO** (g/kW-hr)/(g/bhp-hr)	**PM** (g/kW-hr)/(g/bhp-hr)
(4.0)/(3.0)	(3.5)/(2.6)	(0.2)/(0.15)

g/kW-hr - Grams per kilowatt hour; g/bhp-hr - Grams per brake horse power hour;
NMHC - Non-methane hydrocarbon; NOx – Oxides of nitrogen as NO2; CO—Carbon monoxide.; PM—particulate matter.

ICE. 3. The maximum sulfur content in the diesel fuel to be used shall not exceeded 15 ppm in accordance with 40 CFR 80.510(b). [40 CFR 60.4207(b)]

ICE. 4. Since the RICE is less than 3,000 HP and have a displacement less than 10 liters per cylinder, the initial notification, reporting, and recordkeeping under 40 CFR 60.4214 is not required. [40 CFR 60.4214]

ICE. 5. The facility must operate and maintain the stationary CI RICE and control device according to the manufacturer's emission-related written instructions. The facility must change only those emission-related settings that are permitted by the manufacturer; and the facility meets the requirements of 40 CFR Parts 89, 94, and/or 1068, as they apply to the facility. [40 CFR 60.4211]

ICE. 6. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4211(f)]

ICE. 7. If the facility does not install, configure, operate, and maintain engine and control device according to the manufacturer's emission-related written instructions, or the facility changes emission-related settings in a way that is not permitted by the manufacturer, the facility must demonstrate compliance as follows:

For a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, the facility must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the facility must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the facility changes emission-related settings in a way that is not permitted by the manufacturer. [40 CFR 60.4211(g)]

NESHAP Subpart ZZZZ Conditions for EU 109

ICE. 8. The facility is subject to 40 CFR 63, Subpart ZZZZ, since the facility owns/operates stationary RICEs (EUs 108 and 109) at an area source of HAP emissions. The diesel fueled Fire Pump (EU 109) is used for emergency, in the event of a fire, to deliver water to the Hartford Street site. This RICE (EU 109) is not subject to the NSPS Subpart IIII since it was manufactured before April 1, 2006.
[Rule 62-204.800, F.A.C. and 40 CFR 63.6585(a)]

ICE. 9. EU 108 is a new stationary RICE located at an area source of HAP and must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for this engine under this Subpart. [Rule 62-204.800, F.A.C. and 40 CFR 63.6590(c)(1)]

ICE. 10. Since EU 109 is an existing stationary CI RICE located at an area source of HAP missions, the facility must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.
[Rule 62-204.800, F.A.C. and 40 CFR 63.6595(a)(1)]

ICE. 11. Compliance with the numerical emission limitations established in 40 CFR 63, Subpart ZZZZ is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this Subpart.

(a) Since the facility owns/operates existing stationary RICEs located at an area source of HAP emissions, the facility must comply with the requirements in Table 2d to this Subpart that apply to the RICE.
[Rule 62-204.800, F.A.C. and 40 CFR 63.6603(a)]

ICE. 12. The facility must be in compliance with the emission limitations and operating limitations in this Subpart that apply to the facility. At all times the facility must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the facility to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPC which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [Rule 62-204.800, F.A.C. and 40 CFR 63.6605]

ICE. 13. Monitoring, installation, collection, operation, and maintenance requirements.
[Rule 62-204.800, F.A.C. and 40 CFR 63.6625]

(a) Reserved.
(b) Reserved.
(c) Reserved.
(d) Reserved.

(e) If the facility operates any of the following stationary RICE, the facility must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) Reserved.
(2) Reserved.
(3) An existing emergency, or black start stationary RICE located at an area source of HAP Emissions.
(4) thru (10) Reserved.

(f) If the facility owns or operates an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, the facility must install a non-resettable hour meter if one is not already installed.

(g) Reserved.

(h) If the facility operates a new, reconstructed, or existing stationary engine, the facility must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Table 2d to this Subpart apply.

(i) If the facility owns or operates a stationary CI engine that is subject to the work, operation or management practices in items 1 or 4 of Table 2d to this Subpart, the facility has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of

the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) Reserved.

ICE. 14. Monitoring and collecting data requirements for demonstration of continuous compliance:
[Rule 62-204.800, F.A.C. and 40 CFR 63.6635]

(a) If the facility must comply with emission and operating limitations, the facility must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, the facility must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) The facility may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The facility must, however, use all the valid data collected during all other periods.

ICE. 15. Demonstration of continuous compliance with the emission limitations and operating limitations
[Rule 62-204.800, F.A.C. and 40 CFR 63.6640]

(a) The facility must demonstrate continuous compliance with each emission limitation and operating limitation in Table 2d to this Subpart that applies to the facility according to methods specified in Table 6 to this Subpart.

(b) The facility must report each instance in which the facility did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to the facility. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650.

(c) Reserved.
(d) Reserved.
(e) Reserved.

(f) *Requirements for emergency stationary RICE.* (1) If the facility owns or operates an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, the facility must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If the facility does not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) The facility may operate emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the

manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the EPC for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) The facility may operate emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) Reserved.

ICE. 16. Recordkeeping requirements
[Rule 62-204.800, F.A.C. and 40 CFR 63.6655]

(a) If the facility must comply with the emission and operating limitations, the facility must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) Reserved.

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) Reserved.

(c) Reserved.

(d) The facility must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to the facility.

(e) The facility must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the facility operated and maintained the stationary RICE and after-treatment control device (if any) according to the facility's own maintenance plan if the facility owns or operates any of the following stationary RICE;

(1) Reserved.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If the facility owns or operates any of the stationary RICE in paragraphs (f)(1) or (2) of this section, the facility must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) Reserved.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

ICE. 17. Additional recordkeeping requirements
[Rule 62-204.800, F.A.C. and 40 CFR 63.6660]

(a) The facility's records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

(b) As specified in 40 CFR 63.10(b)(1), the facility must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) The facility must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1).

ICE. 18. Definitions
Terms and definitions used in this Subpart ZZZZ are defined under 40 CFR 63.6675.
Tables to this Subpart are attached to this permit. [Rule 62-204.800, F.A.C. and 40 CFR 63.6675]

Table 2d to Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in 40 CFR 63.6603 and 63.6640, the facility must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; [1]
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[1]Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance with Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, the facility must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.