

**NASA GODDARD SPACE FLIGHT CENTER
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 033-0675-9-1422**

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Part A – General Provisions

- (1) The following Air and Radiation Management Administration (ARMA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:
 - (a) Application for Emergency Generators (Form 42) for the installation of one (1) diesel fired generator rated at 1,341 HP (1,000 kW) for emergency and emergency demand response purposes received on July 10, 2013.
 - (b) Part 70 Permit Application for Minor Modification (Form 22) received on July 10, 2013.
 - (c) Supplemental Information including emissions calculations received on July 10, 2013.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department") and the Prince George's County Health Department shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:
 - (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;

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- (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit: and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.
- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.
- (6) The addition of the diesel fired generator rated at 1,341 horsepower (1,000 kilowatts) for emergency and emergency demand response purposes qualifies as an "Off Permit" change to the facility's Part 70 Operating Permit. The Department recognizes the permit to construct application as written notification of the proposed change and should be included in the application for the next renewal of the Part 70 permit.

Part B – Applicable Regulations

- (1) This source is subject to all applicable federal air pollution control requirements including, but not limited to, the following:
- (a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A and IIII for Stationary Compression Ignition Internal Combustion Engines.
 - (b) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subparts A and ZZZZ for Stationary Reciprocating Internal Combustion Engines.

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Note: Per 40 CFR §63.6590(c)(1), this engine meets the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII. There are no further requirements for this engine under 40 CFR Part 63, Subpart ZZZZ.

All notifications required under 40 CFR 60 Subparts A and IIII shall be submitted to both of the following:

The Administrator
Compliance Program
Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, STE 715
Baltimore MD 21230

and

Director, Air Protection Division
U.S. EPA – Region 3
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103-2029

- (2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:
- (a) COMAR 26.11.01.07C, Report of Excess Emissions.
- (1) "In the case of any occurrence of excess emissions, expected to last or actually lasting for 1 hour or more, from any installation required by COMAR 26.11.02.13 to obtain a State permit to operate, the owner or operator shall report the onset and shall report the termination of the occurrence to the Department by telephone.
- (2) Telephone reports of excess emissions shall include the following information:
- (a) The identity of the installation and the person reporting;
- (b) The nature or characteristics of the emissions (for example, hydrocarbons, fluorides);
- (c) The time of occurrence of the onset of the excess emissions and the actual or expected duration of the occurrence; and
- (d) The actual or probable cause of the excess emissions."
- (b) COMAR 26.11.02.04B, Permits to Construct and Approvals. "A permit to construct or an approval expires if, as determined by the Department: which states that a permit to construct or an approval expires if, as determined by the Department:

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- (1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;
 - (2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or
 - (3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval."
- (c) COMAR 26.11.02.09A, Sources Subject to Permits to Construct and Approvals. "A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter—permit to construct required."
- (d) COMAR 26.11.03.14A, Revision of Part 70 Permits — General Requirements. "The permittee shall submit an application to the Department to revise a Part 70 permit when required under Regulations .15—.17 of this chapter."
- (e) COMAR 26.11.09.05E, Visible Emissions.
"(2) Emissions During Idle Mode. A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.
"(3) Emissions During Operating Mode. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.
"(4) Exceptions.
(a) Section E(2) of this regulation does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.
(b) Section E(2) of this regulation does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:
(i) Engines that are idled continuously when not in service: 30 minutes;
(ii) All other engines: 15 minutes.
(c) Section E(2) and (3) of this regulation do not apply while maintenance, repair, or testing is being performed by qualified mechanics."
- (f) COMAR 26.11.09.07A, Sulfur Content Limitations for Fuel. "A person may not burn, sell, or make available for sale any fuel with a

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sulfur content by weight in excess of or which otherwise exceeds the following limitations: (2) In Areas III and IV: (b) Distillate fuel oils, 0.3 percent."

Note: The Permittee will demonstrate compliance with this requirement by demonstrating compliance with 40 CFR §60.4207(b) and 40 CFR §80.510(b) - maximum sulfur content -15 ppm.

- (g) COMAR 26.11.09.08G(1), Requirements for Fuel-Burning Equipment with a Capacity Factor of 15 Percent or Less, and Combustion Turbines with a Capacity Factor Greater than 15 Percent. "A person who owns or operates fuel-burning equipment with a capacity factor (as defined in 40 CFR Part 72.2) of 15 percent or less shall:
 - (a) Provide certification of the capacity factor of the equipment to the Department in writing;
 - (b) For fuel-burning equipment that operates more than 500 hours during a calendar year, perform a combustion analysis and optimize combustion at least once annually;
 - (c) Maintain the results of the combustion analysis at the site for at least 2 years and make these results available to the Department and the EPA upon request;
 - (d) Require each operator of an installation, except combustion turbines, to attend operator training programs at least once every 3 years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors; and
 - (e) Maintain a record of training program attendance for each operator at the site, and make these records available to the Department upon request."

- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
 - (a) COMAR 26.11.02.19C, Information Required to be Maintained by a Source.
 - (1) "Beginning January 1, 1994, the owner or operator of a source for which a permit to operate is required shall maintain records necessary to support the emission certification, including the following information:
 - (a) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;
 - (b) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;
 - (c) Amounts, types, and analyses of all fuels used;

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- (d) Emission data from continuous emission monitors that are required by this subtitle or EPA regulations, including monitor calibration and malfunction information;
 - (e) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment, including significant maintenance performed, malfunctions and downtime, and episodes of reduced efficiency of this equipment;
 - (f) Limitations on source operation or any work practice standards that significantly affect emissions; and
 - (g) Other relevant information as required by the Department."
- (2) "The logs and other records of information required by §C(1) of this regulation shall be retained for a period of 5 years and made available to the Department upon request."
- (3) "If the owner or operator of a source for which a permit to operate is required fails to maintain or provide the data required by this section, which the Department requests in order to verify the emissions during the previous calendar year, the annual emission-based fee for that source shall be based on the estimated allowable emissions, as defined in COMAR 26.11.01.01B(4), of that source, as determined by the Department."
- (b) COMAR 26.11.02.19D, Emission Certification.
- (1) "Beginning January 1, 1994, the responsible official designated by the owner or operator of a source for which a permit to operate is required shall certify, as provided at Regulation .02F of this chapter, the actual emissions of regulated air pollutants from all installations at the plant or facility."
 - (2) "Certification shall be on a form obtained from the Department and shall be submitted to the Department not later than April 1 of the year following the year for which certification is required."
 - (3) "An emission certification submitted pursuant to this section and which contains all information required by COMAR 26.11.01.05-1, for NOx and VOC, satisfies the requirements of COMAR 26.11.01.05-1."
- (c) COMAR 26.11.06.08, Nuisance. "An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."
- (d) COMAR 26.11.06.09, Odors. "A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

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- (e) COMAR 26.11.36.03A(1), Applicability and General Requirements for Emergency Generators and Load Shaving Units. "The owner or operator of an emergency generator may not operate the generator except for emergencies, testing, and maintenance purposes."
- (f) COMAR 26.11.36.03A(4), Applicability and General Requirements for Emergency Generators and Load Shaving Units. "The owner or operator of an emergency generator or load shaving unit may be subject to the federal standards for stationary internal combustion engines under 40 CFR Parts 60 and 63."
- (g) COMAR 26.11.36.03A(5), Applicability and General Requirements for Emergency Generators and Load Shaving Units. "The owner or operator of an emergency generator or load shaving unit may not operate the engine for testing and engine maintenance purposes between 12:01 a.m. and 2:00 p.m. on any day on which the Department forecasts that the air quality will be a code orange, code red, or code purple unless the engine fails a test and engine maintenance and a re-test are necessary."

Part C – Construction Conditions

- (1) Except as otherwise provided in this part, the diesel fired generator rated at 1,341 HP (1,000 kW) for emergency purposes shall be constructed in accordance with specifications included in the incorporated applications.
- (2) The generator shall be model year 2007 or later. **[Reference: 40 CFR §60.4208(a)]**
- (3) The generator shall have a displacement of less than 10 liters per cylinder.
- (4) The Permittee must install and operate a non-resettable hourly time meter on the engine. **[Reference: 40 CFR §60.4209(a)]**

Part D – Operating Conditions

- (1) Except as otherwise provided in this part, the diesel fired generator rated at 1,341 HP (1,000 kW) for emergency purposes shall be operated in accordance with specifications included in the application and any operating procedures recommended by equipment vendors unless the Permittee obtains from the Department written authorization for alternative operating procedures.

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- (2) The generator must be diesel fired.
 - (3) The Permittee must operate and maintain the stationary compression ignition internal combustion engine in a manner that achieves the emission standards. **[Reference: 40 CFR §60.4206]**
 - (4) The Permittee must meet the non-road diesel fuel sulfur requirements of 40 CFR §80.510(b) as follows:
 - (a) Maximum sulfur content 15 ppm and
 - (b) Minimum cetane index of 40; or
 - (c) Maximum aromatic content of 35 volume percent.
[Reference: 40 CFR §60.4207(b) and §80.510(b)]
 - (5) The Permittee must operate and maintain the stationary compression ignition internal combustion engines and control devices according to the manufacturer's emission related written instruction. **[Reference: 40 CFR §60.4211(a)(1)]**
 - (6) The Permittee may change only those emission related settings that are permitted by the manufacturer. **[Reference: 40 CFR §60.4211(a)(2)]**
 - (7) The Permittee must purchase an engine certified to the emission standards in 40 CFR §60.4204(b). The engine must be installed and configured according to the manufacturer's emissions related specifications. **[Reference: 40 CFR §60.4211(c)]**
 - (8) The Permittee must meet the following emissions requirements:
 - (a) NMHC + NO_x: 6.4 grams per kilowatt hour (g/kW hr)
 - (b) CO: 3.5 g/kW hr
 - (c) PM: 0.2 g/kW hr
[Reference 40 CFR §60.4205(b), §60.4202(a)(2), §89.112(a), and 40 CFR §89.112(a), Table 1]
- Note:** Compliance with this condition will be demonstrated by the purchase of a certified engine and operating that engine as required under Part D, Condition 7 of this permit.
- (9) The Permittee must not exceed the following opacity emission standards:
 - (a) 20 percent during the acceleration mode;

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- (b) 15 percent during the lugging mode; and
- (c) 50 percent during the peaks in either the acceleration or lugging modes.
[Reference: 40 CFR §60.4205(b), §60.4202(a)(2), and §89.113(a)]

Note: Compliance with this condition will be demonstrated by the purchase of a certified engine and operating that engine as required under Part D, Condition 7 of this permit.

- (10) In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and emergency demand response is prohibited. If you do not operate the engine according to these requirements, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. The Permittee must operate the emergency stationary ICE according to the following requirements:
 - (a) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (b) The Permittee may operate the emergency stationary ICE for any combination of the purposes specified below for a maximum of 100 hours per calendar year.
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee 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 calendar year.
 - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.