



**PERMIT APPLICATION FOR STATIONARY INTERNAL COMBUSTION ENGINES
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION**

**INSTRUCTIONS FOR COMPLETION OF
PERMIT APPLICATION FOR STATIONARY INTERNAL COMBUSTION ENGINES
ADEM FORM 107**

All applicable portions of this form should be completed by printing or typing. When any item is not applicable, the letters "NA" should be placed in the left margin beside the item.

- Item 1: Self-explanatory
- Item 2: In addition to selecting the purpose of the application, you must provide (1) the date the facility plans to commence construction if the application is for the installation or modification of an engine, and/or (2) the date the engine was first installed at this location if the application is for an engine that is currently installed at the facility.
- Items 3A, 3B, & 3C: Self-explanatory
- Item 3D: Provide the name or number used to identify this engine in facility records and by facility employees. Examples include: Generator No. 1; Mainline Unit No. 12; Compressor Engine No. 7.
- Item 3E: Self explanatory. Please note, if the serial number is not known at the time the application is submitted, you should provide the serial number to the Air Division upon completion of installation of the engine
- Item 4A: If the proposed engine is a new (unused) engine, you must provide the date the engine was ordered from the manufacturer. This date is needed to determine applicability under certain federal regulations. If the proposed engine is used, leave this field blank.
- Item 4B: Self explanatory. However, if the engine has been/will be ordered from a manufacturer, you may enter "Unknown" if the Date of Manufacture is not known or the engine has not been manufactured yet. You should provide the Date of Manufacture to the Air Division upon completion of installation of the engine.
- Item 4C: Provide the date the engine was modified or reconstructed as defined in Subpart A of either 40 CFR Part 60 or 63, as applicable
- Item 4D: You must only provide this information if the application is for the installation of a used engine. Applicability under federal NSPS and NESHAP regulations is not affected by moving an engine from one location to another. To correctly determine applicability, it is important to know when an engine was first placed into service.
- Item 5: Self explanatory. For engines generating electricity, please also provide the maximum electrical output and specify the units, either in kilowatts (kWe) or megawatts (MWe).
- Item 6: Self-explanatory
- Items 7A, 7B, & 7C: For a reciprocating engine, please provide the engine power rating in both brake horsepower and mechanical kilowatts (1 bhp = 0.746 kWm). If the engine drives an electrical generator do not use the electrical kilowatt rating for the generator as the rating for the engine. For a combustion turbine, you only need to provide the heat input (MMBtu/hr) unless the emission factors used to calculate the potential emission are based on brake horsepower (bhp). If so, you must also provide the brake horsepower of the turbine. If an alternative UOM is needed, please provide additional documentation.
- Items 7D-7G: Self-explanatory
- Item 7H: Please note that the cylinder displacement is needed for an individual cylinder for applicability purposes. You should divide the total engine displacement by the number of cylinders. If the cylinder displacement (volume) is in units of cubic inches, it can be converted by dividing the number of cubic inches for one cylinder by 61.02 (i.e. 1 liter=61.02 cubic inches).
- Item 8: This section should only be completed if applicable.
- Items 9 & 10: Self-explanatory; emissions should be based on emission tests, manufacturers' design, approved emission factors, etc. ¹Potential emissions should be calculated based on 8,760 hr/yr and maximum operation unless an enforceable limit will be applicable. ²If the pollutant is uncontrolled, leave blank.
- Item 11: Mark all federal regulations under which the engine is an AFFECTED SOURCE, regardless of whether the engine has any applicable emission standards or work/management practice requirements
- Items 12-14: Self-explanatory
- Item 15: Stack type may be a stack with an unobstructed opening discharging in a vertical, or nearly vertical direction (V), A vertical stack with a weather cap or similar obstruction in the exhaust stream (W), A building roof vent or bin vent (R), A stack discharging in a horizontal, or nearly horizontal direction (H), A stack discharging downward, or nearly downward (D), An area or volume source not considered a fugitive (A), A process vent, not otherwise classified (P) or Fugitive emissions where no stack exists (F). Stack height is that above ground level. GEP Stack Height, which means Good Engineering Practice (GEP) stack height as defined in ADEM Administrative Code r. 335 3 14 .03(2)(a)5, 335 3 15 .02(9)(a)5, or 335 3 16 .02(10)(a)5, as applicable, should only be used if the stack is 65 meters measured from ground level elevation at the base of the stack and a GEP analysis has been performed or if the stack is a grandfathered stack, thus yielding a GEP stack height equivalent to "Height above grade." UTM Coordinates, which means Universal Transverse Mercator Coordinates, for Alabama, N-S is between 3337.000km-3875.000km and E-W is between 362.000km-709.000km; Zone 16. UTM coordinates should be provided for the specified stack. Standard temperature is 68°F; standard pressure is 29.92 inches of Hg. Volume of gas discharged can be calculated with the gas velocity (FPS) and stack diameter (Ft).
- Item 16: This area is for you to provide any information that you wish to provide to supplement this application. If the information is providing clarification for a specific Item in the form, please indicate which Item the information is clarifying or supplementing



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Grid of empty boxes for identification numbers.

Do not write in this space

Main application form with sections 1-7: Name of facility, Purpose of Application, Engine Identification, Engine Applicability Dates, Engine Function, Engine Operation, and Engine Specifications.

8. Compressor Specifications:

A. Compressor Type _____ B. Compressor Mfg. Date _____ C. Location on well? Yes No
 D. Compressor Instal. Date: _____ E. Compressor Serial No.: _____ F. Compressor Brake Horsepower (bhp): _____

9. Fuel Information:

	Fuel Type/ Desc.	Heat Content	Sulfur Content (% by weight or ppm)	Fuel-Bound Nitrogen Content (% by weight or ppm)	% of Gross Heat Input	Max Ash %	Used Oil Supplier
Primary							
Secondary/ Backup							

10. Point Source Emissions:

POLLUTANT	UNCONTROLLED ¹ POTENTIAL EMISSIONS		CONTROLLED ² POTENTIAL EMISSIONS		BASIS OF CALCULATION	REGULATORY EMISSION LIMIT Provide in lb/hr or specify alternative Unit of Measure
	lb/hr	ton/yr	lb/hr	ton/yr		
Total Particulate						
PM-10 Filterable						
PM-2.5 Filterable						
PM-Condensable						
Sulfur dioxide						
Nitrogen oxides						
Carbon monoxide						
VOC's						

Attach calculation worksheets. Manufacturer specification sheets should be provided if used as the basis for emission estimates. Particulate emissions should be speciated to include PM10-filterable, PM2.5-filterable, and PM-condensable. Speciated HAP emissions should also be provided. Attach additional page(s) as necessary.

11. Applicable Regulations:

- 40 CFR 63, Subpart YYYY, NESHAP for Stat. Combustion Turbines
- 40 CFR 60, Subpart GG, NSPS for Stationary Gas Turbines
- 40 CFR 60, Subpart KKKK, NSPS for Stat. Combustion. Turbines
- 40 CFR 60, Subpart OOOO/OOOOa
- 40 CFR 63, Subpart ZZZZ, NESHAP for Stat. RICE
- 40 CFR 60, Subpart IIII, NSPS for Stat. Compression Ignition ICE
- 40 CFR 60, Subpart JJJJ, NSPS for Stat. Spark Ignition ICE
- Other: _____

Does this unit have an EPA Certificate of Conformity? Yes No if yes, please provide: _____

12. Regulatory Standards, Limitations, and Requirements:

Pollutant/Parameter	Rate/Value	Units of Standard	Regulatory Basis ³	Engine Potential Emission Rate (in units of standard)
<i>Example: NOx + NMHC</i>	<i>6.4</i>	<i>g/kW-hr</i>	<i>NSPS, Subpart IIII</i>	<i>4.95 g/kW-hr</i>
<i>Example: Annual Operation</i>	<i>6,000</i>	<i>hr/yr</i>	<i>SMS-PSD</i>	<i>NA</i>

3. for federal regulations, specify which NSPS or NESHAP is the basis. If a synthetic minor limit, specify either SMS-PSD or SMS- Title V

B. For engines subject to emission standards under NSPS, Subpart IIII or NSPS, Subpart JJJJ, is this engine certified by the manufacturer pursuant to the applicable regulation to meet the applicable emission standards?
 N/A Yes No
 (if yes, provide a copy of the certification)

C. For emergency or limited use engines, is this engine equipped with a non-resettable hour meter? Yes No

13. Pollution Control Information:

A. Device/Technology Type(s)

- No Controls
- Air-to-Fuel Ratio Controller
- Water or Steam Injection
- Low NOX Burners
- Oxidation Catalyst
- Selective Non-catalytic Reduction(SNCR)
- Non-selective Catalytic Reduction (NSCR/3-way Catalyst)
- Selective Catalytic Reduction (SCR)
- Diesel Particulate Filter
- Other _____
- Other _____

B. Control Efficiencies

Pollutant	% Reduction
NO _x	
CO	
VOC	
Formaldehyde	

C. Operational Parameters (if any):

14. Compliance Status:

Is this item in compliance with all applicable air pollution rules and regulations?

- Yes No (if "no", a compliance schedule, ADEM Form 437, must be attached.)

