

EMISSION SOURCE (Internal Combustion Engines) Instructions for Form B2-G

Form B2-G should be completed for all generators. Make as many copies of the form as necessary. Attach all calculations and assumptions used in determining the numbers entered on this form.

Note: An **EMISSION SOURCE** is defined as any stationary article, machine, process equipment, or other contrivance, or combination thereof, from which air pollutants are emitted, either directly or indirectly. Groups of equipment that are interconnected as a single continuous process can be labeled as a single emission source (e.g., a chain of reaction vessels).

PRIMARY OR ALTERNATIVE OPERATING SCENARIO – A B2-G form must be submitted for each scenario that the emission source may operate under. In addition to operating under a primary operating scenario, an emission source may operate under one or more alternative operating scenarios. Examples of operating scenarios are as follows:

1. For boilers that combust different types of fuels, the combustion of each fuel is classified as an operating scenario. Many boilers combust both natural gas and No. 6 fuel oil. Each of these fuels constitutes a separate operating scenario.
2. For reaction vessels that produce different products from different formulations, production of each product is classified as an operating scenario.
3. For a storage silo that stores different materials, the storage of each material is classified as an operating scenario.
4. For control devices that are used to control emissions from different emission streams at separate times, each emission stream that is controlled is classified as an operating scenario.
5. A spray booth may coat wood furniture and be subject to MCAPCO Regulation 2.0958, but it may also coat metal furniture and be subject to NSPS Subpart EE.

Note: Some emission sources that emit volatile organic compounds (VOCs) are considered unique in that only the product/solvent formulations that produce the worst-case VOC emissions need to be included in the permit application even though different solvents will be utilized at the emission source.

PRIMARY OPERATING SCENARIO - Select this scenario if information is being entered for the conditions under which the emission source operates the majority of the time. A separate B2-G form must be completed for each scenario.

ALTERNATIVE OPERATING SCENARIO - Select this scenario if information is being entered for any secondary conditions under which the emission source operates.

AOS # (Alternative Operating Scenario ID No.) – Include a unique ID No. for each alternative operating scenario. A separate B2-G form must be completed for each scenario.

EMISSION SOURCE DESCRIPTION – Describe each emission source for which application is made. Emission source is defined as any stationary article, machine, process equipment, or other contrivance, or combination thereof, from which air pollutants emanate or are emitted, either directly or indirectly. Groups of equipment that are interconnected as a single continuous process can be labeled a single emission source (e.g., a chain of reaction vessels). However, this description should specify the number of individual pieces of equipment that make up this emission source.

EMISSION SOURCE ID No. - Enter the emission source ID No. for the emission source being described on this form. Fugitive emissions must also be assigned an ID No. (i.e., valves, pumps, compressors = ID No. F195).

Note: The choice of ID Nos. is at the discretion of the applicant. It is recommended that each emission source ID No. start with ES___, control device ID No. CD___ and emission point ID No. EP___.

CONTROL DEVICE ID No. - Enter the ID No. for the control device associated with this emission source. For multiple control devices on the same emission source, list in series according to the exhaust air stream direction (i.e., from the emission source to the final emission point). For different emission sources with a common control device, use the same control device ID No. for each emission source.

MANUFACTURER - Enter the manufacturer of the emission source.

MODEL No. - Enter the model number of the emission source as defined by the manufacturer. If the source was custom designed, a PE seal may be required pursuant to MCAPCO 1.5233.

RELEASE POINT TYPE – Enter or select one of the following stack/emission point release orientation: downward

facing vent, fugitive, goose neck, horizontal, vertical or vertical with rain cap.

HEIGHT – Enter the height of the stack in units of feet.

INSIDE DIAMETER – Enter the inside diameter of the stack in units of feet.

EMISSION POINT (Stack) ID No. - Enter the ID No. for the emission point (e.g., stack, vent, etc.) associated with this emission source. Emission sources with a common emission point will have the same emission point ID No. For fugitive emissions enter "FUGITIVE".

FENCE LINE DISTANCE – Enter the distance to the fence line of the property

X-Coordinate – Enter the latitude coordinates

Y-Coordinate – Enter the longitude coordinates

EXIT GAS TEMPERATURE – Enter the temperature of the gas exiting the stack in degrees Fahrenheit (°F).

EXIT GAS FLOW RATE – Enter the flow rate of the gas exiting the stack in cubic feet per min (cfm).

EXIT GAS VELOCITY – Enter the velocity of the gas exiting the stack in feet per seconds (ft/s).

SAMPLING PORTS, COMPLIANT WITH EPA METHOD 1 – Answer Yes or No. Additional information about EPA Method 1 can be found at the following website <http://www.epa.gov/ttn/emc/>

GENERATOR USAGE - Check the appropriate usage for the generator being permitted:

Emergency Power Generator – Select if the intended usage is when electric power is not available from the normal service provider. This category only is applicable if the generator will be used less than 500 hours per year.

Electrical Power Generator – Select if this will be the primary source of electricity, or if the generator will be used to provide electricity at least 500 hours per year.

Peak Shaver – Select if this generator will be used when you are notified by the normal service provider that you must activate your back-up power supply. This is applicable to customers who participate in the applicable "Rider": such as "Stand-by Generator Control" and "Interruptible Power Service".

Portable Equipment – Select if this generator (internal combustion engine) is used to power portable equipment other than the engine that makes this a licensed motor vehicle.

Space Heat - Source is used to produce heat for comfort or to maintain facility temperature above freezing.

Other – Describe emission source

Complete both the rated horsepower and kilowatt. These should be the peaks; however, you can request a limit such that you will not load the generator to its peak capacity.

GENERATOR OUTPUT (kW) - is the amount of electrical energy that can be produced.

ENGINE OUTPUT (BHP) - is the quantity of mechanical energy used (brake horse power).

ANTICIPATED ACTUAL HOURS OF OPERATION AS PEAK SHAVER (Hrs/Yr) – Enter the actual number of hours the emission source will be operated as a peak shaver generator.

TYPE OF INTERNAL COMBUSTION ENGINE – Select the appropriate fuel firing mechanism.

ENGINE TYPE – Select the applicable fuel burning type.

NUMBER OF CYLINDERS – Select the number of cylinders

EMISSION REDUCTION MODIFICATIONS – Select or list the applicable type of reduction used to reduce the engine's emissions.

STATIONARY GAS TURBINE

FUEL – Select or list the applicable fuel used by the turbine

CYCLE – Select the appropriate cycle mechanism

CONTROLS – Select the type of control device used to control emission.

FUEL USAGE (INCLUDE STARTUP FUEL) -

FUEL TYPE - List the fuel to be combusted and the startup fuel.

UNITS - List fuel units for the amounts listed (e.g., pounds, tons, gallons, cubic feet, etc.).

MAXIMUM DESIGN CAPACITY (UNIT/HR) - List the maximum amount of fuel capable of being burned per hour.

FUEL CHARACTERISTICS (COMPLETE ALL THAT ARE APPLICABLE) -

BTU CONTENT - List heat content of fuel expressed in Btu.

UNITS - List units for applicable fuel type (e.g., Btu per gallon-oil, Btu per pound-coal, Btu per cubic foot-natural gas).

SULFUR CONTENT (% BY WEIGHT) - Enter the sulfur content of both the start-up and operating fuel expressed as a percentage. *Note: Attach a Fuel Supplier Certification for this information.*

ASH CONTENT (% BY WEIGHT) - Enter the ash content of both the start-up and operating fuel expressed as a percentage.

DESCRIBE FUEL BURNING EQUIPMENT - If fuel is consumed in the process, describe the fuel burning equipment (i.e., dryer, oven, process heater, etc.).

DIRECT-FIRED OR INDIRECT-FIRED - Select Direct-Fired if the material being heated comes in contact with and/or adds substance to the products of combustion. Select Indirect-Fired if the material being heated is not contacted by and adds no substance to the products of combustion.

MANUFACTURER'S SPECIFIC EMISSION FACTOR – Provide the manufacturer's emission factor for each of the specified pollutants, their respective units of emission and a copy of the supplied information (*if available*).

REGULATORY ANALYSIS -

1. **FEDERAL REGULATIONS** -

a. Determine applicability or inapplicability of the emission source to each listed federal regulation. Provide explanation of determination.

Title V (MCAPCO 1.5500, 40 CFR 70)

NSPS = New Source Performance Standards (40 CFR 60, Specify Subpart)

NESHAP = National Emission Standards for Hazardous Air Pollutants (MCAPCO 2.1110, 40 CFR 61)

MACT/GACT = Maximum Achievable/Generally Available Control Technology (40 CFR 63, Specify Subpart)

PSD = Prevention of Significant Deterioration, Attainment Area (MCAPCO 2.0530, 40 CFR 51)

NSR = New Source Review, Non-attainment Area (MCAPCO 2.0531, 40 CFR 51)

b. List all other applicable federal regulations. Provide explanation of determination.

2. **LOCAL REGULATIONS** - List all applicable local regulations, including but not limited to MCAPCO Sections 2.0900, 1.5700, 2.0500, and 2.1100. Provide explanation of determination.

LIMIT(S) REQUEST - List all locally and federally enforceable permit limits and/or any additional limits that currently exist or are requested by this application. By requesting a permit limit (i.e., hours of operation, material usage rates, emission rates) a facility may avoid applicability to certain regulations (i.e., Title V, Prevention of Significant Deterioration, etc.). List the motivating regulation for which applicability is to be avoided. Describe how these limits are or will be monitored and at what frequency.

SECTION B

EMISSION SOURCE (INTERNAL COMBUSTION ENGINES/GENERATORS)

B2-G

Operating Scenario: <input type="checkbox"/> Primary Operating Scenario <input type="checkbox"/> Alternative Operating Scenario		AOS #:					
Emission Source Description:		Emission Source ID No.:					
		Control Device ID No.:					
Manufacturer:		Model No.:					
STACK PARAMETERS							
Release Point Type:	Height:	Inside Diameter:	Emission Point (Stack) ID No.:				
Fence Line Distance:	X-Coordinate:	Y-Coordinate:					
Exit Gas Temperature:	Exit Gas Flow Rate:		Exit Gas Velocity:				
Sampling Ports, Compliant With EPA Method 1 Will Be Installed On The Stacks: <input type="checkbox"/> Yes <input type="checkbox"/> No							
PROCESS DESCRIPTION							
Generator Usage (check all that apply):							
<input type="checkbox"/> Emergency <input type="checkbox"/> Electrical Generation <input type="checkbox"/> Peak Shaver <input type="checkbox"/> Portable Equipment <input type="checkbox"/> Space Heat <input type="checkbox"/> Other (Describe):							
Generator Output (kW):		Engine Output (BHP):					
Anticipated Actual Hours of Operation as Peak Shaver (Hrs/Yr):							
TYPE OF INTERNAL COMBUSTION ENGINE							
<input type="checkbox"/> Diesel Engine <input type="checkbox"/> Natural Gas <input type="checkbox"/> LP Gas Engine <input type="checkbox"/> Gasoline Engine <input type="checkbox"/> Other (Describe):							
Engine Type: <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn		Number of Cylinders: <input type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> 6					
Emission Reduction Modifications: <input type="checkbox"/> Injection Timing Retardation <input type="checkbox"/> Pre-ignition Chamber Combustion <input type="checkbox"/> Other:							
STATIONARY GAS TURBINE							
Fuel: <input type="checkbox"/> Natural Gas <input type="checkbox"/> Oil <input type="checkbox"/> Other: Cycle: <input type="checkbox"/> Cogeneration <input type="checkbox"/> Combined <input type="checkbox"/> Regenerative <input type="checkbox"/> Simple Controls: <input type="checkbox"/> Lean-Premix <input type="checkbox"/> Uncontrolled <input type="checkbox"/> Water-Steam Injection							
FUEL USAGE (include start-up/back-up fuel)							
Fuel Type	Units	Maximum Design Capacity (Unit/Hr)	BTU Content	Units	Sulfur Content (% By Weight)	Ash Content (% By Weight)	
Describe Fuel Burning Equipment:			Is The Fuel Burning Equipment: <input type="checkbox"/> Direct-Fired <input type="checkbox"/> Indirect-Fired				
MANUFACTURER'S SPECIFIC EMISSION FACTORS (if available)							
Pollutant	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	Other:
Emission Factor lb/Unit							
Unit							
Comments:							

SECTION B

B2-G

EMISSION SOURCE (INTERNAL COMBUSTION ENGINES/GENERATORS)

REGULATORY ANALYSIS:

Identify all federal and local (MCAPCO) regulations (including, but not limited to, the six regulations already listed below) to which the process may be subject, and provide an explanation of applicability.

Regulation Name (MCAPCO & CFR citations, as applicable)		Applicable?		Explanation of Applicability (provide an explanation of applicability or inapplicability)
Examples:	MCAPCO Reg. 2.0515 – “Particles from Miscellaneous Industrial Processes”	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	This regulation is applicable to this particulate emission source (no other particulate emission standards apply).
	MCAPCO Reg. 2.0958 – “Work Practices for Sources of Volatile Organic Compounds”	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	This regulation is applicable to this volatile organic compound emission source (no NSPS, NESHAP, MACT/GACT, RACT, or other volatile organic compound emission standards apply).

Federal Regulations:

Title V	MCAPCO Section 1.5500, 40 CFR 70	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
NSPS	40 CFR 60 (specify Subpart)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Subpart:
NESHAP	MCAPCO Reg. 2.1110, 40 CFR 61	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MACT/GACT	40 CFR 63 (specify Subpart)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Subpart:
PSD	MCAPCO Reg. 2.0530, 40 CFR 51	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
NSR	MCAPCO Reg. 2.0531, 40 CFR 51	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Local Regulations:

MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
MCAPCO Reg.	-	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

LIMIT(S) REQUEST:

Indicate all existing and requested local and federally enforceable limits (e.g., hours of operation, material usage, emission rates, etc.) and describe how these limits are or will be monitored and at what frequency).

Existing or Requested Limit	Motivating Regulation	Monitoring Method (parameters, method, frequency)

Comments: