EMISSION SOURCE (Incinerator) Instructions for Form B3

Form B3 should be completed for each incinerator on site. 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 Section B3 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 B3 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 B3 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. (e.g., 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/

TYPE OF INCINERATOR - Select all that apply from the choices on the application form or specify the type of incinerator if not listed.

PRIMARY & SECONDARY CHAMBER – Complete the following sections for each chamber

MAX. FIRING RATE (MMBtu/Hr) - Enter the maximum rated heat input to the burner in million Btu/hour.

MINIMUM OPERATING TEMPERATURE (F) - Enter the minimum operating temperature in degree Fahrenheit.

MINIMUM RETENTION TIME - Enter the minimum amount of time (seconds) the gas stream remains in the chamber. This can be calculated by dividing the volume of the chamber (cubic feet) by the air flow rate (cubic feet/minute) then multiplying this by 60 sec/minute.

CHAMBER VOLUME (Ft^3) – Enter the volume of the chamber in cubic feet.

GAS FLOW RATE (Ft^3/Sec) – Enter the volumetric gas flow rate in cubic feet per second.

AIR DISTRIBUSTION:

OVERFIRED - Overfired air is usually applied above the burning bed and is directed through openings in the charging door or incinerator walls.

UNDERFIRED Underfired air is usually directed through air inlets located near the floor or hearth of primary chamber.

EXCESS AIR - The amount of air provided in excess of that ideally required for complete combustion expressed in percent.

AIR FLOW ENTERING UNIT - Enter the volumetric flow rate of ambient air that is introduced into the incinerator.

TYPE OF CHARGING - Specify the method of charging the waste to the incinerator (e.g., manual, automatic charge, continuous).

QUANTITY WASTE BURNED

HOURLY CHARGE RATE - Enter the actual rate of material being charged in lb/hour during normal operation.

DESIGNED MAXIMUM - List the maximum hourly charge rate that you propose to operate this source. Keep in mind that the operation will be limited by permit condition to this amount and recordkeeping and reporting requirements may be required.

ANNUAL CHARGE RATE - List the actual yearly amount that is typically burned during normal operation in tons per year.

DESIGNED MAXIMUM - List the maximum yearly amount that you propose to operate this source. Keep in mind that the operation will be limited by permit condition to this amount and recordkeeping and reporting requirements may be required.

WASTE COMPOSITION

AVERAGE (BTU/LB) - Enter the average Btu content of the material charged per pound.

AVERAGE PERCENT MOISTURE CONTENT - Enter the average moisture content of material combusted as charged.

WASTE TYPE - List each type of waste that is incinerated (e.g., office paper, body parts, red bag, animal parts).

% BY WT. - Specify the percent by weight of each waste type burned. This should correspond to the worst case percentage for each waste type for any single charge. The total percentage could therefore be greater than 100% of the maximum design capacity.

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.

ATTACH THE FOLLOWING DOCUMENTATION -

1. Startup and maintenance procedures
2. Description of automatic and manual controls
3. Incinerator schematic diagram
4. Manufacturer's literature / specifications
5. RCRA applicability
6. Description of monitoring devices, gauges, test ports, etc.

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 (e.g., hours of operation, material usage rates, emission rates) a facility may avoid applicability to certain regulations (e.g., 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 (INCINERATION)

B3

Operating Scenario: ☐ Primary Operating Scenario ☐ 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: ☐ Yes ☐ No			

PROCESS DESCRIPTION

Type:
- ☐ Conical
- ☐ Crematory
- ☐ Hazardous Waste
- ☐ Other (Describe):
- ☐ Municipal Waste
- ☐ Sewage Sludge
- ☐ Other Sludge
- ☐ Hospital, Medical, or Infectious Waste (HMIWIs)

Unit	**Primary Chamber**	**Secondary Chamber**	Air Distribution	☐ Overfired / ☐ Underfired
Max. Firing Rate (MMBtu/Hr)				
Min. Operating Temp. (F)			Excess Air (%)	
Min. Residence Time (Sec)			Air Flow Entering Unit (ACFM)	
Chamber Volume (FT^3)			Type of Charging	
Gas Flow Rate (FT^3/Sec)				

Quantity Waste Burned	Hourly Charge Rate (lb/hr)		Annual Charge Rate (tons/yr)	
	Designed Maximum (lb/hr)		Designed Maximum (tons/yr)	
Waste Composition	Average (Btu/lb)		Average % Moisture Content	

Waste Type	%By WT.	Waste Type	%By WT.	Waste Type	%By WT.

FUEL USAGE (Include Start-up Fuels)

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: ☐ Direct-Fired ☐ Indirect-Fired

Attach The Following to The Application (Check If Enclosed):
- ☐ Start-up Procedures
- ☐ Maintenance Procedures
- ☐ All Manufacturing Literature/Specifications
- ☐ Summary of RCRA Applicability
- ☐ Description of Automatic & Manual Controls
- ☐ Schematic of Incinerator
- ☐ Describe All Monitoring Devices, Gauges, Test Ports, Etc.
- ☐ Comments

Comments:

Attach Additional Sheets As Necessary

EMISSION SOURCE (INCINERATION)

B3

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"	☒ Yes	☐ 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"	☒ Yes	☐ 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	☐ Yes	☐ No	
NSPS	40 CFR 60 (specify Subpart)	☐ Yes	☐ No	Subpart:
NESHAP	MCAPCO Reg. 2.1110, 40 CFR 61	☐ Yes	☐ No	
MACT/GACT	40 CFR 63 (specify Subpart)	☐ Yes	☐ No	Subpart:
PSD	MCAPCO Reg. 2.0530, 40 CFR 51	☐ Yes	☐ No	
NSR	MCAPCO Reg. 2.0531, 40 CFR 51	☐ Yes	☐ No	
		☐ Yes	☐ No	
		☐ Yes	☐ No	
		☐ Yes	☐ No	
		☐ Yes	☐ No	
		☐ Yes	☐ No	
Local Regulations:				
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ No	
MCAPCO Reg.	-	☐ Yes	☐ 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: