

AQD - Construction Permit Application

Emission Unit (EU) Information

- *Instructions that will assist in the completion of the permit application are on the reverse side*

(1) COMPANY NAME

Legal Name:

EMISSION UNIT DESCRIPTION AND SPECIFICATIONS

(1) Emission Unit (EU) Name:	(2) EU Identification Number:	(3) Date of Construction:
(4) Manufacturer:	(5) Model:	(6) Date of Modification (if applicable):
(7) Maximum Capacity:	(8) SCC Code (if known):	(9) Control Equipment (CE) Name (if any):
(10) Control Equipment Identification # (if any):		

(11) Are you requesting any permit limits?

No

Yes If yes, write down all that apply:

(a) Hourly limits: _____

(b) Production limits: _____

(c) Material usage limits: _____

(d) Other: _____

Rationale for requesting the limit(s):

12) Provide a description and a drawing to show quantitatively how product or material flows through this emission unit. Include product input and output, fuel throughput, and any parameters which impact air emissions. If space below is insufficient, attach a separate sheet.

AQD - Construction Permit Application
Control Equipment (CE) and Stack/Vent Information

- *Instructions that will assist in the completion of the permit application are on the reverse side*

(1) COMPANY NAME

Legal Name:

CONTROL EQUIPMENT (CE) DESCRIPTION AND SPECIFICATIONS

(1) Control Equipment (CE) Name and Description:

- | | | |
|-----------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|
| <input type="checkbox"/> Not Applicable | <input type="checkbox"/> Condensers | <input type="checkbox"/> Adsorbers |
| <input type="checkbox"/> Dry Filters | <input type="checkbox"/> Catalytic or Thermal Oxidation | <input type="checkbox"/> Cyclones/Settling Chambers |
| | <input type="checkbox"/> Electrostatic Precipitators | <input type="checkbox"/> Wet Collection Systems |
| | <input type="checkbox"/> Baghouses/Fabric Filters | <input type="checkbox"/> Other/Miscellaneous, provide a description: |

(2) Control Equipment (CE) Identification #:	(3) Date of Installation:	(4) Manufacturer:
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(5) Model:	(6) Date of Modification (if any):
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(7) Is operating schedule different than emission unit(s) controlled? No Yes If yes, specify the schedule:

8) Capture Hood Involved? <input type="checkbox"/> No <input type="checkbox"/> Yes	(9) Capture Efficiency	(10) Emission Units (EU(s)) Controlled:
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CONTROL EQUIPMENT (CE) & STACK TEST SUPPORTING DOCUMENTATION

(11) Control efficiency supporting document attached: Manufacturer's design specifications and performance data/guarantee
 Stack test report

Pollutant Controlled	
Control Efficiency %	

12) If manufacturer's data is not available, use space below or attach a separate sheet to provide the control equipment design specifications and performance data to support the above-mentioned control efficiency.

EMISSION POINT (EP) STACK/VENT SPECIFICATIONS

(13) Emission Point (EP) (Stack/Vent) Identification #:	(14) Height above ground: () feet	(15) <input type="checkbox"/> circular stack, diameter is () inches <input type="checkbox"/> other, size is () inches x inches
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(16) Discharge style: VR (Vertical, with obstructing rain cap)
 V (Vertical, with unobstructing rain cap or without rain cap)
 D (Downward discharge)
 H (Horizontal discharge)
 O (Other, please specify _____)

EXHAUST INFORMATION

17) Rated Flow Rate (<input type="checkbox"/> acfm <input type="checkbox"/> scfm):	(18) Moisture Content % (if known):	(19) Exit Temperature (°F):
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SUMMARY OF EMISSIONS FROM EMISSION POINT (EP)

- Instructions that will assist in the completion of the permit application are on the reverse side

(1) COMPANY NAME	
Legal Name:	
(2) Emission Point (EP) (Stack/Vent) Number(s):	(3) Process Flow Diagram

SUMMARY OF EMISSIONS FROM THIS EMISSION POINT (EP)

4) Emission Calculation. These calculation are based on (check all that apply): Emission Factors Requested Limits Mass Balance Testing Data Other, describe:

(5) Emission Point (EP): _____	Pollutant	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	Lead	CARBON DIOXIDE (tpy)	METHANE (tpy)	NITROUS OXIDE (tpy)	SULFUR HEXAFLUORIDE (lbs/yr)	HYDROFLURO CARBONS (lbs/yr)	PERFLURO CARBONS (lbs/yr)
	Concentration														
	Emissions (After control if applicable)	lbs/hr													
		tons/year or lbs/yr													

6) Estimate of Actual Emissions - Actual emissions are the actual rate of air pollution from an emission unit calculated using the emission unit's actual operating hours, production rates, and types of materials processed, stored or combusted for the calendar year. General equation for calculating actual emissions with control equipment: (Actual Throughput) x (Emission Factor) x (Control Efficiency) x (conversion factor to tons) = tons per year

Emission Point (EP): _____	Pollutant	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	VOC	CO	Lead	CARBON DIOXIDE (tpy)	METHANE (tpy)	NITROUS OXIDE (tpy)	SULFUR HEXAFLUORIDE (lbs/yr)	HYDROFLURO CARBONS (lbs/yr)	PERFLURO CARBONS (lbs/yr)
	Concentration														
	Emissions (After control if applicable)	lbs/hr													
		tons/year or lbs/yr													

AQD - Construction Permit Application

SUMMARY OF FACILITY EMISSIONS/INVENTORY-(FACILITY-WIDE)

- Instructions that will assist in the completion of the permit application are on the reverse side

Company Name (Legal Name):																					
Stack/Vent Emissions Summary																					
(1)	(2)	(3)	(4)		(5) Potential or Permitted Emission Rates (tons/yr or lbs/yr)																
EP ID	EU ID	Source Description	Permit Number		PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	Lead	CARBON DIOXIDE (tpy)	METHANE (tpy)	NITROUS OXIDE (tpy)	SULFUR HEXAFLUORIDE (lbs/yr)	HYDROFLUOROCARBONS (lbs/yr)	PERFLUOROCARBONS (LBS/YR)			
(6) Total Stack Emission																					
(7) Fugitive Source Emissions Summary																					
Fugitive Source ID		Fugitive Source Description		Permit Number, if applicaable																	
(8) Total Fugitive Emissions																					
(9) Total Facility Emissions																					

Supplemental forms in support of a construction permit application:

Instructions: Supplemental forms B & E are used by the reviewer to become familiar with the emission unit. Completion of Form M is intended to assist applicants in determining whether or not point source emissions associated with non-PSD construction permit projects will require an air dispersion modeling analysis. Modeling requirements for non-point source emissions will be determined on a case-by-case basis. This procedure is used for both new construction permit projects and for modifications to previous projects.

Boiler Form (Form-B)
Engine Form (Form-E)
Modeling Determination (Form-M)

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Supplemental Information in support of a Construction Permit Application Boiler Form (Form-B)

Boiler Description	
Emission Point (EP) #	
Emission Unit (EU) #	
Engine Manufacturer	
Model #	
Model Year	
Fuel Type	
Rated Capacity (MMBtu/hr)	
Boiler Subcategory ⁽¹⁾	
Commence Construction Date	
Reconstruction Date ⁽²⁾	
Control Equipment Description	

⁽¹⁾ The subcategories of boilers and process heaters, as defined in § 63.7575 are:

- (a) Pulverized coal/solid fossil fuel units.
- (b) Stokers designed to burn coal/solid fossil fuel.
- (c) Fluidized bed units designed to burn coal/solid fossil fuel.
- (d) Stokers designed to burn biomass/bio-based solid.
- (e) Fluidized bed units designed to burn biomass/bio-based solid.
- (f) Suspension burners/Dutch Ovens designed to burn biomass/bio-based solid.
- (g) Fuel Cells designed to burn biomass/bio-based solid.
- (h) Hybrid suspension/grate burners designed to burn biomass/bio-based solid.
- (i) Units designed to burn solid fuel.
- (j) Units designed to burn liquid fuel.
- (k) Units designed to burn liquid fuel in non-continental States or territories.
- (l) Units designed to burn natural gas, refinery gas or other gas 1 fuels.
- (m) Units designed to burn gas 2 (other) gases.
- (n) Metal process furnaces.
- (o) Limited-use boilers and process heaters.

⁽²⁾ A modification is a physical or operational change that can increase the emissions of a regulated air pollutant. Reconstruction is replacing the components of an existing engine and the cost of the replacement components exceeds 50% of the cost of a new engine. See 40 CFR 60.14 and 60.15 for complete definitions.

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**Supplemental Information in support of a Construction Permit Application
Engine Form (Form-E)**

Emission Point (EP) #		Ignition Type	<input type="checkbox"/> Spark <input type="checkbox"/> Compression
Emission Unit (EU) #		Black Start?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Engine Manufacturer		Emergency Engine? ⁽²⁾	<input type="checkbox"/> Yes <input type="checkbox"/> No
Model #		2 or 4 Stroke? (SI Engine Only)	<input type="checkbox"/> 2-Stroke <input type="checkbox"/> 4-Stroke
Model Year		Rich or Lean Burn? (SI Engine Only)	<input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn
Fuel Type		Portable? ⁽³⁾	<input type="checkbox"/> Yes <input type="checkbox"/> No
Rated Capacity (bhp)		Manufacturer Certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Displacement CI Only (liters/cylinder)		Modification/Reconstruction Date ⁽⁴⁾	
Date of Construction ⁽¹⁾			

⁽¹⁾ Date the engine was ordered.

⁽²⁾ Emergency stationary internal combustion engine is a stationary ICE whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary SI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

⁽³⁾ A portable engine that will remain at allocation more than 12 months or a portable engine that operates more than 3 months per year as part of a seasonal source that returns to the same location is considered a stationary engine.

⁽⁴⁾ A modification is a physical or operational change that can increase the emissions of a regulated air pollutant. Reconstruction is replacing the components of an existing engine and the cost of the replacement components exceeds 50% of the cost of the new engine. See 40 CFR 60.14 and 60.15 for a complete definition.

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Supplemental Information in support of a Construction Permit Application
NON-PSD MODELING DETERMINATION (FORM –M)

Company Name:	Office Use: AIRS#: _____ Permit#: _____ Energov# _____
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DISPERSION MODELING DETERMINATION

Completion of Form M is intended to assist applicants in determining whether or not point source emissions associated with non-PSD construction permit projects will require an air dispersion modeling analysis. Modeling requirements for non-point source emissions will be determined on a case-by-case basis. This procedure is used for both new construction permit projects and for modifications to previous projects.

This form reflects the Polk County Air Quality Division’s (AQD) Air Dispersion Modeling Applicability Procedure for Non-PSD construction permit applications. Please check the appropriate box below depending on whether the flow chart indicates that dispersion modeling is required or not.

Note: ALL projects must include a site plan; see section “**PLOT PLAN REQUIREMENTS**” for instructions. A scaled plot plan of the entire plant is required. Attach the plot plan, labeled as "MI-PP", with your permit application.

Note: Form M only applies to point source emissions and should not be applied to internally venting volume sources. Internally vented sources will be addressed on a case-by-case basis.

DISPERSION MODELING ANALYSIS IS NOT REQUIRED

Since the point source emissions in this application meet the criteria currently listed in the Air Dispersion Modeling Applicability Procedure, it is likely that modeling is not required.

There are unique circumstances that the Air Dispersion Modeling Applicability Procedure does not address that may trigger a modeling review. Recommendations for modeling reviews that fall outside of the Air Dispersion Modeling Applicability Procedure will be reviewed by Polk County AQD management.

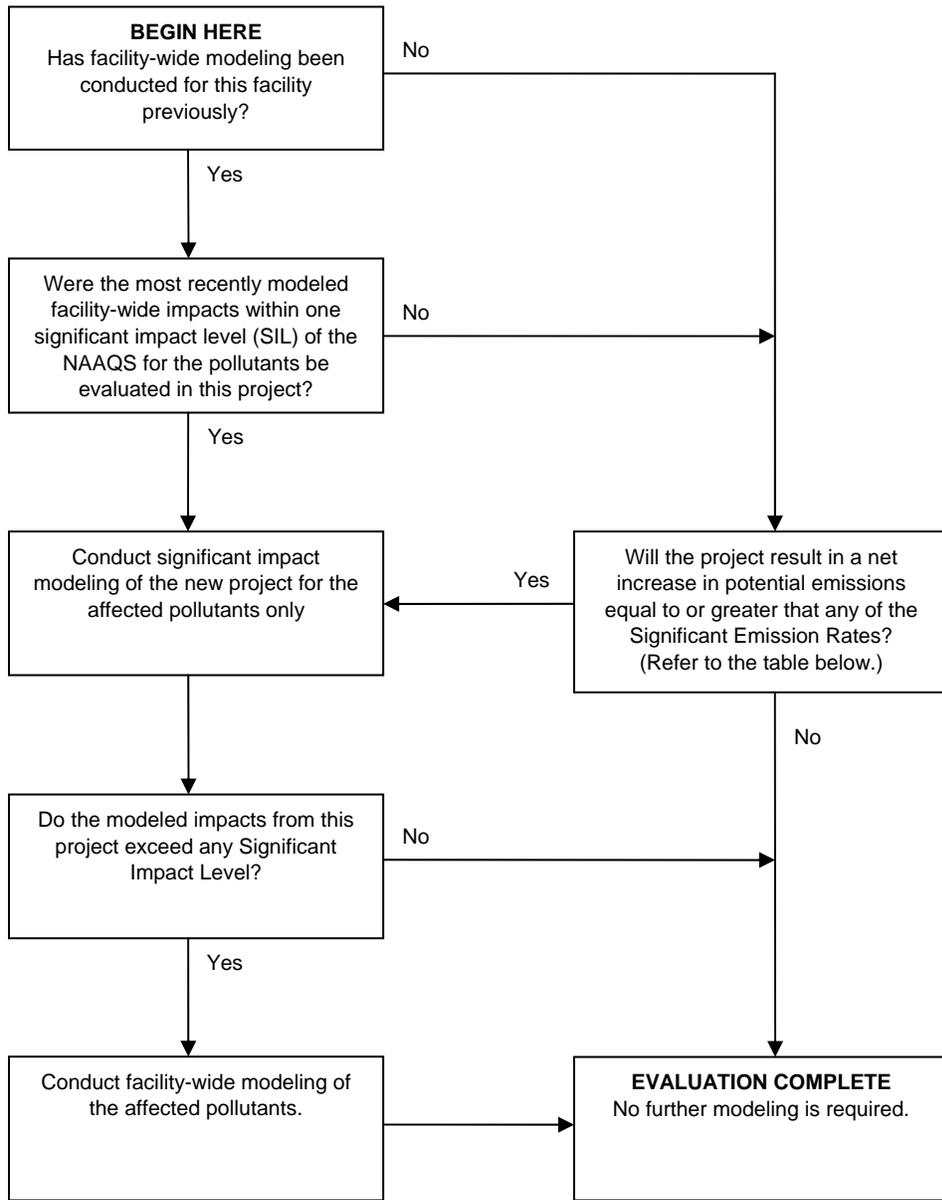
DISPERSION MODELING ANALYSIS IS REQUIRED

When dispersion modeling is required, the modeling analysis is either conducted by the Polk County AQD or is submitted by the applicant for Polk County AQD review as noted below:

- All applicants have the option to prepare and submit a complete dispersion modeling analysis, subject to review by the Polk County AQD.
- For major sources that have previously been modeled, the Polk County AQD will conduct the modeling analysis if resources allow. Applicants with extensive changes to their facility may expedite the modeling review by submitting their own modeling analysis.
- For major sources that have not previously been modeled, the applicant must prepare and submit the dispersion modeling analysis.

For non-major sources (minor), the Polk County AQD will conduct the initial dispersion modeling as a service to minor sources when a modeling analysis has not been submitted by the applicant.

NON-PSD MODELING DETERMINATION (FORM –M) Continued:



Pollutant	Significant Emission Rate	National Ambient Air Quality Standard ($\mu\text{g}/\text{m}^3$)					Significant Impact Level (SIL) ($\mu\text{g}/\text{m}^3$)				
		1-hour	3-hour	8-hour	24-hour	Annual	1-hour	3-hour	8-hour	24-hour	Annual
PM10	3.42 lb/hr				150				5		
PM _{2.5}	2.28 lb/hr				35	15			1.2	0.3	
NO ₂	9.13 lb/hr	188				100	7.5			1	
SO ₂ *	9.13 lb/hr	196	1,300		365	80	7.9	25	5	1	
CO	22.8 lb/hr	40,000		10,000			2,000		500		

* For 1-hour SO₂: no dispersion modeling is currently required for minor projects. Ambient air impact evaluation will be required in the future State Implementation Plan revision.