Attachment E210: Air Pollution Control Equipment Supplemental Application Form

Applicant Name: _____
Unit No(s).: _____

DEEP USE ONLY
App. No.: _____

Complete this form in accordance with the instructions (DEEP-NSR-INST-210) to ensure the proper handling of your application. Print or type unless otherwise noted.

Complete this supplemental application form to provide the air pollution control equipment information for all units that are part of this application package.

Questions? Visit the Air Permitting web page or contact the Air Permitting Engineer of the Day at 860-424-4152.

Part I. Summary Sheet

Unit No.	Unit Description	Control Equipment		Overall Control Efficiency (%)	Pollutant(s) Controlled	*Basis	Stack No.
		No.	Type				

** Submit supporting documentation with this form, e.g., stack test data, manufacturer's guarantees, etc. as Attachment E210(Control Equipment No.).*

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Part II: Specific Control Equipment

Complete the appropriate subsection for each *distinct* piece of control equipment.

1. Adsorption Device

Control Equipment Number of Adsorption Unit: _____

Unit Number of Unit which Uses Adsorption Unit: _____

Manufacturer and Model Number		
Construction Date		
Adsorbent		☐ Activated Charcoal Type: ☐ Granulated ☐ Other (specify): ☐ Powdered
Number of Beds		
Dimensions of Beds ☐ Check here if additional sheets are necessary, and label and attach them to this sheet.	**Bed No. 1**	Thickness in direction of gas flow: inches Cross-section area: square inches
	Bed No. 2	Thickness in direction of gas flow: inches Cross-section area: square inches
	Bed No. 3	Thickness in direction of gas flow: inches Cross-section area: square inches
Inlet Gas Temperature		^{o}F
Design Pressure Drop Range Across Unit		inches H_2O
Gas Flow Rate		scfm
Type of Regeneration		☐ Replacement ☐ Steam ☐ Other (specify):
Method of Regeneration		☐ Alternate use of beds ☐ Source shut down ☐ Other (specify): Describe procedures used to ensure that emissions from regeneration process are treated or minimized:
Maximum Operation Time Before Regeneration		
Is Adsorber Equipped with a Break-Through Detector?		☐ Yes ☐ No
Pollutant(s) Controlled		
Collection Efficiency(s) of Adsorber		%
Control Efficiency(s) of Adsorber		%
Overall Control Efficiency(s)		%

2. Afterburner (Incinerator for Air Pollution Control)

Control Equipment Number of Afterburner: _____

Unit Number of Unit which Uses Afterburner: _____

Manufacturer and Model Number		
Construction Date		
Type of Afterburner		☐ Thermal ☐ Catalytic ☐ Other (specify):
Combustion Chamber Dimensions	**Length**	inches
	Cross-section area	square inches
Inlet Gas Temperature		^{o}F
Operating Temperature Range of Chamber		^{o}F

Auxiliary Fuel Information

Fuel Type	% Sulfur by Weight	Higher Heating Value (BTU)	Maximum Hourly Firing Rate	Maximum Annual Fuel Usage	Units (gal or ft^3)

Number of Burners		
Burner Maximum Heat Input	**Burner No. 1**	BTU per hour
	Burner No. 2	BTU per hour
	Burner No. 3	BTU per hour
Catalyst Used		☐ Yes ☐ No
Catalyst Type		
Catalyst Sampling Interval		
Heat Exchanger Used		☐ Yes ☐ No
Type of Heat Exchanger		
Heat Recovery		
Reagent Used		
Gas Flow Rate		scfm
Combustion Chamber Design Residence Time		seconds
Moisture Content of Exhaust Gas		%
Heat Recovery		%
Pollutant(s) Controlled		
Collection Efficiency(s) of Afterburner		%

2. Afterburner (Incinerator for Air Pollution Control) (continued)

Control Equipment Number of Afterburner: _____

Unit Number of Unit which Uses Afterburner: _____

Control Efficiency(s) of Afterburner	%
Overall Control Efficiency(s)	%

3. Condenser

Control Equipment Number of Condenser: _____

Unit Number of Unit which Uses Condenser: _____

Manufacturer and Model Number	
Construction Date	
Heat Exchange Area	square feet
Coolant Flow Rate	☐ Water: gpm ☐ Air: scfm ☐ Other (specify) :
Gas Flow Rate	scfm
Coolant Temperature	In: ^{o}F Out: ^{o}F
Gas Temperature	In: ^{o}F Out: ^{o}F
Pollutant(s) Controlled	
Collection Efficiency(s) of Condenser	%
Control Efficiency(s) of Condenser	%
Overall Control Efficiency(s)	%

4. Electrostatic Precipitator

Control Equipment Number of Electrostatic Precipitator: _____

Unit Number of Unit which Uses Electrostatic Precipitator: _____

Manufacturer and Model Number	
Construction Date	
Collecting Electrode Area	square feet
Gas Flow Rate	scfm
Voltage Across the Precipitator Plates	kV
Resistivity of Pollutants	ohms
Number of Fields in the Precipitator	
Grain Loading	In: grains/scf Out: grains/scf
Pollutant(s) Controlled	
Collection Efficiency(s) of Electrostatic Precipitator	%
Control Efficiency(s) of Electrostatic Precipitator	%
Overall Control Efficiency(s)	%

5. Filter

Control Equipment Number of Filter: _____

Unit Number of Unit which Uses Filter: _____

Manufacturer and Model Number	
Construction Date	
Filtering Material	
Air to Cloth Ratio	square feet
Net Cloth Area	square feet
Number of Bags	
Cleaning Method	☐ Shaker ☐ Reverse Air ☐ Pulse Air ☐ Pulse Jet ☐ Other (specify):
Gas Cooling Method	☐ Ductwork Length: ft. Diameter: in. ☐ Heat Exchanger ☐ Bleed-in Air ☐ Water Spray ☐ Other (specify): ☐ Not Applicable
Cooling Medium Flow Rate	☐ Bleed-in Air: scfm ☐ Water Spray: gpm
Exhaust Gas Flow Rate	scfm
Inlet Gas Temperature	^{o}F
Inlet Gas Dew Point	^{o}F
Grain Loading	In: grains/scf Out: grains/scf
Design Pressure Drop Across Unit	inches H_2O
Operating Pressure Drop Range Across Unit	inches H_2O
Pollutant(s) Controlled	
Collection Efficiency(s) of Filter	%
Control Efficiency(s) of Filter	%
Overall Control Efficiency(s)	%

6. Cyclone

Control Equipment Number of Cyclone: _____

Unit Number of Unit which Uses Cyclone: _____

Manufacturer and Model Number	
Construction Date	
Type of Cyclone	☐ Single ☐ Multiple: Number of Cyclones
Gas Flow Rate	scfm
Grain Loading	In: grains/scf Out: grains/scf
Design Pressure Drop Across Unit	inches H_2O
Pollutant(s) Controlled	
Collection Efficiency(s) of Cyclone	%
Control Efficiency(s) of Cyclone	%
Overall Control Efficiency(s)	%

7. Mist Eliminator

Control Equipment Number of Mist Eliminator: _____

Unit Number of Unit which Uses Mist Eliminator: _____

Manufacturer and Model Number	
Construction Date	
Face Velocity	feet per second ☐ Vertical Flow ☐ Horizontal Flow ☐ Diagonal
Design Pressure Drop Range Across Unit	inches H_2O
Flow Rate	scfm
Pollutant(s) Controlled	
Collection Efficiency(s) of Mist Eliminator	%
Control Efficiencies of Mist Eliminator	% @ 1 mmHg % @ 5 mmHg % @ 10 mmHg
Overall Control Efficiency(s)	%

8. Scrubber

Control Equipment Number of Scrubber: _____

Unit Number of Unit which Uses Scrubber: _____

Manufacturer and Model Number		
Construction Date		
Type of Scrubber		☐ Venturi
		☐ Wet Fan
		☐ Packed: Packing Material Size: Packed Height: inches
		☐ Spray: Number of Nozzles: Nozzle No. 1 Pressure: psig Nozzle No. 2 Pressure: psig Nozzle No. 3 Pressure: psig Nozzle No. 4 Pressure: psig
		☐ Other (specify):
Design Pressure Drop Range Across Unit		inches H_2O
Type of Flow		☐ Concurrent ☐ Countercurrent ☐ Crossflow
Scrubber Geometry	**Length in direction of gas flow**	feet
	Cross-sectional area	square inches
Chemical Composition of Scrubbing Liquid		
Scrubbing Liquid/Reagent Flow Rate		gpm
Fresh Liquid Make-Up Rate		gpm
Scrubber Liquid/Reagent Circulation		☐ One Pass ☐ Recirculated
Scrubber Liquid/Reagent pH		
Gas Flow Rate		scfm
Inlet Gas Temperature		^{o}F
Design Outlet Grain Loading		gr/dscf
Pollutant(s) Controlled		
Collection Efficiency(s) of Scrubber		%
Control Efficiency(s) of Scrubber		%
Overall Control Efficiency(s)		%

9. Other Control Equipment for Degreasing Equipment

Name of Control Equipment: _____

Control Equipment Number of Control Equipment: _____

Unit Number of Unit which Uses Control Equipment: _____

Manufacturer and Model Number	
Construction Date	
Method of Control	☐ Refrigerator Chiller ☐ Water Spray ☐ Other (specify):
Pollutant(s) Controlled	
Collection Efficiency(s) of Control Equipment	%
Control Efficiency(s) of Control Equipment	%
Overall Control Efficiency(s)	%

10. Other Type of Control Equipment

Name of Control Equipment: _____

Control Equipment Number of Control Equipment: _____

Unit Number of Unit which Uses Control Equipment: _____

Manufacturer and Model Number	
Construction Date	
Pollutant(s) Controlled	
Collection Efficiency(s) of Control Equipment	%
Control Efficiency(s) of Control Equipment	%
Overall Control Efficiency(s)	%

Part III: Attachments

Please check the attachment being submitted as verification that all applicable attachments have been submitted with this application form. When submitting such documents, please label the documents as indicated in this Part (e.g., Attachment E210(Control Equipment No.), etc.) and be sure to include the applicant's name.

☐ Attachment E210: *Manufacturer Information* - Submit supporting documentation for each piece of air pollution control equipment listed in Part I of this form, e.g., stack test data, manufacturer's guarantees, etc. Label each document in this Attachment referencing the applicable air pollution control equipment number as indicated in Part I of this form using this format: Attachment E210(Control Equipment No.). **REQUIRED**