



CITY OF PHILADELPHIA

DEPARTMENT OF PUBLIC HEALTH
PUBLIC HEALTH SERVICES
AIR MANAGEMENT SERVICES

Air Management Services
321 University Avenue
Philadelphia PA 19104-4543
Phone: (215) 685-7572
FAX: (215) 685-7593

APPLICATION FOR PLAN APPROVAL TO CONSTRUCT, MODIFY OR REACTIVATE AN AIR CONTAMINATION SOURCE AND/OR AIR CLEANING DEVICE

(Prepare all information completely in print or type in triplicate)

SECTION A - APPLICATION INFORMATION

Location of source (Street Address)		Facility Name	
Owner			Tax ID No
Mailing Address		Telephone No. ()	Fax No. ()
Contact Person		Title	
Mailing Address		Telephone No. ()	Fax No. ()
E-mail Address			

SECTION B - DESCRIPTION OF ACTIVITY

Application type		SIC Code	Completion Date
<input type="checkbox"/> New source <input type="checkbox"/> Modification <input type="checkbox"/> Replacement <input type="checkbox"/> Reactivation <input type="checkbox"/> Air cleaning device <input type="checkbox"/> Other _____			
Applicable requirement		Does Facility submit Compliance Review Form biannually? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> NSPS <input type="checkbox"/> NESHAP <input type="checkbox"/> Case by Case MACT <input type="checkbox"/> NSR <input type="checkbox"/> PSD		If No attach Air Pollution Control Act Compliance Review Form with this application.	
Source Description			

SECTION C - PERMIT COORDINATION (ONLY REQUIRED FOR LAND DEVELOPMENT)

Question	YES	NO
1. Will the project involve construction activity that disturbs five or more acres of land?		
2. Will the project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system?		
3. Will the project involve the construction and operation of industrial waste treatment facility?		
4. Is onsite sewage disposal proposed for your project?		
5. Will the project involve construction of sewage treatment facilities, sanitary sewer, or sewage pumping station?		
6. Is a stormwater collection and discharge system proposed for this project?		
7. Will any work associated with this project take place in or near a stream, waterway, or wetland?		
8. Does the project involve dredging or construction of any dam, pier, bridge or outfall pipe?		
9. Will any solid waste or liquid wastes be generated as a result of the project?		
10. Is a State Park located within two miles from your project?		

SECTION D - CERTIFICATION

I certify that I have the authority to submit this Permit Application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

Signature _____ Date _____ Address _____

Name & Title _____ Phone _____ Fax _____

SECTION E - OFFICIAL USE ONLY

Application No.	Plant ID	Health District	Census Tract	Fee	Date Received
Approved by		Date	Conformance by		Date

SECTION F 1 - GENERAL SOURCE INFORMATION

1. SOURCE							2. NORMAL PROCESS OPERATING SCHEDULE						
	A. Type Source (Describe)	B. Manufacturer of Source	C. Model No.	D. Rated Capacity (Specify units)	E. Type of Materials Processed	A. Amount Processed/yr. (Specify units)	B. Average hr/day	C. Total hr/yr	D. % Throughput/Quarter				
									1 st	2 nd	3 rd	4 th	
1													
2													
3													
4													
5													
3. ESTIMATED FUEL USAGE (Specify Units)							4. ANNUAL FUEL USAGE						
A. Used in Unit	B. Type Fuel	C. Average Hourly Rate	D. Maximum Hourly Rate	E. Percent Sulfur	F. Percent Ash	G. Heating Value	A. Annual Amounts	B. Average hr/day	C. Total hr/yr	D. % Throughput/Quarter			
										1 st	2 nd	3 rd	4 th
5. IMPORTANT: Attach on a separate sheet a flow diagram of process giving all (gaseous, liquid, and solid) flow rates . Also list raw materials charged to process equipment and the amounts charged (tons/hour, etc.) at rated capacity (give maximum, minimum and average charges describing fully expected variations in production rates). Indicate (on diagram) all points where contaminants are controlled (location of water sprays, hoods or other pickup points, etc.).													

SECTION F 1 - GENERAL SOURCE INFORMATION, CONTINUED

6. Describe process equipments in detail.

7. Describe fully the methods used to monitor and record all operating conditions that may affect the emission of air contaminants. Provide detailed information to show that these methods provided are adequate.

8. Describe modifications to process equipments in detail.

9. Attach any and all additional information necessary to adequately describe the process equipment and to perform a thorough evaluation of the extent and nature of its emissions.

- Provide equipment information on this page if sources do not belong to special categories in F2 to F8, otherwise remove this page from this application.
- If there are more equipment, copy this page and fill in the information as indicated

SECTION F 2 - COMBUSTION UNITS INFORMATION					
1. COMBUSTION UNITS					
A. Manufacturer		B. Model No.		C. Unit No.	
D. Rated heat input (Btu/hr)		E. Peak heat input (Btu/hr)		F. Use	
G. Method firing <input type="checkbox"/> Pulverized <input type="checkbox"/> Spreader Stoker <input type="checkbox"/> Cyclone <input type="checkbox"/> Tangential <input type="checkbox"/> Normal <input type="checkbox"/> Fluidized bed <input type="checkbox"/> Other _____					
2. FUEL REQUIREMENTS					
TYPE	QUANTITY HOURLY	QUANTITY ANNUALLY	SULFUR	ASH	BTU CONTENT
OIL NUMBER _____	GPH at 60 °F	x10 ³ Gal.	% by wt.	% by wt.	Btu/Gal. & lbs/Gal. @ 60°F
NATURAL GAS	SCFH	x10 ⁶ SCF	gr/100 SCF		Btu/SCF
OTHER _____					
3. COMBUSTION AIDS, CONTROLS, AND MONITORS					
<input type="checkbox"/> A. Overfire jets		Type	Number	Height above grate	
<input type="checkbox"/> B. Draft controls		Type			
<input type="checkbox"/> C. Oil preheat					
<input type="checkbox"/> D. Soot cleaning		Temperature (°F)	Frequency		
<input type="checkbox"/> E. Stack sprays		Method			
<input type="checkbox"/> F. Opacity monitoring device			Method	Cost	
<input type="checkbox"/> G. Sulfur oxides monitoring device		Type	Method	Cost	
<input type="checkbox"/> H. Nitrogen oxides monitoring device		Type	Method	Cost	
<input type="checkbox"/> I. Fuel metering and/or recording devices		Type	Method	Cost	
<input type="checkbox"/> J. Atomization interlocking device		Type	Method	Cost	
<input type="checkbox"/> K. Collected flyash reentrainment preventative device		Type			
<input type="checkbox"/> L. Modulating controls	<input type="checkbox"/> Step				
	<input type="checkbox"/> Automatic				
4. <input type="checkbox"/> Flyash reinjection. (Describe operation)					
5. Describe method of supplying make up air to the furnace room.					

- Use this page for Combustion source, otherwise remove this page from this application.
- If there are more than one unit, copy this page and fill in the information as indicated

SECTION F 2 - COMBUSTION UNITS INFORMATION, CONTINUED

6. OPERATING SCHEDULE

_____ hours/day _____ days/week _____ weeks/year

7. SEASONAL PERIODS (MONTHS)

Operating using primary fuel _____

Operating using secondary fuel _____

_____ to _____

_____ to _____

Non-operating

_____ to _____

8. If heat input is in excess of 250×10^6 Btu/hr., describe fully the methods used to record the following: rate of fuel burned; heating value, sulfur and ash content of fuels; smoke, sulfur oxides and nitrogen oxides emissions; and if electric generating plant, the average electrical output and the minimum and maximum hourly generation rate.

9. Describe modifications to boiler in detail.

10. Type and method of disposal of all waste materials generated by this boiler.
(Is a Solid Waste Disposal Permit needed? Yes No)

11. Briefly describe the method of handling the waste water from this boiler and its associated air pollution control equipment.
(Is a Water quality Management Permit needed? Yes No)

12. Attach any and all additional information necessary to perform a thorough evaluation of this boiler.

- Use this page for Combustion source, otherwise remove this page from this application.
- If there are more than one unit, copy this page and fill in the information as indicated

SECTION F 3 - INCINERATORS AND FLARES			
1. INCINERATOR AND WASTE			
A. Manufacturer	B. Model	C. Class	D. <input type="checkbox"/> Multiple chambered <input type="checkbox"/> Controlled air
E. Rated capacity	F. Type of waste	G. Btu content as fired	
H. If type 5, 6 or special waste attach proximate and ultimate analysis.	I. Density of waste (lbs/cu. yd.)	J. Daily amount <input type="checkbox"/> Estimated <input type="checkbox"/> Actual	
2. PRIMARY COMBUSTION CHAMBER			
A. Volume (cu. ft.)	B. Effective grate area (sq. ft.)	C. % Excess air	
D. % Air applied as overfire air		E. % As underfire	
F. Ignition burner type and fuel	G. Number of burners	H. Capacity of each (Btu/hr.)	
3. SECONDARY COMBUSTION CHAMBER AND/OR AFTERBURNERS			
A. Volume (cu. ft.)	B. Maximum gas velocity (ft./sec.)	C. Temperature (^o F)	
D. Estimated hold time of gases (sec). Show calculations			
E. Burner type and fuel	F. Number of burners	G. Capacity of each (Btu/hr.)	
4. DRAFT CONTROLS			
<input type="checkbox"/> A. Barometric damper Windshielding <input type="checkbox"/> YES <input type="checkbox"/> NO			
<input type="checkbox"/> B. Guillotine or sliding damper			
<input type="checkbox"/> C. Induced draft fan Capacity (SCFM)			
5. TOTAL HEAT RELEASE (if multiple chambered) EXCLUDING ASH PIT in Btu/hr/cu. ft.			
6. MISCELLANEOUS DEVICES AND CONTROLS			
<input type="checkbox"/> A. Automatic loading device (Describe)			
<input type="checkbox"/> B. Self-closing doors			
<input type="checkbox"/> C. Spark arrestor			
<input type="checkbox"/> D. Flame failure protection equipment			
<input type="checkbox"/> E. Method of creating turbulence for combustion gases (Describe)			
<input type="checkbox"/> F. Method of cleaning secondary or settling chamber (Describe)			
<input type="checkbox"/> G. Other interlocking devices or controls (Describe)			
7. INSTALLATION LOCATION			
<input type="checkbox"/> Outdoor			
<input type="checkbox"/> Indoor installation (Describe method of supplying combustion air)			

- Use this page for Incinerator and Flares, otherwise remove this page from this application.
- If there are more than one unit, copy this page and fill in the information as indicated

SECTION F 3 - INCINERATORS AND FLARES, CONTINUED

8. FLARES

A. Maximum and average SCFM burned

B. % Sulfur of waste gas

 C. Automatic ignition system D. Controls to prevent smoking E. Steam injection F. Noise reducing device

9. OPERATING SCHEDULE

_____ hours/day _____ days/week _____ weeks/year

10. SEASONAL PERIODS (MONTHS)

Operating

Non-Operating

_____ to _____ _____ to _____

11. If incinerator is rated at 50 tons per day or more, describe fully the facilities provided to record the daily burning rate and hours of operation.

12. Describe modifications to incinerator in detail

13. Has application been made for a Solid Waste Disposal Permit?

 YES NO

14. Briefly describe the method of handling any waste water from this installation and associated air pollution control equipment

(Is a Water Quality Management Permit needed? YES NO)

15. Attach any and all additional information necessary to perform a thorough evaluation of the extent and nature of emissions from this incinerator.

- Use this page for Incinerator and Flares, otherwise remove this page from this application.
- If there are more than one unit, copy this page and fill in the information as indicated

SECTION F 4 - SURFACE COATER INFORMATION

1. SOURCE								2. OPERATING SCHEDULE							
Unit	A. Name of Coater/Spray Booth	B. Manufacturer and Model Number	C. Application Method i.e., Airless Spray	D. Transfer Efficiency %	E. Line Speed (fpm)	F. Type of Unit Coated	G. Capacity Units/hr		A. Avg. hr/day	B. Total hrs/yr	C. Units per/yr	D. % Throughput/Quarter			
							Rated	Normal				1st	2nd	3rd	4th

3. COATING												
Coating	A. lbs. of VOC/gal of Coating Minus Water	B. Gal. of Coating (Minus Water) / hr.		C. Gallon of Solids	D. Overall Control Efficiency	E. lbs. of VOC Emitted	F. % Solids by Volume	G. % Organic Solvent By Volume	H. % Water By Volume	I. Gallon of Coating (inc. water) / hr.		J. Solvent Density
		Max.	Normal							Max.	Normal	

4. Attach schematic diagram of process. Indicate all emission points, the position of hoods and specify exhaust flow rates.

5. Annual amount of each coating to be used.	% Usage/Quarter	1st	2nd	3rd	4th
--	-----------------	-----	-----	-----	-----

6. List breakdown of solvent in each coating.

7. Dryer/Cooler											
Zone Temperature of			Number and Capacity of Burners	Type of Fuel	Percent Sulfur	Percent Ash	Heating Value	Average Hourly Rate	Annual Amount	Exhaust CFM	
I	II	III								Dryer	Cooler

- Use this page for Surface Coater operation, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 4 - SURFACE COATER INFORMATION, CONTINUED

8. Describe process in detail; indicate modifications to process equipment.

9. For additions to existing facilities, give total VOC emissions (lbs/day and tons/yr) from all coating operations - existing plus proposed.

10. Type and method of disposal of all waste materials generated by this process.

11. Briefly describe the method of handling the waste from this process and its associated air pollution control equipment.

12. Attach any other additional information to evaluate the source.

- Use this page for Surface Coater operation, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 5- GRAPHIC ARTS (ROTOGRAVURE AND FLEXOGRAPHIC OPERATIONS)

1. SOURCE										2. NORMAL OPERATING SCHEDULE						
Unit	A. Processes	B. Manufacturer & Model Number	C. Number of Printing Units	D. Web Width	E. Line Speed		F. Impressions per hour	G. Normal Ink Coverage	H. Type of Substrate	A. Avg hr/day	B. Total hr/yr	C. % Down Time	D. % Load Per Quarter			
					Rated	Normal							1st	2nd	3rd	4th

3. INK														
Unit	A. Ink Designation	B. Ink Supplier	Ink Composition as Applied				G. Gallon of Ink Per Hr		H. % Capture Efficiency	I. % Control Efficiency	J. % Overall Control Efficiency (H x I)	K. Cleanup Solvents		L. List Solvents Used As % Total
			C. % Org. Solvent By Volume	D. % Solids By Volume	E. . % Water By Volume	F. Solvent Density	Max.	Normal				gal/yr	lbs/yr	

4. DRYER										
Unit	A. Manufacturer and Model	B. Operating Temperature (°F)	C. Air Flow (cfm)	D. Type of Fuel	E. Average Hourly Rate	F. % Max. Hourly Rate	G. % Sulfur	H. % Ash	I. Heating Value	J. Annual Amounts

- Use this page for Graphic Art Rotogravure and Flexographic operation, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 5 - GRAPHIC ARTS (ROTOGRAVURE AND FLEXOGRAPHIC OPERATIONS), CONTINUED

5. Describe the operation/modification to process equipment and inks in detail. Attach a schematic flow diagram indicating all emission points, the position of hoods and specify exhaust flow rates.

6. Describe fully the facilities provided to monitor and record all operating conditions that may affect the emission of air contaminants.

7. For additions to existing facilities, give total actual VOC emissions from all surface coating and graphic arts operations - existing plus proposed.

8. Type and method of disposal of all waste materials by this process.

9. Briefly describe the method of handling the waste water from this process and its associated air pollution control equipment.

10. Attach any other additional information to evaluate the source.

- Use this page for Graphic Art Rotogravure and Flexographic operation, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 6 - GRAPHIC ARTS (WEB OFFSET PRESSES OPERATIONS)

1. SOURCE										2. NORMAL OPERATING SCHEDULE									
Unit	A. Press Designation	B. Manufacturer & Model Number	C. Number of Printing Units	D. Number of Webs	E. Web Width		F. Press Speed (fpm) (imp/hr)			G. Number of Roll Stand	A. Avg hr/day	B. Total hr/yr	C. % Prod. Time	D. % Throughput/Quarter					
					Max	Normal	Max	Normal	Max Avg					1st	2nd	3rd	4th		

3. MATERIAL DATA																						
Unit	A. Web i.e., Single, Double	B. Type Paper i.e., Coated, Uncoated	C. Throughput				D. Avg.% (wt) of Solvent (ink oil)	E. % Ink Retained in Paper	F. % Ink Coverage		G. % Use Among Number of Webs, Number of Units and Type of Paper											
			Paper (lb/hr) Max. Avg.	Ink (lb/hr)		Wetting Solution (lbs/hr)			Max.	Avg.												
				Max.	Avg.	Maximum									Average	Max.	Avg.					

4. DRYER										
Unit	A. Manufacturer and Model	B. Operating Temperature (°F)	C. Air Flow (cfm)	D. Type of Fuel	E. Average Hourly Rate	F. % Max. Hourly Rate	G. % Sulfur	H. % Ash	I. Heating Value	J. Annual Amounts

5. INK/WETTING SOLUTION INFORMATION

Attach the following:

- A. Vapor Pressure (@70°F., 14.7 PSI of solvent (ink oil) of each ink used.
- B. Density and solvent content (% wt) of each ink used.
- C. The vapor pressure and concentration of wetting solution.
- D. Material data safety sheet for the above if available.

- Use this page for Graphic Art Web Offset Presses, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 6 - GRAPHIC ARTS (WEB OFFSET PRESSES), CONTINUED

6. Describe fully the facilities provided to monitor and record all operating conditions that may affect the emission of air contaminants.

7. Type and method of disposal of all waste materials generated by this process.

8. Briefly describe the method of handling the waste water from this process and its associated air pollution control equipment.

9. Attach a schematic flow diagram and all additional information to describe the process equipment and control equipment.

- Use this page for Graphic Art Web Offset Presses, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 7 - DEGREASER

1. TYPE CAPACITY, & OPERATING SCHEDULE

Unit	A. Type Degreaser i.e., Open Top ConveyORIZED	B. Manufacturer of Degreaser	C. Model Number	D. Internal Dimensions WxLxD (ft)	E. Vapor-Liquid Inter facial Area (sq. ft.)	F. Type of Material Processed	G. Area Per Load (sq. ft.)	H. Average hr/day	I. Total hr/yr	% Load/Quarter			
										1st	2nd	3rd	4th

2. CONTROLS

A. Cover Manual/ Powered	B. Permanent Label of Operating Requirements	C. Free Board Ratio	D. Water Jacket Inlet Temp °F	E. Primary Condenser Coil Inlet Temp °F	F. Condenser Flow-Switch & Thermostat	G. Spray Pump Safety Switch For 4 inches Vapor Drop	H. Vapor Level Thermostat Set Point °F	I. Drying Tunnel or Equivalent	J. Entrance & Exit Silhouette For 4" Clearance/< 10% Width Opening	K. Conveyor Speed/Hoist Speed (fpm)	L. Exhaust Ventilation (cfm)

3.A. List type of solvents used as a percent of total usage & boiling point of each solvent.

3.B. Annual Amounts of each solvent used.

3.C. % Usage/Quarter

1st

2nd

3rd

4th

4. Attach dimensioned diagram of degreaser & any additional information necessary for thorough evaluation. Include: Heat input, Sump temperature, Still, etc.

5. Describe fully the facility to monitor and record all operating conditions that may affect the emissions of air contaminants.

6. Describe Disposition of:

A. Spent solvent from degreaser

B. Sludge from still

C. Solvent from adsorber

7. A. Costs of all control equipment including installation costs.

B. Estimated annual operating costs of control equipment only.

- Use this page for Degreaser, otherwise remove this page from this application.
- If you have more units, copy this page and fill in the information as indicated

SECTION F 8 - BATCH ASPHALT PLANT PROCESS INFORMATION**1. ASPHALT PLANT**

A. Manufacturer of plant

B. Model No.

C. Rated Capacity

D. Sketch flow diagram of process giving all (gaseous, liquid, and solid) flow rates.
(Attach separate sheet).**2. FUEL REQUIREMENTS AND COMBUSTION AIDS AND/OR CONTROLS**

A. TYPE	QUANTITY		SULFUR	BTU CONTENT
	HOURLY	ANNUALLY		
OIL NO. _____	GPH @ 60°F		% (by wt.)	BTU/Gal. & lbs./Gal. @ 60°F
NATURAL GAS	CFH		gr/100 SCF	BTU/SCF
B. <input type="checkbox"/> DRAFT CONTROLS	Type			
C. <input type="checkbox"/> OIL PREHEAT	Temperature (°F)			
D. <input type="checkbox"/> ATOMIZATION INTERLOCKING DEVICE				

3. AGGREGATE ROTARY DRYER AND AGGREGATE TYPE

A. Inside diameter (ft.)

B. Length (ft.)

C. Air volume through drier

_____ ACFM @ _____ °F

D. Type mix (List all types ran at plant)

TYPE	% LIMESTONE	% SAND	% PASSING - 200 mesh	Maximum capacity running this mix

4. AUXILIARY EQUIPMENT CONTROLA. Cold elevator enclosed?
 Yes No

Type or method

B. Hot elevator enclosed?
 Yes No

Type or method

C. Hot bins enclosed?
 Yes No

Type or method

D. Aggregate discharge points?
 Yes No

Type or method

E. Volume of gases (ACFM @ °F)

F. Dust loading (lbs./hr.)

- Use this page for Batch Asphalt operation, otherwise remove this page from this application.
- If there are more units, copy this page and fill in the information as indicated

SECTION F 8 - BATCH ASPHALT PLANT PROCESS INFORMATION, CONTINUED

5. FUGITIVE DUST CONTROL

A. Storage bins enclosed? Yes No

Type or Method

B. Describe fugitive dust control system for loading, handling, etc. operations.

C. Roadway dust control

Roadways paved Yes NoDust suppressor Water Oil Power Broom

Frequency of use of suppressor

6. OPERATING SCHEDULE

_____ hours/day

_____ days/week

_____ weeks/year

7. SEASONAL PERIODS (MONTHS)

Operating

Non-Operating

_____ to _____

_____ to _____

8. Describe fully the facilities provided to record all operating conditions that may affect the emission of air contaminants. Provide detailed information to show that the facilities provided are adequate.

9. Describe modifications to the asphalt plant in detail.

10. Type and method of disposal of all waste materials generated by this process.
(Is a Solid Waste Permit needed? Yes No)11. Briefly describe method of handling waste water from this process and its associated air pollution control equipment.
(Is a Water Quality Management Permit needed? Yes No)

12. Attach any and all additional information necessary to perform a thorough evaluation of the extent and nature of emissions from this process.

- Use this page for Batch Asphalt operation, otherwise remove this page from this application.
- If there are more units, copy this page and fill in the information as indicated

SECTION G - FLUE AND AIR CONTAMINANT EMISSION INFORMATION**1. STACK AND EXHAUSTER****A. Outlet volume of exhaust gases**

_____ CFM @ _____ °F _____ % Moisture

B, Exhauster (attach fan curves)

_____ in w.g. _____ HP @ _____ RPM

C. Stack height above grade (ft) _____

Grade elevation (ft) _____

Distance from discharge to nearest property line(ft) _____

D Stack diameter (ft) or Outlet duct area (sq. ft.)**E Weather Cap** YES NO

F. Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

2 POTENTIAL PROCESS EMISSIONS (OUTLET FROM PROCESS, BEFORE ANY CONTROL EQUIPMENT)**A. Particulate loading (lbs/hr or gr/DSCF)****B. Specific gravity of particulate (not bulk density)****C. Attached particle size distribution information****D. Specify gaseous contaminants and concentration**

Contaminant Concentration

VOC Contaminants Concentration

(1) SO_x _____ ppm (Vol.) _____ lbs/hr (4) _____ ppm (Vol.) _____ lbs/hr(2) NO_x _____ ppm (Vol.) _____ lbs/hr (5) _____ ppm (Vol.) _____ lbs/hr

(3) CO _____ ppm (Vol.) _____ lbs/hr (6) _____ ppm (Vol.) _____ lbs/hr

E. Does process vent through the control device ? YES NO

- If YES continue and fill out the appropriate SECTION H - CONTROL EQUIPMENT

- If NO skip to SECTION I - MISCELLANEOUS INFORMATION

F. Can the control equipment be bypassed: (If Yes, explain) YES NO**3. ATMOSPHERIC EMISSIONS****A. Particulate matter emissions (lbs/hr or gr/DSCF)****B. Gaseous contaminant emissions**

Contaminants Concentration

VOC Contaminants

Concentration

(1) SO_x _____ ppm (Vol.) _____ lbs/hr (4) _____ ppm (Vol.) _____ lbs/hr(2) NO_x _____ ppm (Vol.) _____ lbs/h (5) _____ ppm (Vol.) _____ lbs/hr

(3) CO _____ ppm (Vol.) _____ lbs/h (6) _____ ppm (Vol.) _____ lbs/hr

SECTION H - CONTROL EQUIPMENT		
1. GAS CONDITIONER (IF APPLICABLE)		
A. Water quenching <input type="checkbox"/> YES <input type="checkbox"/> NO Water injection rate _____ GPM	B. Radiation and convection cooling <input type="checkbox"/> YES <input type="checkbox"/> NO	
C. Air dilution <input type="checkbox"/> YES <input type="checkbox"/> NO	D. Gas conditioner outlet _____ ACFM @ _____ °F	
2. SETTLING CHAMBERS (IF APPLICABLE)		
A. Manufacturer		
B. Volume of gas handled _____ ACFM @ _____ °F	C. Gas velocity _____ (ft/min)	
D. Length of expansion chamber (ft.)	E. Width of expansion chamber (ft)	
F. Height of expansion chamber (ft.)	G. Number of trays	
H. Inlet concentration (lbs/hr or gr/DSCF)	I. Outlet concentration (lbs/hr or gr/DSCF)	J. Overall efficiency (%)
K. Water injection <input type="checkbox"/> YES <input type="checkbox"/> NO	L. Water injection rate (GPM)	M. Attached particle size Efficiency curve
3. INERTIAL AND CYCLONE COLLECTORS (IF APPLICABLE)		
A. Manufacturer	B. Type	C. Model Number
D. Pressure Drop (water gage)	E. Inlet Gas Volume (ACFM)	F. Inlet Gas Temperature (°F)
G. Design inlet volume (ACFM)		
H. Inlet concentration (lbs/hr or gr/DSCF)	I. Outlet concentration (lbs/hr or gr/DSCF)	J. Overall efficiency (%)
K. Attach particle size efficiency curve	L. Number of individual cyclone(s)	
M. Inlet diameter (ft) or duct area (ft ²) of cyclone(s)	N. Outlet diameter (ft) or duct area (ft ²) of cyclone(s)	
O. Length of cyclone(s) cylinder (ft)	P. Length of cyclone(s) cone (ft)	
Q. Diameter of cyclone(s) cylinder	R. Outlet straightening vanes used?	

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED**4. CATALYTIC \ THERMAL AFTERBURNERS (IF APPLICABLE)**

A. Manufacturer		B. Type		C. Model No.	
D. Minimum temperature maintained (°F)		E. Retention time at this temperature (sec)		F. Volume of gases handled (ACFM @ °F)	
G. Design inlet volume (ACFM)			H. Number and capacity (Btu/hr) of burners		
I. Catalyst used			J. Expected temperature rise across catalyst		
K. Are temperature sensing devices being provided to measure the temperature rise across the catalyst? YES <input type="checkbox"/> NO <input type="checkbox"/>			L. Is a heat exchanger system used for heat recovery? <input type="checkbox"/> YES <input type="checkbox"/> NO		
M. Inlet concentration ppm (Vol.)		N. Outlet concentration ppm (Vol.)		O. Overall efficiency (%)	
P. Attach dimensioned diagram of afterburner and stack.					
Q. Describe any temperature sensing and/or recording devices (including specific location of temperature probe).					

5. PARTICULATE MATTER SCRUBBERS (IF APPLICABLE)

A. Manufacturer		B. Type		C. Model No.	
D. Pressure drop (water gage) across scrubber only. Do not include duct or demister losses.		E. Gas temperatures (°F) at inlet _____ outlet _____		F. Actual inlet Volume (ACFM)	G. Design inlet volume (ACFM)
H. Water flow rate (GPM)	I. Relative particulate/gas velocity (ejector scrubbers)		I. Relative particulate/gas velocity (ejector scrubbers)		
J. Inlet concentration/Rate (Lbs/hr or gr/DSCF)		K. Outlet concentration/Rate (Lbs/hr or gr/DSCF)		L. Overall efficiency (%)	M. Attach particle size efficiency curve
N. Describe equipment provided to measure pressure drop and water flow rate to scrubber.					
O. Describe scrubber water supply system (amount of make-up and recirculating water, capacity of recirculating water system, etc.)					
P. Describe mist eliminator or separator (configuration, backflush, capability, frequency)					
Q. pH monitoring and adjustment? Describe if yes. <input type="checkbox"/> Yes <input type="checkbox"/> No					

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED

6. FABRIC COLLECTORS (IF APPLICABLE)			
A. Manufacturer		B. Model No. <input type="checkbox"/> Pressurized design <input type="checkbox"/> Suction design	
C. Air to cloth ratio Minimum _____ Average _____ Maximum _____	D. Type of Fabric <input type="checkbox"/> Felted <input type="checkbox"/> Woven <input type="checkbox"/> Felted Woven Material _____ Weight _____ oz/sq.yd Thickness _____ in	E. Fabric Permeability (clean) @ 1/2" w.g. _ P _____ CFM/sq. ft.	
F. Pressure Drop (Water gage)		G. Volume of gases handled (ACFM)	H. Inlet gas temperature (°F)
I. Design inlet volume (ACFM)	J. Inlet concentration (lbs/hr or gr/DSCF)	K. Outlet concentration (lbs/hr or gr/DSCF)	L. Overall efficiency (%)
M. Number of compartments	N. Number of bags per compartment	O. Can each compartment be isolated for repairs and/or bag replacement? <input type="checkbox"/> YES <input type="checkbox"/> NO	
P. Bag dimensions Length _____ Diameter (or width if envelope type bag) _____		Q. If multiple walled bags provide detail	
R. Method of bag cleaning <input type="checkbox"/> Shaker <input type="checkbox"/> Reverse jet (blow ring) <input type="checkbox"/> Reverse Compartment pulse <input type="checkbox"/> Reverse flow <input type="checkbox"/> Reverse bag pulse <input type="checkbox"/> Other		S. Cleaning initiated by <input type="checkbox"/> Timer <input type="checkbox"/> Pressure drop _____ psig Frequency if timer actuated	
T. Shaker cleaning <input type="checkbox"/> Manual <input type="checkbox"/> One compartment shaken at a time <input type="checkbox"/> Mechanical <input type="checkbox"/> All compartments shaken at once		U. Reverse flow cleaning air supply Source _____ CFM _____	
V. Others Flushing pressure (psig) _____		W. Are temperature controls provided? (Describe in detail)	
U. Is bag house insulated	Y. Maximum temperature bags can withstand (°F)	Z. Dew point at maximum Moisture (°F)	

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED

7. ELECTROSTATIC PRECIPITATOR (IF APPLICABLE)				
A. Manufacturer		B. Model No.		C. <input type="checkbox"/> Wet <input type="checkbox"/> Dry <input type="checkbox"/> Single-Stage <input type="checkbox"/> Multi-Stage
D. Pressure drop (water gage) Across collector only		E. Design inlet volume (ACFM) _____ Actual volume handled (ACFM) _____		
F. Maximum operating temperature (°F) _____ Actual operating temperature (°F) _____		G. Maximum Dust Inlet Concentration (gr/DSCF) _____ Maximum Dust Outlet Concentration (gr/DSCF) _____		
H. Dust resistivity (ohm/cm)		I. Gas Distribution Grids <input type="checkbox"/> YES <input type="checkbox"/> NO		
J. Total collecting surface area _____ sq. ft. Number of fields _____ Spacing between collector plates _____ inches Maximum gas velocity _____ ft/sec		Collector plates size length _____ ft. X width _____ ft. Number of collector plates/field _____ Minimum gas treatment time _____ sec.		
K. Total discharge electrode length _____ ft. Number of discharge electrodes _____				
L. Number and Size of Transformer Rectifier Sets By Electrical Field				
<u>Field No.</u>	<u>No. of Sets</u>	<u>Each Transformer KVA</u>	<u>Each Rectifier KV Ave/Peak</u>	<u>Ma DC</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
M. Current density _____ Micro amperes/ft ²		N. Corona power _____ Watts/1000 ACFM		O. Corona power density _____ Watts/ft ²
P. Number collecting electrode rappers _____ Minimum acceleration rating for rappers _____ g's				
Q. Flue gas conditioning equipment used? <input type="checkbox"/> YES <input type="checkbox"/> NO Describe (If Yes)				

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED

8. CONDENSER					
A. Manufacturer		B. Type <input type="checkbox"/> Shell and Tube <input type="checkbox"/> Extend surface <input type="checkbox"/> Other _____		C. Model No.	
D. Cooling medium <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> Other _____	E. Stage <input type="checkbox"/> Single <input type="checkbox"/> Two	F. Volume of gases (ACFM) Design _____ Actual _____		G. Gas Temperature (F) Inlet _____ Exhaust _____ Outlet 1st stage _____ Outlet 2nd stage _____	
H. Surface area (ft ²)		I. Coolant rate _____ (lbs/hr) and Temperature _____ (°F)		J. Describe mist eliminator , activated charcoal (if any)	
Q. Inlet concentration (lbs/hr)		R. Outlet concentration (lbs/hr)		S. Overall efficiency (%)	
9. ADSORPTION EQUIPMENT (IF APPLICABLE)					
A. Manufacturer		B. Type		C. Model No.	
D. Volume of gases handled (ACFM) at inlet temperature (F)			E. Design inlet volume (ACFM) at inlet temperature (°F)		
G. Percent concentration of solvent in exhaust gases			H. Carbon charge per adsorber vessel and number of adsorber vessels		
I. Adsorbent type, density and property			J. Vapor pressure of solvents at the inlet temperature		
K. Length of mass transfer zone (MTZ, supplied by the manufacturer based upon laboratory data)			L. Percent relative saturation of each solvent at the inlet temperature.		
M. Breakthrough capacity _____ lbs of solvent 100 lbs of adsorbent		N. Working capacity of adsorbent (%)		O. Heel percent or unrecoverable solvent weight % in the adsorbent after regeneration.	
P. Adsorber diameter (ft) and area (ft ²)		Q. Adsorption bed depth (ft)		R. Available steam in pounds to regenerate carbon adsorber	
R. Available steam in pounds to regenerate carbon adsorber					
S. Adsorption time per adsorption bed					
T. Inlet concentration (lbs/hr)		U. Outlet concentration (lbs/hr)		V. Overall efficiency (%)	

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED

10. ABSORPTION EQUIPMENT (IF APPLICABLE)					
A. Manufacturer		B. Type		C. Model No.	
D. Volume of gases handled (ACFM)	E. Design inlet volume (ACFM)	F. Inlet temperature (°F)	G. Configuration <input type="checkbox"/> Counter-current Cross flow <input type="checkbox"/> Cocurrent flow		
H. Pressure drop (water gage)		I. Absorbent type and concentration		J. Retention time (sec)	
K. Inlet concentration		L. Outlet concentration		M. Overall efficiency (%)	
N. Describe pH and/or other monitoring and controls					
O. Type packing and size (if applicable)		P. Height of packing (ft)	Q. Number of trays		R. Diameter of tower (ft)
S. Attach equilibrium data for absorber (If applicable)					
11. OTHER CONTROL EQUIPMENT (IF APPLICABLE)					
A. Manufacturer		B. Type		C. Model No.	
D. Volume of gases handled (ACFM)		E. Design inlet temperature (ACFM)		F. Inlet temperature (°F)	
G. Inlet concentration (lbs/hr or gr/DSCF)		H. Outlet concentration (lbs/hr or gr/DSCF)		I. Overall efficiency (%)	
J. Attach particle size efficiency curve or other efficiency information.					
K. Describe fully, giving important parameters and method of operation.					

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION H - CONTROL EQUIPMENT, CONTINUED**12. COSTS**

A. List costs associated with control equipment. (List individual controls separately)

Control Equipment Cost:

Direct Cost:

Indirect Cost:

B. Estimated annual operating costs of control equipment only.

13. Describe modifications to control equipment in detail.

14. Describe in detail the method of dust removal from the air cleaning and methods of controlling fugitive emissions from dust removal, handling and disposal.

15. Does air cleaning device employ hopper heaters, hopper vibrators or hopper level detectors? If so, describe.

16. Attach manufacturer's performance guarantees and/or warranties for each of the major components of the control system (or complete system).

17. Attach the maintenance schedule for the control equipment and any part of the process equipment that if in disrepair would increase the air contaminant emissions. Periodic maintenance reports are to be submitted to the Department.

18. Attach any and all additional information necessary to thoroughly evaluate the control equipment.

- Provide control equipment information on this page if it pertains to this application, otherwise remove this page from the application.
- If there are more of the same type of control equipment, copy that page and fill in the information as indicated.
- Control equipment can be found from a manufacturer catalogue or vendors.

SECTION I - MISCELLANEOUS INFORMATION

1. Specify monitoring and recording devices will be used for monitoring and recording of the emission of air contaminants. Provide detailed information to show that the facilities provided are adequate. Include cost and maintenance information.

- | | | |
|--|--|---|
| <input type="checkbox"/> Opacity monitoring system | <input type="checkbox"/> SO _x monitoring system | <input type="checkbox"/> NO _x monitoring system |
| <input type="checkbox"/> CO monitoring system | <input type="checkbox"/> CO ₂ monitoring system | <input type="checkbox"/> Oxygen monitoring system |
| <input type="checkbox"/> HCL monitoring system | <input type="checkbox"/> TRS monitoring system | <input type="checkbox"/> H ₂ S monitoring system |
| <input type="checkbox"/> Temperature monitoring system | <input type="checkbox"/> Stack flow monitoring system | <input type="checkbox"/> Other _____ |

If checked, provide manufacturer's name, model no. and pertinent technical specifications.

2. Attach Air Pollution Episode Strategy (if applicable)

3. If the source is subject to 25 Pa. Code Subchapter E, New Source Review requirements,

a. Demonstrate the availability of emission offset (if applicable)

b. Provide an analysis of alternate sites, sizes, production processes and environmental control techniques demonstrating that the benefits of the proposed source outweigh the environmental and social costs.

4. Attach calculations and any additional information necessary to thoroughly evaluate compliance with all the applicable requirements of Article III of the rules and regulations of Philadelphia Air Management, Pennsylvania Department of Environmental Protection and those requirements promulgated by the Administrator of the United States Environmental Protection Agency pursuant to the provisions of the Clean Air Act.

5. List all attachments included in this Application.