

KNOX COUNTY DEPARTMENT OF AIR QUALITY MANAGEMENT

FORM APC-3 (PAGE 1 OF 2)
(Please Type or Print)

SOURCE EMISSION DATA
Permit Application

ONE COPY OF THIS FORM MUST BE FILLED OUT COMPLETELY FOR EACH PROCESS EMISSION POINT IN THE PROCESS. THE EMISSION SOURCE COVER SHEET, APC-2, MUST BE ATTACHED.

1. BUSINESS LICENSE NAME OF CORPORATION, COMPANY, INDIVIDUAL OWNER OR GOVERNMENTAL AGENCY UNDER WHICH APPLICATION IS SUBMITTED:

2. EMISSION SOURCE NUMBER: _____
3. FLOW DIAGRAM REFERENCE NUMBER OR CODE (AS SHOWN IN ITEM 7 ON EMISSION COVER SHEET, APC-2): _____

DO NOT WRITE IN THIS SPACE

FACILITY NUMBER / / / / /
 SOURCE NUMBER / / / / /
 POINT NUMBER / / / / /
 REVIEWER / / / / /
 DATE SUBMITTED / / / / / / / / /
 DATE REVIEWED / / / / / / / / /

4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE):	DISTANCE TO NEAREST PROPERTY LINE (FT):
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COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE COVER SHEET (APC-2)

5. NORMAL OPERATION	HOURS/DAY	DAYS/WEEK	WEEKS/YEAR	DAYS/YEAR
6. PERCENT ANNUAL THROUGHPUT:	DEC. - FEB.	MARCH - MAY	JUNE - AUG.	SEPT. - NOV.

7. STACK OR EMISSION POINT DATA:					
HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	AVERAGE TEMPERATURE (°F)	MAXIMUM CAPACITY TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (DOWN OR HORIZONTAL)
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT3/MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT3)	MOISTURE (%)	
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT3/MIN.)	VELOCITY (FT3/SEC)	MOISTURE (GRAINS/FT3)	MOISTURE (%)	

8. AIR CONTAMINANTS	EMISSIONS AFTER CONTROL					CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)		CONCENTRATION	AVG. EMISS. (TONS/YR)	EMISSIONS* EST. METHOD		
	AVERAGE	MAXIMUM					
PARTICULATES			**				
SULFUR DIOXIDE			***				
NITROGEN OXIDES			PPM				
ORGANIC COMPOUNDS			PPM				
CARBON MONOXIDE			PPM				
FLUORIDES							
OTHER (SPECIFY)							

* REFER TO THE ENCLOSED INSTRUCTION PACKET FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.
 ** EXIT GAS PARTICULATE CONCENTRATION UNITS, PROCESS - GRAINS/DRY STANDARD FT3 (70°F), WOOD FIRED BOILERS - GRAINS/DRY STANDARD FT3 (70°F), ALL OTHER BOILERS - LBS/MILLION BTU HEAT INPUT.
 *** EXIT GAS SULFUR DIOXIDE CONCENTRATION UNITS: PROCESS - PPM BY VOLUME, DRY BASIS, BOILERS - LBS/MILLION

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9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:
 OPACITY MONITOR (), 902 MONITOR (), OTHER (SPECIFY IN COMMENTS) ()

10. COMMENTS: (CONTINUE ON BACK IF NEEDED)

11. SIGNATURE

DATE

12. FOR OFFICE USE ONLY

AIR CONTAMINANTS		UNCONTROLLED EMISSIONS				
	EMISSIONS (LBS/HR)		CONCENTRATION	AVG. EMISSIONS (TONS/YR)	EMISSIONS* EST. METHOD	
PARTICULATES			**			
SULFUR DIOXIDE			***			
NITROGEN OXIDES			PPM			
ORGANIC COMPOUNDS			PPM			
CARBON MONOXIDES			PPM			
FLUORIDES						
OTHER (SPECIFY)						
AIR CONTAMINANTS		ALLOWABLE EMISSIONS				
	EMISSIONS (LBS/HR)		CONCENTRATION	AVG. EMISSIONS (TONS/YR)	EMISSIONS* EST. METHOD	
	AVERAGE	MAXIMUM				
PARTICULATES			**			
SULFUR DIOXIDE			***			
NITROGEN OXIDES			PPM			
ORGANIC COMPOUNDS			PPM			
CARBON MONOXIDE			PPM			
FLUORIDES						
OTHER (SPECIFY)						

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS - GRAINS/DRY STANDARD FT3 (70°F), WOOD FIRED BOILERS - GRAINS/DRY STANDARD FT3 (70°F); ALL OTHER BOILERS - LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATION UNITS: PROCESS - PM BY VOLUME, DRY BASIS, BOILERS - LBS/MILLION BTU HEAT INPUT.

EMISSION POINT DESCRIPTION

This form should be completed for each stack or other clearly defined point of pollutant emissions within the source.

Item 5.-6. - Complete these items only if the operational schedule of this emission point differs from the overall source operational schedule as entered in Items 4 and 5 of the Emission Cover Sheet (APC-2).

Item 8. - Emission estimates for each pollutant emitted from this point should be based on stack sampling results or engineering calculations. In certain cases other estimates may be accepted. Average emissions (lbs/hr) should be representative of the following:

- a. For continuous or long-run, steady-state, operations it is the total weight of pollutant emitted to the atmosphere for the entire period of continuous operation or for a typical portion thereof divided by the number of hours of such period or portion thereof.
- b. For cyclical or batch type operations, it is the total weight of pollutant emitted to the atmosphere for a period which covers a complete or an integral number of cycles divided by the hours of actual process operation during such periods.

Maximum emissions (lbs/hr) should be determined by dividing the total highest emissions possible during any 3 hour period with control equipment working properly, by 3. This will be dependent upon such things, either singly or in combination, as maximum possible operating rate, a particular input material, product, or fuel which may result in increased emissions; periods of highest emissions for cyclical or batch type operations, etc. Concentrations should be determined for stack emissions only and should reflect average exit gas concentrations reported in the units specified on the Emission Point Description (APC-3).

Emission estimation method and control device descriptions, along with corresponding codes, can be found on the accompanying "Table of Pollution Reduction Device or Method Codes". The codes which most accurately describe the estimation methods and control equipment used, along with the estimated control equipment efficiency should be entered for each pollutant present. Any estimation methods or control devices other than those listed in the tables should be described in the comments (Item 10).

Item 11. - Unsigned and/or undated applications will not be processed.

Item 12. - To be completed by Knox County Department of Air Quality Management staff only.

TABLE I POLLUTION REDUCTION DEVICE OR METHOD CODES
(ALPHABETICAL LISTING)

NOTE: FOR CYCLONES, SETTLING CHAMBERS, WET SCRUBBERS, AND ELECTROSTATIC PRECIPITATORS, THE EFFICIENCY RANGES CORRESPOND TO THE FOLLOWING PERCENTAGES: **HIGH:** 95 - 99+%, **MEDIUM:** 80 - 95%, AND **LOW:** LESS THAN 80%.

IF THE SYSTEM HAS SEVERAL PIECES OF CONNECTED CONTROL EQUIPMENT, INDICATE THE SEQUENCE. **FOR EXAMPLE:** 008/010; 93%/99%.

IF NONE OF THE BELOW CODES FIT, USE 999 AS A CODE FOR OTHER AND SPECIFY IN THE COMMENTS.

NO EQUIPMENT	000	LIMESTONE INJECTION - DRY.....	041
ACTIVATED CARBON ADSORPTION	048	LIMESTONE INJECTION - WET	042
AFTERBURNER - DIRECT FLAME.....	021	LIQUID FILTRATION SYSTEM.....	049
AFTERBURNER - DIRECT FLAME WITH		MIST ELIMINATOR - HIGH VELOCITY.....	014
HEAT EXCHANGER.....	022	MIST ELIMINATOR - LOW VELOCITY	015
AFTERBURNER - CATALYTIC.....	019	PROCESS CHANGE.....	046
AFTERBURNER - CATALYTIC WITH HEAT		PROCESS ENCLOSED	054
EXCHANGER	020	PROCESS GAS RECOVERY	060
ALKALIZED ALUMINA	040	SETTLING CHAMBER -	
CATALYTIC OXIDATION - FLUE GAS		HIGH EFFICIENCY	004
DESULFURIZATION.....	039	SETTLING CHAMBER -	
CYCLONE - HIGH EFFICIENCY	007	MEDIUM EFFICIENCY	005
CYCLONE - MEDIUM EFFICIENCY.....	008	SETTLING CHAMBER -	
CYCLONE - LOW EFFICIENCY.....	009	LOW EFFICIENCY.....	006
DUST SUPPRESSION BY CHEMICAL		SPRAY TOWER	
STABILIZERS OR WETTING AGENTS.....	062	(GASEOUS CONTROL ONLY)	052
ELECTROSTATIC PRECIPITATOR - HIGH		SULFURIC ACID PLANT	
EFFICIENCY	010	CONTACT PROCESS	043
ELECTROSTATIC PRECIPITATOR - MEDIUM		SULFURIC ACID PLANT	
EFFICIENCY	011	DOUBLE CONTACT PROCESS.....	044
ELECTROSTATIC PRECIPITATOR - LOW		SULFUR PLANT	045
EFFICIENCY	012	VAPOR RECOVERY SYSTEM	
FABRIC FILTER - HIGH TEMPERATURE	016	(INCLUDING CONDENSERS, HOODING AND	
FABRIC FILTER - MED. TEMPERATURE	017	OTHER ENCLOSURES).....	047
FABRIC FILTER - LOW TEMPERATURE	018	VENTURI SCRUBBER	
FABRIC FILTER - METAL SCREEN		(GASEOUS CONTROL ONLY)	053
(COTTON GINS)	059	WET SCRUBBER - HIGH EFFICIENCY	001
FLARING	023	WET SCRUBBER - MED. EFFICIENCY	002
GAS ADSORPTION COLUMN - PACKED.....	050	WET SCRUBBER - LOW EFFICIENCY	003
GAS ADSORPTION COLUMN -		WET SUPPRESSION BY	
TRAY TYPE	051	WATER SPRAYS.....	061
GAS SCRUBBER (GENERAL; NOT			
CLASSIFIED)	013		

TABLE II EMISSION ESTIMATION METHOD CODES

NOT APPLICABLE. EMISSIONS ARE KNOWN TO BE ZERO	0
EMISSIONS BASED ON SOURCE TESTING	1
EMISSIONS BASED ON MATERIAL BALANCE USING ENGINEERING EXPERTISE AND KNOWLEDGE	
OF PROCESS.....	2
EMISSIONS CALCULATED USING EMISSION FACTORS FROM EPA PUBLICATION NO. AP-42	
"COMPILATION OF AIR POLLUTANT EMISSION FACTORS"	3
JUDGEMENT	4
EMISSIONS CALCULATED USING A SPECIAL EMISSION FACTOR DIFFERING FROM THAT	
IN AP-42	5
OTHER (SPECIFY IN COMMENTS).....	6