



COOK COUNTY
 DEPARTMENT OF ENVIRONMENT
 AND SUSTAINABILITY
 69 W WASHINGTON, SUITE 1900
 CHICAGO, IL 60602

| | |
|--|--|
| <p>* DATA AND INFORMATION</p> <p>AIR POLLUTION CONTROL EQUIPMENT</p> | |
|--|--|

* THIS INFORMATION FORM IS TO BE COMPLETED FOR AN EMISSION SOURCE OTHER THAN A FUEL COMBUSTION EMISSION SOURCE OR AN INCINERATOR. A FUEL COMBUSTION EMISSION SOURCE IS A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED PRIMARILY FOR PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN INCINERATOR IS AN APPARATUS IN WHICH REFUSE IS BURNED.

| | |
|---|---|
| 1. NAME OF OWNER: | 2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): |
| 3. STREET ADDRESS OF CONTROL EQUIPMENT: | 4. CITY OF CONTROL EQUIPMENT: |
| 5. NAME OF CONTROL EQUIPMENT OR CONTROL SYSTEM: | |

| INSTRUCTIONS |
|---|
| <ol style="list-style-type: none"> COMPLETE THE ABOVE IDENTIFICATION SECTION. COMPLETE THE APPROPRIATE SECTION FOR THE UNIT OF CONTROL EQUIPMENT, OR THE APPROPRIATE SECTIONS FOR THE CONTROL SYSTEM. BE CERTAIN THAT THE ARRANGEMENT OF VARIOUS UNITS IN A CONTROL SYSTEM IS MADE CLEAR IN THE PROCESS FLOW DIAGRAM. COMPLETE PAGE 6 OF THIS FORM, EMISSION INFORMATION AND EXHAUST POINT INFORMATION. EFFICIENCY VALUES SHOULD BE SUPPORTED WITH A DETAILED EXPLANATION OF THE METHOD OF CALCULATION, THE MANNER OF ESTIMATION, OR THE SOURCE OF INFORMATION. REFERENCE TO THIS FORM ANY RELEVANT INFORMATION OR EXPLANATION INCLUDED IN THIS PERMIT APPLICATION. EFFICIENCY VALUES AND CERTAIN OTHER ITEMS OF INFORMATION ARE TO BE GIVEN FOR AVERAGE AND MAXIMUM OPERATION OR THE SOURCE EQUIPMENT. FOR EXAMPLE, "MAXIMUM EFFICIENCY" IS THE EFFICIENCY OF THE CONTROL EQUIPMENT WHEN THE SOURCE IS AT MAXIMUM OPERATION, AND "AVERAGE FLOW RATE" IS THE FLOW RATE INTO HE CONTROL EQUIPMENT WHEN THE SOURCE IS AT AVERAGE OPERATION. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201. |

| DEFINITIONS |
|--|
| <p>AVERAGE - THE VALUE THAT <u>SUMMARIZES OR REPRESENTS</u> THE <u>GENERAL CONDITION</u> OF THE <u>EMISSION SOURCE</u>, OR THE GENERAL STATE OF PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:</p> <p>AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.</p> <p>MAXIMUM - THE GREATEST VALUE <u>ATTAINABLE OR ATTAINED</u> FOR THE <u>EMISSION SOURCE</u>, OR THE PERIOD OF GREATEST OR UTMOST PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY:</p> <p>MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.</p> |

ADSORPTION UNIT

| | |
|--|--|
| 1. FLOW DIAGRAM DESIGNATION(S) OF ADSORPTION UNIT: | |
| 2. MANUFACTURER: | 3. MODEL NAME AND NUMBER: |
| 4. ADSORBENT: <input type="checkbox"/> ACTIVATED CHARCOAL: TYPE _____ <input type="checkbox"/> OTHER: SPECIFY _____ | |
| 5. ADSORBATE(S): | |
| 6. NUMBER OF BEDS PER UNIT: | 7. WEIGHT OF ADSORBENT PER BED: LB |
| 8. DIMENSIONS OF BED: THICKNESS _____ IN, SURFACE AREA _____ SQUARE IN | |
| 9. INLET GAS TEMPERATURE: °F | 9. PRESSURE DROP ACROSS UNIT: INCH H₂O GAUGE |
| 11. TYPE OF REGENERATION: <input type="checkbox"/> REPLACEMENT <input type="checkbox"/> STEAM <input type="checkbox"/> OTHER: SPECIFY _____ | |
| 12. METHOD OF REGENERATION: <input type="checkbox"/> ALTERNATE USE OF _____ ENTIRE UNITS <input type="checkbox"/> ALTERNATE USE OF _____ BEDS IN A SINGLE UNIT SOURCE SHUT DOWN OTHER: DESCRIBE | |
| AVERAGE OPERATION OF SOURCE | MAXIMUM OPERATION OF SOURCE |
| 13. TIME ON LINE BEFORE REGENERATION: MIN/BED | 15. TIME ON LINE BEFORE REGENERATION: MIN/BED |
| 14. EFFICIENCY OF ABSORBER (SEE INSTRUCTION 4): % | 16. EFFICIENCY OF ABSORBER (SEE INSTRUCTION 4): % |

AFTERBURNER

| | |
|---|---|
| 1. FLOW DIAGRAM DESIGNATION(S) OF AFTERBURNER: | |
| 2. MANUFACTURER: | 3. MODEL NAME AND NUMBER: |
| 4. COMBUSTION CHAMBER DIMENSIONS: LENGTH _____ IN, CROSS-SECTIONAL AREA _____ SQUARE IN | |
| 5. INLET GAS TEMPERATURE: °F | 7. FUEL: <input type="checkbox"/> GAS <input type="checkbox"/> OIL: SULFUR _____ WT% |
| 6. OPERATING TEMPERATURE OF COMBUSTION CHAMBER: °F | 8. BURNERS PER AFTERBURNER: _____ @ _____ BTU/HR EACH |
| 9. CATALYST USED: <input type="checkbox"/> NO <input type="checkbox"/> YES: DESCRIBE CATALYST _____ | |
| 10. HEAT EXCHANGER USED: <input type="checkbox"/> NO <input type="checkbox"/> YES: DESCRIBE HEAT EXCHANGER _____ | |
| AVERAGE OPERATION OF SOURCE | MAXIMUM OPERATION OF SOURCE |
| 11. GAS FLOW RATE: SCFM | 13. GAS FLOW RATE: SCFM |
| 12. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): % | 14. EFFICIENCY OF AFTERBURNER (SEE INSTRUCTION 4): % |

CYCLONE

1. FLOW DIAGRAM DESIGNATION(S) OF CYCLONE:

2. MANUFACTURER:

3. MODEL:

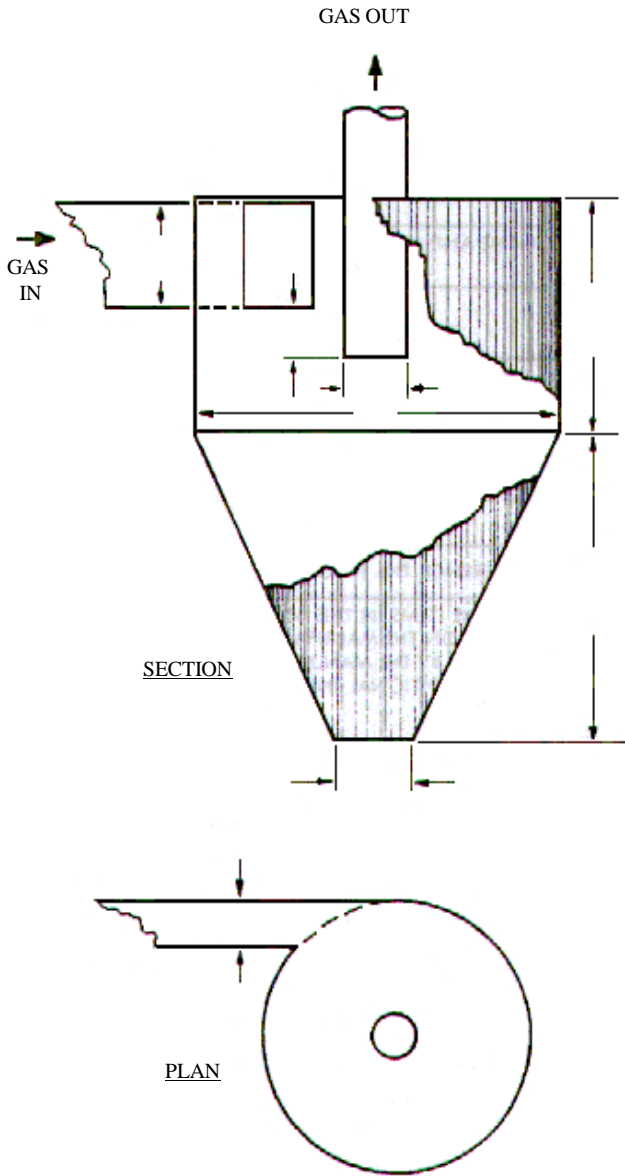
4. TYPE OF CYCLONE:

SIMPLE MULTIPLE

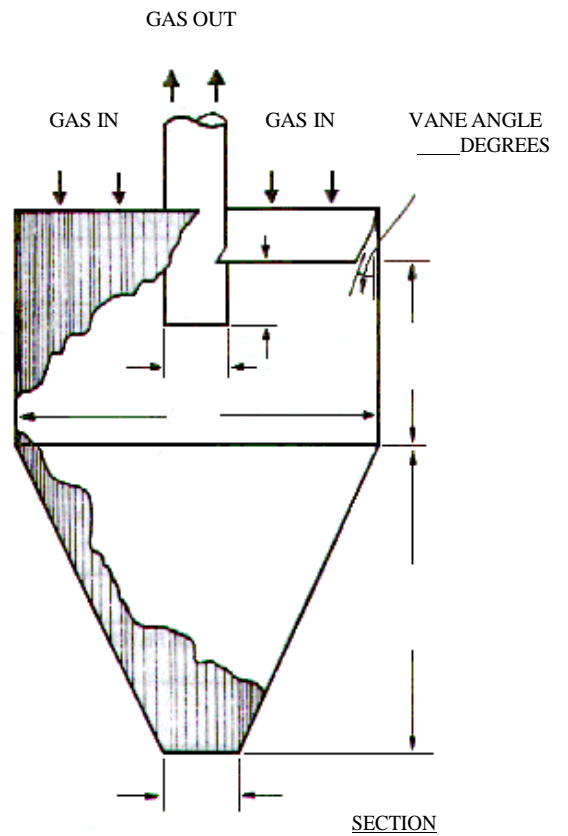
5. NUMBER OF CYCLONES IN EACH MULTIPLE CYCLONE:

6. DIMENSION THE APPROPRIATE SKETCH (IN INCHES) OR PROVIDE A DRAWING WITH EQUIVALENT INFORMATION:

TANGENTIAL INLET CYCLONE



AXIAL INLET CYCLONE
(INDIVIDUAL CYCLONE OF MULTIPLE CYCLONE)



NOT TO SCALE

| AVERAGE OPERATION OF SOURCE | | MAXIMUM OPERATION OF SOURCE | |
|---|------|--|------|
| 7. GAS FLOW RATE: | SCFM | 9. GAS FLOW RATE: | SCFM |
| 8. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): | % | 10. EFFICIENCY OF CYCLONE (SEE INSTRUCTION 4): | % |

| CONDENSER | | | |
|---|--|--|--|
| 1. FLOW DIAGRAM DESIGNATION(S) OF CONDENSER: | | | |
| 2. MANUFACTURER: | | 3. MODEL NAME AND NUMBER: | |
| | | | 4. HEAT EXCHANGE AREA: FT² |
| AVERAGE OPERATION OF SOURCE | | MAXIMUM OPERATION OF SOURCE | |
| 5. COOLANT FLOW RATE PER CONDENSER: WATER _____ GPM AIR _____ SCFM OTHER: TYPE _____, FLOW RATE _____ | | 10. COOLANT FLOW RATE PER CONDENSER: WATER _____ GPM AIR _____ SCFM OTHER: TYPE _____, FLOW RATE _____ | |
| 6. GAS FLOW RATE: SCFM | | 11. GAS FLOW RATE: SCFM | |
| 7. COOLANT TEMPERATURE: INLET _____ °F OUTLET _____ °F | | 12. COOLANT TEMPERATURE: INLET _____ °F OUTLET _____ °F | |
| 8. GAS TEMPERATURE: INLET _____ °F OUTLET _____ °F | | 13. GAS TEMPERATURE: INLET _____ °F OUTLET _____ °F | |
| 9. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): % | | 14. EFFICIENCY OF CONDENSER (SEE INSTRUCTION 4): % | |

| *ELECTRICAL PRECIPITATOR | | | |
|---|--|---|--|
| 1. FLOW DIAGRAM DESIGNATION(S) OF ELECTRICAL PRECIPITATOR: | | | |
| 2. MANUFACTURER: | | 3. MODEL NAME AND NUMBER: | |
| | | | 4. COLLECTING ELECTRODE AREA PER CONTROL DEVICE: FT² |
| AVERAGE OPERATION OF SOURCE | | MAXIMUM OPERATION OF SOURCE | |
| 5. GAS FLOW RATE: SCFM | | 7. GAS FLOW RATE: SCFM | |
| 6. EFFICIENCY OF ELECTRICAL PRECIPITATOR(SEE INSTRUCTION 4): % | | 8. EFFICIENCY OF ELECTRICAL PRECIPITATOR(SEE INSTRUCTION 4): % | |
| SUBMIT THE MANUFACTURER'S SPECIFICATIONS FOR THE ELECTRICAL PRECIPITATOR. REFERENCE THE INFORMATION TO THIS FORM. | | | |

*ELECTRICAL PRECIPITATORS VARY GREATLY IN THEIR DESIGN AND IN THEIR COMPLEXITY. THE ITEMS IN THIS SECTION PROVIDE A MINIMUM AMOUNT OF INFORMATION. THE APPLICANT MUST, HOWEVER, SUBMIT WITH THIS APPLICATION THE MANUFACTURER'S SPECIFICATIONS, INCLUDING ANY DRAWINGS, TECHNICAL DOCUMENTS, ETC. IF THE INFORMATION PROVIDED BY THE MANUFACTURER'S SPECIFICATIONS IS INSUFFICIENT FOR FULL AND ACCURATE ANALYSIS, THE AGENCY WILL REQUEST SPECIFIC ADDITIONAL INFORMATION.

| FILTER UNIT | | | |
|---|--|---|--|
| 1. FLOW DIAGRAM DESIGNATION(S) OF FILTER UNIT: | | | |
| 2. MANUFACTURER: | | 3. MODEL NAME AND NUMBER: | |
| 4. FILTERING MATERIAL: | | 5. FILTERING AREA: FT² | |
| 6. CLEANING METHOD: <input type="checkbox"/> SHAKER <input type="checkbox"/> REVERSE AIR <input type="checkbox"/> PULSE AIR <input type="checkbox"/> PULSE JET <input type="checkbox"/> OTHER: SPECIFY _____ | | | |
| 7. GAS COOLING METHOD: <input type="checkbox"/> DUCT WORK: LENGTH _____ FT., DIAM _____ IN. <input type="checkbox"/> BLEED-IN AIR <input type="checkbox"/> WATER SPRAY <input type="checkbox"/> OTHER: SPECIFY _____ | | | |
| AVERAGE OPERATION OF SOURCE | | MAXIMUM OPERATION OF SOURCE | |
| 8. GAS FLOW RATE (FROM SOURCE): SCFM | | 12. GAS FLOW RATE (FROM SOURCE): SCFM | |
| 9. GAS COOLING FLOW RATE: BLEED-IN AIR _____ SCFM, WATER SPRAY _____ GPM | | 13. GAS COOLING FLOW RATE: BLEED-IN AIR _____ SCFM, WATER SPRAY _____ GPM | |
| 10. INLET GAS CONDITION: TEMPERATURE _____ °F DEWPOINT _____ °F | | 14. INLET GAS CONDITION: TEMPERATURE _____ °F DEWPOINT _____ °F | |
| 11. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): % | | 15. EFFICIENCY OF FILTER UNIT (SEE INSTRUCTION 4): % | |

SCRUBBER

| | |
|--|---|
| 1. FLOW DIAGRAM DESIGNATION(S) OF SCRUBBER: | |
| 2. MANUFACTURER: | 3. MODEL NAME AND NUMBER: |
| 4. TYPE OF SCRUBBER: <input type="checkbox"/> HIGH ENERGY: GAS STEAM PRESSURE DROP _____ INCH H ₂ O <input type="checkbox"/> PACKED: PACKING TYPE _____, PACKING SIZE _____, PACKING HEIGHT _____ IN. <input type="checkbox"/> SPRAY: NUMBER OF NOZZLES _____, NOZZLE PRESSURE _____ PSIG <input type="checkbox"/> OTHER: SPECIFY _____ ATTACH DESCRIPTION AND SKETCH WITH DIMENSIONS | |
| 5. TYPE OF FLOW: <input type="checkbox"/> COCURRENT <input type="checkbox"/> COUNTERCURRENT <input type="checkbox"/> CROSSFLOW | |
| 6. SCRUBBER GEOMETRY: LENGTH IN DIRECTION OF GAS FLOW _____ IN., CROSS-SECTIONAL AREA _____ SQUARE IN. | |
| 7. CHEMICAL COMPOSITION OF SCRUBBANT: | |
| AVERAGE OPERATION OF SOURCE | |
| 8. SCRUBBANT FLOW RATE: GPM | 12. SCRUBBANT FLOW RATE: GPM |
| 9. GAS FLOW RATE: SCFM | 13. GAS FLOW RATE: SCFM |
| 10. INLET GAS TEMPERATURE: °F | 14. INLET GAS TEMPERATURE: °F |
| 11. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____% PARTICULATE _____% GASEOUS | 15. EFFICIENCY OF SCRUBBER (SEE INSTRUCTION 4): _____% PARTICULATE _____% GASEOUS |

OTHER TYPE OF CONTROL EQUIPMENT

| | | |
|--|--|-----------------------------|
| 1. FLOW DIAGRAM DESIGNATION(S) OF "OTHER TYPE" OF CONTROL EQUIPMENT: | | |
| 2. GENERIC NAME OF "OTHER" EQUIPMENT: | 3. MANUFACTURER: | 4. MODEL NAME AND NUMBER: |
| 5. DESCRIPTION AND SKETCH, WITH DIMENSIONS AND FLOW RATES, OF "OTHER" EQUIPMENT: | | |
| AVERAGE OPERATION OF SOURCE | | MAXIMUM OPERATION OF SOURCE |
| 6. FLOW RATES: _____ GPM _____ SCFM | 8. FLOW RATES: _____ GPM _____ SCFM | |
| 7. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): _____ % | 9. EFFICIENCY OF "OTHER" EQUIPMENT (SEE INSTRUCTION 4): _____ % | |

EMISSION INFORMATION

1. NUMBER OF IDENTICAL CONTROL UNITS OR CONTROL SYSTEMS (DESCRIBE AS REQUIRED):

AVERAGE OPERATION

| CONTAMINANT | CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM | | METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE |
|--------------------|--|----------|---|
| PARTICULATE MATTER | 2a. GR/SCF | b. LB/HR | c. |
| CARBON MONOXIDE | 3a. PPM (VOL) | b. LB/HR | c. |
| NITROGEN OXIDES | 4a. PPM (VOL) | b. LB/HR | c. |
| ORGANIC MATERIAL | 5a. PPM (VOL) | b. LB/HR | c. |
| SULFUR DIOXIDE | 6a. PPM (VOL) | b. LB/HR | c. |
| **OTHER (SPECIFY) | 7a. PPM (VOL) | b. LB/HR | c. |

MAXIMUM OPERATION

| CONTAMINANT | CONCENTRATION OR EMISSION RATE PER IDENTICAL CONTROL UNITS OR CONTROL SYSTEM | | METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE |
|--------------------|--|----------|---|
| PARTICULATE MATTER | 8a. GR/SCF | b. LB/HR | c. |
| CARBON MONOXIDE | 9a. PPM (VOL) | b. LB/HR | c. |
| NITROGEN OXIDES | 10a. PPM (VOL) | b. LB/HR | c. |
| ORGANIC MATERIAL | 11a. PPM (VOL) | b. LB/HR | c. |
| SULFUR DIOXIDE | 12a. PPM (VOL) | b. LB/HR | c. |
| **OTHER (SPECIFY) | 13a. PPM (VOL) | b. LB/HR | c. |

***"OTHER" CONTAMINANT SHOULD BE USED FOR AN AIR CONTAMINANT NOT SPECIFICALLY NAMED ABOVE. POSSIBLE OTHER CONTAMINANTS ARE ASBESTOS, BERYLLIUM, MERCURY, VINYL CHLORIDE, LEAD, ETC.

EXHAUST POINT INFORMATION

1. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT:

2. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.):

3. EXIT HEIGHT ABOVE GRADE:

4. EXIT DIAMETER:

5. GREATEST HEIGHT OF NEARBY BUILDINGS:

6. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY:

AVERAGE OPERATION

MAXIMUM OPERATION

7. EXIT GAS TEMPERATURE:

°F

9. EXIT GAS TEMPERATURE:

°F

8. GAS FLOW RATE THROUGH EACH EXIT:

ACFM

10. GAS FLOW RATE THROUGH EACH EXIT:

ACFM