
APTI COURSE 454

EFFECTIVE PERMIT WRITING

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RESEARCH TRIANGLE PARK, NORTH CAROLINA



PURPOSE OF THE WORKSHOP

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1. Provide a basic understanding of permitting terminology.
2. Provide a basic "experience" in the process of reviewing permit applications and developing permit conditions.
3. Provide a basis for developing model permit applications and model permits.

PERMIT REVIEW WORKSHOP

I. PURPOSE OF PERMITS

II. TYPES OF PERMITS

- A. Registration
- B. Construction
- C. Operating
- D. Combined Construction/Operating

III. PERMIT PROCESSING ACTIVITIES

- A. Administrative
 - 1. Permit application forms
 - 2. Applicability
 - 3. Completeness
 - 4. Permit processing
 - 5. Public notice and comment
 - 6. Permit modification/issuance/denial
- B. Technical
 - 1. Process description
 - 2. Details concerning construction, modification, or operation
 - 3. Basis for emission estimates
 - 4. Control equipment selection and justification
 - 5. Comparison with known or available parameters
 - 6. Ambient impacts (dispersion modeling inputs/outputs)
 - 7. Draft permit conditions, regulatory limitations and rationale (technical memorandum)

IV. COMPONENTS OF A PERMIT

- A. Legal Authority
- B. Technical Specifications
- C. Compliance Determinations (Methods)
- D. Excess Emissions
- E. Recordkeeping, Reporting, and Administrative Requirements
- F. Site-Specific Permit Conditions

V. GUIDELINES FOR DEVELOPING PERMIT CONDITIONS

- A. Cite Overall Legal Authority that Applies to all Emission Units
- B. List Processes and Control Equipment Regulated Under Permit
- C. Specify Emission Limits for each Emission Unit and Regulatory Citation, Where Applicable, Including Averaging Times
- D. Specify Compliance Test Methods to be Used and Include Frequency and Test Protocol Requirements
- E. Specify Operating Parameters and Surrogate Parameters
- F. Specify Recordkeeping and Reporting Requirements
- G. Enforceable Permit Conditions

Note: Two different approaches are generally used to develop permits. The first method is to develop entire sets of permit conditions for each emission unit under one large permit. The second method has separate sections (i.e., Emission Limitations) in the permit with all emission sources discussed under a single heading.

VI. PERMITS AND REGULATORY PROGRAMS

- A. Prevention of Significant Deterioration (PSD)
- B. Nonattainment Area New Source Review (NSR)
- C. New Source Performance Standards (NSPS)
- D. National Emission Standards For Hazardous Air Pollutants (NESHAPs)

- E. Clean Air Act Amendments of 1990 (Title III)
- F. Clean Air Act Amendments of 1990 (Title V)

VII. EXAMPLE PERMITTING EXERCISE

INSTRUCTIONS FOR PERMIT CRITIQUE EXERCISE

This exercise will allow you to examine and critique a portion of an actual air emissions permit. The section provided includes only the special permit conditions applicable to this facility and does not include the standard "boilerplate" provisions included in each permit issued by the state. This review does not ask you to perform any mathematical calculations but asks you to perform a qualitative review of the permit issued. Pay particular attention to enforceability issues.

BACKGROUND FOR PERMIT ISSUANCE

This permit was issued to a facility for a coal and a woodwaste boiler at a kraft pulp mill. There were other sources involved in the permit application that contributed to the emissions increases and decreases that were claimed by the facility. The facility was subject to PSD review for particulate, SO₂, VOC, and NO_x after summing the increases and decreases in emissions from the new coal and woodwaste boiler (also called a biomass boiler in the permit). There had been some previous problems with some of the emission sources located at the facility and corrective action was planned and used as the basis for the final emission estimates.

ATTACHMENT 2

FINAL PERMIT

The applicant has agreed the following sources will be controlled to reduce emissions of these items as either completed or in process of being completed:

- A. Uncontrolled emissions in the starch storage silo exist both because of a ruptured seal and a malfunctioning blower system on top of the silo.
- B. Emissions of clay during clay silo loading operations exist due to a common manifold feed line that allows conveying air to be fed back thru the lines not being used and discharges uncontrolled rather than thru the baghouse used for control of these emissions. An inexpensive plug on each line when not in use should be installed.
- C. Emissions from open truck unloading of salt cake occurred during times when rail cars were not available for salt cake delivery. The company has adopted the practice of keeping a rail car on hand that can be kept loaded. This practice should be required based on the amount of spillage from the open truck method observed during inspection.
- D. Sawdust/shavings emission from the box shop have been determined by the company to be a significant contributor to ambient air concentrations at the Violette Shell site discussed under section 9C. The company has taken steps to control these emissions by insuring the waste collection system functions as designed. A license condition in this order require proper maintenance and inspection of this source.
- E. The company is prepared to evaluate the causes of any continued high TSP concentrations and to implement one or all of the following if needed:
 - a. Purchase and use as required a vacuum street sweeper.
 - b. Purchase and install a dust collector on the makeup lime storage silo.
 - c. Purchase and install a dust collector on the calcium carbonate storage silos.
 - d. Increase the height of the existing lime kiln stack.
- F. Sources to be considered under BPT on next licenses are: Fugitive dust, lime storage silo (unless required to meet standards under (E) above), calcium carbonate storage silos (unless required to meet standards under (E) above, lime handling system, lime slaker and classifier vents, color room mixer vent, wood room waste handling system, chip silo, chip storage pile, chip conveying system, unpaved parking areas.

ATTACHMENT 2

FINAL PERMIT (Continued)

Based on the above, the Board concludes that with the attached special conditions the source will be receiving Best Practical Treatment, will not violate applicable emission standards or can be controlled so as not to violate the same, and either alone or in conjunction with existing emissions will not violate or can be controlled so as to not violate applicable ambient air quality standards or PSD increments and the equipment to be used is reliable in design specifications, expected operating characteristics and dependable in performance.

The Board hereby grants an air emission license addition to the applicant, subject to standard conditions a, b, c, d, e, and f plus the following special conditions:

- g. Open trucks shall not be used for salt cake unloading.
- h. Seals and blower located on the starch silo shall be repaired and maintained to eliminate starch emissions.
- i. Pneumatic conveying lines on the clay silos shall have plugs installed when not in use.
- j. The box shop sawdust and shaving conveying and collection system shall be maintained in such a manner as to prevent fugitive leaks.
- k. Fugitive dust shall be controlled by either a vacuum sweeping system, a dust collector on the make up line storage silo, a dust collector on the calcium carbonate storage silo, increasing the height of the lime kiln stack or a combination of the above as required by the Commissioner should the Commissioner determine that any or all are necessary to protect ambient air quality, to include increments. The applicant shall have 60 days after notification by the Commissioner to prepare a recommendation as to which controls, if any, are to be used. The final selection of control shall rest with the Commissioner.
- l. All coal utilized shall be washed coal. Silt content shall not exceed 6% as unloaded.
- m. All coal as received at the mill shall utilize a surfactant and/or in conjunction with other control measures shall provide the following.
 - a. Unloading: 94% control.
 - b. Loading onto the pile: 90% control.
 - c. Wind erosion on active piles: 90% control.
 - d. Load out from pile: 90% control.
- n. All conveyor and conveyor transfer points for crusher and boiler shall be kept under negative pressure and exhausts shall be controlled by fabric filter capable of having 99.9% control efficiency as guaranteed by the supplier.
- o. Vehicular traffic shall be minimized on and around the coal pile and surfactants shall be utilized on trafficked areas.

ATTACHMENT 2

FINAL PERMIT (Continued)

- p. Inactive coal piles or parts of coal piles that will not be moved for 90 days shall have encrusting agents applied and provide 99% control.
- q. The biomass boiler emissions shall at all times meet or be less than NSPS for NO_x , SO_2 , PM and visible emissions.
- r. Continuous instack monitors required shall be opacity, O_2 or CO_2 , NO_x (if initial testing shows less than 70% of standard, NO_x monitor may not be required. NO_x monitor is not required prior to startup) and SO_2 . All instack monitors are subject to 40 CFR, part 60. All monitors shall have chart recorders.
- s. Records on fuel use shall be maintained that will permit determination of BTU's as fired for all fuels utilized. A plan on how these records are to be determined and kept shall be submitted 90 days prior to startup. Such a plan must be approved by the Commissioner prior to biomass boiler startup.
- t. Particulate emissions from the biomass boiler shall be limited to 0.08 lb. per million BTU regardless of the fuel used.
- u. Flyash handling shall utilize liquid slurry or heavy dust suppression by water to eliminate fugitive emissions. Should the ashes be handled in dry form, fabric filters shall be used for control at all transfer and conveying points.
- v. The applicant shall maintain an ambient monitoring program for SO_2 utilizing no more than two continuous monitors and a monitoring program for TSP utilizing no more than eight stations. Filter analysis shall be performed on all filters having 100 ug/m^3 and over, and on other filters, as determined by the Commissioner, that will provide information needed for analysis of the mill's impact. The applicant shall also operate a 10 meter meteorological tower at the mill location. The entire monitoring program shall meet the satisfaction of the Commissioner and subject equipment shall be installed and operating within at least 90 days of approval of any monitoring site.

The applicant shall also perform a "fence-line" monitoring program aimed at determining coal handling TSP impacts and shall include filter analysis as required by the Commissioner. The monitoring stations involved are included in the eight stations for TSP monitoring.

The applicant shall issue purchase orders for a meteorological tower of at least 100 meters above ground level within 60 days after notification of:

1. a monitored 24-hour ambient air concentration in excess of 230 micrograms of SO_2 per cubic meter to which the applicant had a contribution of that occurs on the
2. The applicant exceeds a total BTU input to all boilers, exclusive of the recovery boiler, of 1,250 million BTU/hr.

The applicant shall expeditiously install and operate the tower upon receipt. Also, any further analysis requiring the use of modeling data for the biomass stack and/or the power boiler stack shall utilize modeling data based on a minimum of one year's meteorological data taken from a 100 meter AGL, or taller, tower at the mill complex.

ATTACHMENT 2

FINAL PERMIT (Continued)

- w. Stack sampling for PM in accordance with 40 CFR, part 60 may be required when the boiler is utilizing rubber as a fuel. Testing shall take place within 60 days of notification by the Commissioner of the need to test.
- x. The biomass boiler stack shall be built to Good Engineering Practice (GEP) height and GEP is determined to be 360 feet based on the proposed building configuration. Should the applicant change any of the parameters of the stack or buildings that were used to determine the 360 feet, the applicant must submit proof that the changes will not result in an increase in GEP stack height. Proof will include fluid modeling if determined necessary by the Commissioner.
- y. All permanent roads constructed at the mill associated with the biomass boiler shall be paved. All temporary roads shall receive dust suppression (water or other) as required to minimize fugitive dust.
- z. All unpaved construction areas associated with the biomass boiler within the mill shall be controlled for dust suppression.
- aa. A visible emission limitation more stringent than NSPS may be required by the Commissioner for the coal handling facility, if the Commissioner determines the limitation represents emissions expected out of the BACT for coal handling selected by the applicant.
- bb. On startup of the biomass boiler, the applicant shall limit the emissions from the Recovery boiler, lime kiln and smelt tank to the typical emissions used in the modeling for ambient air standards, specifically:

| | Recovery Boiler | Lime Kiln | Smelt Tank |
|-----------------------|-----------------|-----------|------------|
| Lb/Hr Particulate | 25.0 | 5.13 | 1.38 |
| Lb/Hr SO ₂ | | | |

unless the applicant has demonstrated to the satisfaction of the Commissioner through modeling that all applicable standards to include increments can be met with a higher operating rate.

- cc. An engineering plan acceptable to the Commissioner to control emissions from the lime handling system shall be submitted by August 1, to include an implementation schedule. The engineering plan shall reflect BPT but in no way shall provide for less control than 0.087 grams per second emissions, the value used to demonstrate compliance with standards or less.
- dd. On startup of the biomass boiler, the applicant shall limit the total BTU input to all boilers (excluding the Recovery Boiler) to 1,250 million BTU's/Hr. When a 100 meter above ground level meteorological tower is operational at the mill, the firing rate of the biomass boiler will be unrestricted and the applicant shall limit the No. 6 oil usage in the existing boilers (excluding the Recovery Boiler) to the typical hourly firing rate used to determine baseline. This represents 5,184 gallons of No. 6 fuel oil per hour. Also the applicant shall not fire the existing boiler at a rate greater than 5,184 gallon of No. 6 fuel oil per hour when the biomass boiler is operating.

FINAL PERMIT (Concluded)

- ee. The applicant shall utilize an underground hopper for coal unloading to the conveyor.
- ff. Thruput of the active coal pile shall not exceed 3.2 tons per hour when operating at 100% coal and 1 ton per hour when operating at 25% coal/75% wood. Thruput at other operating modes shall be determined by a ratio of the above.
- gg. Four years of additional CRSTER or equivalent modeling shall be performed in a manner acceptable to the Commissioner for the existing process sources (Lime Kiln, Smelt Tank, and Recovery Boiler) and submitted with the new air emission license application for the entire source.
- hh. The ground area around the underground hopper shall be paved and maintained in a manner so as to minimize fugitive dust entrainment.
- ii. The applicant shall at all times meet 1.2 lb. SO₂ per million BTU. The applicant shall be limited to 0.79% S, 13,150 BTU/coal or its equivalent sulfur per BTU content whenever the biomass contribution is less than 40% of the BTU's fired and shall be limited to 0.90 lbs. SO₂ per million BTU for biomass firing rates greater than 40% biomass with a maximum allowable coal sulfur content of 1.5%. The above limitations ~~are to be demonstrated~~ by the use of an in stack SO₂ monitor and will be based on 30-day averages.
- jj. The applicant shall provide a plan for the use of surfactants and how they are to be applied to achieve emission control as required on this license. The plan shall be submitted 90 days prior to receiving any coal and must meet the approval of the Commissioner prior to receiving any coal.
- kk. Prior to biomass boiler startup the applicant shall demonstrate to the Commissioner, either by additional analysis or emission impact reduction, that it has provided the necessary air quality to assure compliance with the ambient air quality standards.

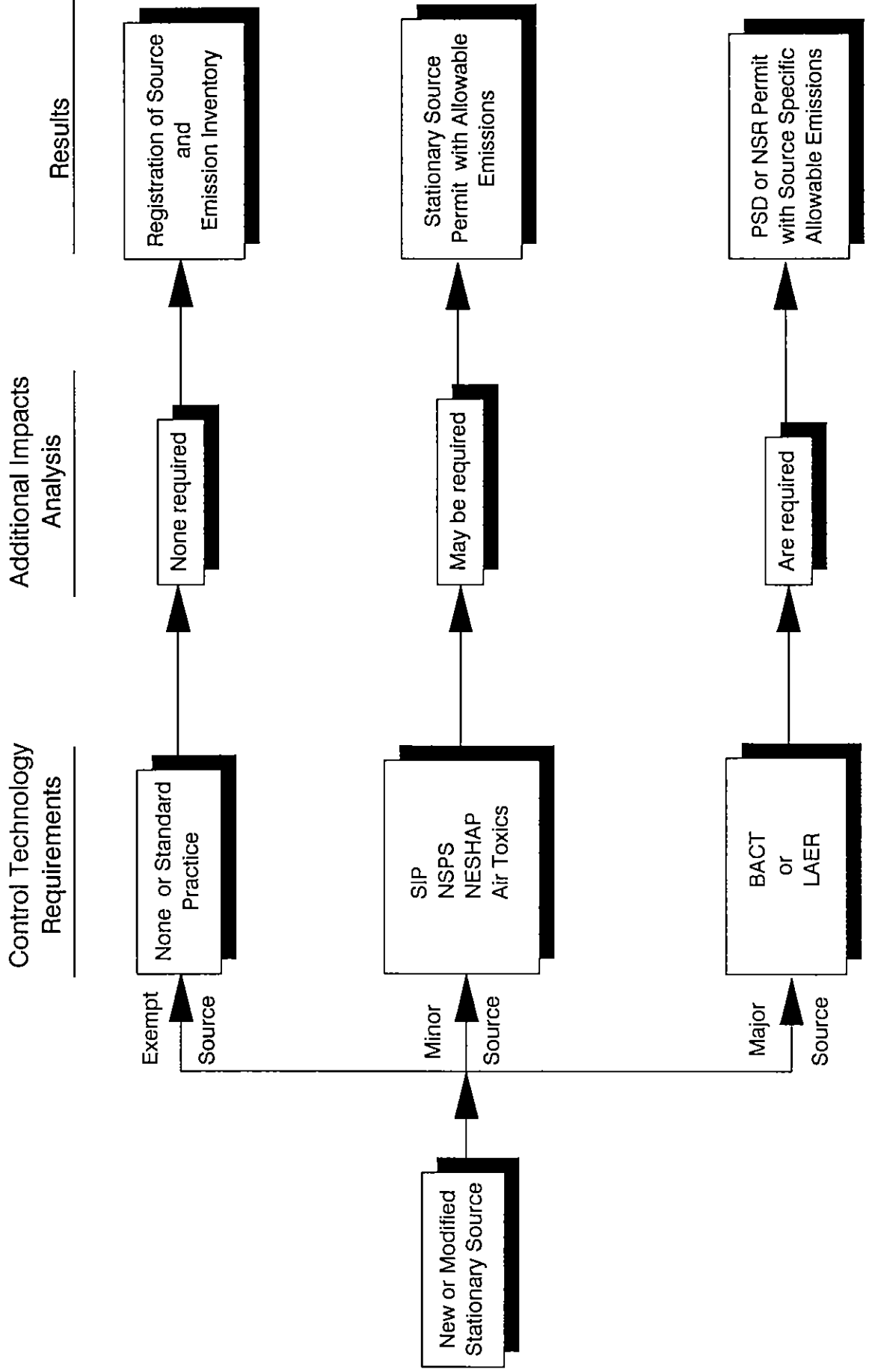
DONE AND DATED IN

THIS 11TH DAY OF MARCH

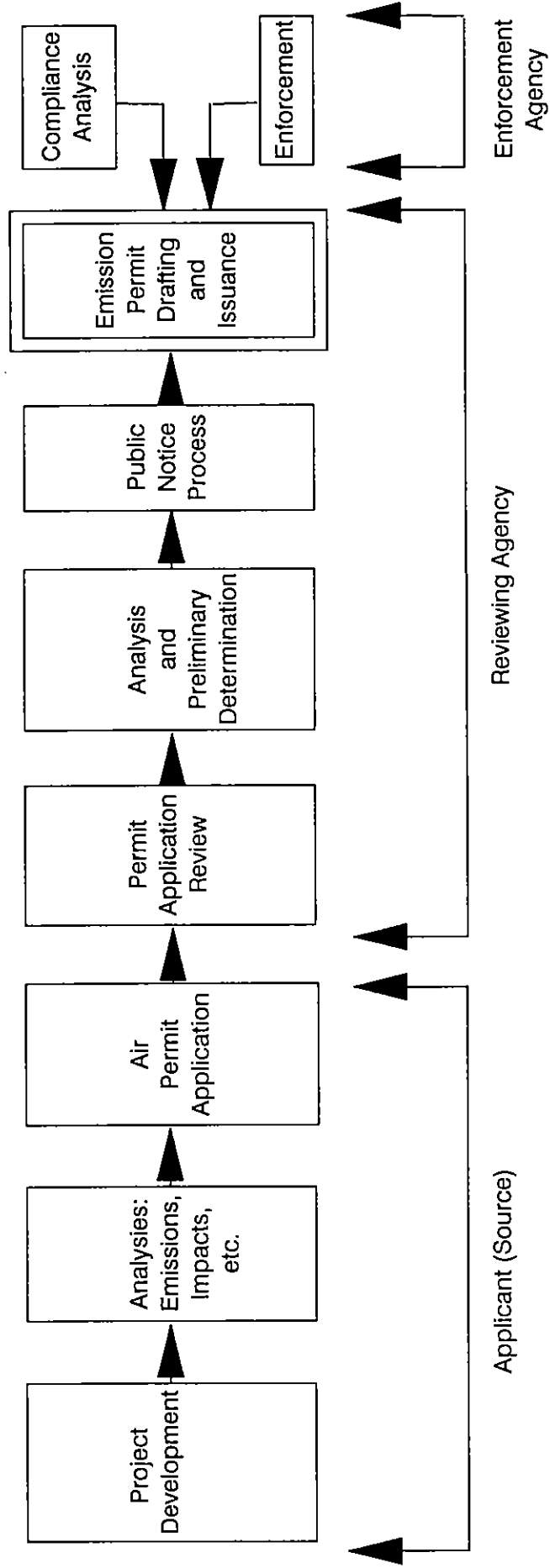
BOARD OF ENVIRONMENTAL PROTECTION

BY

GENERAL PERMIT REVIEW SYSTEM



General Air Emissions Permitting Process



Responsibility

Suggested Minimum Contents of Air Emission Permits

Permit Category

Typical Elements

LEGAL AUTHORITY

- Basis - statute, regulation, etc.
- Conditional provisions
- Effective and expiration dates

TECHNICAL SPECIFICATIONS

- Unit operations or processes covered
- Identification of emissions units
- Pertinent equipment design information
- Process specifications
- Operation and maintenance procedures
- Emission limits

EMISSION COMPLIANCE DEMONSTRATION

- Initial performance test methods and requirements
- Periodic testing requirements
- Continuous emission monitoring and methods
- Surrogate compliance parameters and methods
 - Process monitoring
 - Equipment design/maintenance
 - Work practice

DEFINITION OF EXCESS EMISSIONS

- Emission limit and averaging time
- Surrogate measures
- Malfunctions and upsets
- Follow-up requirements

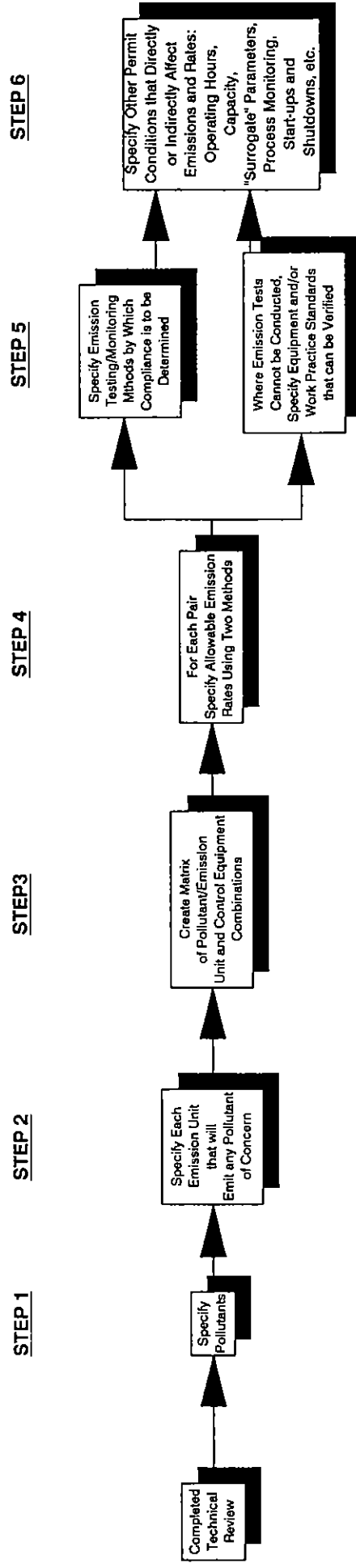
ADMINISTRATIVE

- Recordkeeping and reporting requirements
- Commence/delay construction
- Entry and inspections
- Transfer and severability

GUIDELINES FOR WRITING EFFECTIVE SPECIFIC PERMIT CONDITIONS FOR AIR PERMITS

1. Make each permit condition simple, clear, and specific such that it "stands alone."
2. Make certain legal authority exists to specify conditions that are more comprehensive than the specifics contained in the regulations.
3. Permit conditions should be objective and meaningful.
4. Provide a brief description of processes, emission units, and control equipment covered by the permit, including operating rates and averaging periods for those rates.
5. Clearly identify each permitted emission unit and the applicable permit conditions such that the unit can be located in the field and compliance with the applicable permit conditions can be determined.
6. Specify allowable emission rates (or concentration, etc.) for each emission unit permitted. Do not reference applicable emission limit regulations only.
7. Allowable emission rates should reflect the degree of control and maximum emission rate allowed as a result of the permit application and review. For new sources subject to PSD or nonattainment area New Source Review, permit conditions should reflect the conditions of BACT or LAER, respectively, and the results of the required Air Quality Analysis. Emission limits should be specified two ways to reflect these limits (e.g., maximum mass/unit of process AND maximum mass/unit time). Remember to include an averaging time with these values.
8. Specify permit conditions (especially for fugitive emission sources) for all emission units that require continuous application of controls to achieve the maximum degree of emission reduction as specified in the permit application. For PSD sources, these permit conditions should reflect the continuous application of BACT.
9. Initial performance test should be conducted at worst case operating (non-malfunction) conditions for all emission units. More than one set of test runs may be required particularly if surrogate parameters are going to be used and are specified in the permit. Performance tests should determine both the emission rate and control equipment efficiency.
10. Continual and continuous emission performance monitoring and recordkeeping (direct measurements and/or surrogate parameters) that go beyond the regulatory requirements should be specified where feasible.
11. Specify the test method (regulatory citation) and averaging period by which compliance demonstrations (initial, periodic, and continuous) are to be made. Minimum notification times, development of test protocol, and maximum durations between start-up and testing should also be specified in the permit.
12. Specify the conditions that constitute "excess emissions," and what is required in these cases.

OVERVIEW OF THE PERMIT DRAFTING PROCESS



AIR EMISSION PERMIT WORKSHEET

Applicant Name : _____ Date : _____

Permit Number : _____ Reviewer : _____

| POLLUTANTS | PSD or N/ATT or SIP Only | | | Special Permit Condition |
|------------|--------------------------|-------|-------|--------------------------|
| 1. _____ | _____ | _____ | _____ | _____ |
| 2. _____ | _____ | _____ | _____ | _____ |
| 3. _____ | _____ | _____ | _____ | _____ |
| 4. _____ | _____ | _____ | _____ | _____ |
| 5. _____ | _____ | _____ | _____ | _____ |
| 6. _____ | _____ | _____ | _____ | _____ |
| 7. _____ | _____ | _____ | _____ | _____ |
| 8. _____ | _____ | _____ | _____ | _____ |
| 9. _____ | _____ | _____ | _____ | _____ |
| 10. _____ | _____ | _____ | _____ | _____ |

| EMISSION UNITS | Point or Fugitive | | Operating Restrictions |
|----------------|-------------------|-------|------------------------|
| 1. _____ | _____ | _____ | _____ |
| 2. _____ | _____ | _____ | _____ |
| 3. _____ | _____ | _____ | _____ |
| 4. _____ | _____ | _____ | _____ |
| 5. _____ | _____ | _____ | _____ |
| 6. _____ | _____ | _____ | _____ |
| 7. _____ | _____ | _____ | _____ |
| 8. _____ | _____ | _____ | _____ |
| 9. _____ | _____ | _____ | _____ |
| 10. _____ | _____ | _____ | _____ |

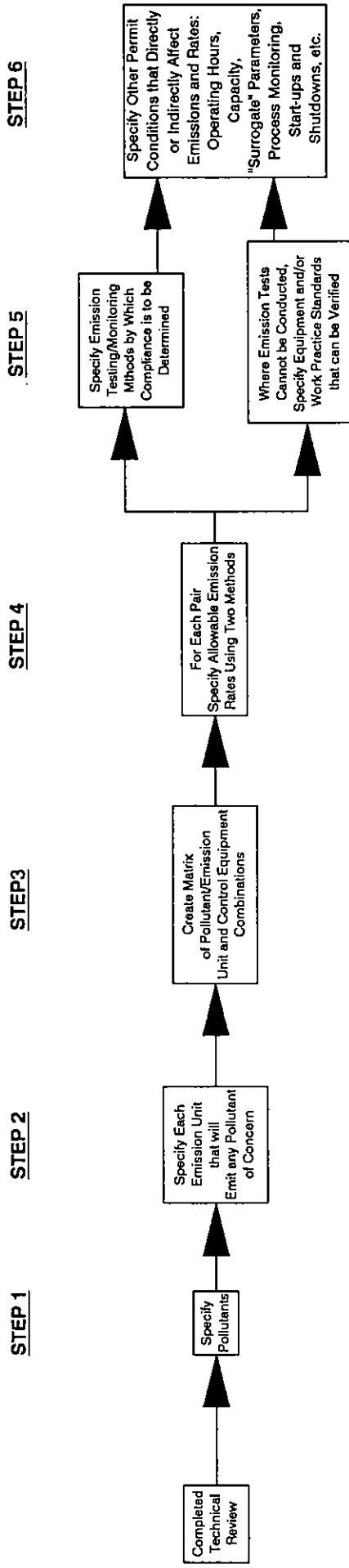
AIR EMISSION PERMIT DRAFTING WORKSHEET

Emission Unit : _____ I. D. Number : _____
 Size or Capacity : _____
 Fuel or Raw Material : _____

| Regulated Pollutant | Emission Controls | BACT or SIP | Allowable Emission lb/hr | lb/unit process | Averaging Time | Compliance Method | | Other Conditions |
|------------------------|----------------------|-------------|--------------------------------|-----------------|-------------------|-------------------|------------|------------------|
| | | | | | | Initial | continuous | |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
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| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

NOTES:

OVERVIEW OF THE PERMIT DRAFTING PROCESS



SIX STEPS TO PERMIT DRAFTING

STEP 1: Specify Pollutants

- Pollutants subject to NSR/PSD review.
- Pollutants not subject to NSR/PSD review but could reasonably be expected to exceed emission levels specified in the permit application.
- Other regulated pollutants for which regulatory emission limits exist or can be established.

STEP 2: Specify Emission Units

- Each new, modified, or major emission unit that will emit (as well as increase or decrease) any pollutant identified in Step 1.
- Include point and fugitive emission units (sources).
- Identify and describe emission unit and emission control equipment.

STEP 3: Create Matrix of Pollutants/Emission Units

- Specify emission controls for each pollutant/emission unit pair. Where BACT is applicable, specify BACT controls.
- Pollutants x Emission Units = Maximum Number of Allowable Emission Rates to be Specified.

STEP 4: Specify Allowable Emission Rates

- Unit mass/unit of process operation (e.g., lb/ton, kg/Mg, or lb/10⁶ Btu) that reflects the continuous application of emission controls at all operating levels. May also include concentration (e.g., ppm at a specified dilution concentration level).
- Unit mass/unit time reflects the application of emission controls at maximum permitted capacity (e.g., lb/hr or kg/hr).
- Maximum hourly emission rate levels must correspond to those used in any required air quality analysis.

STEP 5: Specify Compliance Demonstration Methods

- Continuous, direct emission measurement procedure is preferable.
- Specify initial and periodic emission testing where necessary.
- Specify surrogate (indirect) parameter monitoring and recordkeeping where direct monitoring is impractical.
- Equipment and work practice standards should compliment other compliance monitoring activities.

STEP 6: Other Permit Conditions

- Establish the basis upon which the permit is granted.
- Limits the potential to emit.
- Reporting requirements for records, malfunctions, periods of excess emissions, and corrective actions.
- Source or control equipment specific conditions concerning operation and/or maintenance of the equipment. These may be supplemental to surrogate compliance demonstration methods.
- Off-site monitoring requirements.

MODEL PERMIT TEMPLATE

- Key elements identified -
Source identification, legal authority, emission limits, compliance test methods, specific permit limitations, etc.
- Multiple choice / Fill-in blank
- Form 1040 approach

MODEL PERMIT DILEMMAS

- ❑ Permit organization
- ❑ Coverage (80/20 rule)
- ❑ Permits for every contingency
- ❑ Permit uniformity
- ❑ When permit uniformity becomes unrealistic
- ❑ Target audience of model permits

MODEL PERMIT ORGANIZATION (Rule, Source, or Control)

- ▣ States commonly focus on control equipment
- ▣ Permit conditions commonly focus on control equipment
- ▣ Identification of key parameters
- ▣ Develop permit conditions to reflect key parameters

MODEL PERMIT COVERAGE

- ❑ Model permits cannot cover every contingency
- ❑ The rule of 80/20
- ❑ Identify key parameters for process, controls, and work practices

MODEL PERMIT UNIFORMITY

ADMINISTRATIVE - Permits with similar format increase ease of permit processing for many source categories

LEGAL - Reduces the possibility of "arbitrary" complaints

ENFORCEMENT - Consistent language in the development of enforceable permit conditions

PERMIT WRITING PROCEDURES

- o Include brief citation of permit review and issuance authority provided by the regulations.
- o Provide listing of sources regulated under permit. List process and associated control equipment. Include a brief process description for each source or process covered by the permit.
- o Include effective and expiration dates for permit. If permit is for construction or modification provide citation or definitions of key terms associated with these actions if not elsewhere specified (e.g., commenced construction, continuous constructions, etc.).
- o Include emission limitations for each source and regulatory citation for each limit where applicable. Emission limits should be expressed in units of the applicable standards including averaging times, if applicable (e.g., lb/10⁶ Btu, lb/ton produced, lb/h, etc.). Where more than one limit exists for the same pollutant state all limits with the awareness of "and" and "or" concepts of emission limits. Be aware of limited regulatory authority to specify more than one limit (e.g., both lb/10⁶ Btu and lb/h limits) particularly for existing sources. When the emission limit is other than the "normal" established emission limit, the authority to establish such limits should be cited. Exemptions should be specified.
- o Specify all test methods to be used to determine compliance with emission limits. If previously approved test modification is to be used, it should be specified in the permit. Also specify testing frequency and notification of agency for stack test observation. May require determination and definition of representative conditions for testing and submission of test protocol.
- o Specify emission parameters to be monitored either continuously or continually. The parameters may include opacity, SO₂, NO_x, HC, TRS, O₂, etc. Where concentrations are established specify a base^x value for dilution (e.g., 8% O₂, 12% CO₂, etc.) and where that value is monitored for the emission limit. Also specify never to exceed values and methods for converting from concentration to mass values. Specify averaging time for evaluating continuous monitoring data. For continually monitored data specify monitoring frequency and interval.

- o Specify operating parameters (process and control equipment) to be monitored and recorded. Specify frequency and interval for recorded data if not continuously monitored. If used as a surrogate indicator for compliance with emission limits or hours of operation specify value to be achieved or range of values to be maintained. Specify useful and easily identified parameters only!
- o Specify actions to be taken by the source if performance test, emission monitoring, or surrogate values indicate noncompliance with acceptable limits. Include time limits to demonstrate compliance with emission limits through additional performance tests.
- o Specify minimum recordkeeping requirements, reporting of monitoring data (frequency, units, what data to be reported), availability during inspections, and minimum availability requirements for recorded data. If data is to be continuously monitored onsite, specify.
- o Operation and maintenance requirements for monitoring equipment (emission and surrogate compliance indicators). May include zero, span, calibration frequency or other tests to verify valid data.
- o Operation and maintenance requirements for control equipment. May specify submittal of maintenance plan to agency. Cite regulatory authority to require proper operation and maintenance equipment.
- o Specify definitions of startup, shutdown, and malfunctions if not specified in the applicable regulations. If emission limitations specify exemptions this definition may be essential. Specify never to exceed values, length of startup, shutdown, or malfunction.
- o Specify recordkeeping and reporting for malfunction including notification, determination of cause, corrective action, length of time to correct, impact, actions to prevent recurrence. Note: These actions may be the basis of permit modification under operation and maintenance.
- o Specify administrative procedures associated with determination of non-compliance, penalties, hearings, and appeals. Include time limits for each action/responses.
- o Specify procedures for permit modifications including additional permit conditions or modification of existing ones.
- o Refer to confidentiality and handling procedures. Do not outline process in permit as procedures should already be established.
- o Specify right to revoke permit (with legal authority citation) with cause and without liability.
- o Specify sources' responsibility to achieve and maintain compliance with regulatory requirements regardless of conditions.
- o Other site specific conditions; examples.

- o Specify abbreviations and units for processes
- o Define nonstandard terms
- o Specify how process related values are determined for emission limits
- o All limits must apply to the source receiving permit (i.e., secondary emissions not directly controllable)
- o Be direct in all language; plain English; clear, concise language.
- o Specify only enforceable permit conditions that have some meaning to process and control equipment emissions.