

Air Quality Permitting of
ASPHALT PLANTS
in the
State of Georgia

Presented by John Yntema

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Air Quality Permitting for ASPHALT PLANTS

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Outline

- Permitting: General Information
- Filling Out the Application
- Permit Review and Issuance Procedures
- RAP / Silos / Contaminated Soil / Etc.
- Regulations Subjecting Asphalt Plants
- Title V Avoidance by SM or PBR Permit
- Permit Fees

Permitting Regulations

- Rule 391-3-1-.03(1) and (2): Requires that a state construction permit and state operating permit be applied for and obtained for “any facility which may result in air pollution.” [Except as exempt under Rule 391-3-1-.03(6).]
- Note: air quality permits are not transferable. EPD policy is that:
 - If you buy an existing plant that has a valid permit, you must inform the Air Branch in writing within 30 days after such purchase. In that letter, you must state that you will continue to operate under the conditions of the existing permit until a new one is issued and indicate any changes that you want in the permit. You may continue to operate.
 - If you want to move an existing plant, you must apply for and receive a permit prior to erecting the plant at the new site.

Permitting Regulations

- Federal Rule 40 CFR Part 70 & Rule 391-3-1-.03(10) contains the Clean Air Act Title V Operating Permitting requirements: Any source with emissions which could potentially exceed a major source threshold must apply for and obtain a Title V major source permit, a synthetic minor (SM) permit, or a permit-by-rule (PBR).

Procedures for Obtaining a state Air Quality Permit

- Fill out the standard state air quality application. Hard copies are supplied upon request or it can be downloaded (WORD or pdf) from the Air Branch web site:
<http://www.air.dnr.state.ga.us/sspp/>
- An application must be filled out for a new plant, an existing plant which is being moved, or a modification to a plant. For an existing plant which is already permitted in Georgia, if there is an application on file which describes the plant, you may not need to fill out the entire application. A letter may suffice. For details, please check with me or a permitting engineer.

Procedures for Obtaining a state Air Quality Permit

- Send two signed copies of the air quality application to:

Jimmy Johnston, Program Manager

Air Protection Branch

Environmental Protection Division

4244 International Parkway - Suite 120

Atlanta, Georgia 30354

Phone: 404.363.7020

Procedures for Obtaining a state Air Quality Permit

- This is IMPORTANT
 - It can take up to 6 months for EPD to issue an air quality permit after receiving a complete application. Therefore, you should apply for a permit as early as possible. If there is a legitimate reason for needing a permit review expedited, I recommend you call me, or one of my permitting engineers. Make sure that you know exactly what to submit. A complete application will help assure a quick review.

Procedures for Obtaining a State Air Quality Permit

- **Contacts:**
 - **John Yntema** is the Combustion Unit Manager which reviews asphalt plant applications: 404.363.7117
 - **Air Branch** General Number: 404.363.7000
 - **The Small Business Assistance Program:** If you qualify as a small business, they can assist you in filling out an air quality application. I recommend this if you have never applied for a Georgia air quality permit before and are not going to hire an experienced consultant. 404.362.4842 or 1-800-427-6255 or www.gasmallbiz.org

Obtaining an Asphalt Plant Permit

- Things to remember when filling out application.
 - Be sure to fill in the complete address of the site (including County) as far as you know it.
 - Include the phone number of the contact-person.
 - Make sure to include the information requested on the back page of Section 1 “GENERAL INFORMATION”, including the 3 attachments requested: a Plot Plan, a Flow Diagram & a General Description of the Process
 - Fill out Section 2A “PROCESS DESCRIPTION AND OPERATIONAL DATA”; especially make sure to include maximum expected annual and hourly production rates.

Obtaining an Asphalt Plant Permit

- Things to remember when filling out application.
 - Section 2B “LIST OF RAW MATERIALS AND CHEMICALS” only needs to include any unusual additives to your concrete, particularly toxic compounds.
 - Fill out Section 3A “BOILERS AND FUEL BURNING EQUIPMENT”
 - Fill out Section 3B “FUEL DATA” using one row for each fuel-type to be used.
 - Section 4A and 4B “STORAGE VESSEL DATA” should be filled out for fuel storage tanks and liquid Asphalt Cement (AC) tanks.

Obtaining an Asphalt Plant Permit

- Things to remember when filling out application.
 - Fill out Section 7 “FUGITIVE EMISSIONS”. This should include a proposal to minimize dust from in-plant truck travel.
 - Fill out Section 9 “EMISSIONS DATA”. We will calculate potential emissions using applicable AP-42 factors unless you provide us with test results justifying the use of alternate factors.
 - Fill out Section 10A “STACK DATA” as much as possible.

Obtaining an Asphalt Plant Permit

- Things to remember when filling out application.
 - Fill out Sections 11A and 11B “AIR POLLUTION CONTROL DEVICES” with the details of the baghouse or scrubber used to control the dryer and any other control devices (including any bin-vent baghouses).
 - Fill out Section 11C if you have a scrubber and 11D for any filter collectors.

Obtaining an Asphalt Plant Permit

- Most asphalt plants have the potential to be a major source for Title V. Generally they have the potential to:
 - Emit over 100 tons per year (tpy) of SO₂ because of Sulfur in the fuel and/or
 - Emit over 100 tpy of NO_x from combustion. [50 tpy NO_x if in Atlanta Non-Attainment Area]
- To avoid Title V permitting, most asphalt plants must operate under a synthetic minor (SM) permit or a permit-by-rule (PBR). If desiring a PBR, also submit a PBR application.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - Upon receipt, it is date-stamped and assigned an application number.
 - It is assigned to the Combustion Permitting Unit for review.
 - It is assigned to a permitting engineer. Hem Sharma (404.362.4846), Chak Yendapally (404.362.4858), Eric Cornwell (404.362.25240) and Brian Massengale (404.363.7112) review asphalt plant applications.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - An acknowledgement letter will be sent from the engineer. This should supply you with the application number and the review engineer's name, phone number and e-mail address.
 - In most cases, a 30 day Public Advisory (PA) is held. PA's are sent out once per week to newspapers, public officials and those who have requested to be on our list. Those receiving the PA are invited to comment within 30 days.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - A completeness review is done. A letter should be sent within 30 days if additional information is required.
 - The engineer reviews the application to make sure that the proposal can comply with all applicable state and federal air quality rules. This review will include a screening model to assure that toxic emissions (particularly formaldehyde and benzene) do not exceed acceptable ambient concentrations (AAC).
 - The engineer begins to draft the permit conditions and a review memo.

Procedures for Obtaining a State Air Quality Permit

- Hearings and Meetings
 - If a written request has been made for a hearing, one will be scheduled for the purpose of receiving comments on the air quality aspects of the proposal. If the decision is made to hold a public hearing, the EPD will make all arrangements.
 - A Public Notice, announcing a Public Hearing, will be published in the legal section of the county's legal organ. We allow 30 days notice for a hearing.
 - The hearing will generally be held in a public room, often a courthouse, library, or school.

Procedures for Obtaining a State Air Quality Permit

- Hearings and Meetings
 - The proceedings will be videotaped and archived at our offices, along with the rest of the information about the hearing.
 - The Applicant is welcome to attend in any capacity. Applicants may want to prepare a short presentation and be ready to answer questions about the air quality issues and other issues pertaining to their proposal.

Procedures for Obtaining a State Air Quality Permit

- Hearings and Meetings
 - Usually a meeting will be held first, during which questions can be asked and answered by EPD and the Applicant.
 - Comments and questions are often heard which pertain to non-air quality aspects of the project (e.g. noise & operating hours). The company may want to address these issues at that time.
 - Immediately following the public meeting, the official public hearing is usually held, in which EPD hears statements and receives written comments regarding the proposal, for the record.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - Once all comments are received and any new air quality issues are addressed by the reviewer, the final draft permit documents are submitted to the Unit Manager.
 - Once approved by the Unit Manager, they are sent to the Manager of the Permitting Program, Jimmy Johnston, who reviews them carefully to make sure that the proposed facility can comply with the applicable rules, that the permit is written properly, and that proper procedures have been carried out.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - Once approved by the Mr. Johnston, the draft permit is sent to Ron Methier, Air Protection Branch Chief.
 - Once approved by the Air Branch Chief, it is bundled with other draft permits and sent to the Director of EPD, Harold Reheis, for signature.
 - If signed, it is sent back to the Air Branch which will send it out ASAP.

Procedures for Obtaining a State Air Quality Permit

- What happens to your application?
 - If it is determined that the proposed facility cannot comply with all applicable rules, the Applicant will be notified of the problem and may amend the application to remove the objection. If that is not possible, a permit denial letter may be issued by the Director.
 - **IMPORTANT:** For 30 days after permit issuance or denial, any person can file an appeal to the DNR Administrative Law Judge. If a permit is appealed, it is automatically stayed until a decision is made regarding the appeal.

A State Air Quality Permit

- Recycled Asphalt Product (RAP): We would prefer that plants which plan to use RAP include that information in their application, although emission factors do not indicate that the use of RAP has any effect on emissions.
- Limestone Silo: This, and other dust-containing silos, should be included in the application, along with a clear indication of how emissions from silos (especially when being filled) are to be controlled.

A State Air Quality Permit

- Testing
 - 40 CFR Part 60 Subpart I, a federal New Source Performance Standard (NSPS), requires initial testing of PM emissions and opacity to determine compliance with Subpart I limits.
 - For newly permitted or moved asphalt plants, the permit is likely to require re-testing to assure compliance with the applicable PM and opacity rules.

A state Air Quality Permit

- Monitoring
 - Permits will include monitoring of, and monthly record keeping of, some or all of the following data:
 - baghouse pressure drop
 - fuel usage
 - fuel sulfur content
 - asphalt concrete production (tons)
 - hours of operation

A state Air Quality Permit

- State-wide permits
 - Portable asphalt plants and others that are likely to be moved often can receive a state-wide air quality permit.
 - The company must specifically indicate each location in which the plant is to operate. A Public Advisory will be issued for each site.
 - To add new sites to a state-wide permit, a letter must be sent requesting this. The processing of such a permit amendment is likely to take less time than to process a new application.

A state Air Quality Permit

- Contaminated Soil
 - If the Applicant wants to use or process contaminated soil, this must be requested in the application.
 - Soil contaminated by leaking underground storage tanks may be processed. Hazardous waste may not.
 - Soil analysis and record keeping will be required by the permit, such that VOC emissions can be determined.

A state Air Quality Permit

- Contaminated Soil
 - Inside the Atlanta NAA, emissions would be limited to 15 pounds VOC per day or reasonable available control technology (RACT) is required. [Generally an afterburner.]
 - Outside the Atlanta NAA, VOC emissions will be limited to 550 pounds per day. It is possible testing will be required.

Title V Aspects of the state Air Quality Permit

- Title V Permitting Regulations
 - Almost all asphalt plants have the potential, if operating 24 hours per day, to emit over 100 tons per year of Sulfur Dioxide or Nitrogen Dioxide. However, we know that asphalt plants do not operate that much. Therefore, unless the applicant really wants a Title V permit, the permit issued for an asphalt plant will be either a Synthetic Minor Permit or Permit-by-Rule.
 - If a plant submits a state application, generally a Synthetic Minor permit will be written.

Title V Aspects of the state Air Quality Permit

- Title V Permitting Regulations
 - If the plant can operate within the Permit-by-Rule (PBR) limits of Rule 391-3-1-.03(11)(b)5, the applicant may choose to submit a Permit-by-Rule application along with a state (SIP) application.
 - PBR requirements include limits on annual production, annual fuel usage, hours of operation and/or fuel sulfur content.

Title V Aspects of the state Air Quality Permit

- Why would you want a permit-by-rule (PBR)?
 - Currently, annual permit fees are lower than for a synthetic minor permit or a title V permit
- Why a synthetic minor (SM) permit?
 - If firing only natural gas, LPG or distillate fuel, it could allow greater production.
 - If firing residual oil, an it can allow higher sulfur content of fuel.

Permit-by-Rule Limits for Asphalt Plants

- For New Plants (constructed or modified after June 11, 1973) firing natural gas, LPG and/or distillate fuel oil:
 - Production limited to 400,000 tons or asphalt concrete per 12-months
 - Operation limited to 3000 hours per 12-months
 - Monthly record keeping of production and hours of operation

Permit-by-Rule Limits for Asphalt Plants

- For new and existing plants firing natural gas, LPG, distillate fuel oil and/or residual oil:
 - Production limited to 200,000 tons per 12-months.
 - Fuel sulfur limited to 1.5% or less.
 - Operation limited to 3000 hours per 12-months.
 - Fuel oil usage limited to 678,000 gallons per 12-month.
 - Monthly record keeping of production, hours of operation and fuel-oil certification is required.

Permit-by-Rule for Asphalt Plant

- There are a number of companies that have SM permits for some of their asphalt plants but PBR permits for others. They find that they are paying the SM permit fee for the SM plants but not for the PBR plants, even though they operate the plants the same way. Such companies may want to switch to a PBR to eliminate SM permit fees.
- The SM fee for calendar year 2000 was \$1000.
- The NSPS fee for CY2000 was \$1500.
- These fees were additive.

Permit-by-Rule for Asphalt Plant

- If a source wants to change from SM to PBR, it must submit a PBR application and request that EPD amend the SM permit to make it PBR.
- EPD will then amend the permit to remove the SM limits and substituted PBR limits. This can take up 6 months.
- Note: It is always possible that EPD may charge some type of fee for PBR sources in the future, but we would have to go through a rulemaking process to do so.

Emission Regulations Subjecting Asphalt Plants

- Federal Rule 40 CFR 60, Subpart I
“Standards of Performance for Hot Mix
Asphalt Facilities.”
 - Limits Particulate Matter to 0.04 grains/dscf.
 - Limits Opacity to 20%.
 - Requires emissions testing.

This NSPS subjects units constructed or modified
after June 11, 1973

Emission Regulations Subjecting Asphalt Plants

- State Rule 391-3-1-.02(2)(k) – “Particulate Emission from Asphaltic Concrete Hot Mix Plants” – This rule has less stringent PM limits which only really apply to plants constructed prior to June 11, 1973 (not being subject to Subpart I). The PM limit is determined using one of several equations, depending on the size of the plant and date of installation.

Emission Regulations Affecting Asphalt Plants

- State Rule 391-3-1-.02(2)(b) – “Visible Emissions” – This limits opacity to 40% from stacks.
- State Rule 391-3-1-.02(2)(n) – “Fugitive Dust” – This requires sources take all reasonable precautions to prevent such dust from becoming airborne and limits opacity to 20%.

Asphalt Plant – Overview of Operation of a Drum Mix Plant

