pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**COMMONWEALTH OF PENNSYLVANIA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**BUREAU OF AIR QUALITY**

# GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT APPLICATION INSTRUCTIONS

## BAQ-GPA/GP-13: Hot Mix Asphalt Plants

1. The owner or operator of any hot mix asphalt (HMA) plant proposing to operate under the General Plan Approval and/or Operating Permit (BAQ-GPA/GP-13), must comply with the terms and conditions specified therein. Failure to conform to the applicable laws, rules and regulations and terms and conditions of this permit, for any reason, are grounds for the revocation or suspension of the permittee's authorization to operate under this General Permit.

2. This General Permit has been established in accordance with 25 Pa. Code Chapter 127, Subchapter H (relating to general plan approvals and general operating permits). The Department will not grant any application for use of BAQ-GPA/GP-13 if stationary air contamination sources at the HMA plant are subject to the following:

    a. Prevention of Significant Deterioration requirements in 25 Pa. Code Chapter 127, Subchapter D (relating to prevention of significant deterioration);

    b. Nonattainment New Source Review requirements in 25 Pa. Code Chapter 127, Subchapter E (relating to new source review);

    c. Operating Permit Requirements and Title V Operating Permits in 25 Pa. Code Chapter 127, Subchapters F and G (relating to operating permit requirements Title V operating permits);

    d. Reasonably Available Control Technology Requirements in 25 Pa. Code §§ 129.91-129.95 (relating to control of major sources of $NO_x$ and VOCs);

3. Authorization to use BAQ-GPA/GP-13 is limited solely to an HMA plant as defined in BAQ-GPA/GP-13.

4. This General Permit, BAQ-GPA/GP-13, is limited to the construction, operation and modification of hot mix asphalt plants which are located at facilities for which a valid mining permit or an air quality operating permit exists for the operation of the facility.

5. An applicant seeking authorization to use BAQ-GPA/GP-13 must fulfill the compliance review requirements specified in 25 Pa. Code § 127.412 (relating to compliance review forms) and submit the BAQ-GPA/GP-13 Application to the appropriate DEP Regional Office. Notice to the municipality where the existing or proposed source will be located must be provided in accordance with Section 1905-A of the Administrative Code of 1929 (71 P.S. § 510-5) and Condition 3 of the General Permit.

Deleted:

6. The potential to emit for any proposed hot mix asphalt plant that would operate under BAQ-GPA/GP-13 shall be limited by the information (including hours of operation, production rate etc., ) as provided in the application. The permittee must keep copies of the General Permit and applications at the facility and shall make them available to the Department upon request.

7. Authorization to use BAQ GPA/GP-13 is valid for a fixed term of five (5) years. An application for the renewal of the authorization to use this General Permit and the applicable renewal fees must be submitted to the appropriate DEP Regional Office at least thirty (30) days prior to expiration of the approved authorization.

8. The application fee schedule is described in Condition 9 of BAQ GPA/GP-13. The application and fees specified in Condition 9 of BAQ-GPA/GP-13 must be submitted to the appropriate DEP Regional Office.

9. The owner or operator of HMA plants using diesel-fired internal combustion engine (s) must also apply for authorization to use BAQ-GPA/GP-9 or BAQ-GPA/GP-11 prescribed for the engine(s) in conjunction with the BAQ GPA/GP-13, if applicable.

10. The permittee may not transfer authorization to operate under this HMA Plant General Permit. The new owner or operator of the HMA Plant shall submit a new application and fees as described in Conditions 4 and 9 of the General Permit.

11. An applicant operating under BAQ-GPA/GP-13 may use a portable gas analyzer for complying with the annual tuning requirement specified in Condition 15 of the General Permit.

12. Test procedures using portable gas analyzers shall be consistent with ASTM D6522, or alternatively, as approved, in writing, by the Department. Pre-test protocols shall be received by the Department at least thirty (30) days prior to testing for review to insure proposed sampling procedures are consistent with currently acceptable methodologies.

The NOx emission rate shall be reported as lbs/hr, which can be calculated from measured ppmvd number using fuel flow rate, F-factor and heating value of fuel. The equation to determine mass emission rate using EPA's Method 19 "F-factor" is shown below.

**Mass Basis NOx/CO Emission Calculations using EPA's Method 19 "F-factor":**

From EPA Test Method 19 under Appendix A-7 of 40 CFR Part 60

Factor Fd = 9190 dry standard cubic feet per $10^6$ Btu for distillate oil (table 19-2; A-7).

The emission rate can be calculated using the following equation:

$$Em: \ Cd * Fd * 20.9 / (20.9 - \%O_2) * v * GCV$$

Where,

| | | |
|---|---|---|
| Em | = | Pollutant emission rate in lbs/hr |
| Cd | = | Pollutant concentration in lbs/dscf |
| Fd | = | Average F-factor on a dry basis, dscf per $10^6$ Btu (9190 dscf per $10^6$ Btu for No.2 fuel oil - table 19-2) |
| $\%O_2$ | = | Exhaust oxygen concentration in percent, measured on a dry basis |
| v** | = | Fuel oil rate in gallons per hour |
| GCV | = | Higher heating value of the fuel oil in mmBtu/gallon |

** - The fuel oil rate may be measured by means of a standard flow meter in gals/hr.

The following conversion factors from Table 19-1 of EPA Test Method 19 under Appendix A-7 of 40 CFR Part 60 may be used to convert the NOx and CO concentrations in PPM to lb/scf

| To convert from | To Cd | Multiply By |
|---|---|---|
| PPM NOx | lb/scf | $1.194 * 10^{-7}$ |
| PPM CO | lb/scf | $0.7268 * 10^{-7}$ |

**Sample Calculation for Mass Basis Emission Calculations using EPA's Method 19 "F-factor":**

Assuming NOx measured as 60 ppm @ 7% $O_2$, Fuel Rate - 250 gal/hr, GCV=138000 Btu/gal for No. 2 oil.

Mass emission,

Em = $(60*1.194*10^{-7}) \frac{lbs}{dscf} * \frac{9190}{10^6}\frac{dscf}{Btu} * \frac{(20.9)}{(20.9-7)} * 250\frac{gal}{hr} * 138000\frac{Btu}{gal}$

= 3.42 lbs/hr

= 14.96 tons/yr.