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DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Air Quality
Air Quality Permitting Program
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MEMORANDUM

To: Air Quality Permitting Staff

From: John Preczewski, P.E., Assistant Director
Air Quality Permitting Program

Date: 12/14/2007

Subject: Guidelines for Evaluating Proposed Emission Rates

The determination of emission limits in permits is a two-part process; proposing an emission limit and verification of the emission limit. Proposal of an emission limit is the sole responsibility of the permit applicant. The verification of the proposed emission limit is the exclusive responsibility of the Air quality permitting (AQP) staff. Use of emission factors, AP-42 and others, can be problematic and permit applicants may only use them in the absence of other reliable methods. AQP staff should review applications using any emission factors carefully.

It is the applicant's responsibility to propose an emission limit that accurately demonstrates the potential to emit (PTE) for the equipment in the permit application, and comply with the emission limit once the application has been approved. In choosing a methodology to estimate the proposed emission limit the applicant may use engineering principles, vendor guarantees, stack emissions data, continuous emission monitoring system (CEMS) data, predictive emission monitoring system (PEMS) data of similar sources, or mass balance in addition to the use of AP-42 factors.

AQP staff should neither provide industry with emission levels to be used as limits, nor should staff endorse a particular methodology. During the technical review of permit applications, the staff should evaluate all proposed emission limits to determine whether they are reasonably accurate and below any applicable rule limits. The emission limits to be approved should be achievable.

The use of emission factors, AP-42 and others, should be reviewed carefully. Emissions differ significantly from source to source and, therefore, emission factors frequently may not provide an adequate estimate of the emissions for a specific source. The extent of between-source variability that exists, even among similar individual sources, can be

large depending on process, control system, and pollutant. Some emission factors are derived from individual tests that may vary by an order of magnitude or more. Even when the major process variables are accounted for, the emission factors developed may be the result of averaging source tests that differ by factors of five or more.

Because AP-42 emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As a result, using an AP-42 emission factor to set the allowable emission limit in an air permit may result in half of the sources being in noncompliance and the other half with permit limits set to high. The reliance on emission factors (regardless of being compiled by government agencies or widely used) does not relieve the permittee of responsibility for compliance with permitted emission limits.

Applications using AP-42 emission factors should be evaluated to confirm that no other method exists to accurately estimate emissions. When the use of AP-42 factor is inevitable and the proposed emission limits are solely based on AP-42 factors, the staff should inform the applicant that subsequent failure to comply with the proposed emission limits would not relieve the applicant from compliance liability. AQP staff should neither provide industry with emission levels to be used as limits, nor imply that AP-42 is designed for that purpose. The staff should not automatically raise or lower emission limits for existing sources based on changes in AP-42.

CC: William O'Sullivan, P.E., Director
Division of Air Quality