MEMORANDUM

TO: Distribution List

FROM: William O'Sullivan, P. E., Administrator
Air Quality Permitting Program (AQPP)

RE: Policy Memorandum on PMIO Emission Testing and Emission Limits at New Jersey Facilities

The AQPP has historically issued permits containing PM_{10} emission limits based solely on "in-stack" PM_{10} measurements using Method 201/201A. Method 201A was promulgated by the USEPA on April 17, 1990. However, on December 17, 1991, the USEPA promulgated Method 202 which was recommended for measuring condensable particulate matter (CPM). After the promulgation of Method 202, the Department continued to issue permits containing PMIO emission limits based solely on "in-stack" emissions measured using Method 201/201A. In an August 17, 1994, letter to the BTS from the USEPA, the USEPA stated the CPM, measured using Method 202, is part of PM_{10} and should be included when evaluating PM_{10} emission limits and stack test results. As a result, many New Jersey facilities are unable to comply with their existing permit specified PM_{10} emission limits when CPM emissions are included in the PM_{10} results. Further, some permitted facilities may have been subject to PSD requirements had CPM emissions been considered at the time of determining PSD applicability.

On December 12, 1994, a meeting was held regarding PM_{10} emission testing and permit limits. Based on this meeting, a draft policy memorandum addressing CPM emissions at New Jersey facilities was developed. The draft policy memorandum was circulated for review and comment on January 23, 1995. Based on the comments received, a revised draft policy memorandum was completed, circulated and discussed during the March 21, 1995, and August 23, 1995, internal meetings. The AQPP has evaluated all comments received on the draft policy and, based on these comments, hereby finalizes an internal policy addressing CPM emissions as follows:

1. **Applicability:**

   The date of promulgation of Method 202, December 17, 1991, is considered as the date of applicability for inclusion of CPM emission rates in PM_{10} permit emission limits and the use of the method for PSD purposes. Therefore, permits issued after this date should have addressed CPM emissions.

2. **PSD Permits/Applications:**

a. Permits Issued Prior to 12/17/91:
   Since these permits were issued prior to promulgation of Method 202, the Department correctly did not address CPM when developing PM_{10} emission limits. If permits reference Method 201/201A, these facilities are grandfathered and these permits/facilities are not affected by the promulgation of Method 202. As indicated by Steve Riva of the USEPA, since PSD permits do not expire and don't come up for renewal these permits should not be reopened. If the permits do not reference Method 201/201A, the permits should be

administratively amended to include/ specify Method 201/201A. No other portions of the permit (limits, etc.) should be touched in this amendment.

b. Permits Issued After 12/17/91:

Since these permits were issued after the promulgation of Method 202, the Department should have addressed CPM when approving PM_{10} emission limits. Therefore, the PSD permits for these facilities should be reopened and the permits should be modified to reflect CPM as part of PM_{10}, and impacts on air quality standards and increment consumption should be evaluated at this time. The Department will not be changing BACT, just revising allowable PM_{10} emissions to account for CPM. The Department will require a public notice and offer a thirty (30) day public comment period. Stack tests should be conducted using both Methods 201/201A and 202. If the facility is complying with existing permit limits based on Method 201/201A but not when CPM is included, as measured by Method 202, the Department should exercise enforcement discretion. If the facility is failing permit existing emission limits by Method 201/201A, enforcement action should be taken. Please refer to Attachment IV of this Policy Memorandum for a list of the facilities which fall into this category.

The Department may consider one public notice for all affected sources to lessen the administrative burden. The Department may also consider allowing the affected sources to keep existing PM_{10} permit limits if the sources are willing to evaluate compliance through Methods 201/201A and 202. In this case, permits for these sources must be administratively amended to include Method 202. In addition, if sources which are not major for PM_{10} under Method 201/201A, continue to be below significance levels under Method 202, the Department can address CPM through its operating permit program rather than modifying its PSD permit.

c. New Permits:

All applications for new sources/equipment shall address PM_{10} emission including CPM.

d. New Permit Modifications:

For permit modifications, if the application for a modified permit proposes an increase in PM_{10} emissions, then the application must address CPM emissions including PSD increment consumption, modeling and stack testing using Method 202. If the application for a modified permit does not propose an increase in PM_{10} emissions, CPM emissions should not be addressed and the existing permit emission limits and stack test method should not be touched.

3. **Non-PSD Permits**:

See Correction below in following memo

~~a. New Permit Applications Proposed After September 1, 1995:~~

~~PM_{10} is listed in Subchapter 18 and PSD. In some cases, the AQPP needs to set emission limits for PM_{10} and require stack testing for PM_{10}, including CPM. For the present time, facilities proposing net facility TSP emissions/emission increases of ten (10) tons per year (TPY) or greater will generally be required to address PM_{10} including CPM emissions in both the permit application and any required stack testing. (The value of ten (10) TPY has been chosen to allow a 50% margin of error below the PSD/Subchapter 18 PM_{10} significance level to account for CPM emissions.) Facilities proposing net facility TSP emissions/emission increases below ten (10) TPY will not be required to address PM_{10} emissions in either the application or required stack testing. TSP testing will be sufficient.~~

b. Existing Permits:

Permits containing PM_{10} limits issued-prior to 12/17/91 –

Since these permits were issued prior to promulgation of Method 202, the Department correctly did not address CPM when developing PM_{10} emission limits.

i. If permits reference Method 201/201A, these facilities are grandfathered and these permits/facilities are not affected by the promulgation of Method 202. These permits should not be reopened.

ii. If the permits do not reference Method 201/201A, the permits should be revised to include/specify Method 201/201A. No other portions of the permit (limits, etc.) should be touched in this revision.

Permits containing PM_{10} limits issued after 12/17/91 –

If any stack test protocols for PM_{10}, not including CPM, are submitted to BTS, BTS should contact BNSR or BAQEng to determine whether the source may be subject to PSD requirements if CPM was considered, and address CPM emissions as follows:

i. Facilities potentially subject to PSD requirements (net facility PM_{10} increases between 10 and 15 TPY) when CPM emissions are considered will be required to include CPM emissions in the testing (BTS to address in protocol approval) and in the permit (BAQEng to address with permit amendment requiring CPM testing). For a facility which becomes subject to PSD requirements when CPM is considered (i.e. the test shows over 15 TPY PM_{10}), the facility should be required to submit a PSD permit application within a reasonable time.

ii. Facilities which have facility net emission increases of less than 10 TPY PM_{10}, not including CPM, will not be required to conduct PM_{10} testing. TSP testing for these facilities will be sufficient.

Permits without PM_{10} limits:

No action should be taken unless the source proposes a modification for which a PM_{10} limit is appropriate.

No enforcement action should be taken on any of the above existing sources because of a PM_{10}, (exceedence when CPM is added unless testing after the permits are modified shows an exceedence of the PM_{10} limit.

4. **Modeling Issues:**

a. PSD Permits Issued Prior to 12/17/91:

The Department will not require these facilities to conduct air quality modeling for PM_{10}.

b. PSD Permits Issued After 12/17/91:

If there is a PM_{10} (allowable emission increase. due to CPM, impact analysis showing compliance with the PM_{10} NAAQS and PSD increment consumption must be redone in support of the revision to the PSD permit. However, BACT analysis for these facilities will not be revisited. The BAQEval will make an in-house decision on the scope of the impact analysis on a case-by-case basis.

c. Existing Non-PSD Permits:

For existing non-PSD permits required to address CPM emissions as specified above in Item 3(b), a modeling analysis may be necessary if, by including CPM, the source becomes subject to PSD requirements. In this case, the source must show compliance with the PM_{10} NAAQS and PM_{10} increment consumption (if PSD affected).

5. **Testing Correction Factor:**

Method 202 has two (2) possible values for the correction factor (K) for Equation 202-1. The first possible value for K (-0.0208) is used to subtract the ammonium ion added during the analysis and add in 2 molecules of water for each molecule of H2SO4 (atmospheric sulfuric acid is normally associated with 2 molecules of water, and this is the way ambient PM_{10} methods collect and measure sulfuric acid mist). The second value for K (0.345) corrects for the ammonium ion used in the analysis, but does not add in water. According to Marcus E. Kantz, Chief, Air and Water Section, USEPA, and Michael A. Klein, Supervisor, BTS, when using Equation 202-1 in Method 202 to determine PM_{10}, the second value for K (0.345) should be used because water should not be included in stack tested CPM levels. Please note that the use of 0.345 for K results in a lower CPM value.

6. **PM_{10} Database:**

All CPM emissions data obtained will be incorporated into an emissions database maintained by BTS. This database will be used to evaluate the variable nature of CPM to allow the Department to develop emission guidelines and reasonable particulate limits in the future. The AQPP will reevaluate the appropriateness of the selected cut-off value of ten (10) TPY after enough data on CPM emissions has been received and a correlation between PM_{10} and CPM can be developed.

If you have any questions on this matter, please call James Bridgewater or Yogesh Doshi of the Bureau of Air Quality Engineering at (609) 984-3023. Technical questions on testing should be directed to Michael A. Klein of the Bureau of Technical Services at (609) 530-4041.

JGB/jgb
Attachments

Distribution List:

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File

October 26, 2005

M E M O R A N D U M

TO: BPP, BOP and BTS Staff

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

SUBJECT: Revision of PM-10 Emission testing and Emission limits

This memorandum provides a revision of the August 13, 1996 memorandum on PM-10 emission testing and emission limits at New Jersey facilities. Specifically, Section 3(a) should be deleted from the August 13, 1996, memorandum.

Following is the revised guideline for all new and modified non-PSD permit applications for PM-10 emissions:

1. For any new or modified source, if PM-10 emission is greater than 0.05 pounds per hour (Ref. N.J.A.C. 7:27-8, Appendix A), then the PM-10 emission rate must be reported in the permit application. Similarly, if the emission is less than the reporting threshold, then PM-10 emission rate does not have to be listed in the permit application.

2. The Department has presumptive norms of stack testing requirements for combustion equipment. Also, the Standard Permit Conditions Workgroup has developed guidance on stack testing for other types of equipment. The title of these two documents are:

   a. Presumptive Norm – Combustion Equipment Testing Recommendations (New and Existing Equipment)

   b. Stack Testing and Continuous Emission Monitoring Requirement Guidance

   Stack testing for PM-10 should be required for only those sources that are listed in these two presumptive norm guideline memos. If the presumptive norms do not require PM-10 stack testing for a specific source, then the stack testing should not be required in the permit.

3. The Standard Permit Conditions Library is a tool where all requirements (testing, monitoring, etc.) are listed for different source operations. Where the presumptive norms do not require stack testing for a specific source operation, then all permit conditions related to stack testing requirements should be deleted from the final compliance plan.

4. The stack testing requirements for PM-10 emissions for federal PSD applicable facilities will be established on a case-by-case basis.

c: Lou Mikolajczyk, Chief, BPP
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John Rees
Ketan Bhandutia
Richard Langbein
Yogesh Doshi
Frank Steitz

M E M O R A N D U M

TO: All Air Permitting Permit Writers

FROM: John Preczewski, Assistant Director
Air Quality Permitting Program

Subject: Addendum to the August 13, 1996
"Policy Memorandum on PM-10 Emission
Testing and Emission Limits at New Jersey Facilities"

DATE: November 4, 2005

PM-10, by definition, contains both in-stack filterable PM-10 and condensible particulate matter (CPM). Until December 17, 1991, a promulgated test method was not available to determine CPM emissions and Permits were issued that did not address or include CPM in the PM-10 emission allowables. The subject Policy Memorandum detailed procedures whereby in certain circumstances, PM-10 limits could be "grandfathered" as filterable PM-10 only, in Preconstruction Permits (PCP). However, the Policy Memorandum did not address Operating Permits (OP).

All BOPs were, or will be issued after there was a promulgated method of measuring CPM. OPs are federally enforceable Permits and should have PM-10 limits consistent with the federal definition of PM-10, which includes CPM. Past guidance from EPA Region 2 also indicated CPM should be included in PM-10 measurements. Therefore, OP PM-10 allowables must ultimately include CPM.

However, as mentioned previously, some facilities had Preconstruction Permits grandfathered with PM-10 limits based on filterable PM-10 only. This was not always explicitly stated in the PCP. During the OP approval process, PCP allowables were carried directly over into the OP without change. Ultimately, the facility was responsible for proposing a PM-10 allowable that included CPM.

Current practice in the Bureau of Operating Permits in cases where the PM-10 Preconstruction Permit limit was based on filterable PM-10 only is to not include a total PM-10 allowable in the OP. Instead, the conditions direct the facility to perform stack tests and then propose a total PM-10 limit in a subsequent modification application. Facilities like those mentioned above could apply for an OP modification (prior to stack testing) to get this current testing language included in their Permit.

These same conditions (test, then propose a limit) are also currently applied in cases where no PM-10 limit existed in the Preconstruction Permit and PM-10 testing will now be required in the BOP. In the past, these conditions were not given in this circumstance. Generally, facilities were given the same PM-10 limit as their Preconstruction Permit particulate limit. Facilities that never had PM-10 allowables, but then accepted PM-10 allowables equal to their particulate limits, should have addressed CPM in their application. Nonetheless, where testing is required, they too could apply for a BOP modification (prior to stack testing) to get the current testing language mentioned above, included in their Permit.

An additional clarification applies to both PCPs and OPs. The existing Policy Memorandum made reference to including stack testing methods in the Permit documents. Instead of including references to Method 201/201A or Method 202, the Permits should use the terms "filterable" and "condensibles" as applicable.