

DIVISION OF AIR QUALITY

Technical Services

August 16, 1999

MEMORANDUM

To: Alan Klimek

From: Lee Daniel

Subject: North Carolina Procedure to Quantify Condensible Particulate Matter

Attached is a memo for your signature to implement the following procedure:

It is the recommendation of the Technical Services Section that the North Carolina DAQ require all sources performing particulate matter sampling* to also measure condensible particulate emissions. The data will be used for emission inventories, permit classifications, and fees. There will be a transitional period for determinations of compliance with PSD and the North Carolina particulate standards when including condensible particulate emissions.

During the transitional period, the DAQ will acquire a sufficient body of data that can characterize condensible particulate emissions from source categories. Based on the data collected, the DAQ will continue to require condensible particulate measurements from source categories that emit condensibles, and delete the requirement for source categories that do not emit condensible particulate matter.

NSPS sources are exempt from numerically including condensible emissions with filterable particulate when determining compliance with the NSPS standard. However, the NSPS sources will still need to quantify and report condensible emissions for emission inventories, permit classifications, fees, PSD, and the ambient particulate standards.

The Stationary Source Compliance Branch (SSCB) defined several regulatory options as a result of their investigation into the subject of condensible particulate matter (see Condensible Particulate Matter; Regulatory History and Proposed Policy: 1/27/98 DAQ SSCB). The following sections list the options considered by the SSCB.

Condensible Particulate Measurement Implementation Options:

1) Ignore condensible particulate emissions:

Since condensible particulate contributes to ambient PM10 and PM2.5 loading, this option is unacceptable. EPA's emission inventory guideline document states that condensible particulate emissions must be included in PM10 inventories.

2) Require measurement of condensible particulate at "problem" sources, or when we believe there is a "problem."

This option is probably the easiest to implement (we already are) but leaves the DAQ open for legal action. What is the basis for defining a source as a "problem" source? High opacity

would be a starting point. How do we then determine which sources are not a problem? At what percentage opacity do we define problem? If a specific source is required to test for condensibles and measures large amounts of condensible particulate, what should we require of other sources in the same industrial category? What does this approach do for consistency state wide?

- 3) Require condensible particulate measurement from sources performing Method 5* sampling. With the new PM2.5 NAAQS we have approximately 3 years to determine significant contributors to PM2.5 loading. Since condensibles will overwhelmingly fall into the PM2.5 category, investigating condensible emissions statewide, *now*, will yield data to start identifying problem areas. This would be a proactive step to determine where problems exist. Also, from this data, we can define which source categories would need to continue sampling for condensibles. (Certain sources may request an exemption based on technical reasoning. For instance, many ambient temperature processes may not generate condensible particulate emissions.)
- 4) Require all sources emitting particulate matter to perform sampling and measure condensible particulate
This procedure would eliminate any claim of bias by a specific company since the regulatory treatment would be equitable. However, requiring **all** sources to immediately test for particulate matter may impose a heavy burden onto industry.

Condensible Particulate Emission Data Application Options:

The North Carolina DAQ has the following options with respect to actions evolved from the condensible data:

(The data will not be used for NSPS purposes, unless it is required by a specific subpart. For particulate regulated under an NSPS subpart, the subpart defines the test method for particulate determinations. Due to the physical phenomenon of particulate matter, the test method measures a defined particle state.)

- 1) The condensible data will only be used for emission inventory purposes
- 2) The condensible data will be used for emissions inventories, permit classifications, and fees.
- 3) The condensible data will be used for emissions inventories, permit classifications, fees, and for Prevention of Significant Deterioration purposes.
- 4) The data will be used for all of item 3 AND eventually can be used for compliance purposes with respect to the NCAC 15A 2D rules. (State emission standards, like PSD, are linked to the ambient air loading rather than performance of a control device)

* EPA Method 5 is located in 40 CFR 60 Appendix A and is the most commonly used "filterable" particulate matter test method. Method 202 is located in 40 CFR 51 Appendix M and is the condensible particulate matter test method. Method 5 and Method 202 analyses are performed on the particulate matter catch from the same sampling system. Method 202 does not require more field sampling activity, but it does require field sample preparation and laboratory work. There are other "filterable" particulate matter methods such as EPA Method 17, and the PM10 test - Method 201. This policy will require the measurement of condensibles whenever particulate matter is measured, regardless of the exact "filterable" particulate method.