



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 12 2006

OFFICE OF
AIR AND RADIATION

Mr. Timothy G. Hunt
Senior Director, Air Quality Programs
American Forest & Paper Association
1111 Nineteenth Street, NW, Suite 800
Washington, D.C. 20036

Dear Mr. Hunt:

Thank you and your group for meeting with us on March 30, 2005, to discuss your concerns about measuring volatile organic compound (VOC) emissions from the various industries that your group represents. We were encouraged to hear that your member companies are willing to commit significant resources to develop new, improved techniques for measuring VOC. The Agency is looking forward to continuing to work with AF&PA, NCASI and their members to develop the necessary information about the kinds of organic compounds emitted by the various facilities in the forest products industry and to identify the appropriate methods to measure those compounds. Given the diversity of facilities and emissions sources, process variations, and operating conditions in your industry, achieving our goal of developing new methods for identifying and reporting the major portion of the compounds comprising industry VOC emissions on an actual mass basis may take some time.

As part of the process of working together, it is important to agree at the beginning about the kinds of test method(s) that we expect to receive from you, how we would propose and plan to use these method(s) and what detailed data application the method(s) will produce. We also recognize that there will be a period of transition between the current and future methods of measuring and reporting VOC emissions, and we hope to secure agreement to a smooth transition path.

Any discussion of the measurement of VOC in the forest products industry must begin with the concept that any given source may emit a large number of individual organic compounds – some of which are native to the raw materials and some of which are formed in the manufacturing process. The chemical speciation and quantities of these latter materials is largely dependent on individual process details. If we only want to best approximate the actual mass of all these compounds, there are two potential approaches to the measurement problem. The first is to measure each of the organic compounds individually and sum these individual measurements to produce a total. The second is to measure some property that is common to all organic compounds and to use that property to estimate the total VOC present in the sample. Ideally, the ability to carry out such approaches calls for methods more specifically designed and applied consistently across the country to best approximate the actual mass of all VOC present in sources, including emissions of oxygenated compounds and compounds such as formaldehyde.

There are two steps to measuring VOC emissions to get the best approximation of the actual mass and ultimately identify the VOCs making a significant contribution to ozone formation. The first step is to identify the individual organic compounds that comprise the majority of the mass of VOC emissions. The second step is to use appropriate measurement methods or to develop appropriate methods to measure those compounds individually while estimating the amount of remaining unidentified compounds.

We realize, however, that for complex gas streams, such as those in the forest products industry, it is impracticable to identify and quantify every compound comprising the VOC emissions. While we believe the use of direct measurement approaches for these purposes is desirable where possible, we recognize that what is needed is an approach that identifies and quantifies individual compounds to the maximum extent it is technically and economically practicable. The Agency also recognizes that the resulting method may only produce an approximation of the total mass, but we believe a reasonable approximation will be sufficient for assessing the applicability of several regulatory programs. We recognize, too, that other VOC measures may be appropriate for permitting purposes, such as where the underlying enforceable standard that is the basis for the permit is expressed in terms other than mass, such as destruction efficiency. We understand that the method development efforts on which the forest products industry has embarked will be costly and time consuming, and we agree that it makes sense to take a phased approach, starting first with the relatively less-complex and variable gas streams from wood products facilities before attempting to better characterize the VOCs emitted by pulp and paper mills. Finally, our expressed intention to focus on the potential of various compounds to form ozone and/or particulate matter, as well as on their relative toxicity, should also guide which VOC species are most important in the long term to measure for forest products industry sources.

While we agree with the phased approach that you proposed for developing the necessary measurement procedures, we do not believe that at this time you should continue to express your VOC emissions as mass of carbon, for purposes of determining applicability of federal programs. Compliance with existing SIP, NESHAPS, and NSPS requirements should, of course, continue to be determined by the methodology prescribed in the relevant standard and emissions should continue to be reported in the relevant terms. However, for determining applicability of federal programs, you should begin to express your VOC emissions in a manner that provides a reasonable approximation of actual VOC mass in an appropriate and stepwise manner. In doing so, you should consider advancements in methods so that those organic compounds constituting a significant portion of the organic carbon in the gas stream are measured individually and expressed individually in terms of their actual mass, if the cost is reasonable. Compounds that cannot reasonably be identified or quantified on an individual basis (such as, compounds with low concentrations or analytical interferences) should be expressed as a group using an appropriate surrogate compound such as propane (for hydrocarbon streams) or methanol (for oxygenated compounds). Such an approach is consistent with the policy that we used to develop emission factors for AP-42 and will be a close approximation to the actual mass of VOC emissions. We recognize that it may be appropriate to implement new VOC reporting methods, as well as new VOC analytical methods, through a phased approach, both to allow time for

methods development and also to allow new methods to be applied in an orderly approach, rather than conducting a massive re-analysis of industry emissions at this time.¹ For wood product facilities, the interim approach would be to use Method 25A reported as propane or other appropriate equivalents with appropriate adjustments applied to account for methanol and other response factors as well as adjustments for non-VOC organic compounds. For pulp and paper mills, no immediate interim method is available but upcoming industry research should identify reasonable approaches.

As we work with you to develop improved methods to more accurately measure individual VOC, we realize that the changing measurement procedures and changing basis for expressing VOC emissions will create issues for the EPA programs that require reporting of VOC emissions. The Agency is willing to work with your organization to resolve these issues as you develop new measurement procedures and are able to assess and/or report data that comes closer to meeting our goal. We expect, too, that timely consultation between the Office of Air Quality Planning and Standards and the Air Enforcement Division of EPA's Office of Enforcement and Compliance Assurance will help to ensure the appropriate applications of methods in individual circumstances. We also recognize that as new test methods are developed, they will need to be published in the Code of Federal Regulations. For example, as new methods are used that could show higher emission levels, it will be important to include a photochemical reactivity assessment as part of control determinations to ensure installation of controls is environmentally beneficial. The following is a summary of these potential issues and how we believe that they might be resolved.

1. New Measurement Methods. Any new methods that you develop or modified applications of existing methods may represent new measurement techniques that produce results that differ from those of existing methods. The use of these measurement techniques will produce improved and expanded VOC emission information. We would recommend that these improved results be applied to actions and decisions that occur after the methods are developed. To the extent that new methods are developed, as opposed to routine modifications of existing methods, we will work as expeditiously as practicable to promulgate the new methods.

2. Revising Measures of Air Quality. As with other methods, any new procedures will produce information that will be incorporated into the tools used to assess the attainment of air quality standards such as emission inventories and air quality modeling. We would recommend that these programs incorporate the results from these new methods only when they have an existing need to update or revise these tools. We would not recommend revising past analyses. We would still have the opportunity to review past actions based on previous data, but that would be only for our information.

¹ We also recognize that, in some states, a change in state regulations may be needed before a source changes the approach it uses to measure and report VOC emissions as described here.

3. NAAQS Control Strategies. In addressing control strategies, we believe that the appropriate time to include data from the new methods is during the development of the SIPs to address the revised 8-hr ozone and PM 2.5 standards. As part of the revision process, there will be significant review and new analysis of emission sources and reassessment of application of RACT. We would recommend this as a convenient opportunity to add information from the new methods into program development. We would not recommend using the information from the new methods to revise the analysis of the previous 1-hr ozone SIPs. We recognize that in some cases an existing RACT limit has been based on an identified technology and, the data used to characterize the performance of that technology and to establish the limits understated the total mass of VOC emissions. In such cases, EPA or a state cannot simply apply a new VOC test methodology to determine compliance with the old limit because that could have the effect of making the limit more stringent and possibly forcing the installation of different control technology than that already established as RACT.

4. State-based Programs. Many states have developed complementary programs to enhance the effectiveness of air pollution control efforts in their states, such as cap and trade systems and emissions banking. Where these programs are based on state rules, we would adopt as a general principle that the individual state should determine the appropriate time for incorporating the information from the new methods or if these rules are incorporated into an approved SIP, that the state should handle them as described in Item 3.

As the states make changes that affect these programs, they must maintain the integrity of the system that they use for accounting and tracking emission credits. Comparing prior emission reductions that were calculated on an as-carbon basis with planned emission increases expressed as total mass of VOC would be comparing “apples to oranges” and would generally result in requiring greater emissions reductions than are needed to offset the planned emissions. If the information from the new methods leads to a change in reported facility mass emissions, the state must develop a procedure for adjusting previous valuations so that there is a reasonable equivalence between emissions determined by using different methods. This will ensure that past emission reductions are not undervalued when compared to future emission increases and similarly, that future emission reductions are not overstated. Although we have not yet fully evaluated all of the calculations involved, we believe that a system can be developed that will establish equivalence for offsets and reductions that meet the federal minimum requirements. We do not believe it is necessary, however, to revisit emission reduction credits that have already been used to offset emissions increases.

5. Establishing Facility Emission Limits and Measuring Compliance. Many emission limitations and periodic monitoring and reporting requirements are determined by state regulations or specified in state permits. We will defer to the individual state’s judgment whether and at what time it is appropriate to revise their emission limits or operating permits to incorporate information from the new methods. For sources who

have received synthetic minor permits under Title V, we may consider information from the new methods in reviewing the appropriateness of the permit prior to its renewal time. Facilities reassessing synthetic minor limits using VOCs estimates expressed in terms of the new methods may no longer be considered minor sources and may be subject to major source rules going forward. Such sources may, however, choose to modify their operating conditions and accept permit limitations in order to remain minor sources.

Completed BACT and Other Technology Determinations. We would recommend that information from the new methods be used to make decisions about future control technology. We would not recommend reopening past decisions where sources and regulators relied on the best data available in deciding if and what control requirements applied.

I appreciate the ongoing work of the AF&PA with us on investigating new methods for your industries. If you have questions about the process of developing and implementing the new methods, please contact Gary McAlister at (919) 541-1062.

Sincerely,

A handwritten signature in black ink, appearing to read 'W L Wehrum', with a long horizontal flourish extending to the right.

William L. Wehrum
Acting Assistant Administrator

cc: Tom Curran, OAQPS
Adam Kushner, OECA
Grant Nakayama, OECA
Steve Page, OAQPS
Walker Smith, OECA
Peter Tsirigotis, OAQPS
Regional Air Division Directors