

**UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL AIR QUALITY TASK FORCE**

SCALING METHOD FOR VOC'S

Background

On November 13, 2006, the AAQTF received a presentation regarding scaling factors applied to Volatile Organic Compounds (VOCs) to set emission levels for certain agricultural processing operations including ethanol plants. The AAQTF Research Subcommittee was requested to evaluate the issue and report back to the AAQTF at its next meeting. Subsequently, at its March 1, 2006 meeting, the AAQTF received a presentation from EPA Office of Air Quality Planning and Standards and Region 5 enforcement staff regarding their approach to regulating VOC's from ethanol plants. It was learned that EPA's enforcement staff has taken an enforcement initiative through consent agreements to increase VOC concentrations by applying multipliers to measured VOC levels to create, larger calculated emission rates. This has resulted ethanol plants and other agricultural processing plants exceeding their permit limits which has the potential of costing hundreds of millions of dollars of unanticipated costs for plants in the Midwest.

Midwest Scaling Method

In recent guidance, EPA has instituted new measurement requirements for VOCs that affect permitting, compliance, and emission inventory issues. EPA refers to the new procedure as the "Midwest Scaling Method." or the "Midwest Scaling Protocol." There are several federal test methods that can be used to determine VOCs. The new scaling method requires that VOC levels determined from the approved EPA test methods be multiplied by a factor based on the molecular weight of an emission. The application of multiplier is a significant deviation in the federal and state measurement and reporting requirements for VOCs .

EPA justifies the variation because promulgated methods supposedly did not account for the total mass of VOCs. Usually, EPA test methods are developed by EPA's Office of Air Quality Planning and Standards (OAQPS), are subject to peer review and validation, undergo public comment and formal rule promulgation, and are then incorporated into the Code of Federal Regulations. In this case, the development of the method did not follow this process and has not been subject to scientific peer review, public comment, and formal rulemaking procedures. At best, the current status of the method is only advisory in nature and cannot be considered a legally promulgated or binding test method. Enforcement staff defend the application of the method outside usual and customary procedures because: "The permittees agreed to it in a consent agreement."

A paper titled "Measuring and Reporting Emissions on a Mass VOC Basis" by Mennell etal that provides significant technical documentation on this issue is appended. The paper challenges the science of the method, the legitimacy of EPA's process, and the terminology "total mass basis," within the context of the Clean Air Act and the Code of Federal

The Agricultural Air Quality Task Force (AAQTF) advises the Secretary of Agriculture on issues relating to agricultural air quality. Consistent with the Federal Advisory Committee Act, the AAQTF is utilized solely for advisory functions. Determinations of action to be taken and policy to be expressed with respect to matters upon which the AAQTF reports or makes recommendations shall be made solely by the Secretary of Agriculture or an authorized officer of the Federal Government.

Regulations. The paper states: “Neither the definition of VOC nor the test methods included in 40 C.F.R. Part 60, Appendix A, nor applicable state statutes or regulations require or even suggest that measured results be modified by a multiplier or that an additional calculation is in any way warranted or based on sound science to arrive at a measure of total mass VOC.” Furthermore, this approach does not partition VOCs into the highly reactive fraction that most affects ground level ozone and would indicate a better control strategy.

The Mennell et al paper goes on to point out that there are serious permit implications that affect:

- (1) Existing Title V permit limits and compliance demonstration methods;
- (2) New Source Review permit limits and BACT determinations;
- (3) New Source Review netting and offset determinations;
- (4) Synthetic minor permit limits;
- (5) Operating permit applicability determinations;
- (6) State non-attainment provisions; and
- (7) State emission inventories and fees.

Conclusion

EPA’s Region 5 enforcement personnel have developed advisory guidance that significantly changes promulgated federal test methods outside normal and legal channels. This guidance did not merely amplify information on approved federal test methods, but it substantially and materially changed how VOC’s would be determined within the context of existing permits. This was done outside the ordinary and customary promulgation process. As illustrated above, this change had a significant affect on existing permits and a huge cost impact on permittees.

Recommendations

The AAQTF recommends that the Secretary of Agriculture communicate the following concerns to the Administrator of EPA through formal correspondence:

1. Express the AAQTF’s serious concerns over the process used to change VOC permit conditions for agricultural processing plants outside ordinary and customary scientific and procedural channels.
2. EPA should retract guidance and suspend the use of the VOC Scaling Method (multiplier) for air permitting and compliance purposes for agricultural processing operations unless and until such a new method for measuring and reporting emissions is properly and formally promulgated.
3. EPA should refrain from using consent agreements to extract concessions from permittees who are in compliance with their permits. Consent agreements should only be used to address statutory and regulatory violations.
4. EPA should work with stakeholder groups to develop a formal procedure for determining VOC levels for ethanol facilities and other agricultural product processing plants. Specifically, priority should be placed on identifying the highly reactive VOC’s that contribute most to ground level ozone.

The Agricultural Air Quality Task Force (AAQTF) advises the Secretary of Agriculture on issues relating to agricultural air quality. Consistent with the Federal Advisory Committee Act, the AAQTF is utilized solely for advisory functions. Determinations of action to be taken and policy to be expressed with respect to matters upon which the AAQTF reports or makes recommendations shall be made solely by the Secretary of Agriculture or an authorized officer of the Federal Government.

5. EPA should consult with USDA staff and the AAQTF in the preparation and review of any VOC protocol for agricultural processing operations, particularly in light of the AAQTF's recent work on the scientific justification for EPA to focus on VOCs which are photochemically reactive, not "total VOCs." Any protocol should be based on sound science, be peer-reviewed, and produce accurate, precise results.

The Agricultural Air Quality Task Force (AAQTF) advises the Secretary of Agriculture on issues relating to agricultural air quality. Consistent with the Federal Advisory Committee Act, the AAQTF is utilized solely for advisory functions. Determinations of action to be taken and policy to be expressed with respect to matters upon which the AAQTF reports or makes recommendations shall be made solely by the Secretary of Agriculture or an authorized officer of the Federal Government.