2013-2015 USDA Agricultural Air Quality Task Force Recommendations

May 28, 2015

- The USDA AAQTF recommends that EPA provide clear guidance in the final rule regarding the required contents of a precursor demonstration. These requirements should reflect data analyses that are reasonably achievable by most states and may still be written to allow regulatory flexibility for unique air sheds while minimizing uncertainties associated with what analyses must be conducted to improve the probability of a favorable review by EPA.
- The USDA AAQTF recommends that EPA retain in the final rule all three options proposed by the agency for performing a precursor demonstration. Promulgation of all three options will provide states with the greatest flexibility for tailoring a precursor demonstration to a given non-attainment area. The Task Force is particularly supportive of the sensitivity analysis described in Option 2B to ensure most effective use of mitigation resources. The Task Force requests that EPA be more specific in the final rule with regards to the "burden of proof" required to make an effective precursor demonstration and requests that EPA ensure that such requirements are reasonable in terms of resource requirements to conduct such demonstrations.
- The USDA AAQTF recommends that EPA prioritize validation and refinement of the particulate chemistry models of both CAMx and CMAQ using measured speciation data, which may require additional and extensive EPA-sponsored collection of such data. Furthermore, the Task Force recommends that EPA work with SAPRAs to develop clearly defined and mutually accepted protocols for determining appropriate boundary conditions for such modeling. Such efforts will greatly reduce the uncertainty associated with development of a precursor demonstration application and will allow SAPRAs to more effectively allocate resources for reducing PM2.5 concentrations.
- The USDA AAQTF recommends that EPA adopt an "augmented bright line" approach that considers impacts of precursor regulation on *reductions* in PM2.5 concentrations when determining which precursors contribute significantly to PM2.5 concentrations in non-attainment areas. Such an approach would reduce the uncertainty associated with requirements for precursor demonstration while also considering the efficacy of RACM implementation. A threshold of 3 to 5% reduction in PM2.5 concentrations by reducing precursor concentration is appropriate for determining which precursors should be considered for regulation, but a demonstration that PM2.5 concentrations are *sensitive to reductions in concentrations of a given precursor* should also be required.
- The USDA AAQTF supports EPA's approach for requiring detailed emissions inventories only within the boundaries of non-attainment areas.
- The USDA AAQTF urges EPA to quickly issue guidance for public comment regarding means to calculate ammonia emissions from animal and crop production that includes process-based considerations. Without such guidance, estimates of ammonia emissions from agricultural sources will vary widely between states, and there will be no clear

means for reducing agricultural contributions to PM2.5 concentrations other than eliminating production capacity within non-attainment areas.

April 22-23, 2015

- The House Committee on Science, Space, and Technology is in the process of holding hearings regarding EPA's proposed revisions to the ozone NAAQS. Staff from the committee have asked members of the USDA Agricultural Air Quality Task Force (AAQTF) for their expert opinions on the proposed changes to the ozone standard. The AAQTF has the following major concerns regarding the new proposed ozone standard:

  1. The unaddressed uncertainties in potential health impacts of a lower ozone standard (particularly confounding by other pollutants and minimum concentration limits at which effects have been observed).
  2. Almost all of the economic benefits of the proposed standard are derived from reductions in $PM_{2.5}$ (for which there is already a separate NAAQS) rather than ozone. When looking at the cost-benefit analysis of ozone reductions by themselves, societal costs of reducing the standard far outweigh projected benefits.
  3. The 2008 ozone standard has yet to be fully implemented.
  4. Adoption of a lower ozone standard would negatively affect the use of prescribed fire in agriculture and forestry management.

  Based on these concerns, the AAQTF adopted the following resolution:

  Due to:

  - Unaddressed uncertainties in potential health and welfare impacts of reducing ground level ozone concentrations,
  - Negative economic benefits of a tightened standard for ozone (when these benefits are disassociated with reduced $PM_{2.5}$ concentrations expected from the proposed rule),
  - Failure to fully implement the 2008 ozone standard, and
  - The impacts of a lower standard on the use of prescribed fire in agriculture and forestry management,

  It is inappropriate, at this time, to lower the National Ambient Air Quality Standards for ground level ozone as proposed by EPA in the Proposed Rule for National Ambient Air Quality Standards for Ozone (Docket IF No. EPA-HQ-OAR-2008-0699).

- Since the inception of the USDA AAQTF in 1997, members of the original Task Force and subsequent years' Task Force members made recommendations to support air quality research funding by ARS and NIFA as a priority to assist agricultural crop and animal production interface with the requirements of the Clean Air Act. Since 1998, a slow funding increase through 2015 has created some outstanding contributions towards closing the gap of that interface. This is only the first step. The USDA AAQTF continues to request that ARS and NIFA make air quality research a priority in the face of increasing particulate matter and ozone National Ambient Air Quality Standard reviews, modifications, and implementation. Since 2008, USDA/ARS has partnered with multiple

federal and state regulatory agencies, along with cotton industry stakeholder organizations to undertake a multi-state, multi-year sampling project at cotton gins to determine the actual amounts of $PM_{2.5}$ emitted during post-harvest processing. This work was only possible because of the development of an air quality laboratory facility housed at the Cotton Production and Processing Research Unit (CPPRU) located at Lubbock, TX. Significant financial support in developing and outfitting the support lab, procuring and fabricating sampling equipment and procuring the equipment needed for a mobile lab required for onsite sampling capability was provided in large part via grants provided by industry organizations years before the 2008 sampling project was conceived. Recently, task force members have learned that the Administration's Budget Proposal for FY2016 proposes re-directing funding for air quality research conducted at the CPPRU, essentially eliminating funding for future work supported by this facility and the scientist funded through this project. The AAQTF supports projects that illustrate the collaboration among the USDA, EPA, state agencies and agricultural stakeholders that address air quality. Specifically, the AAQTF requests that funding be restored in the FY2016 budget for the air quality work currently being conducted at the Lubbock CPPRU including support for Dr. John Wanjura. It should be emphasized that research at this unique facility supports research conducted in partnership with other ARS facilities conducting work in the cotton and related industries. The AAQTF recommends that such collaborative approaches be promoted among USDA research entities.

December 23, 2014

- The USEPA has developed a proposed rulemaking for addressing the regulation of ammonia as a precursor for PM 2.5. This proposal is currently undergoing interagency review at OMB. We (the USDA Agricultural Air Quality Task Force) recommend that the Secretary (of Agriculture) ensure that USDA reviews the proposal during this process to assure that it is science-based and takes into consideration concerns that were expressed within the 2014 AAQTF Ammonia Emissions white paper. The AAQTF is concerned about the USEPA definition and measurement of both animal and crop production emissions; the USEPA threshold criteria to define agricultural sources as significant; and USEPA's reduction strategies to determine if agricultural sources will substantially contribute to achieving attainment.

- NIFA should prioritize a portion of their current competitive research funding to support priority science needs in the air quality area that would fund needed research on ammonia, PM, GHG and ozone precursors as well as the secondary formation of PM 2.5 from agriculture systems. In addition, NIFA should make it a priority to maintain an air quality program leader position within the agency to lead air quality research efforts.

December 5, 2014

- The AAQTF recommends that the USDA Staff work with EPA Staff to identify a secondary ozone standard form that is more biologically-relevant than the W126 index and to consider the full suite of agricultural ozone effects research that may affect the level of a proposed standard.

- The AAQTF recommends that the USDA Secretary request EPA to quantify uncertainties in Policy-Relevant Background (PRB) estimates (of ozone) and the potential impacts of inaccurately estimating the PRB on potential non-attainment areas and the cost of implementation for both a proposed primary and secondary standard.

September 12, 2014

- Request that NRCS work with partners such as Field to Market, C-AGG, Delta Institute and Climate Trust to incorporate the use of COMET-Farm, the *Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory* report, the GHG CIG grants and the Regional Climate Hubs to insure a uniform, scientific, systems-based approach is developed that can be used as a template for all production agriculture sustainability index efforts.

- Request that USDA work with EPA as they initiate implementation of the "Clean Power Plan" to investigate if there is a role for offsets to be provided to existing power plants under Section 111(d) of the Clean Air Act when agricultural producers utilize voluntary, verifiable best practice standards. This new effort is expecting power plants to reduce total power sector emissions by 30% from 2005 levels by 2030. States have requested flexibility that includes "beyond-the-fence" measures, including energy efficiency and there should be opportunity for the environment, agricultural producers and the power plants to benefit while GHG emissions are reduced.

- Provide AAQTF an assessment of the 9 GHG CIGs so we can determine whether to recommend another round of funding.

- The California Department of Food and Agriculture is in the process of awarding $10 million in competitive grant funding through the State Water Efficiency and Enhancement Program (SWEEP), authorized by emergency drought legislation (Senate Bill 103). AAQTF requests that NRCS staff work with CDFA and the California Air Resources Board to help quantify the water efficiency, reduced GHG emissions and any other environmental benefits that will result from the water conservation measures that are implemented using these funds. This could serve as pilot using NRCS practice standards (i.e. 441 and 442) to provide verifiable results that can be used in various venues. The current qualitative ranking tool for GHG benefits is a good first step but is not adequate for the quantification needed for this and other venues.

- Request a presentation to the AAQTF on the First Adaptation Plan and what steps are planned for the next 1-10 years.

- Update AAQTF on response and integration of NRCS to USDA Regulation 1070-001 of June 2, 2011 that instructed agencies to determine vulnerability to climate change and impacts on their agency mission and EO 13514 issued October 5, 2009 that directed the assessment of energy use, GHG footprint and methods for climate change mitigation and adaption.

- Consult with EPA on the Biogenics Assessment to assure sound science and best management practices have been considered.

August 21, 2014

The USDA AAQTF at its meeting on August 21, 2014 requests that the Chief of the NRCS contact the FAA to secure clarification and approval for the use of UAV's for agricultural research and commercial agricultural applications.

May 14, 2014

The USDA AAQTF concurs with the findings of Faulkner et al. in their article entitled "Comment on 'Hidden Cost of U.S. Agricultural Exports: Particulate Matter from Ammonia Emissions,'" and encourages the editor of *Environmental Science and Technology* to consider the article for publication, pursuant to the journal's standard editorial and publication policies, in order to stave off potential unintended consequences leading to development of poor air quality policy as a result of the conclusions drawn by Paulot and Jacob (2014).

May 1, 2014

- Control measures for ammonia should only be required in state implementation plans if additional reductions are found to be needed to meet health-based air quality standards, and if there is clear scientific evidence that reasonable measures to reduce ammonia emissions would be effective in significantly reducing ambient concentrations of fine particulate matter.

- When preparing implementation plans, state and local agencies should prioritize control measures that reduce particulate matter emissions that result in the most significant adverse health effects. Chemical composition, particle size, the way the materials are released, and the potential for population exposure should be considered in these analyses.

- Research should continue into the relationship between ammonia emissions and ambient concentrations of fine particulate PM, and into the proper management of agricultural ammonia emissions.

- If controls for ammonia emissions from agricultural operations are determined to be legally required under the Clean Air Act:
  - The focus of any additional efforts to control ammonia emissions from affected agricultural operations should be on developing reasonable, responsible management practices for minimizing emissions of ammonia.
  - The diversity of the industry, impacts on the economy, food production and other environmental impacts (especially on water) should be fully considered before establishing any new requirements.

December 5, 2013

- The Task Force recommends that the USDA-NRCS continue to support practices that are crucial to improving air quality. The Environmental Quality Incentives Program should be prioritized in the new Farm Bill as it provides innovative, incentive based, cost effective emissions reductions on agriculture operations that are in areas with air quality challenges, including non-attainment areas and those that are subject to Federal, State or local regulatory requirements.

- The AAQTF recognizes the importance of continuing research of the historical issue regarding PM sampler performance with agricultural sources and Federal Reference Method (FRM) sampler. We want to recognize the need for continued collaboration between Dr. Robert Vanderpool (EPA) and Dr. Brock Faulkner (TAMU). The efforts to date to assess the TAMU LVTSP sampler and the RFM PM10 sampler have proven to be fruitful and are at a critical juncture which requires the continued efforts of Dr. Vanderpool and the use of the state of the art aerosol research facilities, especially the use of the Dept. of Homeland Security wind tunnels for sampler evaluation.

- On February 7, 2012, the AAQTF heard a presentation by Dr. Otto Doering of Purdue University on the results of the EPA's Science Advisory Board's Integrated Nitrogen Committee (INC). The report, *Reactive Nitrogen in the United States: An Analysis of Inputs, Flows, Consequences, and Management Options* includes numerous recommendations by the panel to address reactive nitrogen. The AAQTF has spent considerable time discussing this report and the issues it raises at both its 2/7/12 and 12/4-5/13 meetings. The AAQTF recognizes the concerns about excess reactive nitrogen in the environment; however, it also recognizes the critical role of reactive nitrogen in supporting plant and animal life. It will be most challenging to determine what is "excess" and to define the "excess reactive nitrogen" as the pollutant of concern and not "reactive nitrogen." The AAQTF also developed some comments on some of the recommendations of the INC report. These comments represent insight and concerns of a broad spectrum of agricultural interests.

- The AAQTF passed a resolution recommending that USDA and EPA consider a joint meeting and possibly joint collaboration on issues of mutual interest between the AAQTF and EPA's Farm, Ranch, and Rural Communities (FRRC) Federal Advisory Committee.