

USDA Agricultural Air Quality Task Force (AAQTF)

AAQTF Meeting Notes – Washington, DC

Wednesday, April 6, 2016

(Note: Q=Question, R=Response, C=Comment)

Call to Order:

Dr. Greg Johnson, AAQTF Designated Federal Official (DFO), called the meeting to order at 8:13 am EDT. Dr. Johnson provided instructions on that afternoon's Capitol tour and remarked that the second day of the meeting would start at 7:30 am and should be finished by 2:30 pm.

Opening Remarks and Introductions:

NRCS Chief Jason Weller welcomed the AAQTF. He also mentioned the Federal Advisory Committee Act (FACA) rules on how the AAQTF is constituted and that the Department is moving to a more rotating membership with its FACA groups.

Members then introduced and provided background information about themselves. Interests included:

- Sustainability
- Climate-Smart Agriculture
- Air Quality Regulations and State Implementation Plans
- Particulates
- Ammonia
- Confined Animal Operations
- Prescribed Fire and Smoke Management

Chief Weller then took time to memorialize Dr. Brock Faulkner, a young AAQTF member who recently passed away and who was a colleague and friend to many, as well as a core member of the AAQTF. The AAQTF then observed a moment of silence out of respect for Dr. Faulkner.

History and Recent Work of the AAQTF and Charge to the AAQTF:

Kevin Abernathy, AAQTF member, provided a presentation on the history and recent work of the AAQTF ([see presentation slides](#)). Covered topics included:

- Brief history of the AAQTF
- Accomplishments of the AAQTF
- Key USDA support staff for the AAQTF
- Officers and membership of the AAQTF
- AAQTF advisory role to the Secretary of Agriculture
- EPA's partnership with the AAQTF
- Agriculture's air quality issues
- Former AAQTF subcommittees and topics
- Clean Air Act (CAA) overview
- Success stories

Mr. Abernathy mentioned that a former AAQTF member, Bob Avant, once commented that if you only joined the AAQTF to pad your resume and not actually produce, he would appreciate it if you just walk out now. In the 19 years of existence of the AAQTF, the work produced has been phenomenal for the nation's farmers. It is time to get to work!

C – Chief Weller - Appreciates the last comment and charge of the task force. We need help with knowledge and support.

C – Cynthia Cory – Discussed the original expansion of the focus of the AAQTF to include climate issues. She emphasized that issues have progressed from talking about addressing greenhouse gases to mandatory greenhouse gas mitigation in California. Much work has gone into understanding the issues and how to move forward.

C – Chief Weller – Wants AAQTF to define charge and deliverables. He has a “shelf life” due to the upcoming change in Administration. Has ideas (see below), but this is more about where the members want to take the AAQTF.

- Carry on with success stories – Chief Weller presented four times to Congressional committees. He received a good reception in Congress because of the success stories, as he focused on outcomes of the AAQTF’s and agriculture’s efforts.
- Farm Bill – The current Farm Bill expires in 2018, and discussions are already starting on the next Farm Bill. There is interest in specific recommendations for improving technical assistance, substantive ways to tweak existing programs and research, and new opportunities for conservation investment for agriculture.
- Identify measures of success for agriculture in relation to the AAQTF subcommittees – Where does agriculture need to be in the long term? How do we know when we have achieved success? What are the barriers to those successful outcomes? What are the gaps to overcome barriers to that success?
- Help USDA prioritize efforts – What research and demonstration projects should USDA invest in? What are the most promising new approaches that can help USDA?

C – Bill Norman – There are issues that the AAQTF has identified previously that haven’t been resolved, and we need to get those resolved. For example, one of the first issues the AAQTF dealt with in the late 1990s was particulate matter (PM) emissions and oversampling in agricultural settings. Agricultural PM emissions don’t really move very far, and research indicated that most agricultural emissions of PM are 20-30 microns instead of PM10 or PM2.5. A PM10 sampler placed in that environment tends to oversample by 30-40 percent. Larger particles were penetrating and being collected in those samplers. In about 2008-2009, EPA finally started engaging in earnest on this issue. Dr. Brock Faulkner had been leading the effort with his air tunnel experiments to understand where the oversampling occurs. Dr. Faulkner had made great progress with EPA researchers on this issue, but his untimely death is a setback. The connection with EPA needs to be reestablished, and Dr. Faulkner’s work needs to be driven to conclusion so that we can resolve this issue. Additionally, nitrogen issues such as over-fertilization and climate change impacts are also important. These are all issues the AAQTF can work on. Our job is to advise the Secretary so that agriculture is properly regulated and not overly regulated.

R – Kevin Abernathy – Dr. Faulkner’s equipment is still in his lab, so his work with EPA and Dr. Robert Vanderpool isn’t completely lost. Suggests that the replacement subcommittee for the former Air Quality Standards subcommittee should take up the mantle for the PM oversampling issue.

R – Chief Weller – AAQTF can invest their time and resources to address the key issues they see as important. It is good to have continuity with science and regulation with EPA and engage the key scientists at EPA. Subcommittees can develop white papers for the Secretary that can be shared with EPA.

R – Ben Weinheimer – Reiterates Bill Norman’s comments. Mentioned that the AAQTF website is a good repository for historical information and encourages members to view the information posted there. Previously led the AAQTF Animal Feeding Operations subcommittee, which developed a series of white papers related to emissions measurement, monitoring, reporting and modeling.

C – Bill Angstadt – Don’t want to diminish the regulatory focus, but there are other emerging issues that need to be addressed. Where will NRCS or USDA fit in with air quality and related issues in the future? Managing Farm Bill programs has evolved and will continue to evolve. Challenges the group on addressing non-regulatory issues, such as Climate-Smart Agriculture, sustainability, etc. How do we encourage the private sector to come in as partners? Wants feedback from Chief Weller on where these emerging items fit for NRCS.

R – Chief Weller – Already has had some dialogue with AAQTF members, and Climate-Smart Agriculture is one of those items that has been discussed. NRCS is going through an evolutionary change back to our roots. We started as a technical agency, moved more to programs, and now we are looking at a systems approach using both technical and financial resources. We are trying to come back to our core, and we need to make sure our practice standards are up-to-date and represent current technology and approaches. We need to equip our field staff to address new issues, especially since many of our new staff do not have an agricultural background. We are making a long-term investment to make sure we do the planning to ensure conservation implementation is scientifically supported. We need your help to help us identify the gaps so we can do a better job. For the USDA Climate Smart Building Blocks, NRCS is on target with most of the blocks. When we go out into the field for soil health or nitrogen management, we don’t always view our approach in terms of climate. The Climate-Smart Agriculture approach is a sustainable commitment over the range of ecological benefits. Ultimately, we want smart agriculture, including for climate. **We can have someone address the USDA climate building blocks at the next meeting.**

R – Bill Angstadt – Thank you for that wonderful answer. Appreciates the challenges NRCS faces. The AAQTF can help imprint the legacy of some of these efforts, especially since a change in Administration can mean a change in priorities.

R – Chief Weller – Other industries are interested in a climate-smart approach. I think this is more than a fad.

Break at 9:47 AM ET.

Convened at 10:06 AM ET

Subcommittee Formation and Break-Out Session:

Chief Weller opened the floor for suggestions on AAQTF subcommittees and noted that a select group of AAQTF members had begun discussion possible focus areas.

C – Cynthia Cory – Chaired the previous Emerging Issues subcommittee. As climate efforts have increased, especially in California, this subcommittee focused more on climate. Recommends a Smart Agriculture and Sustainability subcommittee. There is a pretty thorough white paper up on the AAQTF website.

R – Lara Moody – Supports Cynthia’s recommendation. This subcommittee could build upon the USDA climate building blocks, look at fertilizer and soil health, look at sustainability. There are no incentives in the Farm Bill, but we can look at how industry can partner on these issues. Came up with “Climate Smart Agriculture and Sustainable Systems (Climate SASS)” for the subcommittee name.

C – Kevin Abernathy – Recommends keeping the Air Quality Standards subcommittee. This subcommittee previously looked at rules and regulations and tried to identify research to inform responses to those. PM continues to be a hot topic, with PM2.5 at the forefront, the previously mentioned oversampling issues, reactive nitrogen as precursors to fine PM formation. Need to look at which compounds to regulate to get the biggest bang for the buck.

C – Bill Norman – Ozone is also an important issue.

C – Kevin Abernathy – Regulations are coming quickly.

C – Sally Shaver – Recommends a Reactive Nitrogen subcommittee. Ammonia will be a primary focal point, as there are questions on how ammonia will be regulated as a PM precursor. There is also overlap with climate impacts.

C – Chief Weller – Opened floor for recommendations for other focus topics.

R – Kevin Abernathy – Under the umbrella of Climate-Smart Agriculture, we can look at consumer-driven sustainability effort. Suggested a speaker from the Center for Food Integrity at the Fort Collins AAQTF meeting.

R – Chief Weller – Agrees, and **we should have an invited speaker for that issue**. We have had member and invited stakeholders related to marketing. Sustainability has an air quality and climate component.

C – Greg Johnson – Subcommittee work is essential to the mission of the AAQTF. Since we meet only 2 times per year, it is important for the subcommittees to work (via teleconference and e-mail) between those meeting times. The subcommittees propose recommendations and work on white papers and other documents for consideration by the full AAQTF. It is difficult to work on multiple subcommittees, although it has been done before.

C – Lara Moody – Encourages staff to provide time for subcommittees to meet face-to-face at each AAQTF meeting. It would also be good to plan for brief updates from each subcommittee at every meeting.

R – Bill Angstadt – We have had a lot of overlap in the focus areas of the subcommittees in the past. Would like better clarity on the boundaries of each subcommittee.

R – Chief Weller – Subcommittees should identify their focus areas and boundaries during the breakout session.

C – Nichole Embertson – Is it appropriate for a new subcommittee to specifically focus on recommendations for Conservation Innovation Grants (CIGs)?

R – Chief Weller – It is appropriate, but that group should not then submit CIG proposals because of conflict-of-interest issues.

C – Greg Johnson – Start with the three subcommittees. For this morning’s breakout session, each member should pick one subcommittee in which to participate. Spend about 35 minutes in breakout by convening together in different parts of the room.

Subcommittee Break-out at 10:40 AM ET.

Re-convened at 11:20 AM ET

FACA Rules and the AAQTF:

Ashlee Davis, USDA White House Liaison Office, provided a presentation on the FACA rules and procedures for AAQTF membership ([see presentation slides](#)). Covered topics included:

- What is a FACA committee?
- Basic requirements of FACA
- Overview of the USDA White House Liaison Office
- DFO role and responsibilities
- USDA advisory committee memberships

Q – Cynthia Cory – When the notice to apply for the AAQTF goes out a year from now, will those with one-year terms be able to reapply?

R – Ashlee Davis – Yes, but if that person has already served six consecutive years, they will be scrutinized.

C – Cynthia Cory – I hope there is some flexibility there. I would not like to have to reapply every year. You are going to lose people. In fact, I urge you to consider going longer than 2 year terms, if possible, to allow for continuity.

R – Ashlee Davis – The one-year term is only to introduce a staggered term system right now.

C – Cynthia Cory – There is already a short period of time that we are together. It is hard to maintain continuity already. It doesn’t sound like this approach will work very well, and we will lose some of the accumulated knowledge.

R – Ashlee Davis – We need to find a minimum balance. We’ll work closely with Greg Johnson.

Q – Kevin Abernathy – What changed to bring about these new rules?

R – Ashlee Davis – All USDA FACAs are now subject to these rules. We need to introduce opportunity for others to serve.

C – Kevin Abernathy – We have already lost lots of institutional knowledge on the AAQTF in the past few years. That knowledge is critical for this group, maybe more so than other FACAs. It also affects the chairs and co-chairs of subcommittees. We need to proceed with caution on this.

C – Bill Angstadt – Even more than institutional knowledge, it is hard to have continuity if we have changeover every year. Starting a two-year term halfway through a charter will cause concern for

continuity. It has been nine months already since we last met and changing over mid-term will cause concern, as there will be large gaps in coverage in terms.

R – Ashlee Davis – What is the recommendation for service terms?

R – Bill Angstadt – We should have the same members during the full charter. Keep the same group together over the two years. We could have a six-year term, such that 1/3 of the membership is turned over each charter.

R – Kevin Abernathy – There has been a natural succession for the AAQTF over its history, so it seems things have taken care of themselves. We don't need an established time for turnover – it happens already naturally.

R – Nichole Embertson – I think two years is a minimum for keeping everyone together. It took me a long time to catch up with the issues. A two-year term worked well with networking. I would use caution on six-year limits, as it seems to slow the ability to use institutional knowledge. There are folks who have been around longer and have the historical knowledge. It is nice to have those relationships.

USDA ARS Update:

Dr. Marlen Eve, USDA Agricultural Research Service (ARS), provided the USDA ARS update ([see presentation slides](#)). Covered topics included:

- Overview of agricultural research and USDA ARS
- USDA ARS research in Natural Resources and Sustainable Agricultural Systems
- USDA ARS research under the Climate Change, Soils, and Emissions and Agricultural and Industrial Byproducts areas
- USDA ARS data networks

Dr. Eve noted Chief Weller's comments about success stories and Bill Norman's comments about particulate matter from cotton gins. USDA ARS is interested in sharing success stories of industries or products that have moved forward using applied USDA ARS studies for success. The AAQTF has a role in determining research priorities, and USDA ARS constantly looks to groups like this to improve research and solve problems for agriculture.

USDA NIFA Update:

Dr. Greg Crosby, USDA National Institute of Food and Agriculture (NIFA), provided the USDA NIFA update ([see presentation slides](#)). Covered topics included:

- Overview of USDA NIFA and the Agriculture and Food Research Initiative (AFRI) challenge areas
- USDA NIFA Air Quality program goals and emphasis areas
- USDA NIFA funding and air quality investments

USDA Forest Service Update:

Pete Lahm, USDA Forest Service (USFS), provided the USFS update ([see presentation slides](#)). Covered topics included:

- Overview of national wildfire and prescribed fire trends
- National Ambient Air Quality Standards and implications for federally-managed lands
- Fire emission factors updates

- Fire-related regulatory news and implications
- Wildland fire air quality response program

The meeting was adjourned at 12:40 PM ET for Lunch and the US Capitol Tour and Briefing by the House Committee on Science, Space, and Technology

Thursday, April 7, 2016

The meeting was called to order at 7:38 am EDT by DFO Greg Johnson.

Opening Comments:

Greg Johnson informed the group that Chief Weller was unable to attend the meeting that day. There will be a public comment period, and there is a sign-in sheet at the door.

USDA Under Secretary and EPA Acting Assistant Administrator Panel Discussion:

Greg Johnson introduced Robert Bonnie, USDA Under Secretary. Under Secretary Bonnie spoke on a number of issues including:

- Appreciation of AAQTF's work and the positive influence they have had on work with USDA and EPA.
- Collaborative efforts to achieve conservation
- Interested in regulatory certainty efforts where voluntary application of conservation can avoid the need for regulation
- Highlighted three main areas:
 - Smoke management – Longer fire season and history of fire suppression has led to increased fuel loads and a huge burden on the USFS budget to fight fires. Need to use wildland fire, including prescribed fire, to help manage wildlands and need partnership with EPA and DOI to make this work.
 - Nitrogen – Focusing lots of efforts on managing nitrogen in soils, livestock, etc. in ways that these systems can use.
 - Climate change and greenhouse gases – This is a priority for the Administration. Many efforts in mitigation, as well as adaptation and resilience. USDA created seven climate hubs to collect and provide the best information we can to producers and others for dealing with a changing climate. USDA developed building blocks for Climate Smart Agriculture, focusing existing resources in 10 key areas to reduce greenhouse gas emissions. Looking for partnerships and opportunities, including using Conservation Innovation Grants, to develop tools and promote partnerships.

Robin Dunkins introduced Janet McCabe, EPA Acting Assistant Administrator for Air. Ms. McCabe covered a variety of topics, including:

- Positive collaboration between EPA and USDA at all levels. Agriculture and the environment don't have to be at odds. EPA needs to provide information to people to help them make good choices. Although EPA and USDA have different authorized methods to address the same issues, the end goals are the same.
- Climate change – Climate impacts on health study came out on Monday. Report focuses on business as usual versus adapting to climate change.
- Clean Power Plan – Being contested and litigated right now, and EPA is not doing anything to enforce the rule while it is in the litigation process. Also looking at how to include biomass as part of the plan to demonstrate a reduction of CO2.
- Methane – Work continuing on methane, particularly with the oil and gas sector. Working more collaboratively with agriculture on methane – Biogas Opportunities Roadmap, AgSTAR, etc.
- Air Quality – EPA revised the ozone standard last year, and there is concern over background levels contributing to exceedances. Clarifying procedures for exceptional events. Working with USDA on fire issues. Going through a regulatory process to implement the 2012 PM2.5 standard, and ammonia as a precursor is an issue under this rule. Would like AAQTF to weigh in

on that issue. Revising the Renewable Fuels Standard to reduce carbon pollution and dependence on fossil fuels, but it is hard to get new technologies up and running.

- CAFOs – Developing emissions estimating methodologies has proven to be challenging. Work is ongoing to try to figure out how to get closure. We have not neglected to working with USDA and the agricultural community to educate on best management practices.
- Solving problems together – EPA reads all public comments. People bring personal experiences on issues that we are regulating. We need that on-the-ground experience. Rules are based on information, and if we don't have enough information, how do we work together?

C – Cynthia Cory – In California, we have a need for heavy NOx reductions that seems to be forcing us to zero emissions technology. There is a truck and bus rule being developed.

R – Janet McCabe – CARB is all over this issue, and EPA is engaging with them. It is a very clear and pressing problem for California, but we are looking at new technologies and looking ahead.

C – Marguerite Tan – There is much frustration with conflicting regulations. In California, my company looked at putting a digester on a swine farm, but it would have thrown the facility into Title V, which would have made the digester unreasonable. Also, on the new ozone standard, I live in Apache County, Arizona, which is not populous and mostly forested, but it will be an ozone nonattainment area. As such, we are essentially disincentivizing USFS from using prescribed fire to protect the homes that are there.

R – Janet McCabe – Your first point is a valid point. I acknowledge that makes the project more expensive, so we need to try and address how to make better incentives. On the second point, we are trying to address fire, including prescribed fire, via the Exceptional Events Rule, and we understand it can be a valuable tool. Ozone monitors tell us what the air quality is in an area, and we have to designate areas based on what the monitors tell us.

C – Hal Kreher – My farm is near Buffalo, New York, which is an area with ozone issues. My farm is not near the ozone monitor, but if the farm were located a few miles down the road, I would not be in a nonattainment area. I have another similar farm 10 miles away, in an attainment area, and they are treated completely differently because they are in different attainment statuses. It is also difficult as a farm to first find out about the regulations. It is hard to keep up with all of the regulations that come out or to even know they are there. My focus is on caring for my animals, and I don't have the resources to sit and track regulations.

R – Janet McCabe – Is all of Erie County in nonattainment? There might be an opportunity for narrowing the nonattainment area to less than the county boundary. States recommend the nonattainment area boundaries, but the State Implementation Plan has to focus on activities that are contributing to the nonattainment. On the regulation side, I hope you are not reading the Federal Register! I would rather you focus on running your operation. We realize there are many regulations out there. Many of those also have size cutoffs for applicability. EPA believes many agricultural operations emit at levels below those regulatory thresholds. We are trying to improve outreach from EPA and USDA to make sure farmers receive good info, and we have Ag Advisors for the EPA regions. Sometimes, it is best that EPA not deliver the information, but rather rely on other sources to do that.

C – Kevin Abernathy – Robert mentioned the climate hubs. We have had some interesting discussions with CARB about incentives for creating credits under voluntary programs. There needs to be some incentive. In working with different verifiers, we are a low-hanging fruit, but we are leaving a lot out there still because of the barriers and lack of incentives. We need to start putting money where our mouths are to make sure we don't fail before we start.

R – Robert Bonnie – There has been a lot of good long-term work by the California Rice Commission for reducing methane, but it just doesn't pencil out right now, and without markets, we will lose this opportunity. There are a number of Conservation Innovation Grant examples. The Clean Air Act isn't ideally suited for making carbon offsets work. We need to create incentives to maintain forest land, even with increasing management. The original thought was that agriculture and forestry would be the initial focal points of carbon markets, but the energy sector is moving faster. We need to figure out the right set of incentives and market signals to make things move. There are real opportunities because of the co-benefits.

C – Kevin Abernathy – Expressed appreciation to Janet McCabe for being here and the spirit of collaboration she has shown. The AAQTF appreciates working with her over the years. For ozone in California, there has been a lot of historical work, effort, and expense to reduce emissions by 80% already, but studies are showing that another 90% is still needed. How are we going to do that? At some point, there is nothing else to cut.

R – Janet McCabe – California has obviously been very active over the years. We are doing what Congress told us to do. We examine the standards on a regular basis. The Exceptional Events Rule is an example of something that must be resolved in order to address the new standards. We don't know what technologies will advance and what we will be able to do 20 years from now.

Q – Bill Angstadt – In the Chesapeake Bay Program, the Technology panel issued their report last week about BMPs for nitrogen. In the markets vein, is this the right direction? If we are going to offset water quality contributions by sending it to the air, is this good policy? In one airshed, the release of ammonia may be acceptable, but not in another where ammonia is contributing to PM formation.

R – Robert Bonnie – No, there are other things we can do. We don't want to create externalities that cause other impacts. We are forward leaning on markets, but don't want those markets to get a black eye.

R – Janet McCabe – I agree. We need to make markets work correctly and understand the tradeoffs.

Q – Merlyn Hough – Meeting the 70 ppb ozone standard will be a challenge. Can you discuss how the target setting process for a standard is different from the implementation part?

R – Janet McCabe – The setting of a standard is based on the science inquiry from a public health standpoint. It is a very public process, and there are many studies for ozone and PM. Congress' intent is for air quality standards to be met in all parts of the country. Most of the implementation work is done by the state and local air agencies, as they are more familiar with air pollution and sources in their areas.

Break at 9:18 AM ET.

Convened at 9:42 AM ET

Public Input Forum:

No public comments at this time.

Air Quality Regulatory Update from EPA:

Robin Dunkins, Group Leader of the Sector Policies and Programs Division within the EPA Office of Air Quality Planning and Standards, provided the EPA air quality regulatory update ([see slide presentation](#)). Covered topics included:

- Presidential Climate Directives – Provided overviews of the Climate Action Plan, Clean Power Plan, and Methane Strategy.
- Biomass – Discussed the framework for addressing CO2 emissions from biomass combustion and the treatment of biomass in the Clean Power Plan.
- National Ambient Air Quality Standards (NAAQS) – Provided status updates and anticipated implementation milestones for the various standards. Discussed implementation of the 2008 ozone NAAQS and provided an overview of the 2015 ozone NAAQS. Discussed revisions to the Exceptional Events Rule and development of wildfire guidance. Provided updates on PM2.5 NAAQS implementation issues and greenhouse gas regulations.
- Animal Production Sector Air Quality – Provided an update on various petitions and litigation related to animal operations and emissions, as well as the National Air Emissions Monitoring Study (NAEMS). EPA’s Office of the Inspector General notified the Office of Air and Radiation in March that they would begin an evaluation of EPA’s effort to evaluate air emissions from animal feeding operations. Mentioned collaboration with USDA on a livestock and poultry conservation measures guide.
- NESHAP/NSPS Updates
- Renewable Fuel Standard Program
- FY16 National Enforcement Initiatives – Include cutting hazardous air pollutants and preventing animal waste from contaminating surface and ground water.
- EPA’s Farm, Ranch and Rural Communities Committee
- Farm Bill SAB Agriculture Committee
- Additional Agency Activities – Mentioned work of USDA-EPA Ammonia Workgroup. Provided updates on Clean Diesel Program, Nutrient Recycling Challenge, and EPA/USDA Food Waste Challenge

Q – Nichole Embertson – Is the livestock and poultry conservation measures guide focused only on NRCS practices?

R – Robin Dunkins – Not many NRCS practices are designed specifically for air quality. We are looking at those practices, but also including other proven technologies.

Q – Nichole Embertson – What is the intention of the document?

R – Robin Dunkins – It is a reference guide, just like the cropping system conservation measures guide, to try to help state and local regulatory agencies figure out which technologies can help minimize air quality impacts from agriculture. It does not give quantitative results.

Q – Phil Silva – How will the NAEMS methodologies be used in conjunction with the PM precursor issue?

R – Robin Dunkins – There is some connection. NAEMS is supposed to give us farm-level emissions estimating methodologies. That information might be able to be used by states in the regulatory realm. The results of NAEMS have some broad applicability.

Q – Phil Silva – There seem to be gaps in the process. As we move forward, the national level view may look different than state or local level views. How can we figure out which nonattainment areas are likely to continue to look at traditional PM precursors, and which nonattainment areas are going to need to focus on agricultural sources?

R – Robin Dunkins – I don’t want to guess on that until after the PM rule is finalized. For areas that are already nonattainment, they usually already know what sources are contributing and what they are going to have to address. For

new areas, we can't really speculate on that yet, but they do have a process they will have to step through.

R – Phil Silva – At the local level, there could be gaps in the research that don't exist on the national level, but that are very important for the local folks as they figure out what they need to do. They may not have the resources to fill those research gaps.

R – Robin Dunkins – John Walker and April Leytem will be giving a presentation about some of the research and case studies that are coming up to try to help fill in some of those gaps.

USDA-EPA Collaborative Ammonia Research:

John Walker, EPA Office of Research and Development, and April Leytem, USDA ARS and AAQTF member, provided a presentation on upcoming collaborative ammonia research by USDA and EPA ([see presentation slides](#)). Covered topics included:

- Overview of USDA/EPA ammonia workgroup
- Overview of ammonia interaction in atmospheric processes
- USDA ARS air quality research
- Potential areas of USDA/EPA collaboration on ammonia research

Q – Jeff Collett – What are you looking at in relation to local deposition and transport, since deposited ammonia can saturate the soil surface downwind and cause a larger source? Are you looking at distance?

R – John Walker – These measurements are challenging, especially since ammonia can saturate the surface downwind of the source. Want to get concentrations downwind in a transect to see how those change, as well as fluxes downwind and soil and vegetation chemistry to see how deposition changes downwind from an area of high deposition to lower deposition.

Q – Jeff Collett – Have you considered what the differences might be for an existing facility that has been emitting and depositing for a period of time as opposed to a new facility that is just emitting and doesn't have the deposition yet?

R – John Walker – Good point. We haven't put that into the experimental design yet.

R – April Leytem – We have thought about that, but we are likely to be more constrained by the facilities that we are able to convince to work with us that are set up to allow us to collect downwind information. Hopefully some of the gradient information will help us get to that question.

Q – Annette Sharp – What is the timeline for this research?

R – April Leytem – A lot of the work is planned to start next year and be done in the next 2-3 years.

Q – Annette Sharp – Can we get regular updates on the research?

R – Greg Johnson – Absolutely.

Q – Sally Shaver – What is the current state of modeling, especially regional modeling, with respect to deposition?

R – John Walker – EPA’s Community Multi-scale Air Quality (CMAQ) model has incorporated information related to wet deposition. Tougher part has been on the dry deposition side. Moving to a framework that encompasses the bi-directional flux.

Q – Sally Shaver – So was the previous modeling for the Chesapeake Bay using the older version that doesn’t include the new information? We saw a slide yesterday about the Mississippi River Basin that showed similar outcomes to the Chesapeake Bay, so I was wondering if they were using the old information for those.

R – John Walker – Good question. I’ll have to check on that and follow up with you.

C – Kevin Abernathy – Going back to Jeff Collett’s comment about existing vs. new facilities, we did a PM study on the effects of different mitigation methodologies. We were astounded at the difference in gradients between existing and new facilities.

R – John Walker – I agree that is a big issue. There are not a lot of field studies, but there are some control studies where the landscape was fumigated with ammonia to see how quickly the surfaces become saturated with ammonia. We are hoping that the gradient view will help us figure out how different the process is under high concentrations vs. low concentrations.

R – Kevin Abernathy – With most research, you get a snapshot of what happened on that day at that time. It will be interesting to incorporate the historical view of what has happened prior to taking those measurements.

Q – Lingjuan Wang-Li – The complexity of the spatial variability is important. How did the model improve prediction in rural areas where there hasn’t been data to validate it?

R – John Walker – I agree that it is a data gap. We are hoping this collaborative effort will help assess spatial variability at least at the model grid level to see how well it compares. It would be great if this effort helps us to better understand the ammonia side so that we can do a better job on trying to answer the PM side.

Q – Lingjuan Wang-Li – Where will the research location(s) be?

R – April Leytem – We can’t comment on that yet. We are still trying to identify a cooperating producer.

Q – Charles Stanier – A discussion of the National Emissions Inventory for ammonia may be beneficial for this group. Where did the numbers for fertilizer and manure come from?

R – John Walker – I haven’t worked on the inventory side, so I don’t know the inventory, but I do know how the model works and how the model uses the inventory values. The model looks at the EPIC model and not a static or temporally-allocated emission. It uses a process-based approach.

USDA NRCS Update:

Greg Zwicke, Air Quality Engineer with the NRCS Air Quality and Atmospheric Change Team, provided the USDA NRCS update (*see presentation slides*). Covered topics included:

- Overview of NRCS and how the agency approaches air quality
- Identification of NRCS air quality personnel
- Overviews of NRCS air quality resource concerns, conservation planning, and conservation practice standards
- Discussion of USDA-EPA collaboration on the Agricultural Air Quality Conservation Measures Guides and the Agricultural Ammonia Workgroup
- Overview of the NRCS National Air Quality Initiative

Q – Bill Angstadt – Primary interest in cropland N₂O. Concerned about losing the Conservation Activity Plan for Air Quality this past year. Wants a training module for cropland N₂O. Is NRCS entertaining plans for addressing cropland N₂O under the National Air Quality Initiative?

R – Greg Zwicke – The Conservation Activity Plan for Air Quality was offered for several years, and we had no interest from producers for developing one, so that’s why it is not being offered anymore. Training may be a way to get around that. The National Air Quality Initiative efforts are based on the proposals we get from NRCS state offices. If they don’t submit requests related to croplands, we don’t fund requests that we don’t get. Delaware and Maryland did submit a regional request last year, and those focused primarily on poultry house emissions. Texas and Oklahoma are focusing primarily on cropland and rangeland. States have been submitting their requests based on priorities identified by their advisory committees.

R – Bill Angstadt – So, what about the climate change building blocks, including nitrogen stewardship? One reason Conservation Activity Plans weren’t requested is because there weren’t any Technical Service Providers certified to develop them, and the reason there were no Technical Service Providers is because there was no training or certification requirements. If we are going to address nitrogen stewardship, you are going to have to develop training and certifications for Technical Service Providers.

Q – Ben Weinheimer – Have all five air quality practice standards completed the process at both the national and state levels?

R – Greg Zwicke – Not all of them. The top four have been around long enough for that to have happened, but the last one, although official nationally, may not have been adopted/adapted by the states. States do have the option to prioritize practices, so implementation will be depend on whether the state or their advisory groups prioritize air quality and/or those practices.

Q – Charles Stanier – When you say “an air quality-specific practice”, does that also include greenhouse gases?

R – Greg Zwicke – Yes, those mentioned as having air quality purposes include practices with greenhouse gas purposes. That list can be made available.

C – Marlen Eve – Appreciated remarks on how slow it is to get science into the conservation practice process. A key part of my job is to get the science out, so I’m interested in talking about how we can create a better avenue to make this more efficient.

R – Greg Zwicke – My comments were not a knock on anything ARS does, and I appreciate the work and collaboration that ARS does with NRCS. The lines of communication are very open. I know there are funding issues on both sides, and that’s what is causing the slowness.

R – Marlen Eve – With the emphasis on the climate change building blocks, this may be a good time to strategically look at what new practices are needed and whether the science is there to do that now.

R – Greg Zwicke – That was one of the Chief’s asks yesterday. We are definitely interested in getting that feedback.

Public Comment:

Tom Hebert, who works with many producer groups in the DC area on environmental issues, provided public comment. Covered topics included:

- PM2.5 Implementation Rule – Found during public comments that not all compounds have the same health impacts. There are a series of papers on exposure to humans where there are no adverse impacts to exposure to ammonia-based PM2.5. The PM NAAQS does not consider individual species. We made EPA aware of this.
- In Western Lake Erie Basin, we are dealing with phosphorus issues. There is a tight correlation between reduction in soil acidity and available phosphorus concentrations. Reducing acid rain is showing to reduce concentrations of dissolved reactive phosphorus. The AAQTF might want to look at this and consider air improvement to work on a water quality issue. Research is showing increased phosphorus concentrations in lakes and other water bodies across the board, even in areas where phosphorus isn’t being applied. Normally, we consider phosphorus contributions to water quality to be from erosion of soil and runoff, and some have theorized that it could be from adsorbed phosphorus on dust particles. Some researchers then raise the question as to why, then, if adsorbed phosphorus and dust particles are landing of areas near rivers and streams, why are we not seeing increased phosphorus concentrations in those moving streams? Is it due to increased storm intensity due to climate change? Or increased atmospheric dust with adsorbed phosphorus?

DFO Greg Johnson then covered logistics, including reimbursement for expenses for the AAQTF members. Greg Zwicke also discussed transportation for the tour and reimbursement for those expenses.

Break for lunch and subcommittee discussions at 11:41 AM ET.

Convened at 1:31 PM ET

DFO Greg Johnson made some comments on AAQTF member terms and recruitment, and some questions and discussion ensued.

DFO Johnson then indicated that the next meeting will likely be in the August or September timeframe.

C – Lara Moody – The Climate Change and Sustainable Agricultural Systems subcommittee proposed that the next meeting should be held in Northern California, possibly in the Marin area. There are opportunities near there specific to rice and methane and nutrient management practices.

C – Cynthia Cory – In that area, we could focus on greenhouse gas emissions, the \$20 million available for the soil health initiative, and air quality work in other communities. At that time, a lot of harvesting is happening, especially if we focus on the last week in August.

Subcommittee Reports:

Air Quality Standards Subcommittee

Ben Weinheimer, co-chair of the Air Quality Standards (AQS) subcommittee, mentioned that the subcommittee analyzed their charge by starting with goals relative to the subcommittee. Recommendations were presented ([see separate recommendations document for full details](#)).

AQS subcommittee recommendations were made and seconded. Some discussion regarding whether other universities should/could be included in the PM monitoring effort was made, and it was pointed out that EPA's equipment is currently at Texas A&M, so that work should continue. Bill Norman mentioned that the final data is ready, but not yet reviewed. This is an issue that is specific, based on the air tunnel capabilities with EPA's cooperation.

A vote was taken on the recommendations, and they were approved.

Climate Change and Sustainable Agricultural Systems Subcommittee

Cynthia Cory, co-chair of the Climate Change and Sustainable Agricultural Systems subcommittee (Climate SASS), mentioned that the subcommittee's goals start with sustainability as No. 1. They are also looking for research gaps, NRCS and technology transfer, and communication on what we do and how we do it.

Reactive Nitrogen Subcommittee

April Leytem, co-chair of the Reactive Nitrogen (Reactive N) subcommittee, discussed the subcommittee's goals.

DFO Johnson commented that, as these groups are being formulated, subcommittee communications should go to the whole task force at this time. The subcommittees should follow up within the next month with a teleconference to start discussing topics in further depth.

Greg Johnson thanked the AAQTF members for their service, and mentioned that we will make the subcommittees and their work a major part of future meetings. Subcommittee members will be able to request one speaker per meeting, so please be thinking about who those might be.

The meeting was officially adjourned at 2:25 pm EDT by DFO Greg Johnson.