

The USDA Agricultural Air Quality Task Force (AAQTF)

AAQTF Meeting Notes – Fort Collins, CO – Thursday, December 4, 2014

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

Welcomes and Introductions

Dr. Greg Johnson, AAQTF Designated Federal Official (DFO), called the meeting to order at 7:45 am MT.

NRCS Chief Jason Weller welcomed the AAQTF and expressed appreciation for their work. The AAQTF members then proceeded with introductions. After the introductions, Chief Weller mentioned that there was a lot of work going on, including in California. The innovation being shown is unparalleled. NRCS needs to be aware of what is happening and needs to bring in the expertise and science to help our field staff. The regulatory space is becoming increasingly important.

Dr. Jeff Steiner, Colorado State University Associate Dean for Research in the College of Agricultural Sciences and Deputy Director of the Colorado Agricultural Experiment Station, provided a welcome from Colorado State University. Weld County in Colorado has the greatest density of new oil and gas wells, as well as tremendous agricultural production. The headwaters of 22 states are located in Colorado. Colorado is also one of the largest producers of beef, and there are implications for nitrogen emissions.

Gene Backhaus, Colorado NRCS State Resource Conservationist, next provided a welcome from Colorado NRCS. Colorado NRCS has had a long history of participation in the NRCS National Air Quality Initiative (NAQI). They have tried to get measurable results, and have submitted a NAQI proposal for FY15, including the potential for some farm-level monitoring. Colorado NRCS has also worked on irrigation systems, nutrient management, manure management, and conservation tillage, also in relation to air emissions. Southeast Colorado experiences huge dust clouds and storms. NRCS has participated in the Rocky Mountain National Park (RMNP) Agriculture Subcommittee for the past 8 years, helping to implement practices to reduce nitrogen emissions using science from the National Park Service, Colorado State University, and others. They have been helping to identify other sources of nitrogen emissions (urban fertilizer use, etc.), but also figuring out how to reduce the agricultural industry's contribution. Being able to report, measure, and quantify the benefits of conservation practices has been a challenge, and they are educating staff to be able to do that effectively. There is still a need for tools, including the National Air Quality Site Assessment Tool (NAQSAT) for livestock and poultry operations developed at Colorado State University.

Presentation – Cindy Lair (Colorado Department of Agriculture – State Conservation Board) – A Snapshot of Colorado's Thriving Food & Ag Industry

See presentation slides for details. Agriculture contributes more than \$40 billion to Colorado's economy and supports more than 170,000 jobs in the state. The governor has suggested that the agricultural sector pulled the state out of the recession. Total net farm and ranch income for 2014 is estimated at \$2.6 billion. Cattle and calves are a \$3.6 billion industry and ranked No. 1. No. 2 is corn production at \$939 million and No. 3 is dairies at \$594 million. Due to Colorado's vast rangelands, CDA has partnered with NRCS with improving sage grouse habitat. Colorado is No. 1 in the country in brewing beer. Overview of 2014 Food and Agriculture Industry Stakeholder Survey. The top responses were over water, including availability, loss to municipalities, fracking, drought and climate change). About 98

percent of the water is owned by agriculture. The No. 2 responses were over increased government regulation.

Discussion – Shaun McGrath (U.S. EPA Region 8 Administrator)

Mr. McGrath noted that there is a great need to sustain communities and work together by building relationships and having an open dialogue. “We are all working toward the same goal.” EPA is proud of local technical assistance, including assisting small communities that were impacted by the floods in 2013. Region 8 has developed a local agriculture workgroup, overseen by Rebecca Perrin – EPA Region 8 Agriculture Advisor. This group meets semiannually to discuss and learn about reducing the impacts of agriculture on the environment. Other similar groups have been started in other Region 8 states. EPA has conducted outreach on the Waters of the US issue. They want to meet the farmers personally. The National Drought Resilience Partnership is an area that EPA is leading out of Region 8. They are working in the headwaters of the Missouri River up in Montana on drought resilience activities. They are encouraging the use of voluntary best practices in a way that is practical for producers and beneficial to the environment. Region 8 has been working on air quality and ecosystem impacts in Colorado through the RMNP nitrogen deposition effort, including investing in a continuous ammonia monitor near Greeley. This has been collaboration at its best to use science to identify voluntary best practices for reducing ammonia emissions without the need for regulation. EPA is also advancing science to address ozone along the Front Range, working with NASA in the summer of 2014 using satellites, ground-based monitors, and matching those readings with airplane monitoring to get a 3-D look at the ozone issue and develop a comprehensive understanding of where ozone comes from in the Front Range. Whenever NASA is involved, it creates a buzz. Still a lot of work to do, but proud of the efforts so far.

Q – Weller – What is the biggest opportunity and biggest challenge with agriculture?

R – McGrath – Understanding what works and how it can be implemented in a workable manner. “The Waters of the U.S. proposal is a perfect proposal”, receiving criticism and engagement in trying to understand one another’s perspective. It’s not perfect from the standpoint of having everything right – it’s perfect in that it is allowing for open dialogue and engagement to achieve the right outcome in the final rule.

Q – Shaver – Does EPA have a position on sustainable food? Where is EPA on that issue?

R – McGrath – EPA does have a program on sustainability and a group working on that. It’s not a regulatory program. Most people think of EPA as only a regulatory agency, but that is not necessarily accurate for the agency as a whole and not necessarily how EPA would like to be viewed.

A break was initiated at 8:52 am, and the meeting resumed at 9:22 am.

Presentation – Kelly Rimer (U.S. EPA), with Bryan Hubbell (U.S. EPA) on the phone – Updates on Proposed Revisions to the National Ambient Air Quality Standards (NAAQS) for Ozone

See presentation slides for details. Topics covered included:

- Overview of the NAAQS process and ozone NAAQS
- Health and environmental effects of ozone

- Identification of the proposed standard levels and associated benefits and costs. The proposed primary standards are 65-70 ppb and the secondary welfare-based standards are 65-75 ppb. EPA is soliciting for comments to 60 ppb. The proposal is to apply the W126 index value for the secondary standard as within 13-17 ppm-hrs (3-year average). EPA is soliciting for comments to 7-13 ppm-hrs.
- Overview of implementation and timeline. Rules will reduce NOx and VOC with co-benefits in reducing air toxics and carbon. States are to submit their nonattainment area recommendations to EPA by October 2016. EPA will make the final designations in 2017. Most areas in the country should achieve the primary and secondary standards by 2025.
- Proposed changes to the Air Quality Index (AQI), monitoring requirements, and permitting provisions. Extending the ozone monitoring season will be necessary for 33 states.
- Three public meetings will be held in January 2015. The final rule should be signed by October 1, 2015.

Q – McVaigh – On the secondary standard, is EPA setting a threshold based on W126, determining an 8-hour level that matches that threshold, and then setting the standard at the 8-hour level and determining compliance based on that 8-hour standard?

R – Hubbell – Yes, EPA is proposing to set the secondary standard similar in form to the primary standard, but set the secondary standard based on the W126 info.

C – McVaigh – Concerned about education and outreach on the changes in the AQI due to the changes in ranges. The AQI would show more red days, even if concentrations were improved over the old AQI. The public might misinterpret the level thinking the air quality is actually getting worse.

R – Hubbell – EPA will put out additional materials, and he can send more information on that.

Q – Faulkner – In setting the primary standard, even if the standard goes below the policy-relevant background, is there ever a point at which the standard wouldn't be working to zero?

R – Rimer – That has to be taken into account in implementation. The standard has to be based on health effects science.

R – Hubbell – There is discussion on the background and the impact on the standards in the Policy Assessment. There are not many areas where exceedances are due to background. States can also potentially use the Exceptional Events Rule, if that were the case.

Q – Shaver – Are all levels of the AQI changing? How many of the new studies demonstrate that the levels need to change? Why are the upper levels changing? There is required action at some of the AQI levels, so we need to make sure those are based on new science if they change.

R – Hubbell – The AQI has historically been adjusted to fit to the level of the standard. We will need to look into your questions and get back to you.

Q – Abernathy – Why is methane now included in the mix as an ozone precursor?

R – Hubbell – There is a growing literature of methane contributions globally to background ozone. We can point to specific references.

Q – Abernathy – Will methane now be regulated for ozone?

R – Hubbell – I can't answer that. The implementation folks will need to answer that.

Q – Abernathy – California has a mature regulatory program. What is the program for states that aren't as well-developed? Where will the money come from to develop and implement those State Implementation Plans (SIPs)?

R – Rimer – Janet McCabe is supportive of EPA helping states to get time and money for doing that.

Q – Buttner – Following up on the methane issue, if methane is more of a global background issue, is there an explanation of that in the rule?

R – Rimer – Yes, we can get those sections to you.

C – Norman – The AAQTF has commented two different times on the ozone standard. During the last review, there were serious concerns with the W126 methodology. We brought in experts on ozone and its influence on trees, noting that W126 doesn't have anything to do with any biological function of plants. I know the agency is interested in reducing smog in urban areas, but the W126 index doesn't work for vegetation.

R – Rimer – We look forward to receiving those comments.

Q – Abernathy – Does EPA plan to regulate ammonia?

R – Rimer – That is probably a question for the Administrator.

R – Hubbell – Ammonia isn't relevant to the ozone discussion.

Presentation – Robin Dunkins (U.S. EPA) – EPA Regulatory Update

See presentation slides for details. Topics covered included:

- Overview of upcoming NAAQS reviews and changes in PM2.5 NAAQS implementation. These included discussions over the 2008 8-hour Ozone NAAQS (75 ppb). The PM2.5 NAAQS designations were finalized in December 2014, which includes proposals for regulating ammonia as a PM precursor. States are required to address ammonia in the SIPs unless it is not a significant problem. Secondary NOx and SOx review concluded in March 2012 and were not changed.
- Exceptional Events
- Nitrogen Strategy
- Biomass for biogenic CO2, where EPA released a second draft.
- EPA's Farm, Ranch and Rural Communities Committee (FRRCC). The focus is on soil health and advantages to water and air quality, and to mitigate impacts to farms during extreme weather events.
- The Farm Bill Science Advisory Board (SAB) Agriculture Committee

- Grain Elevator NSPS. Comment period closes on December 22, 2014.
- Renewable fuel standard
- RACM Rule for PM10 from ag sources for Pinal County, Arizona.
- ARB and the SJVAPCD submitted a 188(e) extension request to EPA to meet the 1997 PM2.5 standards.
- SJVAPCD Rule 9610 over SIP approval from incentive-based emission reductions will be finalized sometime this winter.
- Ammonia Workgroup update

Q – Cory – Can we get an AAQTF member on the SAB panel to look at the second round of biogenic CO2 emissions stuff?

R – Dunkins – I don't have any new information on that, but I do have an inquiry in.

Q – Embertson – Does ammonia have to be addressed as a PM2.5 precursor unless it is shown not to be a significant contributor?

R – Dunkins – Yes, the court ruling changed our previous determination to that.

Q – Embertson – Is there a standardized process for doing that demonstration?

R – Dunkins – It is in the rule. The guidance will include how that decision is made

Q – Shaver – On the Exceptional Events Rule, you mentioned that it would address ozone events and wildfires, but will it address PM?

R – Dunkins – We are concentrating on ozone and wildfires first.

Q – Shaver – So, what do people do right now if there is a dust event?

R – Dunkins – Those exceptional event demonstrations are handled on a case-by-case basis.

Q – Shaver – On the Reactive Nitrogen slide, is that the Nitrogen Strategy group the same as the USDA-EPA Ammonia Workgroup?

R – Dunkins – No, there is a different group developing an overall Nitrogen Strategy. Promoting sustainable management practices.

Q – Shaver – Where is soil health housed in EPA? Is this a water or air thing?

R – Dunkins – With extreme weather conditions, there is overlap. There is a component in every office, but probably mainly in Air and some in Water. We're still trying to figure that out.

C – Norman – On soil health and the FRRCC, the AAQTF has expressed an interest in having a joint meeting. There must be significant science since the 1930's over soil health. I hope that's still a possibility, especially with the emphasis on soil health.

R – Dunkins – We are working toward a joint meeting. We will reach out to NRCS and others for speakers.

R – Weller – Recognized Wayne Honeycutt's leadership on soil health. NRCS does know a bit about soil health, so we'd be glad to help.

Q – Knighton – Is there anyone from NIFA participating on the USDA-EPA ammonia workgroup?

R – Johnson – Not yet. ARS is at the table. We need to talk about that.

C – Abernathy – Concerned about a rumor that EPA was planning to release proprietary farmer information in the near future, based on a FOIA request. Does this include information from the NAEMS study?

R – Dunkins – Not sure what FOIA might be involved with that. It could also be associated with the EPA Office of Water. EPA rules on confidentiality are different than those in the Farm Bill. Not really sure what is being referred to. EPA does have provisions that notification would need to happen if information was about to be released.

Q – Moody – Related to the FRRCC and the focus on soil health, I would be interested in seeing EPA outline the expected outcomes from this focus and why there would be such a focus on soil health, given that USDA already has significant expertise in this area.

Q – Burns – I am a member of the FRRCC, and echoes Lara Moody's thought. I would like to know more about the charge and direction of that group. Also, for ammonia and PM2.5, I would expect that the ammonia information from the National Air Emissions Monitoring Study (NAEMS) would be useful. What is going on with NAEMS?

R – Dunkins – We are still at a standstill internally and dealing with resource and budget issues. NAEMS info would be helpful in moving forward. Also, EPA has received other petitions related to regulation of ammonia. We realize it is taking a lot of time, and we don't want to get lawsuits.

Q – Weller – Regarding SIP creditability for SJVAPCD Rule 9610, what is intended to be finalized in the winter?

R – Dunkins – Referred to Kerry Drake with EPA Region 9. EPA has two similar packages from the SJVAPCD applying the same principles. We believe the rule package will be finalized in January or February 2014.

C – Weller – We really want to stay close to the SIP creditability issue and make sure we get it right because it could be a blueprint for other areas.

R – Dunkins – The Memorandum of Understanding is open, so it could be used for other areas. I am cautious about using the term "blueprint", but it could inform others on how to proceed.

Review of College Station Meeting Recommendations and Approval of Minutes

Dr. Johnson opened the floor for discussion of the College Station meeting recommendations and minutes, which were previously distributed via e-mail. There was no discussion, and the minutes were approved via unanimous vote.

Presentation – Jorge Delgado (USDA-ARS) – USDA-ARS Update

See presentation slides for details. Topics covered included:

- ARS Climate Change, Soils, & Air Emissions program update
- REAP/GRACEnet database progress report
- Reactive nitrogen update
- Overview of new Nitrogen Index

Presentation – Ray Knighton (USDA-NIFA) – USDA-NIFA Update

See presentation slides for details. Topics covered included:

- NIFA air quality investments – requested additional input into future NIFA investment in air quality, particulate matter, ammonia, ozone, etc.
- Trend shows less interest in PM, but more being directed toward ammonia and N₂O.
- USDA, EPA, USGS research mapper – Attended a USGS workshop over related projects. Showed a map of nutrient related science of some 20,000 documents funded by USDA, EPA and USGS. Found linkages and strengths of each agency by identifying the interrelationships between the science and ability to identify potential scientific gaps.

Q – Burns – Requested clarification on slide 2. Do individual bars for ammonia, PM, and N₂O equal the overall air quality bar?

R – Knighton – No, they just represent the numbers of projects for each of those specific keywords.

Q – Moody – In the USDA GHG quantification document, it was noted that there are deficiencies in the N₂O numbers and methodologies. There is also a push by the supply chain folks to better quantify the N₂O emissions from food production. Do you expect those to lead to an increase in N₂O research projects?

R – Knighton – I expect the number of N₂O research projects to be about the same as in the past few years, but we don't specifically call out N₂O in climate change projects, so it is hard to identify some of the work being done in all of the projects.

Q – Sharratt – Will the number or size of awards be reduced because of sequestration?

R – Knighton – CAP awards were originally intended to be \$20-40 million awards, but we are looking at \$5-10 million instead. We are only 5-6 of those awards per challenge area per year. We couldn't do climate change in 2014 because of a lack of funding and other previous commitments. 2015 will be very small compared to the first year of the program. We have an

8-10% success rate (proposals submitted vs. funded) for topical areas. For challenge areas, it is more variable because of fewer applications. There is a less than 20% success rate overall.

Q – Angstadt – NIFA and ARS are throwing out new stuff that we’ve not seen before. What does this all mean for NRCS? How does NRCS take all of these new initiatives and get them on the ground? Will there be new tech notes? How will this new stuff become useful to farmers?

R – Weller – There is no good answer, but I will leave it to the S&T Deputy Chief. We’ve changed from a technical planning agency to an implementation agency. We need to make sure our technical competency gets back to being top-notch. We need to equip the field with the tools and knowledge to help farmers with the latest technology. We need to make sure we get substantive external review of our practice standards. We need to make sure our technical centers are collaborating with ARS, NIFA, universities, and other research partners. CIG has been the seed money for a lot of demonstration projects, but we haven’t done a great job of implementing what we’ve learned. That info has to be transferred to the field office so they can transfer it to a farmer or rancher.

Q – Angstadt – Historically, structural practices have been the strength of NRCS, but new practices are more management-type practices. Conservation today is managing multiple practices. How can you catch up to that?

R – Honeycutt – There are a number of concrete steps we’re trying to take. There are nine technology development teams. They are tasked with reaching out to external scientists to bring in new technologies. They interface with states in the centers. There are technical review committees to integrate technology from CIGs. We are working with other groups to get back up to speed on new technologies. Representatives are working with ARS to show NRCS priorities and get them integrated into program plans. It’s definitely on our minds.

Q – Angstadt – I appreciate the work that NRCS does. We need to move away from defending agriculture from EPA toward figuring out how to integrate internal USDA information. Is there a gap on whether the AAQTF is asking the right questions for the Secretary to deliver conservation to the ground?

No response

Q – Wang-Li – Surprised that PM hasn’t gained stronger support from a project standpoint. How many of the 2014 awards in the nitrogen cycling component will be related to air quality, ammonia, and/or PM?

R – Knighton – That is in process, but I can’t say more right now. There are projects related to air quality and nitrogen that will be included in the awards. Much of the PM work will likely be nitrogen and ammonia related.

Q – Weller – What is the best form for the AAQTF to prioritize areas for NIFA to fund?

R – Knighton – In the old days, the AAQTF provided research recommendations and recommended funding amounts. That would be helpful.

Presentation – Garvin Heath (U.S. Department of Energy National Renewable Energy Laboratory) – Air Quality Considerations for Biofuels

See presentation slides for details. Topics covered included:

- US DOE's BioEnergy Sustainability Program
- Sugars-to-Hydrocarbons Biorefinery Air Emissions
- AQ Permitting

C – McVaigh – This looks like a great effort, and I'm glad the permitting groundwork is being laid out beforehand. It's best that this work be done in advance. Reviewing on a case-by-case basis is a nightmare. One example are dairy digesters. It is a bit concerning that state and local requirements aren't being considered yet, as most of them are derived from Clean Air Act requirements. Applying such groundwork toward attainment areas does not provide any good information, as such evaluations should be focused on nonattainment areas. On slide 17, I am worried about the amount of NOx for this example facility. In nonattainment areas, 510 tons of NOx per year is scary. There is great value in looking at nonattainment areas that have more stringent state and local requirements.

R – Heath – Thanks for the comments. DOE is smart to try to anticipate the permitting issues beforehand. We are not trying to exclude state and local requirements or nonattainment areas, we are trying to get a general look at what would be required. We hope to be able to focus in on more state and local requirements in the future. We can look at technologies like low-NOx burners, but it must be balanced with the costs.

Q – Abazinge – Why is lignase not included in the lignin breakdown process? Cellulase is there, but lignin needs an enzyme to break its bonds, too.

R – Heath – Referred to Slide 13. I'm not a chemical engineer and didn't design the system, but I invite you to look at the design document and circle back with the team.

Q – Abazinge – What are the main constituents of the hazardous air pollutants (HAPs)?

R – Heath – We haven't speciated them yet. Dioxins probably aren't the principal ones. That work will be done this year.

Q – Weller – What feedstock/feedstock blends are being analyzed?

R – Heath – We are looking at lots of different ones. Oak Ridge National Lab is leading that effort. NREL is looking at the impact side of future scenarios.

Q – Weller – What happens if back-end control technology is not feasible, but upstream controls are? Could those controls be used as credit for the requirements for the facility?

R – McVaigh – That has been done for biomass facilities in the San Joaquin Valley (SJV) before.

R – Heath – That's helpful to know. We could incorporate that into the study.

C – Norman – We need a continued involvement in this area. It would benefit land grant universities that are doing work in this area. There is lots of technology in place with the vegetable oil refining (corn, soy cotton seed) industry for many years. It might be good to tap into that.

R – Heath – I appreciate the encouragement for future involvement. We would be interested in doing that. We have done broad searches for emission factor information, but would welcome more info.

Meeting was adjourned for lunch at 12:27 pm and resumed at 1:31 pm.

Climate Variability Impacts Subcommittee

Cynthia Cory, CVI ~~Subcommittee~~Subcommittee co-chair, introduced the white paper that was passed by the AAQTF after the College Station meeting and highlighted three bullet topics that will be focused on during this discussion. She mentioned that the California Department of Food and Agriculture (CDFA) has \$10 million from cap-and-trade fees for a competitive grant fund. Her recommendation is for NRCS to collaborate with CDFA and ARB to help quantify the water efficiency, reduced GHG emissions, and other environmental benefits from implementing the water conservation measures through the CDFA funds.

Adam Chambers gave a brief overview of the COMET-Planner tool before the subcommittee presentations. This tool develops a screening quantification method that is somewhat between COMET-Farm and the practice qualification with the “Happy Faces”. COMET-Planner provides a conservative, ball-park value based on NRCS practices, where COMET-Farm provides a much more comprehensive analysis that is site specific. CDFA mentioned of seeking more funding from ARB auction proceeds. Adam recognized Colorado State for their time to finalize this project.

Cory provided another recommendation to consult with EPA over the biogenic assessment to assure that sound science and best management practices are applied. She also discussed sustainability by creating a uniform approach.

Presentation – Rod Snyder (Field to Market) – Field to Market Overview and Update

See presentation slides for details. Topics covered included:

- Corporate sustainability commitments. Several corporations have established GHG reduction goals.
- Overview of sustainable agriculture and Field to Market’s involvement now and in the future. Formed in 2007 in order to get ahead a bit of competition has resulted in a collaborative stakeholder group to where most activities are GHG driven, but not all.
- Overview of the Fieldprint Calculator
- Overview of greenhouse gas metrics
- More information at www.fieldtomarket.org

Presentation – Debbie Reed (C-AGG) – Coalition on Agricultural Greenhouse Gases (C-AGG) Overview and Update

See presentation slides for details. Topics covered included:

- Overview of C-AGG and activities. March 2014 meeting will be held in Sacramento. Interested in ecosystems services marketing and seeks incentive-based opportunities.
- How C-AGG defines sustainability
- Overview of USDA and agricultural sustainability
- Important that practices are economically viable, adaptable, flexible, innovative, beneficial, scientifically based, and provides measurable beneficial economic impacts.

Q – Leytem – What is the approach to implementation of Field to Market?

R – Snyder – ADM, Cargill, and Bunge are all asking the producers to drive toward continuous improvement.

Q – Leytem – Are there any price premiums being offered to do that?

R – Snyder – Not for a niche product. It would be treated differently than an organic standard, for example. There are some examples of a participation premium being offered. There are efficiency gains that can also generate bottom-line benefits. Per bushel benefits have been offered, and we would like to see more of these benefits and opportunities.

R – Reed – The only company that suggested they would pay a premium was McDonalds, who would be willing to pay a premium for five years to help with the transitions.

C – Norman – The National Cotton Council is a founding member of Field to Market. He commends Cynthia and the CVI subcommittee for bringing this topic up again. All premiums eventually become discounts, but what are the incentives? Consumers and sustainability are way down the line. There are vocal consumers, but these are not most consumers. For brand and retail marketing, the question is really whether we get to sell our product or not. There was a push from Walmart to create a sustainability metric. Staying in the market is necessary, and how to do that varies by commodity market – the cotton industry competition is by the synthetic fibers industry. The benefit, including to producers, in developing sustainability metrics is by performing the Fieldprint assessment.

Q – Knighton – How is this information being disseminated to the consumers? Is there any education? It's not that the consumers don't care, it is more of a lack of understanding.

R – Snyder – We are trying to enable multinational companies to talk about the topic. Field to Market is intended for working with its growers and retailers. There is no direct charge for communication directly with consumers, and we don't have the budget. We are trying to create communication tools for the members to use for that, though.

R – Reed – We have the same situation in C-AGG. We are trying to bring folks to the table. The interaction needs to be voluntary, and there needs to be opportunity for participation. C-AGG provides technical and political advice for its constituents and does not provide any public information outreach.

Q – Moody – The Fertilizer Institute has a vested interest in seeing Field to Market expand. Has NRCS considered having field staff use the Fieldprint Calculator as another indexing opportunity? We need NRCS input in the soil health and soil carbon metrics of Field to Market.

R – Weller – We are approaching a Resource Stewardship Plan, using a lot of the same metrics as Field to Market. We are trying to pilot this effort in several states, including Iowa, Arkansas, and other areas, and we are doing a side-by-side evaluation with Field to Market and our planning efforts. Producers are not likely to receive other economic signals we can unlock. NRCS has direct incentives. Conservation is the best form of risk management, so there could be an inducement to participate in NRCS programs, too. Can there be a signal for certain practices? In our preliminary data, if there is a signal, then you can talk about the risk management.

Presentation – Daniel Bon (Colorado Department of Public Health and Environment Air Pollution Control Division) – The 2014 Front Range Air Pollution & Photochemistry Experiment (FRAPPE) and Discover-AQ

See presentation slides for details. Topics covered included:

- Overview of air quality concerns in Colorado. The Denver area is a nine-county ozone nonattainment area. Rocky Mountain NP is within the nonattainment area.
- Discussion of methods and measurements for the FRAPPE and Discover-AQ campaigns
- Preliminary results from the studies

Mr. Bon received no questions on his presentation.

A break was initiated at 3:38 pm.

Rocky Mountain National Park Nitrogen Deposition Issue Panel Presentation – Jim Cheatham (National Park Service), Dr. Jeff Collett (Colorado State University), Bill Hammerich (Colorado Livestock Association), Mark Sponsler (Colorado Corn Growers Association), Jon Slutsky (La Luna Dairy), and Dr. Brock Faulkner (Texas A&M University and AAQTF Member) The panel was moderated by Greg Zwicke, USDA-NRCS.

Jim Cheatham – See presentation slides for details. Mr. Cheatham provided an overview of the RMNP nitrogen deposition issue and the RMNP Agriculture subcommittee work. Easterly winds occur 20 percent of the time and results in 50 percent of the N deposition. About 50 percent of the impacts are internal to Colorado, the other 50 percent are due to transport from other states to the west.

Jeff Collett – See presentation slides for details. Dr. Collett provided an overview of the Rocky Mountain Airborne Nitrogen and Sulfur (RoMANS) study looking into the sources of emissions impacting RMNP nitrogen deposition.

Bill Hammerich, Mark Sponsler, and Jon Slutsky – Mr. Hammerich, Mr. Sponsler, and Mr. Slutsky provided their observations and experiences on the work of the RMNP Agriculture subcommittee in addressing agriculture's contribution to RMNP nitrogen deposition.

Brock Faulkner – See presentation slides for details. Dr. Faulkner provided an overview of the RMNP Early Warning System, which is intended to alert agricultural producers and others to potential meteorological patterns that may result in nitrogen deposition events into the park and allow for mitigation opportunities in anticipation of those events. The warning system is posted on-line at www.rmwarningsystem.com. This year is the pilot, where about 70 people are receiving warnings, most operate feed yards and dairies. Considering warning two days in advance, currently providing 24-hour forecasts.

Q – Weller – NRCS can positively reinforce upon your success. What conservation programs can be implemented? Also, in regards to the concept of regulatory certainty, if a rancher is implementing a good management plan, they should have safe harbors. If an action plan is developed voluntarily, the producer should be certain of not having to implement additional requirements. There has been a pilot program in Minnesota in certain small watersheds where producers receive 10 years of regulatory certainty in exchange for applying conservation practices. What would be your reaction to this type of program?

R – Hammerich – We have kicked around this certainty concept at a high level. It is something certainly worth considering and discussion.

Q – Delgado – The math behind the elevated nitrogen concentrations in the park seems to be challenging. How do you expect to cut nitrogen down to 3.1 kg/year with more people moving into Colorado and more animals spread through the state? How was this value derived?

R – Cheatham – The elevated N was first measured in the 1950's. The early warning system is designed to mitigate nitrogen deposition into the park, but not necessarily displace overall nitrogen emissions. The State has aggressive reductions in their ozone plan that we are looking forward to. We are waiting for scheduled reductions to occur.

R – Collett – Looking at the reduction of nitrogen in the environment. Wet deposition of ammonium is going up throughout the country, thus more direction for reducing nitrogen.

R – Sponsler – Weld County is rapidly growing, partly due to the oil and gas industry, and that population growth should be taken into consideration. I don't understand the science, but I know several million additional people are expected within the next decade. Land use (e.g. ranchettes) and over fertilization, such as with lawn fertilizers like urea, are also factors that should be taken into consideration.

Meeting was adjourned at 5:25 pm.

AAQTF Meeting Notes – Fort Collins, CO – Friday, December 5, 2014

Dr. Johnson called the meeting to order at 7:37 am MT, reviewed the agenda for Day 2, and briefly discussed logistics for the next meeting.

Dr. Johnson requested that task force members submit their travel claims quickly to Evelyn Johnson. He also mentioned that today is "World Soil Day". The agenda was adjusted due to Justin Derner not making the meeting, as his wife just delivered their baby. Time was made available to discuss options for the next meeting. The next meeting will be the last for this task force, and we will begin the process to recharter. Another item for discussion is assisting ARS with developing their research plans.

Dr. Chambers provided a summary of the GAO report. Senator Waxman requested an inquiry on what USDA is doing on climate change activities. We have not taken any action, through there are recommendations, including the COMET-Farm tool.

Dr. Johnson noted the public input forum at 9:30.

Air Quality Standards Subcommittee

Brock Faulkner reviewed the Air Quality Standards Subcommittee recommendations over the potential ozone secondary NAAQS. He summarized how the W126 Index would be applied. The first recommendation is for the USDA and EPA to identify an ozone standard form that is more biologically relevant than the W126 Index. Concerns are over the cost-benefit analysis, noting that almost all the benefits for an ozone standard are based on the co-benefit of reducing PM2.5. This is a topic of further discussion for the next task force meeting. The second recommendation is for the USDA Secretary to request EPA to quantify the policy uncertainties relevant to background estimates, the potential impacts posed on nonattainment areas, and the cost of implementation for both a new primary and secondary ozone standard.

Q – Sharratt – Are you familiar enough with the literature as to whether there is enough research to support such as secondary standard or do we need more research?

R – Faulkner – There has not been a lot done on ozone exposure to plant response. I think there is a definite need for more research.

R – McVaigh – Timing may be an issue due to EPA lawsuits

R – Faulkner – There is plenty of literature referenced in the paper that the majority of exposure occurs much earlier during the year when moisture is available. There is plenty of work done to suggest the W126 Index is not appropriate.

C – Norman – The W126 Index was designed by EPA. Most recently it was addressed at the Tallahassee Task Force Meeting when this issue was raised and the discussion was over trees. We heard about the aspen based study and input from the task force at that time illustrated there is no correlation. Nothing new has come out in the science to indicate anything different. This is a frustrating issue, and I understand the court order that complicates everything. I think this paper does a good review of the W126 Index by showing no biological connection. So, what do we do? We need to set the primary one and then whatever? NO! The science is out there on this issue.

C – Abernathy – Yesterday, we learned that EPA is throwing in methane with the photochemical process. We have multiple paths for the protection of public health, but at what point does climate change impact plants more than ozone? I'm trying to figure out if everything is so comingled that it doesn't accomplish anything or what are the consequences if we go down one path that causes an impact to something else?

Dr. Johnson asked for a motion. A motion was made and seconded to approve the paper on secondary ozone that includes the two recommendations to forward to USDA. No other discussion. The motion passed.

Presentation – Adam Chambers and Greg Zwicke (USDA-NRCS) – USDA-NRCS Update

See presentation slides for details. Topics covered included:

- Summary of the nine GHG CIG projects totaling \$7.4 million, noting that they are approaching maturity.
- Overview of Ducks Unlimited working ranch grasslands carbon credit sale
- NRCS training collaboration with USDA-ARS - Five webinars were held, primarily on mitigation technologies for livestock operations. The webinars are posted on-line at www.conservationwebinars.net. Other webinars have been done with our university partners. The question was asked earlier in the meeting “How does NRCS keep up with technology?”. NRCS does not have a resource component - we must rely on outside research. There is a time lag and we need to figure out how to speed that up. For air quality, the three of us (Greg Johnson, Adam Chambers, and Greg Zwicke) are the national team and are tasked with integrating technology.
- Updates on the National Air Quality Site Assessment Tool (NAQSAT) - The tool was developed through two CIGs – the first led by Michigan State University, and the second led by Colorado State University. It is at a point now to decide whether this is something NRCS will begin to apply. Potential integration in NRCS programs through a national bulletin.
- NRCS air quality practice standards - The four main air quality practices are up for review in FY2015.
- USDA/EPA Ammonia Workgroup - Collaborative work on case studies to characterize emissions from ag sources in EPA modeling, and identifying and assessing ag ammonia mitigation strategies. Identifying the pros and cons with implementing certain operations and assessing whether we do this right.
- Overview of the new NRCS National Air Quality Initiative - Originally limited to nonattainment counties. Great success in California, but limited results in other states. The new Farm Bill authorized \$25 million annually. NRCS will supplement to fund \$37.5 million annually beginning in FY2015. States will no longer allocate funds based on nonattainment areas, but must apply for funds by submitting requests to participate by December 1, 2014. Three funding pools are established that include the National priority for California and Arizona, Regional priority that might be multi-state projects, and State priorities. Better ability to address true ag air quality issues and not just nonattainment, and to address regional issues. Partner participation is encouraged.

Q – Angstadt – For the new NRCS air quality initiative, what are the eligible practices?

R – Zwicke – We had a list of practices available, but this time we won't be so prescriptive. Quantification is going to be an issue.

Q – Embertson – States have applied and funded air quality practices. Is there a program to assist planners about air quality and the associated practices? Her experience is that field office staff are not familiar with air quality practices. Is there a way to educate these folks? Is there a way to provide field staff education at a level where they can identify regional needs and available tools?

R – Zwicke – This is one of our limiting factors. There is a lot of work to do with job sheets and practices. We are working with our partners with what they want to see. We have the research available to take in and present future goals and work with our university partners.

C – Angstadt – Placing a priority on these kinds of outreach and education could be through a national certification where a Technical Service Provider (TSP) could be one of those pieces.

C – McVaigh – EQIP has been a hugely successful program for addressing the air quality challenges. We think you're right on track with making sure the program is successful.

Q – Abernathy – Going back to the webinar series, who was the audience?

R - Zwicke – Always internal. Travel funds and time constraints promote webinar series. It is not limited to NRCS people, though, as there are opportunities for others to participate. An average of about 35 people have attended each of the live webinars. It's not a big group.

Q – Abernathy – How relevant is it for NRCS to understand the nutrition side of things on the air quality perspective?

R - Zwicke – Regarding feed management, we provide some options that could be shared with the producer. There are experts out there who can do a better job than we can, and we rely on the input from those folks.

C – Embertson – I think these types of webinars would be focused on NRCS. I give support of the one hour webinars for staff to log-in and then get back to their work.

Presentation – Pete Lahm (U.S. Forest Service) – USFS Update

See presentation slides for details. Topics covered included:

- USFS Wildland Fire Air Quality Response Program
- EPA's ozone NAAQS proposal and fire. Lahm noted that EPA is taking comments on background levels for the 8-hour ozone standard.

C – Burns – Agrees with the concerns on ozone background, especially if methane is included.

Q – Shaver – What is the USFS view of the secondary ozone standard proposal?

R – Lahm – There is a lot of USFS research in this area. The agency landed on the thought that the range proposed by EPA was adequate.

Q – Shaver – If wildfire increases, are the ozone-sensitive species being protected?

R – Lahm – Some research showed that regrowth after fire was significant and beneficial to some of these species.

Q – Buttner – Had a question about agricultural acres in nonattainment under different ozone levels that Lahm clarified.

Q – Cory – She would like to receive this presentation sooner than later for use. On the wildfire slide, what is happening on the East Coast?

R – Lahm – There was a wildfire with unusually high PM out there. It was a small fire, but huge fuel loads in 2008.

Q – Abernathy – What happened in Shasta?

R – Lahm – It was a high wildfire season and big impacts up there.

Q – Abernathy – If the ozone standard prevents the use of prescribed fire, but an area burns as a wildfire instead, what have we accomplished?

R – Lahm – Prescribed fire won't necessarily be banned, but it is up to the state and local areas to figure out where or if it fits. Wildfires do have huge impacts.

Presentation – Keith Paustian (Colorado State University) – COMET-Farm Update

See presentation slides for details. Topics covered included:

- Overview of COMET-Farm
- Updates to the tool, including COMET-Planner

Q – Moody – Field to Market mentioned 60-70 inputs for the Fieldprint Calculator. How many data inputs go into COMET? Is there a way to integrate tools so that data inputs are not entered twice? Can we move data between tools?

R – Paustian – It would be tremendously helpful to be able to move data between interfaces. We have been looking into what format requirement can work across model platforms. The LMOD and development of COMET templates will help simplify user inputs. We are recognizing that duplication of entering data is challenging, and we are keeping that front and center.

Q – Cory – Thanks for the presentation. The tool has come a long way. My concern is that we do not recreate the wheel multiple times. How is COMET-Farm coming along with helping specialty crops?

R – Paustian – The orchard, vineyard, and agroforestry work continues to grow. We have done work with California researchers, but California can be a challenge and published data are limited. COMET will be able to represent some of the specialty systems by next summer, but the science will need to continue developing. Dr. Paustian recognized Mark Easter in the audience and mentioned that he will be working on some of the specialty crops in California.

Public Comment Period

No public comments were received, and no one requested to make a public comment.

A break was initiated at 10:08 am.

Subcommittee Reports and Recommendations

Air Quality Standards (AQS) Subcommittee

The AQS subcommittee recommendations (see below) and ozone white paper were approved.

Recommendation 1: The AAQTF Air Quality Standards Committee 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.

Recommendation 2: The AAQTF Air Quality Standards Committee recommends that the USDA Secretary requests EPA to quantify uncertainties in PRB estimates 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.

Emissions Measurement and Mitigation (EM2) Subcommittee

No recommendations presented, although there was a recommendation being formulated relating to the proposed rulemaking for regulation of ammonia as a precursor for PM2.5. This recommendation will be compiled and put to an AAQTF vote via e-mail after the meeting.

Climate Variability Impacts Subcommittee

No recommendations.

Other Recommendations

A recommendation for prioritization of NIFA funding for air quality was being formulated will be compiled and put to an AAQTF vote via e-mail after the meeting.

Logistics and next steps for Knoxville meeting.

The AAQTF re-affirmed their intention to have the next meeting in Knoxville, TN. Robert Burns is amenable to helping host the meeting and work on logistics, but the original date of the week of April 13 is problematic. After discussing alternative dates in that timeframe, it was decided to pursue the week of April 20.

DFO Johnson then led a discussion on potential topics of interest for the Knoxville meeting. The list included:

- Norman – recommendations on ozone secondary standard research
- Burns – Jim Renfro (Great Smoky Mountains National Park - GSMNP) – ozone damage at GSMNP
- Knighton – contact at Appalachian State University – long-term ozone impacts in GSMNP
- Abernathy – issues related to CAFOs and GHGs, as well as ammonia
- Abernathy – dive into the chemistry of methane impacts on ozone and a strategy for agriculture
- Abernathy – Center for Food Integrity – social aspect of sustainability efforts
- Cory – discussion of USDA sustainability efforts from the Sustainability Council in the Office of the Economist for USDA
- Cory – update on NRCS resource stewardship efforts

- Cory – discussion on VOCs in GSMNP, especially in relation to fires and ozone (NOTE: Burns mentioned that Dr. Wayne Davis from the University of Tennessee-Knoxville might be able to address this issue)
- Embertson – deeper discussion of EPA’s ammonia demonstration for PM2.5 NAAQS
- McVaigh – update on ozone policy-relevant background – there will be a San Joaquin Valley transboundary ozone meeting the last week of March
- Moody – the Alliance for Climate-Smart Agriculture (led by the USDA Foreign Agriculture Service??) might be able to provide some insight into Cynthia Cory’s request for a discussion of USDA sustainability efforts from the Sustainability Council in the Office of the Economist for USDA
- It was also mentioned that Bob Avant would likely appreciate an update on any Unmanned Aerial Vehicle (UAV) follow-up

DFO Johnson then led the identification of goals for the AAQTF to reach by April. The list included:

- AQS Subcommittee:
 - Exceptional Events Rule (EER) work – if the EER comes out by then
 - Look at ammonia and CAA Subpart 4
- EM2 Subcommittee:
 - Complete success stories
 - Provide a recommendation for NIFA research focus for air quality
 - Provide a recommendation for CIG proposals/topics for air quality
 - Look at ammonia and EPA regulatory interaction
- CVI Subcommittee:
 - Work on getting AAQTF representation on the group looking at the biogenics assessment framework
- Others:
 - Abernathy – concerned about not being able to review final success story products; just want to make sure AAQTF is informed that a success story was completed; may be worth a presentation in Knoxville
 - Angstadt – concerned about ammonia guidance to states from EPA; wants to make sure that the ammonia white paper developed by the EM2 Subcommittee is included in that guidance and that USDA has a chance to comment on the guidance prior to finalization; will be developing a recommendation from the EM2 Subcommittee that will be provided to the AAQTF for an e-mail vote
 - DFO Johnson will send out an e-mail to solicit topics for ARS and NIFA air quality research
 - Embertson – may be good to develop a plan for NRCS education and outreach and/or provide recommendations for NRCS on this; this might involve the development of a new AAQTF subcommittee; may send a recommendation via e-mail
 - Sharratt – noted that recommendations for ARS air quality research should be sent to Charlie Walthall, Sally Schneider, and NIFA

- Burns – will develop a recommendation for NIFA air quality research topics from the EM2 Subcommittee that will be provided to the AAQTF for an e-mail vote

The meeting was adjourned by DFO Johnson at 11:30 am MT.