

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

AAQTF Members in Attendance:

William Puckett (NRCS, Acting Co-Chair)
Michael Blaser
Gary Baise
Steven Kirkhorn
Phillip Wakelyn
Bryan Shaw
Cynthia Cory
Sagar Krupa
Kristen Hughes
Wendy Powers
Trisha Johnson
Viney Aneja

Gary Mast (NRE, Acting Co-Chair)
Roger Isom
Sally Shaver
Annette Sharp
Brian Lindley
Martin Bauer
Jerry Hatfield
Charles Rice
Paul Martin
Benjamin Weinheimer
Kevin Abernathy
Chris Petersen

USDA Staff in Attendance:

Michele Laur, DFO (NRCS)
Ron Heaver (NRCS)
Bob Wright (ARS)
Ray Knighton (CSREES)
Joan Albertella (NRCS)
Lisa Coverdale (NRCS)
Elizabeth Reinhardt (FS)

Greg Zwicke (NRCS)
Susan O'Neill (NRCS)
Roel Vining (NRCS)
Greg Johnson (NRCS)
Jeff Schmidt (NRCS)
Meredith Dahl (NRCS)

EPA Staff in Attendance:

Bill Schrock
Randy Waite

Paul Argyropoulos

May 13, 2008 – Morning Session

Call to Order: Michele Laur, Designated Federal Official (DFO), called the meeting to order at approximately 8:15 a.m. with a call for introductions of Task Force members. At the conclusion of the introductions, Ms. Laur turned the meeting over to Dr. William Puckett.

Opening Remarks: Dr. William Puckett, Deputy Chief for Science and Technology, USDA, Natural Resources Conservation Service (NRCS) provided opening comments as Acting Co-Chair of the Task Force.

Dr. Puckett announced that re-chartering of the next Task Force is now underway and that the Federal Register notice calling for membership applications is soon to follow.

Dr. Puckett introduced Assistant State Conservationist for Programs for the State of Utah, Lisa Coverdale.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Presentation by Lisa Coverdale, Assistant State Conservationist for Programs, NRCS, Utah:

Ms. Coverdale discussed NRCS' venture goals. She talked about clean air programs in the State of Utah. Under programs like Conservation Technology Assistance (CTA), Utah is working to address methane capture, and encourage drift mitigation, no-till adoption, and the use of cover crops. She talked about the use of the Conservation Security Program (CSP) in Utah, stating that 72 producers are currently receiving CSP payments for activities that include, but are not limited to, pest drift mitigation and precision spraying. Under EQIP, Utah provides an incentive to turkey producers to use sodium bisulfate to mitigate environmental impacts. Finally, Ms. Coverdale stated that under the Conservation Innovation Grant (CIG) program, one methane capture site has been funded and new ones will be announced the end of May 2008.

At the conclusion of Ms. Coverdale's speech, Ms. Laur introduced Mr. Leonard Blackham, Utah Commissioner of Agriculture who has served in the position since 2005.

Presentation by Leonard Blackham, State Agriculture Commissioner, Utah:

Commissioner Blackham welcomed the meeting attendees to the State of Utah. He stated that a key to Utah's success on environmental issues is the creation and utilization of partnerships. For example, there is an 84% Confined Animal Feeding Operations (CAFO) compliance rate in Utah due to the partnership approach practiced in the State.

Commissioner Blackham provided a number of examples of that partnership. For example, one project is utilizing a special earmark for air monitoring at animal feeding operations in the Cache Valley. He said that farmers want to be good stewards and have an incentive to engage in partnerships, actions that are supported by all state and Federal agencies as they work together in Utah.

The Departments of Environmental Quality (DEQ) and Agriculture are working together in response to a Consent Agreement. There is also work on cheatgrass and catastrophic fires to address huge problems with fires and smoke that occurred last year and contributed to terrible air conditions for 30 days. Finally, over \$4 million has been spent in Utah for watershed rehabilitation, which has resulted in an increase in profitability for ranchers.

A Welcome to Utah video presentation with a statement by Governor Huntsman was then shown to the Task Force.

Presentation by Dr. Bill Malm (National Park Service):

Dr. Malm gave an overview of air quality issues affecting National Park Service lands. In his presentation he covered topics on the Improve Network and the Speciated Trends Network. In addition, he talked about aerosol fine particulates including ammonium sulfate and nitrate, and examined the organic proportions.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Dr. Malm told the Task Force that Ammonium sulfate is uniformly high over the eastern United States in summer. In comparison, Ammonium nitrate is low in summer and high in certain western valleys as well as the Midwest/Great Lakes in winter. He talked about the United States soil-borne particulates situations, telling the Task Force that while particles are still coming in from China (in spring) and Africa (in summer), the eastern U.S. is still dominated by sulfates.

Dr. Malm posed the question “Are fires a significant source of Reactive Nitrogen (N)?” He told the Task Force that there are a lot of issues with current models—timing, amount, etc. They are far from perfect. Modelers have tried to develop a methodology for apportioning fine particulate matter (PM_{2.5}) into primary and secondary categories for prescribed, wild, agriculture, and residential fire (e.g., cooking, fire, combustion—engines, vegetation) sources. However, current models continue to underestimate the contribution from secondary aerosols by a factor of 10 or so.

He indicated that there is Carbon 14 dating for distinguishing between aerosol types. He stated that most carbon measured in non-urban areas is contemporary, not fossil-based. He also discussed biogenic carbon sources in urban and rural areas. In the West, most of the PM_{2.5} is made up of organic carbon which is mostly from non-fossil based fires. Most of these emissions come from plant respiration and fires. Models don’t have this type of chemistry in them.

In response to his own question - Are fires a significant source of Reactive N? – he told the Task Force about the 2002 WRAP inventory, which shows <2% nitrogen oxides (NO_x) and ammonia (NH₃) emission rates are from fires. He also indicated that some ozone exceedences could be coming from fires.

Dr. Malm asked the Task Force to consider the question “Why care about Ammonia?”. He responded that we need to care about ammonia because secondary formation of particles can occur and that makes long range transport possible (otherwise nitric acid would drop out very close to the source).

He closed by asking the Task Force to consider the following additional questions:

- Why are wet nitrogen deposition rates going up?
- What are these sources?

At the conclusion of Dr. Malm’s presentation, Ms. Laur opened the floor to a question and answer period.

Dr. Malm’s Question and Answer Period:

1. **Question:** (*Dr. Phil Wakelyn*) How do they take PM_{2.5} samples with Improve Samplers? Dr. Wakelyn contended the cutoff point for these was actually 3.5.
Answer: Uncertainties associated with Improve estimates are as good or better than any other measurement system.
Rebuttal: (*Dr. Phil Wakelyn*) Improve estimates are based on repeatability but this doesn’t necessarily address accuracy.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- 2. Question:** (*Dr. Kirkhorn*) Will wood stoves contribute to regional issues in the Midwest?
Answer: They could contribute to the episodic elevation of particulate matter (PM).
- 3. Question:** (*Mr. Avant*) What are the health effects of biogenic vs. fossil-based carbon?
Answer: The health differences are not really known.
- 4. Question:** (*Ms. Shaver*) Will Carbon 14 data gaps be filled in from the 6 real sites to the rest of country with samplers at multiple sites?
Answer: These are National Park Service policy decisions.
- 5. Question:** (*Ms. Hughes*) In the Chesapeake, about 27% of the pollution is from deposition of nitrogen. How does ammonia compare with other nitrates? **Answer:** He stated that NH₃ has a very high deposition rate compared to ammonium nitrate.
- 6. Question:** (*Mr. Abernathy*) Can you quantify volcanic eruptions?
Answer: He stated that it is not easily quantified. There is the whole issue of anthropogenic and non-anthropogenic.

Ms. Shaver questioned the big demarcation that has been made between anthropogenic vs. non-anthropogenic sources, and she stated that the issue needs to be addressed more comprehensively.

Meeting Break

Round Robin: Burning Issues in Utah and the Region (Dr. Susan O'Neill, Facilitator)

Darrell Johnson, Rancher:

Mr. Johnson began the discussion by talking about the use of fire on his ranch. He passed around photos of changes in the area in the past 130 years.

He told the Task Force that he is a fifth generation rancher in Rush Valley, where he has a cow-calf operation and runs about 250 cows on deeded and leased land. He stated that he has very little public land. His goal is long-term sustainability.

His operation is located in a high elevation valley at 5600 feet. He stated that there is both sage and juniper. The Utah juniper has significantly increased over the past century. In addition, heavy use and overgrazing has contributed to land degradation to the point that the land was almost becoming worthless.

Today, the same acreage is now carrying about 220 cows. The native grasses present have taken over, and sage and juniper have invaded more than ever. To address the issue, he investigated the use of fire. He talked to Dr. Alan Rasmussen, Utah-Kingsville. He told Dr. Rasmussen that he wanted to manage the deer population along with his cows. In addition, he wanted to leave travel lanes. Based on the discussion, he seeded in late October, and then anchor-chained it. The rains in April brought a great stand of grass, after which he took the cattle off for 2 years. The total cost of the prescribed fire was about \$20/acre and was very cost effective (1993).

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

In addition to the project described above, he did a 95,000 acre watershed rehabilitation project in the area with neighbors for juniper management. As a result, a grassland ecosystem has been established. Fire was a big component of this. He made a good plan and he stuck with it, resulting in the identification of thirty-two new sources of water. Recently, he has burned 3000-4,000 acres.

Cheryl Heying, Director, Utah Division of Air Quality:

Ms. Heying discussed the Milford Flat fire, a fire that had significant air quality (AQ) impact (PM, CO₂, etc.).

Ms. Heying indicated that they have been managing emissions from fire since 2001. She stated that Utah Rule 307-204 establishes emission standards for smoke management. Land managers must have burn plans. All burn permits must be approved. However, the requirements do not apply to agriculture burns.

She stated that when a Smoke Management Plan has been established, the details and responsibilities of different agencies are delineated. There is an MOU with the Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), the National Park Service (NPS), the Utah Division of Fire and Forestry, the Utah Department of Natural Resources, and the Utah Division of Air Quality (DAQ). Coordination is the key goal—communication and collaboration. Smoke management is a coordinated program.

In 2004, a regional haze program was developed in Utah. BLM staff sits in DAQ offices to provide for good coordination and to provide for information to the public. In addition, Utah has been flagging data influenced by natural and exceptional events, including those influenced by smoke. Getting EPA's concurrence for the flagging of this data as an exceptional event has been a very difficult procedure. It takes lots of time and there is no clear process. This situation presents an opportunity for collaboration.

Kara Paintner, National Park Service:

She discussed Federal Land Managers (FLM) and burning issues in Utah and the region. FLM's are balancing the health of the public and the ecosystem. New non-attainment areas for ozone and PM_{2.5} will make coordination amongst impacted groups even more essential.

Ms. Paintner stated that fire is an essential ecological process—fuel reduction, nutrient recycling, seed bed prep, pathogen destruction, increased patchiness, competition reduction, etc. Prescribed fire restores and maintains fire-adapted ecosystems, while maintaining cultural landscapes, reducing the threat of wildfire, improving wildlife habitat, and reducing targeted invasive plants. You need a fire management plan with congruency amongst the 5 major FLMs.

She stated that there are differences in how NEPA and fire is approached among agencies. Prescribed fire has steadily increased over the past 10 years. Agencies have also used wild fires in addition to prescribed burns. Four of the last five years were the biggest wildfire years in the past century. She stated that only 5% of all fires grow into wildfires—95% are extinguished.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Ms. Paintner also discussed air quality priorities and the coordination with state and local air quality (AQ) regulators along with the use of burn permits. She stated that one benefit of this approach is that managed fires are of a shorter duration and result in fewer emissions than wildfires.

She discussed the Regional Haze Rule in Class I areas. In addition, she talked about EPA rule and policy changes such as the Interim Fire Policy revision, the PM_{2.5} AQ index, the Emergency Episode rule, streamlining of general conformity, and the new Ozone National Ambient Air Quality Standards (NAAQS). She also told members about appropriate smoke regulations that have been recently written and revised. EPA used a stakeholder process with 3 levels for these efforts.

In closing she talked about the development of a Fire Air Coordination Team (FACT - provides policy and technical support) and the Interagency Smoke Coordination Teams. She stated that they are not necessarily needed everywhere. She also stated that Regional Planning Organizations are vital in good smoke management. In addition, there is also support from organizations like the Joint Fire Science Program (DOI and USDA), as well as CSREES.

Dr. Sim Larkin, U.S. Forest Service:

Dr. Larkin discussed the state of smoke tools. There are lots of different applications: burn planning, lighting it, breathing the air, and then diagnosing what happened. Smoke tools are at the “emergent” state at this moment and we are working toward the development of a “mature” state. There is a lot going on now and into 2009. They will have model inter-operability, nationally-consistent products, new advanced tools, and community organization. We hope to add fire complexity on top of inherent issues with weather predictions to get smoke trajectories.

Next he talked about the BlueSky Framework that enables interoperability. It’s modular and builds on a sequence from fire and fuel information to time rate, emissions, and onto dispersion. The modular system leads to more user choices and takes away the barrier of computational intensity.

What we have learned to date is that fire information can be of poor quality, models differ substantially, and plume rise needs fixing. Using SMARTFIRE we hope to reconcile fire data. It uses both ground based and satellite information. Data is reconciled via SMARTFIRE into subgrid fields of fire, fuels, and plume information. This information is fed into the BlueSky model.

Finally, he told the Task Force about the AQUIPT tool, a tool used for longer range planning. It uses history as a guide (i.e., past weather plus emissions modeling plus dispersion modeling) to determine impacts. The ultimate goal is a probabilistic guide for future fires to answer the question of “What would have happened?” In closing, he told attendees about the Smoke and Emissions Model intercomparison project (SEMIP) that was recently funded.

Round Robin Question and Answer Period:

**USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah**

- 1. Question:** (*Mr. Avant*) Regarding the invasive juniper/cedar issue, have you considered using goats?
Answer: It is difficult to control goats. Also, there are no significant regrowth in areas with hot fire (wild or prescribed) use, but it is harder to do these prescribed burns.
- 2. Question:** (*Mr. Avant*) What led to the increased burns after 2002?
Answer: 50% of fuel dollars had to be contracted. This situation led to problems that affected our fire management efforts.
- 3. Question:** (*Ms. Hughes*) What is the interest in getting woody materials for biofuels?
Answer: Transport costs are the biggest issue. We had to pay to haul material away from Yosemite because the economics weren't there.
Rebuttal: Virginia Tech is working on mobile production.
- 4. Question:** (*Mr. Lindley*) He questioned information showing huge lands being burned in summer in KS, OK, etc.
Answer: Our QA/QC process is good, but some things are not being depicted correctly with satellite data.
- 5. Question:** (*Ms. Shaver*) Is agriculture burning done in Utah?
Answer: Some done here, but not a lot. We are working with Utah State University on better techniques. Not a major impact.
- 6. Question:** (*Ms. Shaver*) What do they need from EPA?
Answer: Identifying smoke-affected data and getting these properly flagged.
- 7. Question:** (*Mr. Baise*) Are the significant increases in forest floor debris a huge issue?
Answer: Differences amongst ecosystems exist. We need to find a balance between ecosystem health, fire, and other issues. Can't say what debris is appropriate nationwide.
- 8. Question:** (*Mr. Baise*) Where are fires set?
Answer: Mostly in attainment areas.

Meeting Adjourned for Lunch

May 13, 2008 – Afternoon Session

Michele Laur opened the meeting at 1:25 pm.

Presentation by Paul Argyropoulos: EPA Energy Update – Energy Independence and Security Act (EISA) Renewable Fuels Provisions & Transportation Fuels Greenhouse Gas (GHG) Lifecycle Analysis

Mr. Argyropoulos talked about the multiple inputs required when developing a strategy and regulatory program to meet the EISA renewable rules provisions. He discussed the parties, perspectives, and varying interests in the renewable fuels issue. EPA has to manage all of this.

Mr. Argyropoulos outlined the Renewable Fuels Standard (EPAct 2005) that mandated requirements for production and use of renewable fuels. He indicated that the standards/targets have already been exceeded, except for cellulosic ethanol. While this was an energy bill and not an environmental bill, there were associated environmental implications and those were taken into account. The final rule was published in May 2007 and the program began September 2007. As a result RINs (credits) are becoming valuable.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Following promulgation of the Renewable Fuels Standard, Congress passed the EISA, which included a renewable fuels portion. EISA raised the volume requirements for renewable fuels. In addition, it established new categories of renewable fuels, including the following:

- Gasoline
- Diesel
- On-highway
- Off-road

EISA requires rulemaking by December 19, 2008. It also allows jet fuel and heating oil to generate RINs. New elements include definitions for Lifecycle GHG reduction thresholds and existing cropland criterion (e.g., fuels must be produced from land cleared or cultivated prior to enactment of EISA). It also requires that the total renewable fuels produced by 2022 be at least 36 billion gallons per year (BGY) production rate. This production rate is broken into three feedstock categories:

- Corn-based ethanol – 15 BGY cap
- Advanced biofuels ($\geq 50\%$ reduction of GHGs required) – 21 BGY
- Cellulosic fuels ($\geq 60\%$ reduction of GHGs required) – 16 BGY

In addition, Lifecycle GHG assessments are required for:

- Conventional biofuels (20% lifecycle threshold)
- Advanced biofuels (50% threshold)
- Biomass-based diesel (50% threshold)
- Cellulosic biofuels (60% threshold)

These thresholds can be revised downward by 10% due to uncertainty. To address the uncertainty, EPA Administrator has waiver authorities for severe harm to the environment or economy, or for extreme hardship (natural disaster, etc.). Under this waiver program, Texas has already requested a waiver. For Texas or any other petitioner to successfully get a waiver, they have to conduct a regulatory impact analysis that includes an assessment of the following:

- Co-pollutant inventory, AQ and benefits
- Water and soil impacts
- Macroeconomic impacts
- Energy security
- Ag sector impacts
- GHG lifecycle modeling, inventory, and benefits

Finally, EPA has to provide periodic studies/reports on impacts of this rule.

As EPA moves forward with its strategy and rulemaking, they will perform a lifecycle analysis that looks at:

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- Feedstock production/extraction
- Feedstock transportation
- Fuel production
- Fuel distribution
- Tailpipe emissions

EPA's methodology will be consistent with other analyses, including the impact on domestic & international Ag sectors. Next steps include:

- Continue rulemaking
- Continue lifecycle analysis
- Study other environmental impacts

Mr. Argyropoulos' Question and Answer Period:

1. **Question:** (*Mr. Weinheimer*) I am concerned about impacts on livestock industry. The effects are going to be with us for a long time. There is an ~\$750 million impact on the cattle feeding industry per year for every dollar spent on corn. Lifecycle analysis only seems to address 2/3 of the issues. The effects of distiller's grains as feed aren't accounted for. Will that be included?
Answer: Co-products of ethanol production are disaggregated (not accounted for) in lifecycle analysis. He understands the concerns of the livestock industry.
2. **Question:** (*Mr. Avant*) I agree with Mr. Weinheimer's comments. Where does lifecycle analysis start? How are you able to conduct a global lifecycle analysis?
Answer: He said they are trying to compare apples-to-apples, but it's difficult. Many of the issues are policy discussions, but they have to follow the EISA requirements put forth by Congress.
3. **Question:** (*Mr. Lindley*) I have a concern about driving producers to monoculture. Does lifecycle analysis take into account that this approach is not sustainable?
Answer: That is a concern. We have to look at best practices, preferred practices, and real practices. That needs to be included in the lifecycle analysis.
4. **Question:** (*Dr. Aneja*) At what capacity in the GHG analysis do biofuels become non-competitive?
Answer: They have to meet the required thresholds. If they don't meet them, they have no value as biofuels.
5. **Question:** (*Dr. Aneja*) How does this impact the current situation?
Answer: Current biofuels facilities are grandfathered, so they don't have to meet the standards.
6. **Question:** (*Dr. Aneja*) At what value of gasoline would biofuels not require a subsidy?
Answer: I can't answer that.
7. **Question:** (*Ms. Cory*) California is looking at lifecycle analysis. Is your analysis an internal or an external regulatory process?
Answer: That hasn't been determined, but we will have to go through a notice-and-comment rulemaking.
8. **Question:** (*Ms. Cory*) Is 20 in 10 replacing 25x25?

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Answer: Don't know about that, but 20 in 10 is what the government is working toward.

- 9. Question: (Mr. Blaser)** Mr. Blaser stated he was impressed by the stakeholder list, but it should include the livestock sector. A few years ago experts at FAPRI predicted the current corn/feed situation. Is that issue being looked at in relation to the value of the dollar, and does the analysis include the cost of inorganic fertilizer to replace organic fertilizer from reduction in livestock numbers?

Answer: The list wasn't inclusive. We are trying to look at all these issues.

- 10. Question: (Dr. Shaw)** You need to look at unintended consequences. You don't want to have GHGs drive this issue. You don't have the full bubble around what we need to consider. How long do we go down this road before we consider what effect this will have on the environment and the economy?

Answer: We are going to be doing evaluations, including area-by-area impacts on criteria pollutants. We will be looking more definitively at criteria pollutant issues in this round, but we have to implement what Congress has mandated.

- 11. Question: (Dr. Shaw)** Will stakeholders be included in this process?

Answer: Yes. They can also provide suggestions before the proposal.

- 12. Question: (Dr. Wakelyn)** What is the timetable on RFS2?

Answer: Proposal this fall and final next spring.

- 13. Question: (Dr. Wakelyn)** Sustainable is defined many different ways by different people. Be careful using that term, especially when defining what you will be requiring. Is part of EPA's program looking at criteria pollutants, including GHGs?

Answer: Those are generally covered under other portions of EPA's authority, but there will be at least some review here.

- 14. Question: (Mr. Avant)** He stated there could be other unintended consequences by throwing ethanol out. It could kill other types of renewable fuels. We need to be cognizant of that.

Answer: Good point. We have had discussions about that.

- 15. Question: (Dr. Johnson)** There is a need to consider deterioration of rations in the livestock industry. The quality of diets has decreased, which can increase emissions of many pollutants.

Answer: Thanks. Please feel free to provide information about the issue so we can adequately consider the effects.

Meeting Break

Ms. Laur introduced Gary Mast, Deputy Under Secretary, USDA, Natural Resources and Environment.

Mr. Mast told the Task Force that Chief Lancaster sends his regrets. He noted that the Chief missed the last meeting because of putting the "finishing touches" on the Farm Bill, efforts that are beneficial to all. Based on the work by the Chief, I can provide you with a positive Farm Bill update.

Mr. Mast also told the Task Force that the new Secretary of Agriculture, Ed Schafer, has signed off on extension of AAQTF. A call for membership is sure to follow soon. He also discussed the AQ Mitigation conference, where the Chief will be a keynote speaker.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

With regard to data needs, he discussed the Departmental Climate Change initiative and the need for additional data to determine effects on the agriculture industry. There are also data needs related to air emissions from agricultural operations, especially animal agriculture. The need for better data is exemplified by the assertions of the Union of Concerned Scientists and Pew Commission report, both of which contain mischaracterizations. Finally, he discussed USDA and AAQTF efforts to improve agricultural air quality information.

In response to Mr. Mast's speech, Ms. Hughes stated that it's not all bad views for agriculture. She stated that there have been positive responses at the local level in the Chesapeake Bay area.

Mr. Weinheimer stated that with regard to the recent reports, the references section is generally pretty small and doesn't include institutions that actually do Ag AQ work. It's important for the AAQTF to put the correct facts on the table based on real Ag AQ science.

Mr. Martin pointed out that concerning the PEW report, the review by a diverse group of scientists won't be made public for quite a while. That review differs considerably from the current message from the PEW report.

Mr. Petersen disagrees that CAFOs are more efficient. As an independent livestock producer, he has been squeezed into niche markets for his products. This move to larger CAFOs has an impact on community efficiency. There is a need for balance and opportunities for everyone.

Presentation by Randy Waite: EPA Update – NO₂ NAAQS Review:

Mr. Waite provided the following information on EPA's efforts past and present to regulate NO₂ under a NAAQS program. He stated that the current standard was set in 1971. It has been reviewed several times since then, but not revised. EPA's latest review will result in a proposal by 5/28/09 for the primary standard and 2/12/10 for the secondary standard. A final rule is required by 12/18/09 for the primary and 10/19/10 for the secondary.

Mr. Waite also discussed the risks from exposure to NO₂ and how this review will separate the requirements of the secondary from the primary NAAQS. EPA will be focusing on deposition as the main secondary impact, taking a multi-pollutant approach that looks at the link with sulfur oxides (SO_x) and considers both the oxidized and reduced forms of nitrogen. EPA wants to avoid any unnecessary overlap with other NAAQS (e.g., ozone, particulate matter). The Science Assessment, and Risk Exposure and Assessment approach will look at the following key effects and alternative levels of protection:

- Aquatic acidification
- Terrestrial acidification
- Aquatic N enrichment
- Terrestrial N enrichment

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Mr. Waite's Question and Answer Period:

1. **Question:** (*Dr. Krupa*) Indicated his concern about the heavy emphasis on modeling.
Answer: EPA is interest in any methods to make the analysis better.
2. **Question:** (*Dr. Wakelyn*) Does there have to be a new standard set now, or can the current one remain until the science and data catch up with this issue?
Answer: No, but they do have to review it to determine whether the current standard is adequate.
3. **Question:** (*Dr. Shaw*) He indicated his concern about the unintended consequences of including ammonia as an indicator or criteria pollutant.
Answer: There is no current push to include ammonia as a criteria pollutant. That effort would be a separate process. It is likely they couldn't regulate ammonia under NO_x. An index could be implemented that includes ammonia, but ammonia wouldn't be regulated separately.
4. **Question:** (*Dr. Aneja*) Why is the standard in terms of NO₂ instead of NO_x?
Answer: Going back to 1971, NO₂ was the indicator for NO_x, while NO_x is the criteria pollutant.
5. **Question:** (*Ms. Hughes*) How do you see the science on this issue merging into policy? Nitrogen can come from a lot of different sources and each area is different. Where do you see this review going?
Answer: During the risk assessment stage, we try only to look at the science and how to protect public health and welfare. The policy development comes later, beginning with the regulatory impact analysis.

Dr. Krupa stated that NO₂ is more toxic than NO_x, which was the reason for using NO₂ as the indicator in 1971. Monitors aren't measuring dry deposition, only wet deposition. Mr. Baise added that in 1971, the agency didn't know what it was doing. It was concerned about photochemical oxidants (e.g., smog in Los Angeles, CA). Advisors at the time recommended the use of NO₂.

Presentation by Dr. Aneja: EPA Science Advisory Board Integrated Nitrogen (N) Committee Update:

Dr. Aneja provided the following information on EPA's Integrated Nitrogen Science Advisory Board (SAB):

- SAB INC consists of 4 working groups:
 - Producers Working Group – Aneja leads
 - Environmental Systems Group
 - Impacts and Metrics Group
 - Risk Reduction Group
- All living organisms require N in one form or another
- Changes in N can cause great changes in ecosystems
- Listed goals and objectives of SAB INC exist (see handout)

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Ms. Shaver stated that there is a group under the Long-Range Transport of Air Pollutants – Europe, Canada, and U.S. (LRTAP) effort that is looking at reactive N, too. In response, Dr. Aneja indicated that the SAB INC is talking with that group.

Dr. Aneja’s Question and Answer Period:

1. **Question:** (*Ms. Hughes*) One of the struggles in Ag is losing N in manure. How can this group help with improving the N capture of the manure resources?

Answer: The SAB INC is discussing this issue and will make recommendations to other groups for conducting that research. Dr. Shaw added that the SAB INC is looking at the best ways of solving these problems, but science is somewhat limited in this area, so they are also looking at how to get the data needed. They need to look holistically to make sure that the overall problem is addressed in the most technically and cost effective manner, making sure to look at the big picture rather than smaller details.

2. **Question:** (*Mr. Avant*) The ICEAF subcommittee is also looking at this issue partially as it relates to biofuels. Will the SAB INC or another group look at N utilization efficiency?

Answer: A Summary report has been provided (see binder) and it includes a discussion of that issue. Mr. Mast indicated that USDA also has resources (e.g., N 3-click tools) to help. There is a tour in Indiana in 2 weeks to look at the latest advances and technology in N utilization.

3. **Question:** (*Mr. Baise*) The Department of the Interior (DOI) Fish and Wildlife Service (FWS) is also concerned about N deposition. Are they included in this process?

Answer: A member of SAB INC is bringing up those issues.

4. **Question:** (*Ms. Cory*) What is the SAB INC process? Where can we find information without looking at the Federal Register everyday?

Answer: Ms. Kathleen White is the DFO, and she can provide the information.

Mr. Abernathy added that in California, commercial fertilizer may soon be banned because of the overabundance of manure. In response, Dr. Aneja asked that this comment be sent in writing so that the committee can pursue it. Dr. Wakelyn added that manure requirements may make its use prohibitive and should be considered. Finally, Mr. Mast stated that commercial fertilizer can be blended to the exact requirements, but manure might not contain needed nutrients in appropriate amounts.

Public comments – No public comments registered.

Presentation by Alicia Kaiser: EPA Update

Ms. Kaiser provided the following information on EPA’s new federal advisory committee, the EPA Biofuels Strategy, and the Crop ANSI standard –

- New EPA FACA
 - Farm, Ranch and Rural Community Committee (FRRCC)
 - 3 workgroups:
 - Climate Change and Renewable Energy

**USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah**

- Comprehensive Livestock Management Strategy
- Emerging Issues
 - FRRCC was not set up to counteract the AAQTF
 - The success of the AAQTF actually drove the formation of the FRRCC as a potential partner FACA
- EPA Biofuels Strategy:
 - Presentation provided earlier today
 - EPA has begun to draft the strategy
 - It is an agency work plan, not a policy document
- ANSI Standard for sustainable crop agriculture:
 - ANSI accepting applications for membership to help with this process
 - EPA and USDA have chosen to participate in the process
 - Application process closes in late May

Ms. Kaiser's Question and Answer Period:

1. **Question:** (*Mr. Avant*) Who is going to make the decision on the membership of the ANSI committee?

Answer: Dr. Wakelyn indicated that Leonardo Academy (who wrote the current standard) will pick the membership, but ANSI can make some changes.

Mr. Avant indicated his concern about having to spend money to get a new certification that may be required and may lead to lawsuits or lack of market ability. We need to have NRCS at the table.

Mr. Baise stated that he supports NRCS involvement in this process. We should look at the Leonardo Academy approach because there appears to be some issues. We should also look at the Pew report. I thought Ag was going to be a huge issue when EPA was first started, but it's just now getting to that point.

Presentation by Sally Shaver: EPA Report

Ms. Shaver completed the EPA report out by providing the following information on EPA rulemaking efforts:

- CERCLA/EPCRA amendment reporting issue
 - Received lots of comments on proposed amendment
 - Definition of animal waste and farm
 - Support for and opposition to the rule
 - Expand to other sources of animal waste
 - Final decision in Fall 2008 (maybe October)
- Office of Water Confined Animal Feeding Operation (CAFO) rule
 - Should go final this summer
 - Self-certification for non-dischargers
 - Three options for incorporation of terms in nutrient management plans (NMP)
 - Tons/acre

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- Rate-based
- Formula
- Compliance date of February 2009
- PM_{2.5} and Ozone NAAQS update
 - PM_{2.5} Implementation rule
 - Many provisions being challenged
 - Ozone litigation
 - Partial vacatur of Phase 1 implementation for 1-hr standard
 - Numerous issues
 - Proposal in fall 2008, final in fall 2009
 - Phase 2 implementation has New Source Review (NSR) issues
 - 2008 Ozone NAAQS
 - Proposal for transitioning to new standards
 - Review of and litigation on State Implementation Plans (SIPs) regarding program infrastructure for implementing new standards

Meeting Adjourned (5:00 p.m.)

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

May 14, 2008 – Morning Session

Call To Order: The meeting was called to order by Michele Laur, DFO.

Opening Remarks: Gary Mast, Deputy Under Secretary for Natural Resources and Environment (NRE), announced that the House will be voting on the Farm Bill this morning and stated: “We’ll let you know when we hear something.”

Roger Isom mentioned the Agricultural Research Service (ARS) Denver Program Update Meeting. Many of the recommendations for research made by the AAQTF were presented at the meeting, indicating that the AAQTF recommendations are being taken seriously. Charlie Walthall and Jerry Hatfield are AAQTF members and also work for ARS.

Emerging Issues Subcommittee Update:

Roger Isom performed the report out for the Emerging Issues Committee. He indicated that updates to the draft subcommittee white paper were included in the meeting notebooks.

Mr. Isom provided background information on EPA’s transition from an indicator of total suspended particulate (TSP) to PM₁₀ and PM_{2.5} for the PM NAAQS. He stated that the first PM_{2.5} plans were started in the 1997 standard and are being implemented this year. He indicated that California has more stringent standards than those required at the national level. He talked about the numerous AAQTF recommendations made over the years that were related to particulates, sampling, and PM emissions.

A general discussion of particulate matter and its various forms followed. Dr. Wakelyn stated that crustal material is coarse and most crustal material has no adverse health effects. Dr. Aneja responded by saying that crustal PM is associated with primary emissions, not the secondary formation of PM_{2.5}. The WRAP PM_{2.5} Study of October 2005 was also discussed, noting that the emissions inventory in the study did not match the ambient concentrations.

Mr. Isom concluded his presentation by stating that the subcommittee was concerned that Ag fugitive dust sources could be regulated unnecessarily. To address the concerns, the subcommittee presented recommendations for consideration by the full committee.

Emerging Issues Subcommittee Guest Speaker, Mr. Brock Faulkner (TAMU):

Mr. Faulkner presented information on the regulation of direct emissions of PM_{2.5}, including the history of EPA’s transition from TSP to PM₁₀ and PM_{2.5} as an indicator for the PM NAAQS. He reminded members that primary particulates are directly emitted while secondary particles are generated when specific precursors mix in the atmosphere in the presence of heat and light.

Mr. Faulkner also discussed measurement and monitoring of particulate matter. Specifically, he talked about source sampling of PM using EPA Method 201a for PM₁₀ stack sampling and EPA Method 201a for PM_{2.5}. He told attendees that in an urban environment the PM_{2.5} emissions are under sampled whereas in dairy emission situations they are over sampled by 37%. To more

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

clearly define the problem, he talked about PM_{2.5} to PM₁₀ ratios, as well as how in EPA's AP42 emission factor guidance document the emissions of PM_{2.5} are based on PM₁₀ measurements. He talked about studies showing that increasing ratios are linked with increasing concentrations. For example, observed PM_{2.5} to PM₁₀ emissions for Ag operations is less than 5% while urban estimates are 20%. The problem is that the ratio is not static and not based on sound science for many sources, resulting in a PM₁₀ oversampling bias. The impacts of oversampling are:

- Mischaracterization of contributing sources
- Undue compliance burden on minor sources
- Lack of effective regulation
- Poor allocation of resources

He concluded by talking about ongoing research at TAMU where they are transitioning from theoretical sampler bias to actual measurements.

Mr. Faulkner's Question and Answer Period:

Ms. Sharp stated that she had no disagreements with Mr. Faulner's presentation. She talked about the states and their limited field resources with high turnover rates. These limited resources result in a dependency on information from EPA. The AAQTF needs to recommend to EPA that they address the sampler bias issue. The impact of the sampler bias issue on emissions factor development is inappropriate.

Mr. Avant stated that the sampler bias issues have been with us for years. The situation is complicated by budget decreases that impact the ability to conduct needed research. For example, the Lubbock Ginning Lab budget is being zeroed out. This hurts both cotton Gins and air quality research. If correction factors are determined for the samplers, what action could be taken to correct the situation?

Ms. Shaver suggested that there could be guidance published. It could be part of the PM NAAQS Review. More publications and continued pressure is necessary.

Mr. Avant stated that a briefing should be provided to EPA's CASAC advisory committee. The FRRCC should also be briefed. In response, Ms. Laur asked Ms. Shaver if Mr. Butterfield is still the DFO for CASAC? Ms. Shaver indicated that he is still DFO.

Dr. Shaw stated that scrapping the Federal Reference Method (FRM) sampler is impractical but we should pursue a data correction method. If we don't pursue this correction, the risk continues that the sources of these emissions will be unfairly regulated and the emissions will not be adequately controlled because the wrong areas are being targeted.

Mr. Faulkner said that they have published particle size distribution papers for PM₁₀ and PM_{2.5}.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Ms. Hughes asked about the price of isokenetic sampling and was informed by Mr. Faulkner that isokenetic sampling must be done in a controlled environment. He indicated that it's not practical for ambient sampling.

Ms. Hughes inquired about what could be done to correct the situation.

Dr. Shaw indicated that it will be a challenge for the State to get guidance from EPA and the regions. This guidance will need to be issued from EPA Headquarters.

Ms. Hughes inquired if post sampling particle size distribution was common. In response, Dr. Shaw stated that post sampling analysis is not commonly done.

Mr. Bauer told members that the states use what is out there. We've been hearing this message for awhile. Rather than convincing us that a sampler bias exists, we need better emissions factors. An adjustment to data (particularly a source oriented sampler) will not be useful. If there is a way of fixing an overbias sampling issue, are we then creating a problem in other areas (i.e. for urban sampling)?

Mr. Faulkner stated that some states are using data from property line sampling for attainment designation. The accuracy of the sampler is critical for accurate emissions estimates.

Mr. Kirkhorn said that there seems to be more data now than there have been in the past.

Mr. Faulkner indicated that some sampling bias will still exist. A new sampler may not be the answer.

Mr. Abernathy inquired about whether it would be safe to assume that regulators are over estimating Ag emissions.

Mr. Faulkner stated that it is a safe assumption.

Mr. Abernathy asked Mr. Faulkner if they were you doing anything to evaluate the health effects. In response, Mr. Faulkner indicated that they were only focusing on sampler issues. This line of discussion led Mr. Linley to ask the group the following questions:

- How much of the bias comes from the location of the sampler?
- Does the sampler location relative to the source have an impact on the sampler bias?
- If the argument is that there is no relationship between PM_{2.5} and PM₁₀, why are we continuing to try to define the relationship?

This discussion of monitoring bias led Dr. Johnson to question the use of current emission factors as they relate to AFOs. She stated that if you are marketing birds at 40 days of age vs. birds at 80 days of age, the emissions are very different. In response, Dr. Shaw stated that accurate emissions factors would be a great help but acquisition of the information is expensive and it is difficult to have agencies accept the numbers. If a number has been used, it is difficult

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

to replace it. If a particle size is known, it is easier to get the accurate adjustment of sampler bias.

Dr. Wakelyn posed the question - What are the health effects of PM₁₀? He stated that the health effects of small particles is the focus of the NAAQS. Speciation and the determination of the chemical composition is of great interest with regards to health but this has not been accomplished, even after spending a lot of money. Measuring particulates is different from sampling any other pollutant. The measurements are dependent on particle size distribution. In response to Dr. Wakelyn's statements, Mr. Faulkner stated that a Dr. Buser has conducted some work. His work can be used to correct the sampling error, if you make some assumptions about sampler performance. Dr. Shaw added that one of the achievements of the AAQTF is that ARS and CSREES have focused research on air quality issues. Perhaps this issue is one that should be pursued by ARS and CSREES.

Presentation by Cynthia Cory: California ETAC and AB-32

Ms. Cory presented information on Governor Arnold Schwarzenegger June 2005 Executive Order turned into legislative bill AB 32 to reduce GHG emissions. She stated that the Cap & Trade (C&T) program required mandatory reporting and that the 1990 emissions baseline be met by 2020. In addition, by 2050 emissions must be further reduced to achieve a 90% reduction of the carbon in your life. In closing, she stated that while much has already been done, achieving the long term goals will take research.

Ms. Cory's Question and Answer Period:

1. **Question:** (*Dr. Wakelyn*) What is the status of California's lawsuit against EPA on GHG emissions controls?
Answer: The status will change as a result of these actions.
2. **Question:** (*Dr. Wakelyn*) What Ag offsets are realistic?
Answer: Sequestration and methane capture. Methane emissions from AFOs are fairly well known. The estimates for sequestration are uncertain and need work.
3. **Question:** (*Dr. Wakelyn*) There is a Senate hearing next week. Is there something in it for agriculture?
Answer: There may be opportunities in either energy efficiency or some other area.
4. **Question:** (*Mr. Avant*) Some of cotton gins are not setting up, choosing instead to sell their credits. Is this happening in California?
Answer: Mr. Isom stated that as of now, attempts to get credits for gin shutdowns has not been successful. Ms. Cory added that there may be some opportunities for Ag.
5. **Question:** (*Dr. Shaw*) Is California going to allow out-of-state credits? What is the plan for attaining the NAAQS while working on GHG emissions reductions?
Answer: The GHG emissions goals should not impact the NAAQS attainment goals. Any activities that will increase criteria pollutant emissions will not be permitted in an attempt to reduce GHG emissions. It has not been determined if interstate trading of emissions will be allowed. Mr. Baise added that 60 Billion dollars of carbon credits were traded world wide last year leading to increased job losses and increased fuel costs. Dr. Johnson closed the discussion by stating that a key to the functioning of ruminants is

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

GHG emissions. It should be noted that CAFOs increase efficiency over free range animals and reduce GHG through feed management.

Meeting Break

Bob Stoubaugh: Public Affairs Specialist, NRCS, Florida

Following the break, Mr. Stoubaugh was introduced to the AAQTF. They were told that he works about 25% on his time on video news releases for NRCS activities. He talked about a video news release he would be producing on the AAQTF. He stated that the product will go to USDA in Washington, D.C. to publicize the AAQTF. It will also be used to summarize the current charter of the AAQTF.

Greenhouse Gas and Climate Change Subcommittee Guest Speaker, Debbie Reed (DRD Associates)

Ms. Reed posed the question - How can agriculture help mitigate GHGs? She stated that agriculture is the source of about 8% of U.S. GHG emissions, mostly from small, diffuse, non-point sources. N₂O and CH₄ are the primary emissions. Within agriculture there are great opportunities for increasing (enhancing) soil carbon sink. Soil carbon sequestration is a great short term fix to reduce the rate of GHG increases and it results in a cost saving to society.

She also discussed the technical and economic/policy potential for agriculture if it participates in programs like C&T. She stated that "CAP" was simply the amount of GHG that can be permitted per year. The level of the CAP is established by policy and it decreases year by year. What a source is allowed to release (i.e., allowances) may be traded and sold.

In comparison, she stated that offsets are reductions in emissions. Ms. Reed talked to the group about the Lieberman-Warner Climate Security Act of 2008 and how it might impact a C&T program. She stated that offsets do not reduce emissions while allowances lower the cap and result in lower emissions as well as drive up the cost of the credits.

Ms. Reed's Question and Answer Period:

- 1. Question:** (*Ms. Hughes*) I see unintended consequences - carbon reduction vs. carbon sequestration. Farms who have adopted no-till may not get the great leaps as someone now entering the no-till program. The farmers who have been practicing no-till should get the credits and lose the credits if they begin to till.

Answer: The power industry can sell credits if they reduce emissions for one year. Agriculture should also be able to do this. If a farmer has been doing no-till for 20 years, they should get credit for that as well. You need to reward the people who have been doing things right.
- 2. Question:** (*Mr. Isom*) Permanence will be an issue with agriculture, as well as measurement, quantification, and verification. There is no incentive to act early. Early actors are not rewarded. We need to know the details before climbing on board. As pressures increase, costs will rise.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Answer: Ms. Reed stated that USDA needs to develop a standardized protocol using COMET-VR and the Century Model to standardize measurement technologies. In response, Mr. Isom stated that there needs to be a connection between USDA, EPA, and the states to reach agreement. Ms. Reed countered with “The standardized protocols will attract participation by producers but it will take at least 3 years to implement these programs/protocols.” Mr. Mast added that these are high priorities at USDA.

3. **Question:** (*Mr. Avant*) There appears that there will be vast transfers of wealth with the implementation of credit trading. Measured, monitored, and verified lack the term “enforcement”. There could be eventual penalties.

Answer: These programs are voluntary. There should be no limits for agriculture. The people writing the bill do not have a good knowledge of agriculture.

4. **Question:** (*Dr. Shaw*) Questions remain about protocols - issues with measurement, quantification, and verification. Not all systems work equally well. The Congressional Budget Office (CBO) report estimates may result in some costs resulting from unintended consequences.

Answer: Agriculture’s participation in the process gives us a cushion for sequestration as other technologies get developed.

5. **Question:** (Mr. Weinheimer) He stated that agriculture appears to provide for an opportunity for offsets but is also considered by many to be a source of emissions. How does the system work when you can both emit and sequester emissions?

Answer: Agriculture will have to be included for any system to work. Agriculture is a second tier emission source and is currently not effective to reduce emissions.

6. **Question:** (*Dr. Aneja*) What is the feedback from Ag people about the costs/benefits to agriculture? What incentive do you offer to make them come to the table voluntarily rather than kicking and screaming?

Answer: The incentives are generally good enough to bring in a lot of agriculture in a lot of areas. If the requirements are too onerous, no one will participate. There has to be a big education component. For agriculture, there will be non-beneficial things in any bill, if it does not participate in the process. This result will be a loss to the whole system.

7. **Question:** (*Dr. Aneja*) If a farmer buys property in another country and does carbon sequestration, are there any benefits that can be accrued by not farming?

Answer: Not in the current bill.

8. **Question:** (*Ms. Shaver*) How does the compensation work for reversal?

Answer: If the participant moves, the liability is with the buyer of the credits.

9. **Question:** (*Ms. Shaver*) What are your suggestions for permanence?

Answer: Once a unit of property is deemed to be no longer good, the buyer and seller would have to work out the details to reimburse the buyer if the seller did not preserve the value of the credit. Mr. Baise added that the train is leaving the station and we need to figure out how to make some money on this.

10. **Question:** (*Dr. Shaw*) To follow up on Dr Aneja’s comment on the acceptance of this by the farm community - the problems lie with the increased cost of inputs.

Answer: We do not know what the end policy will look like. Mr. Petersen added that the National Farmers’ Union has been involved with this. Input costs will increase. That’s a given. Farmers appreciate a few dollars per acre. Any income is welcomed. In response Dr. Shaw stated that if you are offered a few dollars and then the costs increase more than the value of the initial offering, it’s not such a good deal. We need to know

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

the full economic picture of the offering. Mr. Petersen said that there seems to be uncertainty in the future.

Greenhouse Gases and VOC Committee Update:

Dr. Rice emphasized the importance of research to the ability to answer many of the questions raised by the AAQTF and their invited speakers. He also told the AAQTF about a recent meeting of the Midwest Governors Association. At this meeting, the governors looked at regional cap and trade issues. As a result of the discussions, many questions were raised but no decisions were reached.

Dr. Wakelyn added that in the Europe C&T program, Ag is not recognized. However, the Chicago Climate Exchange does recognize Ag. In response, Dr. Rice stated that in Europe, since they are not meeting their targets, they are now looking into possibilities with agriculture.

Dr. Wakelyn said that we seem to think that Ag could play a major role but this is not the case worldwide. Dr. Rice agreed and talked about research to support that effort. Mr. Isom asked Dr. Rice if an AAQTF member was assigned to participate in the ARS research recommendations at a recent meeting. In response, Dr. Rice stated that no person was tasked with that effort but Dr. Jerry Hatfield of the AAQTF was present.

In response to the query about AAQTF member participation in ARS research planning meetings and related AAQTF recommendations, Ms. Laur pointed out that the recommendation that an AAQTF member participate in the ARS meeting was not moved forward. In response, Dr. Wakelyn asked if NRCS staff changed the AAQTF recommendations. Ms. Laur reiterated the recommendation process, stating that decisions on recommendations are made by the Secretary.

In response to the process discussion, Ms. Cory stated that the committee was not aware that this recommendation did not move forward. Dr. Sagar pointed out that comments were solicited by ARS. Dr. Wakelyn asked if there was a problem with an AAQTF member participating. Ms. Laur stated that AAQTF members can participate but not as representatives of the AAQTF.

Dr. Wakelyn expanded the discussion about AAQTF recommendations by stating that the meeting took place in October but the final dates on the letters were in January. Why does it take so long to get a recommendation letter out of the Secretary's office. Ms. Laur told the AAQTF that draft documents were prepared soon after the meeting. Unfortunately, letters signed by the Secretary are "touch by a lot of people" during the clearance process. In addition, we had a change in the Secretary position. These two actions slowed the clearance process down significantly.

USDA Agricultural Air Quality Task Force

Summary Notes

May 13-16, 2008

Salt Lake City, Utah

Presented by Ms. Sally Shaver: EPA Update on Greenhouse Gas Reporting Requirements and the GHG Advance Notice of Proposed Rulemaking (ANPR)

Ms. Shaver gave a brief update on the Greenhouse Gas Reporting rulemaking effort and on the GHG Advance Notice of Proposed Rulemaking. After briefly discussing the rulemaking approach and schedule, she opened the meeting to questions.

Ms. Shaver's Question and Answer Period:

Greenhouse Gas Reporting Rule

- 1. Question:** (*Mr. Avant*) Under this process we are not regulating CO₂ as a primary pollutant. Could it happen in the future?
Answer: That is correct. This proposal does not consider CO₂ as a primary pollutant but it could happen in the future.
- 2. Question:** (*Dr. Aneja*) The chart shows electrical generation increasing (a function of increasing electrical power output) but the graph does not show residential emissions increasing. Is this an accurate picture?
Answer: This could be a function of the scale of the graph.

GHG ANPR

- 1. Question:** (*Mr. Avant*) On the endangerment issue, will this take the form of a primary or a secondary standard?
Answer: It can be either/or both. It does not require that a NAAQS be set.
- 2. Question:** (*Dr. Johnson*) Bill Wehrem said that the Supreme Court case would not be lost and it was. CO₂ is emitted from animals via exhalation. Many of the VOC's emitted from dairy cows are via respiration. Are we going to control emissions emitted via exhalation?
Answer: The CAA as constructed is not set up to address GHG emissions. Emissions via biological processes will need to be addressed in developing the regulations. In response, Ms. Cory stated that this is an opportunity for EPA to look at our future. Looking at GHG under the current regulatory structure is like putting a square peg into a round hole. Ms. Shaver agreed but added that the agency does not change legislation.
- 3. Question:** (*Ms. Cory*) Can you change the regulatory framework?
Answer: The CAA is the foundation. In response, Dr. Wakelyn stated that there is no convenient section of the CAA in which to address GHG. It's not just CO₂, but it also includes ozone. Mr. Baise said that the greenhouse gas reporting measure was included in the appropriations bill and the President had little choice but to sign it. The criteria pollutants chosen had clear adverse health effects. Pollutant effects were based on "sensitive populations" not on "sensitive individuals." This could be the largest single regulatory action taken by EPA in the agency's history.
- 4. Question:** (*Dr. Shaw*) What greenhouse gas has the greatest impact?
Answer: Water vapor. Dr. Shaw followed with the rhetorical question - Why don't we have to report water vapor emissions?

**USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah**

Meeting Adjourned for Lunch

May 14, 2008 – Afternoon Session

Emerging Issues Subcommittee Final Deliberations:

The Emerging Issues Subcommittee presented the final recommendations related to need for corrections of emissions factors and correction factors. They reiterated that USDA and EPA need to work together to resolve these issues. After a brief overview discussion, the subcommittee presented the finalized recommendations based on earlier discussion of same. The results of the full committee vote are shown below:

- **Recommendation #1** – Dr. Shaw motioned and Dr. Wakelyn seconded; motion carried.
- **Recommendation #2** – Dr. Shaw motioned and Dr. Johnson seconded; Bauer not in favor; motion carried.
- **Recommendation #3** – Mr. Weinheimer motioned and Dr. Shaw seconded; Bauer not in favor; motion carried.
- **Recommendation #4** – Mr. Avant motioned and Dr. Shaw seconded; motion carried with the following addition:
 - Dr. Krupa – He suggested that they make the addition “verifying the output of the model.”
 - Dr. Johnson - Validation as part of the model too. “Validation with independent sets of data” was added to the final text.
- **Recommendation #5** – Dr. Shaw motioned and Dr. Wakelyn seconded; motion carried.

Internal Combustion Engines and Alternative Fuel Committee (ICEAF) Update:

The ICEAF Subcommittee provided the AAQTF with a white paper dated 5/13/2008. AAQTF members were referred to bolded text in the white paper as a reference for the discussion of fertilizer and biofuel production. Ms. Hughes presented the following additional information:

- Fertilizer – 1% of N₂O in fertilizer is lost/emitted. Conditions under which N₂O is lost are not well known. We know it happens as part of the nitrification/denitrification process but the conditions under which N₂O formation may be favored (or not favored) are not known.
 - Recommendation: USDA should take the lead on research for reducing tillage and improving fertilizer and fuel use efficiency.
 - A survey was conducted and 50% of the responses indicated that they based fertilizer application on soils testing. Testing that results in an improvement in fertilizer application will have environmental and fuel benefits
- Fertilizer - Biomass Energy Link – Mr. Avant talked to AAQTF members about a science article that discussed a shift in practices by Brazilian farmers and ranchers leading to the potential wipe out of the rainforest. He emphasized that good soil, rain, and fertilizer are needed for biomass production. In addition, he stated that the key to biomass energy is to keep the operation to a small environmental footprint. Transportation costs can also be a

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

big issue. The economics of \$40-60/dry ton at 10 dry ton/acre (switchgrass) may not be economically feasible. Ethanol plants are expensive and need 24/7 operation. Agriculture needs to meet this paradigm shift. We may see more production on marginal land. Mr. Avant added that he thinks that no-till or strip-till is going to be necessary for energy crops. We need to learn how to best produce these energy crops. We need to know economic impacts before we recommend conservation practices for these dedicated energy crops. We need to develop guidance through research and extension, then it needs to be put into NRCS practices.

Ms. Hughes also discussed the Ag waste reuse and fertilizer issue. She stated that a 13% increase in fuel costs is expected next year. Despite this rise in fuel cost, fertilizer cost increases will have greater impacts on farmers. She stated that strategies need to be developed to help farmers cope with these issues. She suggested strategies that include, but are not limited to:

- Local/regional workgroups to demonstrate and evaluate new biofuel crops
- Local/regional partnerships to increase adoption of conservation tillage and improve fertilizer use efficiency

In response, Ms. Sharp stated that CENSARA has a committee working on these issues. She indicated that acetylaldehyde is a concern at biofuel production sites. The committee has found emissions exceed hazardous air pollutant (HAP) limits (minor threshold) at ethanol plants. Ms. Hughes suggested that USDA is a natural leader for this issue. She stated that a diverse portfolio on biofuels is needed as well as a net environmental benefit analysis. Dr. Krupa added that emissions from ethanol are tricky to analyze. In addition, it should be noted that acrolien is also produced from ethanol plants. In reply, Ms. Sharp stated that this is why we feel we needed a conference to explore all the impacts of what goes into our gas tanks. Going to cellulosic presents another level of complexity.

Animal Feeding Operations (AFO) Subcommittee Speaker – Mr. Bryce Bird (Utah Division of Air Quality)

Mr. Bird talked about the Utah Animal Feeding Operations Air Quality Study. He stated that since 1999 Utah has implemented a partnership approach in addressing environmental compliance issues at AFO's.

Since the EPA Consent Agreement does not address Utah's issues and it is currently monitoring at population centers, Utah and EPA developed a MOU that resulted in a Utah AQ strategy to monitor emission at AFO's. He stated that the need to monitor these emissions was identified in 2004 when 133 micrograms/m³ of PM_{2.5} was measured in Cache Valley. This measurement was partial due to winter inversions < 500ft in this rural area where ammonium-nitrate represents 40-50% of total PM_{2.5} in the Cache Valley. Mr. Bird told the AAQTF that models do not show these impacts. As a result, we will be looking at an egg laying facility, highrise farm with a belt removal system.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Mr. Bird's Question and Answer Period:

1. **Question:** (*Ms. Sharp*) Is Utah DAQ using the NAEMS protocols?
Answer: Yes, some differences in the instruments though and we are getting those differences reviewed by NRCS.
2. **Question:** (*Ms. Sharp*) Will Utah make the raw data publically available at some point?
Answer: Yes, however confidential information will be protected. Ms. Sharp stated that CENRAP/CENSARA experienced similar model results. They found that good emission inventory data are critical.
3. **Question:** (*Dr. Krupa*) How are you measuring ammonium-nitrate?
Answer: Filter-based and refrigerated samples.
4. **Question:** (*Dr. Krupa*) Ammonium nitrate aerosol has been increasing in the Southwest. Do you know where the ammonia is coming from?
Answer: It may be from long range transport.
5. **Question:** (*Dr. Shaw*) Do you have plans to correct for sampling bias?
Answer: We will talk with researchers to correct the issue.

AFO Subcommittee Update:

Mr. Ben Weinheimer presented for the AFO Subcommittee. He wanted to highlight the importance of the Best Management Practice (BMP) evaluation. He also wanted to emphasize the following items in their Action Plan:

- **Item 1** – USDA Secretary letter to the EPA requesting establishment of SIPRAP for NAEMS.
- **Item 2** – Coordination of AQ research programs to improve research among USDA agencies.
- **Item 3** – The need for EPA to continue updates such as those provided by Ms. Shaver today.

At the conclusion of his introductory statements about the AFO subcommittee issues and concerns, Mr. Weinheimer presented the following recommendations for deliberation before the full committee:

- **Recommendation #1** – Pew report on Industrial Farm Animal Production – USDA staff and AAQTF members should develop a written response to counter the scientific deficiencies and factual flaws in this report.
- **Recommendation #2** – Request that the Secretary send a letter to the EPA Administrator reiterating the importance of hosting an annual meeting of SIPRAP and request a briefing on the status of SIPRAP & updates on NAEMS.
 - (Ms. Shaver) Regarding recommendation #2 – SIPRAP letter has not filtered to the right spot (She apologizes and said that she will track it down).
- **Recommendation #3** – Request \$25 million in competitive grants to develop innovative and economically feasible conservation management practices and their control efficiencies.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- (Mr. Mast) Regarding recommendation #3 – USDA is currently putting \$2.5 million/yr into AQ Conservation Incentive Grants (CIGs).
- (Dr. Johnson) Thank you for bringing progress updates of previous recommendations. She wants to re-iterate the importance of the recommendation. We need to make sure NRCS conservation practice standards are current and up-to-date because they often get used by States in their regulatory process.
- (Ms. Sharp) With regard to recommendation #3, requesting that USDA make a request to EPA to spend \$25 million is a congressional issue. EPA would take the dollars out of the dollars that go to States.
- **Recommendation #4** – Request the Secretary coordinate with the EPA Administrator to establish a Joint Emission Factors Working Group consisting of members from the AAQTF and FRCC to get new data into EPA's AP-42 emission factors document.
 - Mr. Lindley: The Secretary for Agriculture needs to be a champion for agriculture. Recommend adding that we need this information.
 - Ms. Shaver: A joint working group is looking into the AP-42 document. Are you just referring to AFO's or more? Is this part of the NAEMS data or separate? Please clarify.
 - Response: Yes, but it is broader than just animal emission factors. Not just dependent on NAEMS results.
 - Ms Shaver would like clarification added to this recommendation before voting.

In response to recommendation #1, Mr. Blaser provided additional information on the Iowa Pew Commission report. He indicated that the report recommended funding a 5 year air study. He also said that they have already been monitoring at 8 of the largest production places (layers, dairies). They anticipated finding levels at 30ppb/1-hr. To date, they have not found these levels and have decommissioned the study.

With regard to recommendation #4 (i.e., Uncertainty Factor (EF) analysis), Dr. Wakelyn said that the biggest concern with AP42 is the method used to revise the document. The biggest need is for new AP42 EF's for all industries, not just for agriculture. If USDA were to develop the EF's, EPA should not require 5years to update the AP42 document, as was required in the past. Dr. Wakelyn suggested that recommendation #4 include a suggestion for how EPA OAQPS could improve the AP42 process, including an appropriate method for achieving the revision in less than 5 – 6 years. He stated that there is existing data that could be used for this update (e.g., Cotton Gin EFs). USDA could do a peer review and provide the information to EPA for quick acceptance by EPA.

With regard to the recommendation #1 on the Pew Report, Ms. Hughes questioned whether the AAQTF should be citing a publication (such as the Pew report). While the Pew report discusses negative feelings related to big agriculture, we should focus on the work that has been done in a positive light instead of naming the report and responding in a negative way.

Mr. Baise suggested that from a court/legal viewpoint, the document needs to be cited. Refuting of the document needs to be documented. In response, Ms. Hughes indicated that she understands the issues Mr. Baise raised but wondered if other technical groups could respond

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

just as well or faster. She raised a concern about the perception of Secretary Schafer responding to the report.

Mr. Baise stated that in his opinion the Secretary of Agriculture has the “bully” pulpit. If there are facts in error, it should be brought up and if there are no facts in error, then don’t bring them up. He suggested that the AAQTF leave the decision up to the Secretary as to whether or not to cite the Pew report.

Mr. Kirkhorn suggested that the Secretary arrange for an independent review of the report, if it has not already had an independent peer review. Dr. Johnson told the members that members of the Pew commission put the report out before the scientific review was due. Finally, Mr. Petersen said that he was glad that the Pew report came out. More research on animal operations is needed as well as more communication for people to work together.

Dr. Aneja raised concerns about the recommendation since they would be voting on something they haven’t read (i.e. The Pew report). In response, Mr. Abernathy stated that he had no problem calling out Pew. California made its best scientists available and the authors of the Pew report disregarded them. The Pew Foundation based its actions on emotions not science. Mr. Martin suggested that the AAQTF be careful not to portray themselves as an advocacy group for the CAFO industry. We are not judging. We are asking the Secretary to take a look at it.

In response to the debate on recommendation #1, Mr. Avant said that we would be shirking our responsibility if we did not raise issues when we see them. Ms. Shaver added that she would like to see a review of the report. She would like to know if there is other information or another side to the story. Ms. Hughes agreed with Ms. Shaver’s interest to see a scientific review of the report and she suggested that at the next meeting we have a whitepaper that provides documentation/research that addresses inaccuracies in the report. However, we need to be careful not to sound too aggressive. We have the expertise to respond in a thoughtful scientific way.

A discussion as to how to reword recommendation #1 followed. It was suggested that the phrase “scientific deficiencies and factual flaws” be adjusted in the recommendation. Mr. Kirkhorn asked members if the recommendation was going to be changed prior to full committee vote. He was told that it would be reworded to take on a more positive tone.

At the close of the discussion, Dr. Shaw sought clarification from Ms. Shaver on recommendation #4 and how EPA planned to use monitoring data to develop EF’s. Ms. Shaver indicated that they do not have a process in place as yet.

PM-Ozone Subcommittee Update:

Prior to the update by Dr. Wakelyn, Mr. Baise briefly discussed a current legal case between industry and EPA. The case was in response to EPA’s PM NAAQS and is focused on the link between rural dust and potential adverse health effects. Mr. Baise indicated that the date for arguments has not been set. He stated that there will likely be an opinion by the next task force meeting.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Following Mr. Baise discussion of the court case, Dr. Wakelyn highlighted previous subcommittee work, which included but was not limited to:

- PM
 - PM oversampling, boundary line – don't know status of document.
 - Appropriate metric for PM, and that some States regulate for TSP. In the new PM rule there is a footnote stating that PM₁₀ and PM_{2.5} are what should be regulated and EPA is re-evaluating PM under the NSR program. There is hope that TSP will no longer be regulated.
 - Fugitive Dust
 - No new specific recommendations for PM at this time
- Ozone
 - Made recommendations (whitepaper) on the primary and secondary standard
 - Implementation will carryover to the next task force
 - Recommendations on ozone precursors to follow
- NO_x/SO_x review will be a task for the next task force

Dr. Wakelyn concluded the presentation by posing the following question - Should this Committee be the O₃/PM Committee or should it be the NAAQS Committee? A topic for the next task force.

PM-Ozone Subcommittee Special Speaker, Dr. Krupa (AAQTF)

Dr. Krupa discussed ozone impacts on plants. He stated that there is a need to understand the toxicological differences between plants and humans. He indicated that a plant experiences the greatest CO₂ uptake from 8am to 3pm. While this information is known, data limitations exist. This lack of new data has led to a misdirected reliance on the acute studies to estimate chronic response and on chamber studies that don't necessarily reflect field experience. He stated that he had 5 research recommendations for EPA to undertake to develop an appropriate secondary standard. Dr. Wakelyn indicated that the subcommittee would pull those recommendations out of the white paper for deliberation and acceptance on Friday.

Dr. Aneja indicated that he was ambivalent about what Dr. Sagar suggested. He asked whether the subcommittee was suggesting that we undertake new studies or re-evaluate old studies. Dr. Krupa stated that EPA has already beaten the existing data to death. The recommendation is to come up with new data for the secondary standard. In response, Dr. Aneja questioned the need for the new data because the current secondary standard is the same as the primary standard. Ms. Shaver reminded Dr. Aneja that EPA will be revisiting the standards in 5 years and continually on a 5 year cycle.

Presentation by Dr. Al Heber: National Air Emission Monitoring Study (NAEMS) Update

Dr. Heber provided a brief update on the status of the NAEMS study. He indicated that test sites were located in 8 states and that emissions of PM, Volatile Organic Compounds (VOCs), and NH₃ were being evaluated at these sites. Currently, all barn sites are setup with on-going data analysis. In addition, there are 10 add-on studies.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

To date, total hydrocarbon filter measurements are not working and we are taking steps to resolve the issue. Initially, we have found that layers will give off higher NH₃ concentrations than other animal species. With regard to PM, TEOMS are being used for all PM measurements.

As to the sites being tested, the swine sites are located in Oklahoma, Iowa, Indiana, and North Carolina, with an add-on study of mitigation technology at one site. The dairy sites are located in New York, Indiana, California, Washington, and Wisconsin. 40 VOCs are being sampled and 2300 sensors are taking measurements.

In response to Dr. Heber's presentation, Dr. Johnson said that swine will have higher H₂S emissions, while poultry will have lower H₂S due to wetter operations. Based on the physiology of the bird, you're going to get more NH₃. She indicated that Dr. Heber's data on CO₂ seemed to be off at the dairy and she asked if he was doing a mass balance to account for respiration as well as what is coming off the manure. In response, Dr. Heber said no. Dr. Johnson recommended that he look at work done by Henry Tyrel to get data on respiration. She also suggested that he work with a Veterinarian.

Dr. Heber's Question and Answer Period:

- 1. Question:** (*Dr. Shaw*) Are you going to develop process-based emission factors?
Answer: No, not as part of this work. In response, Dr. Shaw stated that this data is going to be used as a starting point. This work does not come close to capturing the variability of the influences on emissions data. It is critical that EPA be sensitive to this. I encourage you to clearly state the limitations of the data.
- 2. Question:** (*Dr. Aneja*) How are you measuring the emissions from naturally ventilated barns?
Answer: We are measuring emissions from mechanically ventilated barns and extrapolating the data to naturally ventilated barns.
- 3. Question:** (*Dr. Aneja*) How are you calibrating the TDLAS technology that you are using for this study?
Answer: They are calibrated with calibration cells every two weeks.
- 4. Question:** (*Dr. Aneja*) Is that sufficient?
Answer: Not sure. Rich Grant could address that question.
- 5. Question:** (*Dr. Aneja*) At the end of 2010 what will you tell us?
Answer: We will report emission rates and a lot of meta/process-based data.
- 6. Question:** (*Dr. Johnson*) She questioned the use of mechanically ventilated barn data for naturally ventilated barn scenarios. She stated that she categorically disagrees with Dr. Heber's answer regarding mechanically vs. naturally ventilated barns. Experiments with smoke bombs released in mechanically and naturally ventilated poultry barns show very different results.
Answer: We acknowledge that airflow is larger in naturally ventilated barns.
- 7. Question:** (*Dr. Shaw*) In naturally vs. mechanically ventilated barns there are turbulence and moisture differences. Assuming that the burden of proof that the emissions are due to other factors is not defensible and could be open to lawsuits, how can EPA be comfortable with this?

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

Answer: Don't know if EPA is comfortable with this.

- 8. Question:** (*Dr. Shaw*) How can mechanically ventilated barns be used as a surrogate for naturally ventilated barns if there is no data on the naturally ventilated barn?

Answer: You need a true process-based model to take the wind data and use that to change moisture, ph, etc. In response, Dr. Johnson stated that this is why the National Science Foundation (NSF) said that a process-based model is needed to accurately characterize these emission sources.

Meeting Adjourned: After briefing for the field tour on Thursday, May 15, 2008, the meeting was adjourned.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

May 16, 2008 – Morning Session

Call To Order: The meeting was called to order at 8:00 a.m. by Michele Laur.

Session Opening Statements: Dr. Bill Puckett stated that it's been a pleasure being with the AAQTF this week. The Chief has approved the re-chartering. Hopefully you will be willing to reapply. He introduced Burlison Smith and thanked him for participating in this meeting. He indicated that Mr. Smith works in the Office of the Secretary and works with EPA to achieve the best possible outcomes.

Mr. Smith told the AAQTF about the beginning of a reactive nitrogen task force. The Europeans want to look at Nitrogen cycling. He wants to work with and get information from the AAQTF on this topic. In response, Dr. Sagar indicated that the AAQTF is thin on representatives who have specialized experience with these effects.

Subcommittee Recommendation Deliberations and Adoption:

Emerging Issues Subcommittee: Recommendations and adoption was concluded yesterday.

GHG Subcommittee: No further information or actions required at this time.

ICEAF Subcommittee: Mr. Avant briefly reiterated the final research, development of BMPs, extension, and education recommendations. The recommendations were moved by Mr. Avant, seconded by Dr. Wakelyn and voted on with unanimous approval by the full committee.

AFO Subcommittee: Mr. Weinheimer indicated that revisions to the subcommittee's recommendations were handed out yesterday after the tour.

- **Recommendation #1** - proposed by Mr. Avant and seconded by Dr. Wakelyn. Changes were made based on a suggestion from Ms. Hughes. These changes were proposed by Mr. Avant and seconded by Dr. Wakelyn. Mr. Baise reiterated the need for the Secretary to respond to the Pew report as critical for agriculture. The motion carried.
- **Recommendation #2:** - a request that the Secretary submit a letter to EPA for updates of NAEMS and the establishment of SIPRAP. Motion proposed by Mr. Baise and seconded by Mr. Abernathy. Discussion resulted in wordsmithing of Recommendation #2 that was supported by Dr. Krupa and Dr. Wakelyn who indicated that proper protocols are necessary for good data collection. Ms. Shaver stated that the added wording will add considerable dollars and time to the effort. The consent agreements have been signed and the dates are fixed. This led to the following discussion:
 - Dr. Krupa: Coming to conclusions with incomplete data is not an acceptable scientific method.
 - Mr. Abernathy asked Ms. Shaver if there was money set aside for final review? Ms. Shaver indicated that the budget goes from year to year. There is not a line item to take EPA through the next 3 years. With limited budgets and staff, there is concern about how this will get done with existing and predicted resources. Mr. Abernathy stated that we need to stop the cycle of using bad data.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- Dr. Aneja reminded the members that there is a QA/QC plan in place that was reviewed. We need to let the investigators do their work.
- Mr. Smith asked if the intent is to have a review independent of the researcher or to have a science advisory panel. Mr. Avant indicated that he didn't want to saddle us with more review but we don't want to do this study cheaply. This study must be done correctly. We must make sure that the QA/QC programs are followed. I am very concerned about the quality of the data. The data collected must be adequate to support the decisions and conclusions that will be made.
- Dr. Shaw stated that the issue before us is to make sure the QA/QC procedures were followed. The participants in the study and the signers of the consent agreement are under the understanding that the data would be adequate.
- Mr. Smith asked if a protocol evaluation was done prior to initiating the study. Dr. Shaw indicated that it was done with a protocol development team. Also, the plan is not yet developed for how EPA will interpret the data. It is not clear that records are being made to track operational changes with changes to the data being collected. There are costs involved but the consequences of bad data are great.
- Dr. Wakelyn replied that the recommendation does not say anything about how USDA/ARS can be involved. Part of the review should be by USDA/ARS. Mr. Martin stated that he would feel more comfortable with the reviews being recommended. Auditing procedures are part of the protocols.
- Mr. Schrock of EPA told the members that technical systems audits are being conducted. We've done 4 at the Indiana sites. We've found that there have been some changes to procedures and protocols. Purdue was given the chance to update their SOP's. Mr. Martin asked if the audit results are being shared. Mr. Schrock indicated that EPA can make the reports available.
- Dr. Wright indicated that the suggestion made by Dr. Wakelyn is along the lines of what ARS is working on with their involvement in the NAEMS study.
- Dr. Aneja stated that the study has just gotten started and should not be condemned while it is just getting started. The study needs to move forward with scientific review on an interim basis. There are some checks and balances built into the system.
- Mr. Smith said that because this is being used for a specific regulatory purpose, there should be very little academic freedom. Does the audit process include a way to assess if the procedures and methods are adequate to address the issues? Yes.
- Dr. Wakelyn expressed concerns with changes in instrumentation methods, release of questionable data and changes in protocols. The Secretary must fund efforts to review and evaluate the NAEMS data.
- Dr. Powers responded that she sympathized with those in the field. Don't keep bad data for the sake of data completeness. We need to focus on the data flow and how EPA handles the data. We do need to establish an independent review panel to look at the data. We need to consider that we may not have adequate data capture by the end of the budget.
- Ms. Hughes stated that this study is bound to be controversial. The methodology is controversial. Perhaps the next AAQTF can have a NAEMS subcommittee.

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

We need to make sure that the emissions factors developed are put in place quickly by EPA.

- Dr. Rice reiterated that there needs to be assurance that the sampling protocol and the QA/QC procedures are being followed. Validating and interpreting the data before it is submitted to EPA is critical. Ms. Shaver responded that this is a massive effort and EPA will welcome scrutiny. EPA is open to have USDA participate in the systems audits. Let's put something together to make this a success. Mr. Smith suggested that USDA and EPA could work together to improve this effort. Mr. Lindley responded that the \$15Million expense for the study is small compared with potential industry losses.
- At this point in the discussion, Ms. Laur indicated that the discussion of this recommendation was significant enough to require another call for a motion before moving forward.
- Mr. Smith asked if EPA would consider USDA as an acceptable level of independence. Mr. Weinheimer suggested that anyone not directly involved with the study would be acceptable. Mr. Avant responded that there are tremendous capabilities within ARS and NRCS. Dr. Shaw agreed that the Department has the experience to review the protocols. The review of the data by land grant universities would also be helpful. The involvement by the National Academy of Sciences and the Science Advisory Counsel is not necessary.
- Dr. Wakelyn stated that the recommendation should include the involvement of USDA in the data review. In response, Dr. Wright stated that we don't want to be looking over EPA's shoulder on this. We want to maintain our cooperative efforts.
- Dr. Shaw recommended a language change. Mr. Martin seconded the language change to Recommendation #2. It was approved with Ms. Shaver abstaining.
- **Recommendation #3:** Dr. Avant moved and Dr. Shaw seconded; motion passed unanimously without changes.
- **Recommendation #4:** Dr. Wakelyn moved and Mr. Abernathy seconded. Dr. Rice had a question about the last statement in recommendation. Mr. Weinheimer explained. Dr. Wakelyn provided further explanation about the last statement in the recommendation. Mr. Avant suggested a minor edit to last statement. Dr. Rice had additional minor edit to last statement. Motion passed unanimously.

Ozone and PM Subcommittee: Dr. Wakelyn asked if Mr. Smith had a response to Dr. Krupa's concern about representation on the international committee. Mr. Smith indicated that he had no input on the makeup of the committee but he noted the need for representatives with expertise in reactive nitrogen on the committee.

Dr. Wakelyn reminded members that the existing data for ozone effects has not been updated in 10 years. He asked if there would be an opportunity to review and comment on the NP212 program. Dr. Wright indicated that ARS will provide opportunities to review and provide input on the ozone effects research.

The discussion was closed and the full committee considered the subcommittee recommendations with the following results:

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

- **Recommendation #1:** Dr. Wakelyn moved and Mr. Baise seconded; motion carried.
- **Recommendation #2:** Recommendation moved and Mr. Abernathy seconded; motion carried.
- **Recommendation #3:** Dr. Shaw moved and Mr. Lindley seconded; motion carried.
- **Recommendation #4:** Mr. Kirkhorn moved and Mr. Lindley seconded; motion carried.
- **Recommendation #5:** Mr. Lindley moved and Mr. Abernathy seconded; motion carried.

Agency Updates:

Agriculture Research Service (ARS), Dr. Robert Wright:

Dr. Wright talked about changes occurring at ARS. He indicated that the ARS Deputy Director for Natural Resources Research will be Steve Shaffer since the previous person moved to the United Nations in Geneva, Switzerland. In response, Dr. Wakelyn made the statement that there seem to be fewer worker bees and more senior executives (SES). Dr. Wright stated that the number of SES has not changed but the number of worker bees has decreased.

Dr. Wright talked about the ARS National Program cycle (i.e., a 5-year cycle). He stated that the cycle is currently being re-assessed. This effort includes an assessment of goals as well as an assessment of ARS Air Quality and Global Climate Change (GCC) research.

He also talked about the workshop for Air Quality and GCC research, currently planned for Denver in May 2008. Discussions will include general areas of research related to reducing Ag emissions, adapting Ag to global change and maintaining soil productivity.

Mr. Lindley stated that he appreciated the ARS efforts, but we need more worker bees on the ground. In response, Dr. Wright indicated that ARS was trying to get more people in the field doing research. Dr. Wakelyn inquired about the current funding level to which Dr. Wright stated that the \$43 million budget includes air, soils, global change. Dr. Wakelyn responded that the more you can focus the effort the better off we'll be. Dr. Wright responded that ARS was trying to incorporate a wide range of research activity. Dr. Wakelyn acknowledged that there has been a tremendous improvement in the efforts by ARS because of Dr. Wright and Dr. Charlie Walthall.

Cooperative State Research, Education and Extension Service (CSREES), Dr. Ray Knighton:

Dr. Knighton made an announcement about a stakeholder's conference at UC Davis in June that is related to Green Acres Blue Skies work. Dr. Wakelyn inquired about the goals of the meeting. In response, Dr. Knighton indicated that the goal is to establish a dialogue between producers and the universities.

Dr. Knighton also talked about the Farm Bill and its implications with regard to the organization of CSREES. The Under Secretary for Research, Education, and Economics will become

USDA Agricultural Air Quality Task Force
Summary Notes
May 13-16, 2008
Salt Lake City, Utah

USDA's Chief Scientist. This results in agency and departmental re-organizational issues that will affect the air quality program, including the 2008 emphasis areas.

In addition to the Farm Bill, Dr. Knighton talked about the National Air Quality Workshop that occurred in Potomac, Maryland, in 2006. The workshop resulted in a number of peer reviewed journal articles that have benefits for the AAQTF and agriculture. He also discussed an upcoming workshop scheduled for July 2008 in RTP, NC, with a focus on animal emission estimation methodologies.

Following Dr. Knighton's presentation, Ms. Hughes asked whether the Farm Bill funding proposals for specialty crops include biofuels. In addition, Ms. Sharp requested information on the 7 conservation practices developed with NRI funds. Dr. Wakelyn also posed questions to Dr. Knighton with regard to emissions factor research and the level of uncertainty. In response to these questions, Dr. Knighton said that much of the information from the workshop responds to these issues and it is supported by peer review publications. Dr. Wakelyn stated that the preface to any document related to the work from the workshop must include what limitations there may be in these articles. Dr. Knighton said they would take it into consideration.

Forest Service (FS), Dr. Elizabeth Reinhart:

Dr. Reinhardt talked about the use of fire as a management tools for forests. She indicated that she has dealt with fire from the fuel load perspective, but not on the smoke emission side. She told the AAQTF about large scale experiments at Elgin Air Force Base where 5 burns over 4500 acres were conducted over several days. She also talked about the National Blue Sky Project and the national prediction effort that was powered by the Bluesky emission inventories from remote sensing of wildland fire emissions. Finally, she talked about the program for monitoring air pollution effects on forests. The program started in Europe and the USFS is adding U.S. data.

Ms. Sharp stated that the Federal Land Managers have reported different fire statistics. She wondered if MODIS standardizes that process. Dr. Reinhart indicated that MODIS can move in that direction. In addition, Ms. Sharp noted that Dr. Reinhart's presentation mentioned the use of available data to identify daily emissions. Ms. Sharp hoped they won't try to annualize those data. Dr. Reinhart responded that they aren't planning to annualize those data, but rather trying to get an emissions inventory.

Mr. Baise talked about the data from Idaho showing that impacts from fire were below the NAAQS. In response, Mr. Bauer stated that the data presented is ambient data, not smoke plume data.

In closing, Ms. Laur reminded the members that there will be a Federal Register notice on the re-chartering effort.

Meeting Adjourned: The meeting was adjourned at 10:45 a.m.