

U.S. Environmental Protection Agency
Science Advisory Board
Integrated Nitrogen Committee
December 9, 2008 INC Teleconference
Final Minutes

Date and Time: The call was scheduled for December 9, 2008 from 2-5 p.m. (Eastern Time). Due to later-emerging scheduling difficulties, the DFO alone was on the call from 2-3 p.m. when the INC members and public joined the call.

Location: by telephone only.

Purpose: As announced in Vol 73 Number 185 Pages 54803-54804 on September 23, 2008, the purpose of this teleconference is for the committee to discuss the first external review draft of its report.

Materials Available: Materials made available for the INC's earlier meetings and teleconferences are identified in the minutes for those meetings. Charles Kovach, Senior Scientist, at the Florida Department of Environmental Protection sent two references related to his remarks on the December 8 teleconference; these are *Wetlands as principal zones of methylmercury production in southern Louisiana and the Gulf of Mexico region* By B.D. Hall et al. and *Coastal nitrogen pollution: A review of sources and trends globally and regionally* by Robert W. Howarth. Andrew Manale of EPA sent a brief comment following the December 8 teleconference. INC member Bryan Shaw had sent a written version of his oral comments on the December 8 teleconference. These and other materials relating to the teleconferences will be posted at the SAB's website (www.epa.gov/sab).

Attendees: INC members Aneja, Boyer, Cowling, Dickerson, Doering, Galloway, Hey, Lighty, Mosier, Stacey and Theis participated in the call as did the INC DFO Kathleen White. Randy Waite of EPA's Office of Air was present as were Charles Kovach (Florida DEP), Joseph Rudek (EDF), and both Pauley Bradley and Greg Laudick of John Deere Company.

Summary: Pauley Bradley of John Deere provided oral comments and agreed to provide written ones as well. Charles Kovach of Florida DEP will provide additional comments on December 10.

INC members have been assigned to respond to the public comments and forward their revised text to the DFO by December 19.

In response to comments by Rudek, Shaw, and others, Thomas Theis requested that the INC members who developed the numerical Nr reduction targets provide him with a fairly concise statement of how they were arrived at by December 17. He believes this will address the concerns that had been raised.

There was an overall discussion of Chapter 3. The following additions may be made:

1. a recommendation on turf
2. a section on the Clean Water Act parallel in structure to the discussion of the Clean Air Act
3. a discussion of the carbon-nitrogen cycle
4. a slightly larger discussion on measurement and trends of atmospheric ammonia and ammonium and the sources thereof.

There was a brief discussion of comments on other chapters of the report.

External review was discussed. In external review, the SAB invites a small number of experts not on the SAB to review a study undertaken by the Board prior to the Board's quality review of the Committee's report.

Details

After the DFO called the role, the chair welcomed those present, explained that this was the second of three INC teleconferences on the first external review draft of its report. James Galloway briefly re-capped the December 8 call.

Public Comment

Pauley Bradley of John Deere Company applauded the effort of the INC and found the content very thorough. First, he referred to the discussion of improved nitrogen use efficiency, especially the examples in Chapter 3, pages 12-13. In the discussion of eligibility for subsidies, he recommended that the INC also include information technology practices and additional technologies such as injection of nitrogen, technologies that reduce overlapping applications, and better crop insurance.

Otto Doering noted that, at this time, we do not know what will be in the new Farm Bill. Some of what Bradley mentioned may be included in the Conservation Reserve Program and some not. There may be some targeting of watersheds or other geographical areas. Doering would suggest a slight modification of Pauley's suggestion to reflect that uncertainty.

Viney Aneja thinks Bradley's recommendation also speaks to fundamental R&D needs. He believes best management practices (BMPs) should be market driven, but the broader platform of technologies should be subsidy driven.

Bradley's second comment was similar and related to Recommendation 3-4-3. Again he would like it broadened from smart fertilizers alone to a wider range of technologies. Timing, placement, and rate are critical elements of fertilization.

His third comment deals with nitrous oxide. He referenced section 3-3-3, page 18, line 9 states that others have estimated higher nitrous oxide losses of 3-5%. He

encourages the Committee to continue to look at all the work out there, including the DAYCENT model.

Galloway confirmed that Bradley will send his comments in writing to the Committee.

There were no further comments today, but Charles Kovach of Florida DEP will provide additional comments tomorrow.

Follow-up with INC on Assignments to Respond to Public Comments

The due date is December 19 to Kathleen.

Discussion of Written Comments

Although Joe Rudek of EDF had provided written comments on December 8, not all INC members had the chance to read them before the December 8 teleconference, so time was set aside on this call to discuss them.

Thomas Theis began by highlighting the general comment raised by Jaynes, Rudek, and Shaw about the targets for reducing the release of Nr into the environment. HeThe Committee developed targets using existing technology and allowing for continuing increases in food production in July. They went directly into the First External Review Draft without the underlying rationale. Although the rationale and calculations should be there, he does not have the commentary and calculations of how INC arrived at those numbers.

He needs the INC members who developed the targets to provide him with a fairly concise statement of how they were arrived at -- a paragraph is fine. Theis believes this will address the concerns that had been raised. He will send an email today and request the text by December 17. His email noted that INC needs to address comments about improving the transparency of our numerical targets as they appear in Chapter 4. Theis believes in all cases INC applied a rationale based on the widespread (or wider) application of existing (or soon to exist) technologies and/or the proliferation of best management practices and procedures, but this isn't apparent when one reads through the report. Thus he requested that the following groups/individuals provide a paragraph explaining how these targets were arrived at:

Mosier/Aneja	CAFOs/feedlots
Doering/Cassman	Agroecosystems
Lighty/Dickerson	NOx controls
Stacey	Control of nutrients from point sources (might include turf runoff as well)

There were no additional comments from the INC on Rudek's comments.

Bryan Shaw had sent a written version of his oral comment of December 8, which Thisis has addressed above.

Overall Discussion of Chapter 3

Stacey thinks the report needs a turf recommendation. At a minimum the INC needs to say that there may be an opportunity to reduce fertilizers getting into the environment from turf. It could be a research recommendation or a recommendation on practices.

There should be a parallel discussion on the CWA to that found in the CAAA (3.4.4) discussion. He is willing to tinker with this. This will carry over into Chapter 4 as well.

JoAnn Lighty, who was not on the call yesterday, wanted to check with Doering and Committee on the new energy paradigm, plug-in vehicles, and the carbon-nitrogen cycle. She wanted to know whether that comment had been addressed. Doering said Ken Cassman agreed to address the carbon-nitrogen cycle, which was the key job that needed to be done. Doering doesn't think they need to go into plug-in cars; Lighty agrees it is enough to recognize that there are significant changes in energy that will effect nitrogen. Galloway asked Lighty to review the DFO's notes of the December 8 call to be sure her concerns were adequately addressed.

Russ Dickerson has been thinking about whether there is proof that ammonia/ammonium is increasing in the atmosphere. Aneja is sending him a paper. Comparing NADP data in 1985 and 2005 reveals regional increases. In the CASNET data, you see a conversion of the aerosol phase into the gas phase. Dickerson thinks these data gaps and trends add urgency to the INC's recommendation on the measurement of ammonia+ammonium. Galloway would like a strong statement based on all the evidence we have that ammonia emissions have increased. Galloway and Dickerson agreed that the evidence for increases at the regional and national scale is needed and that the time frame of the increase needs to be stated.

Aneja thinks that a calculation that both Dickerson and Galloway are looking for has been done based on emissions factors. These calculations show an increase in ammonia over time. The trend in ammonium ion concentration in some regional sites, you do see an increase (in hog growing areas of NC, KY, and Iowa) over the last ten years.

Thisis wonders himself on where the INC stands on the regulation of ammonia. He thought INC had come down pretty strongly in favor of risk reduction, but now it sounds like the science basis is squishy. Dickerson observed that whether the concentration of ammonia in the atmosphere is increasing nationally is a different question than whether there is too much. There is too much.

Galloway thinks that time scale influences what can be said. Over twenty years, they can show increases in atmospheric ammonia. Over the last decade factors that

would increase the atmospheric concentration have increased. Theis, Aneja, and Dickerson agreed to this approach.

There were no further comments on Chapter 3 as a whole.

Discussion of Chapter 2

There were no public comments on this section and no comments from INC members on this teleconference.

Discussion of Chapter 4

There were public comments on this chapter which Theis will address as described above. There were no further comments from INC members on this teleconference.

Discussion of Chapter 1

Galloway will work to address the public comment on this and asked that the other INC members will take a look at the Executive Summary. He believes 99% of the people who read the report will read only this section and it has to be right.

Theis suggested removing the language “Without the . . . the world population would be 50% less.” Galloway agreed. Cowling noted that Smil and Galloway agree on this so it could be left in with a citation to Smil. Cowling thinks feeding the world is a noble purpose of farmers and is worthy of note.

The DFO confirmed that Section 3.4 had been discussed to the Committee’s satisfaction.

External Review

Cowling raised the issue of external review. Galloway noted that identifying potential reviewers was a task set for December. The DFO noted that she has not received any names from the Committee since long before the draft report took shape. Galloway advised the DFO to prepare an email to the INC asking that areas for external review and relevant experts to provide that review and have it reviewed by

Cowling thinks international experts would add the most credibility. Cowling suggested the authors of a recent NRC report Science and Decisions: Advancing Risk Decisions. The Committee, chaired by Thomas A. Burke of Johns Hopkins Bloomberg School of Public Health, included:

A. John Bailer, Miami University, Oxford, OH
John M. Balbus, Environmental Defense, Washington, DC
Joshua T. Cohen, Tufts Medical Center, Boston, MA
Adam M. Finkel, University of Medicine and Dentistry of New Jersey,
Piscataway, NJ
Gary Ginsberg, Connecticut Department of Public Health, Hartford, CT
Bruce K. Hope, Oregon Department of Environmental Quality, Portland, OR
Jonathan I. Levy, Harvard School of Public Health, Boston, MA

Thomas E. McKone, University of California, Berkeley, CA
Gregory M. Paoli, Risk Sciences International, Ottawa, ON, Canada
Charles Poole, University of North Carolina School of Public Health, Chapel Hill, NC
Joseph V Rodericks ENVIRON International Corporation, Arlington, VA
Bailus Walker Jr., Howard University Medical Center, Washington, DC
Terry F. Yosie, World Environment Center, Washington, DC
Lauren Zeise, California Environmental Protection Agency, Oakland, CA

This would like to see risk reduction get attention

The Committee will reconvene December 10 at 2p.m. Eastern to hear and discuss any further comments from the public.

The meeting adjourned at 4:20 p.m..

Respectfully Submitted:

Certified as True:

/s/

Ms. Kathleen E. White
Designated Federal Official

/ s /

Dr. James N. Galloway, Chair
SAB Integrated Nitrogen Committee