

**U.S. Environmental Protection Agency**  
**Science Advisory Board**  
Integrated Nitrogen Committee  
Public Teleconference Meeting October 15, 2007  
Minutes

**Committee:** Integrated Nitrogen Committee

**Date and Time:** October 15 from 2 -4 Eastern Time as announced in the Federal Register on August 14, 2007, Volume 72, Number 156, Pages 45425-45426

**Location:** By Telephone Only

**Purpose:** On this conference call, Committee members summarized the progress they made on their assignments, identified what else was needed to complete the work, and engaged in other Committee business as needed

**Materials Available:** Materials made available for the INC's January 30-31 meeting, April 19 and June 8 teleconferences, the June 20-22 meeting, and the September 14 teleconference are identified in those minutes. The only additional materials available for this call were the agenda and draft minutes for the September 14 teleconference,

**Attendees:** The following INC members were present for all or part of the call: Aneja, Boyer, Cassman, Galloway, Hey, Kohn, Lighty, Mitsch, Moomaw, Mosier, Shaw, Stacey, and Theis. Drs. Cowling, Dickerson, Doering, Herz and Paerl were unable to participate. Rick Linthurst and Paul Ringold of EPA were on the call as were Charles Kovach of the Florida Department of Environmental Protection and Jim McNelly of Renewable Carbon Management LLC.

After the DFO opened the meeting, the chair welcomed the members and asked if there were any additions to the agenda. There were no additions and the chair asked the working group leads and co-leads to report on their progress on writing assignments.

**Summary**

To get buy-in on fertilizer application rates, the PWG needs the input of Doering, Herz, and Mosier.

PWG also needs information from Kohn and Shaw on animal agriculture.

The PWG will draft its section 3.2 and circulate it before the October 29-31 meeting.

INC members will read the ESWG draft section 3.3, send comments to Dickerson and Mosier and be prepared to discuss it at the October 29-31 meeting

Moomaw and Theis will soon revise the outlines for 3.4 and 4.0, assign responsibility for the various sections, develop a plan for getting the writing done, and involve the working group members

The I&MWG and RRWG will pull together material before the October 29-31 meeting that will support discussion of sections 3.4 and 4.0

The INC will set dates for fourth meeting at the October 29-31 meeting

There will be an INC Dinner on the evening of the 29<sup>th</sup>.

All INC members will pull together consensus points and send to DFO

The Workshop will be April 9-11

INC members should refine and expand the list of potential consensus points.

Lighty will suggest some additional edits to Theis relating to instrumentation for ammonia measurement and monitoring.

Stacey will draft and send a consensus point about the indirect effects of human activity, particularly climate change and how they effect nitrogen loading. He will draft and send.

Boyer believes it is important to compare all the data sets possible, with a view towards making a general recommendation.

The DFO will keep a running list of potential consensus points.

The October 29-31 meeting should include discussion of consensus points.

### **Further Details On Items Discussed**

#### **Producers Working Group**

Viney Aneja & Kenneth Cassman

The PWG is making progress on section 3.2 – sources, but does not yet have a draft to share. Lighty has provided information on industrial sector stationary sources and mobile sources. Aneja is developing information on patterns of release. EPA has provided estimates of depositions for 2001 and hopes to provide for 2002 by the end of the year. Boyer is modeling terrestrial sources of nitrogen. Cassman has provided a fertilizer emissions factor. Doering, Herz, and Mosier will work out the data used for N fertilizer application rates. Kohn and Shaw will provide information on animal agriculture. Cassmann suggests moving the table of the U.S. Nitrogen Budget from section 3.3.1 in section 3.2 to provide context for the discussion in this section. Shaw mentioned issues relating to the spatial arrangement of the manure production data and ammonia production data. He's also worried about runoff.

Boyer is developing a nitrogen budget through modeling. There was an extensive discussion of the data now available to her and that which is still being sought. EPA provided 2001 Deposition data that she is putting into the GIS format; she is running into some difficulties. She thinks 2002 will not be available this calendar year. The 36 km grid cell includes both wet and dry species of N deposition from CMAQ. She plans to use that. She plans to compare to data in the public domain from the NADP. The deposition data are not easy to use which limits their utility for future study. The 12-km data EPA provided is not yet available for the full US.

EPA also sent emissions information, which she is not quite sure how to relate to the NOx data Lighty sent (2001 by state). Lighty doesn't imagine massive changes from 2001 to 2002 in what she considered. Boyer will share data with Lighty in EXCEL.

Boyer is getting data from the Ag census which she can relate to the population census for other years. If they can agree to calculate by states, the work will be easier for her than dealing with the disclosure reporting issues at the county level. An accurate land-use map would be useful, but the work would still take weeks and it is not doable right now.

Cassman and Boyer discussed the analysis by watershed. She can do an accurate job at the state level at this time. Cassman referred to the five major watersheds they planned to analyze. She noted that INC can aggregate the numbers in any way they want, including by the five major watersheds. At the large watershed level, errors would be small.

USGS has presented manure production, deposition, and fertilizer use in EXCEL by county for certain years. Some years are in the public domain and some are not. These estimates aren't as good, but they are easier to access. The issue of the accessibility of data may be something the INC wants to comment on. Perhaps they could address inputs to counties.

Mosier provided Boyer with data for 18 specific crops. Although she knows how many acres of each crop there are in each county, there is the same disclosure problem. That is, data are not provided at the county level when it would allow individual holdings to be identified. Boyer has the complete 1997 and 2002 Ag. Censuses available. She is using the animal and crop inventories plus crop yield information.

Boyer hopes to have the numbers drafted far enough ahead of the meeting so they can be used by those who are drafting the report.

In summary, Cassman advised the PWG that it is fine to have pieces missing at this time. The key is to get down the framework now and the pieces we have. It is better to get it down on paper now than to get the perfect data. Aneja believes the PWG will be able to circulate a draft of section 3.2 to the INC before the October 29-31 conference call. INC chair Galloway sees the big challenge for PWG is to draft the report before the October 29-31 meeting; he accepts there will be gaps in it. Aneja agrees and encouraged all members to send their drafts to Aneja and Cassman with a copy to the DFO.

### **Impacts & Metrics Working Group**

William Moomaw & Thomas Theis

The I&MWG is charged with developing outline section 3.4. Theis noted there are two approaches, the media-, chemical-, and problem-specific traditional approach and the ecosystem services approach. There was general agreement it is a straight forward piece of writing overall.

Thisis cautioned that, while the INC can provide some insights on ecosystems services, it cannot provide detailed advice. He senses EPA is at the beginning of this effort. Galloway asked EPA's Rich Linthurst to speak to the topic. Linthurst agreed that EPA is at the beginning and does not yet clearly see the way forward. Moomaw asked if they should include illustrative examples and Galloway agreed this would be useful. Moomaw spoke of the value of alternative metrics in making the connection with policy. Tons of nitrogen removed doesn't give EPA a sense of where to put its priorities. Does the INC agree? If so, that might help him structure that piece of writing. Galloway thought agreement had been reached on this and that the INC had agreed to go forward with both approaches. After having listened to the PWG presentation, Moomaw feels more comfortable writing, even though there will be gaps.

Galloway sees section 3.4 as a work in progress. He asked whether Moomaw could have an improved outline, with some text, and assignments for the remainder. Moomaw and Thisis will discuss the changes and responsibilities off line.

### **Risk Reduction Working Group**

Thomas Thisis

Thisis provided the draft consensus points that were discussed on the September 14 teleconference. Cassman and Paerl subsequently sent Thisis their comments. Doering has volunteered to deal with cap and trade. Absent more input relating to Chapter 4, Thisis suggests that a discussion of what the INC wants to say to the Agency take place at the face-to-face meeting even if it takes an hour or half a day for INC to list what they agree on and want to say. That will make it easier to pull together Chapter 4. He is trying to pull in the entire Committee and recommends it be put on the October 29-31 agenda.

### **Environmental System Working Group**

Arvin Mosier & Russell Dickerson

Using information in hand, Mosier revised Section 3.3 which was distributed this morning to the INC. He has received no feedback on the first draft circulated six weeks ago or on this one, except from Lighty who found only editorial issues that she decided were premature.

Boyer's budget will be section 3.3.1. Mosier asked Boyer if she would have the atmospheric part done. Boyer will supply deposition information. Lighty spoke of the utility of maps. Mosier asked Boyer if she would find it useful if he worked up the DelGrasso data by state. She responded that she will develop data by state using information from the Ag census because DelGrasso only accounts for 18 crops. Once it is done, the INC could make the point that some uniformity in data would be valuable and also that there should be some way to prevent disclosure and still use the best

available data. She will not do storage calculations now, but has given Mosier what she had available.

After hearing from all four working Groups, Galloway summarized:

PWG will have a draft prior to the October 29-31 meeting

ESWG has already circulated a draft. INC members should read the draft of 3.3 carefully, send questions to Mosier and Cassman, and be prepared to address at the face-to-face meeting.

I&MWG and RRWG are not as far along. Moomaw and Theis need to develop a plan and involve the working group members as they will spend considerable time on it at the October 29-31 meeting.

Galloway asked if there were any comments on the initial non-consensus draft circulated by Mosier; there were none.

Galloway opened a reconsideration of Draft Consensus points. Shaw seconded the idea that they need a face-to-face discussion of potential consensus points at the October meeting. Galloway agreed and directed the INC members to the draft consensus points found in the the minutes of the September 14, 2007 meeting. Stacey noted that Paerl had circulated an additional point. Cassman had also provided edits. These comments had been sent to Theis who had planned to revise them.

Additional and revised draft potential consensus points will be sent to the DFO so she can maintain a running list.

Galloway asked that everyone on this call review the draft consensus points and add others that you might think would be a good point. Best to have a broad sweep of possible points to discuss and winnow down to a consensus set.

Stacey would like a consensus point about the indirect effects of human activity, particularly climate change and how they effect nitrogen loading. He will draft and send.

Galloway asked if anyone from the public wished to comment. Charles Kovich asked how to provide information to the committee and was told to provide it to the DFO in electronic format. Jim McNelly asked how much of the agenda program is going to be interacting with the private sector, looking for technologies, looking on the technology transfer side once recommendations are put together by the Committee. Will there be statements on budgets and so forth. Galloway restated thusly:

1. To what degree will INC interact with the private sector?
2. To what extent will the INC make recommendations on budgets.?

McNelly agreed and expanded on his professional experience. His group put on a workshop three years ago on regulatory barriers to use of bio-based nutrients.

Galloway said that nitrogen management and techniques are of interest. Relevant information should be provided to the DFO. Galloway mentioned the importance of managing nitrogen so you don't take a problem from one media and move it to another. Galloway does not expect the INC will speak to budget, but will speak to priorities. McNelly plans to send CRADAs to DFO for INC.

Galloway reviewed the draft agenda for the October 29-31 meeting. As with their previous meetings, what they do on Wednesday will be driven by their progress on the previous. The Workshop will be April 9-11. The Committee will choose dates for its fourth meeting at the October 29-31 meeting.

Dr. Galloway and the DFO summarized the decisions and actions resulting from the conference call as follows:

To get buy-in on fertilizer application rates, the PWG needs the input of Doering, Herz, and Mosier.

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Boyer believes it is important to compare all the data sets possible, with a view towards making a general recommendation.

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The DFO adjourned the meeting.

Respectfully Submitted:

/s/

Ms. Kathleen E. White  
Designated Federal Official

Certified as True:

/s/

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

James Galloway <jng@cms.mail.virginia.edu>  
12/20/2007 03:11 PM To  
Kathleen White/DC/USEPA/US@EPA  
cc

bcc

Subject  
Re: EPA SAB INC: Draft Minutes of October 15 public  
teleconference for  
your consideration

History:

This message has been replied to.

K.

they are fine.

J.

>You reviewed the notes and the leads and co-leads had the opportunity  
>to  
>review their sections (only Ken and Vieny responded, though).  
>I sent them to the full INC before the October 29-31 meeting.  
>I've shortened them a bit and added a couple of things (like the  
>materials and signature blocks).  
>  
>I think they are OK, but you may catch something I've missed.  
>  
>(See attached file: Draft Minutes for INC October 15.doc)  
>Attachment converted: Macintosh HD:Draft Minutes  
>for IN#164F26.doc (WDBN/«IC») (00164F26)