

**Dr. Angela Nugent,
EPA SAB Staff Office
Designated Federal Officer,
Dr. Anthony Maciorowski
SAB Staff Office**

Re.: Request for information regarding EPA Nitrogen Backgrounder and US EPA Science Advisory Board Integrated Nitrogen Committee (INC) Public Meeting May 14-15, 2009 and 5/21/2009 email from Angela Nugent to Andrew Manale

Dear Drs. Nugent and Maciorowski:

In late May, the SAB requested that we provide additional information regarding the Nitrogen Backgrounder. Our responses are presented below.

What are the four questions that the EPA Backgrounder committee was tasked to address in the Backgrounder.

I have reread my notes and have identified the following:

Key questions that the Nitrogen Backgrounder committee was tasked to address:

- 1) What is reactive nitrogen and why does EPA care?
- 2) What are the sources of reactive nitrogen?
- 3) What are challenges to the management of reactive nitrogen?
- 4) How are existing regulatory and non-regulatory programs addressing reactive nitrogen and what else could they do?

Roughly two years ago, the Associate Administrator of the Office of Policy, Economics, and Innovation (OPEI), Brian Mannix, was being briefed on international actions related to excess reactive nitrogen in the environment. OPEI staff was explaining its involvement in an EPA-wide Office of International Activities organized workgroup developing positions and responses to US Government positions on draft statements produced by a United Nations Committee on reactive nitrogen. Mr. Mannix expressed his interest in learning more about the issue and, since the issue was likely to grow in importance, developing educational material for senior EPA management and others who will be dealing with the public and the press. The objective was to ensure a minimum consistent, cross-agency understanding of the science. The treatment was to be comprehensive, focusing on all environmental media and sources. This information could be important in developing US Government positions regarding new United Nations management efforts on reactive nitrogen.

The National Center for Environmental Economics in the Office of Policy, Economics and Innovation (NCEE) organized and led an agency-wide effort to assemble the information and produce the material. Scientists and experts from throughout EPA, with special assistance from the Office of Water (OW), Office of Research and Development (ORD), the Office of Air and Radiation (OAR), and the Office of International Activities

(OIA), contributed through a series of workgroup teams that met for almost two years. Staff from OPEI, ORD, and OW presented the material to EPA senior management at an all-day retreat in Annapolis, Maryland in early 2008.

Would staff in NCEE be willing to engage in further discussions of the Backgrounder?

I and/or Donn Viviani, also in NCEE, would be quite willing to make ourselves available for further discussions of the Nitrogen Backgrounder and its contents.

Additional information of relevance to the Backgrounder:

The May 14/15 SAB Integrated Nitrogen Committee minutes state that the Chair had expressed his concern that EPA's Nitrogen Backgrounder had not included nitrous oxide in its definition of reactive nitrogen. This memo should make clear that EPA's Nitrogen Backgrounder **did include** nitrous oxide in its definition of reactive nitrogen. Moreover, there are numerous discussions in the modules and background documents of sources and transformations through which nitrous oxide enters the environment. The Backgrounder made clear that, in its treatment of reactive nitrogen, chemical forms of nitrogen in long-term storage, such as in organic complexes in the soil, are excluded from its definition.

Respectfully,

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OPEI-NCEE