

**NATIONAL EXPOSURE RESEARCH LABORATORY (NERL)  
STANDING SUBCOMMITTEE****Conference Call Summary  
Friday, January 18, 2008  
1:00 p.m. – 3:00 p.m. Eastern Time****Welcome**

*Dr. Kenneth L. Demerjian, State University of New York, Albany, Subcommittee Chair*

Dr. Kenneth Demerjian, Chair of the National Exposure Research Laboratory (NERL) Standing Subcommittee and a member of the Board of Scientific Counselors (BOSC) Executive Committee, welcomed the participants to the conference call. This is the second public conference call for the NERL Standing Subcommittee. The first conference call was held on November 28, 2007, and a face-to-face meeting was held December 11–12, 2007, in Research Triangle Park, North Carolina. The purpose of this call is for the Subcommittee members to discuss and further refine the draft report that was prepared after the face-to-face meeting.

**Administrative Procedures**

*Ms. Susan Peterson, U.S. Environmental Protection Agency (EPA), Office of Research and Development (ORD), Designated Federal Officer (DFO)*

Ms. Susan Peterson, Designated Federal Officer (DFO) for the NERL Standing Subcommittee, thanked the Subcommittee members for their participation in the second conference call of the Subcommittee. As the DFO for the Subcommittee, Ms. Peterson is responsible for ensuring that the Subcommittee complies with the Federal Advisory Committee Act (FACA).

The BOSC is a Federal Advisory Committee that provides independent, scientific peer review and advice to EPA's ORD, and as such, is subject to the rules and requirements of FACA. The NERL Subcommittee has been asked to respond to a set of specific charge questions as part of its review of NERL. This is the second conference call for the NERL Subcommittee; the first conference call was held on November 28, 2007.

FACA requires that all meetings and conference calls involving substantive issues—whether in person, by phone, or by e-mail—that include one-half or more of the Subcommittee members must be open to the public, and a notice must be placed in the *Federal Register* at least 15 days prior to the call or meeting. The Subcommittee Chair and DFO must be present at all conference calls and meetings. All advisory committee documents are made available to the public.

Subcommittee members should have received a copy of the draft letter report and a homework sheet. The homework sheet covers the time period December 12, 2007 through January 18, 2008.

Ms. Peterson reported that no requests for public comment were submitted prior to the call, but the agenda allows time for public comment at 1:15 p.m. She will call for public comments at that time, and each comment should be limited to 3 minutes. Only comments will be accepted.

### **Subcommittee Discussion**

*Dr. Kenneth L. Demerjian, State University of New York, Albany, Subcommittee Chair*

Dr. Demerjian said that he had combined the Subcommittee members' charge question responses and only lightly edited the text. He reminded the Subcommittee members that their role is not to evaluate NERL, but to provide advice and guidance. He asked if there were any comments on the draft report. Dr. Frey asked if he was seeking editorial comments or substantive comments. Dr. Demerjian responded that he was seeking content-related comments. He encouraged the Subcommittee members to comment on other Subcommittee members' responses, ask questions, and/or note any gaps in the report.

Referring to the comments on Figures 2-3 and 2-4 on page 4 of the report, Dr. DePinto thought it was critical to comment on how these figures portray the similarities and differences between human health and ecological exposure research. He said, however, that there were some suggestions in this section that he did not agree with and some that he did not understand. He asked Dr. Bartell, who wrote the text, to expand on the response. Dr. Bartell said that he thought that the arrows in Figure 2-4 from effects to all of the other boxes might be appropriate for human health exposure research, but not for ecological exposure research. Dr. DePinto explained that the arrows illustrate that cascade effects are not limited to the stressor. He said that there also are feedbacks between stress and exposure. For example, the ambient concentration of a given chemical could impact its transport or transformation. In fact, Dr. DePinto said that he thought that all of the arrows could potentially go in both directions. Dr. Bartell asked if that would apply to both Figures 2-3 and 2-4. Drs. Demerjian and DePinto responded that it would apply to both figures.

### **Public Comment**

*Ms. Susan Peterson, EPA/ORD, DFO*

Ms. Peterson called for public comments at 1:15 p.m. There were no comments offered.

### **Subcommittee Discussion**

*Dr. Kenneth L. Demerjian, State University of New York, Albany, Subcommittee Chair*

Dr. Demerjian proposed suggesting that NERL replace the word "effects" in the figures with "outcomes." He said that health researchers tend to use the word outcomes instead of effects. He did not know if the ecological community had yet embraced the use of the word outcomes. Dr. Bartell said that, in his experience, effects was the term most often used in the ecological risk assessment paradigm. Dr. DePinto said that he was fine with suggesting that "effects" be changed to "outcomes."

Dr. Demerjian asked if the earlier discussion on arrows referred to the fact that effects can have further impacts on the boxes listed on the left-hand side in Figure 2-4. Dr. DePinto confirmed that this was correct. Dr. Bartell had suggested removing all but one of the arrows from effects back to the boxes on the left-hand side. Dr. DePinto added that he thinks that all of the arrows should be there. Dr. Bartell explained that, at the face-to-face meeting, the NERL leadership had emphasized that an affected organism or outcome could serve as a secondary stressor. Dr. DePinto responded that there is the potential to change the exposure pathway by either changing the environment, the transport and transformation process, or the ambient concentration. Dr. Demerjian added that the source also can be affected. Dr. Bartell suggested leaving the arrows in the figure. Dr. Dockery said that he did not see how Figure 2-4

helps the reader to understand exposure. Each feedback listed is a plausible feedback, but are they equally important? Could some of the feedbacks simply be discussed in the text? Dr. Demerjian thought that the arrows from effects to transport and transformation, ambient concentration, and exposure could be removed. Dr. Demerjian asked Dr. DePinto for his opinion. Dr. DePinto said that he thought the arrows were necessary because they depict the importance of understanding all of the different pathways and the complexities of those pathways. Dr. Demerjian added that he did not disagree with Dr. DePinto, but simply wondered if the diagram needed to be that comprehensive. Dr. Dockery suggested simplifying the graphic and adding examples to support the graphic. Dr. Demerjian proposed that the Subcommittee suggest that NERL simplify the diagram but also explain the feedbacks. Dr. Bartell pointed out that, in its current state, Figure 2-4 appears to communicate the message that everything affects everything. Dr. Demerjian proposed that the Subcommittee suggest adding an example for each of the arrows to better illustrate the complexities of the feedbacks to readers. Dr. Demerjian thought NERL should prioritize what it thinks are the most important arrows in the diagram.

Dr. Frey said that she would like to encourage NERL to diminish the statement of differences and comment on the complexities of human health. Dr. Frey suggested that the two areas are much more alike than they are depicted. Dr. DePinto asked if she was proposing that the Subcommittee suggest using only a single diagram to represent both human health and ecological issues. Dr. Frey said that the Subcommittee might want to suggest that NERL consider if the distinction really is necessary. Her concern is that NERL is viewing human health too simplistically.

Dr. Demerjian reminded the Subcommittee members that the framework document was meant to link the activities of the various divisions within NERL under a common theme. Dr. Demerjian asked Dr. Frey to list what she thought was missing from Figure 2-3. Dr. Frey replied that she thought that feedback loops should be included in Figure 2-3 as they are in Figure 2-4. Dr. Demerjian said that the outcomes in Figure 2-3 are most likely health outcomes, such as heart attacks or chronic obstructive pulmonary disease (COPD), so they would not generate feedback. Dr. Frey disagreed, citing infectious disease as an example of a health outcome with multiple feedbacks. Dr. Bartell stated that he thought that the figures were simply intended to illustrate that there is only one species in human health, while there are multiple species in ecology. Dr. Frey added that she thought the figure would be clearer if examples were provided. Dr. Dockery said that he did not see the need for all of the arrows; he would prefer a simple indication that there is often feedback. Dr. Frey agreed. Dr. DePinto thought that the group was really discussing the text preceding the figures. He suggested that the Subcommittee recommend a single, simplified diagram followed by a discussion of the differences between ecological and human health exposure research, followed by some concrete examples. Dr. Demerjian proposed that the Subcommittee recommend that NERL use only one diagram along with a comment pointing out that the problem is much more complex and that the diagram does not depict all of the interactions as they relate across various media. The following text could point the reader to the text box on page 5, which lists the differences between the two disciplines. Dr. Frey agreed.

Dr. Frey offered to develop an example. Dr. DePinto liked the idea of suggesting that NERL give examples of how each of the domains can become more complex. Dr. Demerjian agreed and clarified that the Subcommittee's charge was to offer suggestions. Dr. Frey offered to provide some more complex human health examples. Dr. Demerjian suggested offering NERL a few example topic areas. He then asked Dr. Frey what type of human health examples she would recommend. She said that she would prefer one water and one air example. Dr. Demerjian asked the other Subcommittee members for ecological examples. Would chemical fate and transport in an aquatic system be a good example? Dr. DePinto agreed that this would be a good example as it includes a number of feedbacks. Dr. Demerjian asked if nutrient loading would be another good example. Dr. DePinto agreed.

Dr. Dockery asked what purpose the figures served. Dr. Demerjian said that he thought that the diagrams were meant to show that NERL's exposure research recognized the importance of and took into account all of the issues listed. Dr. Dockery suggested that the Subcommittee propose that NERL more clearly illustrate the links between the visuals in the framework document.

Dr. Demerjian asked if the Subcommittee members had any other comments. He reiterated that the Subcommittee's charge is to review the framework document and offer suggestions; NERL will determine how to proceed. If NERL takes the Subcommittee's advice, Dr. Frey added, the details can be worked out at that time. Dr. Demerjian asked the other Subcommittee members if they thought that the framework would be criticized if published in its current state. Dr. Frey said that she thought that many would view the human health exposure side as incomplete. Dr. Demerjian asked if there would be similar concerns on the ecological side. Dr. DePinto thought that there would be similar concerns.

Dr. Demerjian asked if there were any other comments. Dr. Frey referred to a line on page 9 of the draft report, which stated that "NERL has substantial experience in communicating its mission and capabilities to other potential partners within and external to the Agency." Dr. Frey noted that the following paragraphs in that section included both redundancies and differences of opinion. She did not think that NERL has effectively communicated its mission to its partners. In fact, she did not get the impression that NERL has a very strong outreach program to partners outside of EPA. She asked the other Subcommittee members for their thoughts. Dr. Demerjian explained that NERL is still in the early stages of its push to increase collaboration and partnerships. NERL has yet to present the framework document to its divisions for further fine-tuning. After that is complete, the document will be disseminated across ORD and to the program offices. Dr. Frey clarified that she was referring to partnerships outside of EPA. Dr. Demerjian asked if this meant state agencies. Dr. Frey responded that she was referring to outside organizations, including research foundations, organizations, universities, and state agencies. She also added that she did not see a very structured external relationship program nor did she see anything specific in the framework that addressed the issue. Dr. Bartell reminded her that NERL had presented a number of examples of partnering with other federal agencies at the face-to-face meeting. Dr. DePinto noted that the charge question asked how NERL could use the framework to develop new partnerships; the Subcommittee is not being asked to assess NERL's current partnering efforts. Dr. Frey replied that she understood the charge question. She thought that developing this guidance document is a great way to start a community dialogue on the Agency's mission. The actual framework document, however, should explain how NERL plans and executes its research programs. At the face-to-face meeting, she heard that NERL mostly works internally within EPA or with other federal agencies and does not really work with outside partners. If the framework is an operational guide, how does it help NERL to build new partnerships? Dr. Demerjian said that he thought the partnerships they were referring to were with other EPA laboratories such as the National Health and Environmental Effects Research Laboratory (NHEERL), with other federal agencies such as the U.S. Geological Survey (USGS), or with universities conducting health-related research. Dr. Frey stated that the framework could better articulate NERL's partnering goals and agenda. Dr. Demerjian asked Dr. Frey to draft a bullet point on that topic and Dr. Frey agreed. Dr. DePinto pointed that, in the draft report the Subcommittee suggests adding text on the genesis of the framework document and listing the objectives for each of the subsequent sections. Dr. Demerjian explained that the bullet would simply offer more detail in terms of the issues that need to be addressed. Dr. Frey said that if the framework is to be an operational document, NERL needs to include more detail on partnering, such as how it will be determined if a proposed agreement will benefit NERL.

### **Next Steps**

Dr. Demerjian asked each member to draft one to three bullet points highlighting the most important items from his/her individual response; these bullets will help him ensure that all key points are included

in the introduction. He will work to make the draft more cohesive and use the bullet points to ensure that his edits have not deleted what others have identified as important issues. He then will distribute the updated draft to the Subcommittee members for review and comment. He asked the Subcommittee members if this sounded reasonable. All of the Subcommittee members agreed that it was a reasonable approach. Dr. DePinto noted that many of his comments were not directly relevant to the charge questions; he suggested that Dr. Demerjian create a section for specific detailed comments not directly related to the charge questions.

Dr. Demerjian asked if the Subcommittee members had read the face-to-face meeting minutes. Dr. Frey said that she had not yet read the minutes. Dr. Dockery stated that he had skimmed the minutes; he found them to be quite detailed. Dr. Bartell said that he had read the minutes and had a question on a comment that he had made. Dr. Demerjian asked the Subcommittee members to send him feedback on the minutes by Wednesday, January 23, 2008, as he would like to distribute the meeting minutes at the next Executive Committee meeting, which will be held January 24-25, 2008. Dr. Demerjian asked the Subcommittee members to send him their bullets by Friday, January 25, 2008.

### **Closing Remarks**

Dr. Demerjian thanked the Subcommittee members for their efforts and adjourned the call at 2:14 p.m.

### **Action Items**

- ✍ The Subcommittee members will send Dr. Demerjian feedback on the December meeting minutes by Wednesday, January 23, 2008.
- ✍ The Subcommittee members will send Dr. Demerjian one to three bullet points highlighting the most important items from their individual responses by Friday, January 25, 2008.
- ✍ Dr. Demerjian will make the draft report more cohesive, ensuring that all of the most important points are included in the Introduction.
- ✍ Dr. Demerjian will distribute the updated draft report to the Subcommittee members.

## PARTICIPANTS LIST

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**NATIONAL EXPOSURE RESEARCH LABORATORY (NERL)  
STANDING SUBCOMMITTEE**

**AGENDA**

**January 18, 2008**

**1:00 p.m. – 3:00 p.m. Eastern Time**

**Participation by Teleconference Only**

**866-299-3188**

**Code: 2025641077#**

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|------------------|--|---|
| 1:00 – 1:10 p.m. | Welcome <ul style="list-style-type: none"><li>- Roll Call</li><li>- Purpose of Teleconference Call</li></ul>   | Dr. Kenneth Demerjian<br>Subcommittee Chair                             |
| 1:10 – 1:15 p.m. | Administrative Procedures  | Ms. Susan Peterson<br>NERL Standing Subcommittee<br>DFO                 |
| 1:15 – 1:25 p.m. | Public Comment   |   |
| 1:25 – 3:00 p.m. | Subcommittee Discussion <ul style="list-style-type: none"><li>- Summary of Draft Report Progress</li><li>- Draft Report Discussion</li><li>- Next Steps and Schedule</li></ul> | Dr. Kenneth Demerjian<br>Subcommittee Chair and<br>Subcommittee Members |
| 3:00 p.m.        | Adjourn  |   |