



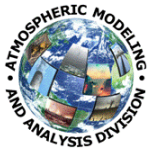
Chapter 2 – Peer Review Panel and Charge

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PEER REVIEW PANEL

Chair

Dr. David Allen

Melvin H. Gertz Regents Chair in Chemical Engineering
University of Texas at Austin

Panel Members

Dr. Douglas Burns

Research Scientist
U.S. Geological Survey

Dr. David Chock

Senior Scientist
Ford Research Laboratory

Dr. Naresh Kumar

Senior Program Manager
Electric Power Research Institute

Dr. Brian Lamb

Professor
Washington State University

Dr. Michael Moran

Research Scientist
Environment Canada



**U. S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EXPOSURE RESEARCH LABORATORY
ATMOSPHERIC MODELING AND ANALYSIS DIVISION
RESEARCH TRIANGLE PARK, NC**

**PEER REVIEW
January 27-29, 2009
CHARGE TO THE PEER REVIEW PANEL**

OVERALL GOAL

The National Exposure Research Laboratory (NERL) conducts a peer review of each of its Divisions every four to five years. The primary goal of the peer review is to provide Senior Management with guidance for planning and implementing research and for allocating resources over the next five years.

This review of the Atmospheric Modeling and Analysis Division (AMAD) is being conducted to evaluate the following:

- 1) The quality of the science within the Division; and
- 2) The responsiveness of the Division's science to Agency needs and problems.

Each of these two dimensions is to be assessed relative to the research, advisory, and leadership roles of the Laboratory. To assist you with your review, sample questions relative to each of these roles are provided in the table on page 2-7.

PANEL CHAIR

Dr. David Allen will chair the panel. He will serve as the Editor-in-Chief of the draft and final Peer Review Report, and will draft the Executive Summary.

ALL PANEL MEMBERS

Each panel member has been assigned the role of Primary and/or Secondary Reviewer for the various Themes/Research Areas of the Division's program. Panel members are tasked with writing a critique for their assigned areas. The proposed writing assignments are listed on the next page. Modifications to the proposed assignments may be accommodated within the panel, if necessary. Specified assignments do not preclude reviewers from evaluating other Research Areas. In fact, such efforts are encouraged, especially when disciplines cross Research Areas.



WRITING ASSIGNMENTS

Executive Summary Dr. David Allen

Theme	Research Areas	Primary Reviewer	Secondary Reviewer	Abstract/Poster #
1. Model Development and Diagnostic Testing	Chemical-transport modeling, emissions modeling, meteorological modeling	Moran	Lamb	1.1 – 1.6
2. Model Evaluation: Establishing Model's Credibility	Operational, diagnostic, dynamic, probabilistic model evaluation	Chock	Kumar	2.1 – 2.6
3. Linking Air Quality and Human Health	Local-scale modeling for human exposure studies, near-road modeling, accountability	Kumar	Chock	3.1 – 3.3
4. Climate Change and Air Quality Interactions	Downscaling/linking global to regional air quality modeling, global/regional climate models	Lamb	Chock	4.1 – 4.3
5. Linking Air Quality and Ecosystem Health	Atmospheric deposition, linking air quality and water/terrestrial ecosystem models	Burns	Moran	5.1 – 5.4

What should be written prior to the on-site meeting?

Primary Reviewers:

Prior to the on-site meeting, the Primary Reviewer for each Research Area is asked to write a critique based on the materials provided in the notebook. The critiques should provide an analysis of:

- 1) The Division's research (with an evaluation of the quality of the research and its impact both on scientific understanding and on Agency needs);
- 2) The extent to which the Division provides advice and assistance to the scientific community and EPA; and
- 3) Leadership exhibited by the Division.



A suggested format for your critique is outlined on page 7, and the table on page 8 will assist you in preparing these critiques. **Significant accomplishments, strengths, and limitations** of the Division should be highlighted. Please provide suggestions for improvement, as appropriate. Note that reviewers are asked not to evaluate individual members of the AMAD staff.

An electronic and hard copy of your critique should be given to the Peer Review Coordinator during the Executive Session on January 26. Copies of these critiques will be distributed to all panel members for discussion during the site visit.

Secondary Reviewers:

Panel members with secondary review responsibilities are asked to prepare brief written statements or bullets critiquing their assigned Research Areas. Electronic and hard copies of the critiques should be submitted to the Peer Review Coordinator during the Executive Session on January 26. These statements/bullets will be given to the Primary Reviewers for incorporation into the written critique.

What should be written on-site?

Primary Reviewers:

Primary Reviewers should edit and amend their critiques as necessary based on observations made during the site visit and the comments of Secondary Reviewers.

Secondary Reviewers:

Secondary Reviewers should amend their written statements/bullets based on observations made during the site visit, and provide the revisions to the appropriate Primary Reviewer.

Prior to adjournment of the on-site meeting, the panel shall verbally present its key findings to NERL's Senior Management and the Division's Management Team. The Panel Chair shall also provide to the Peer Review Coordinator an initial draft of the panel's written report.

PLEASE BE AWARE THAT THE CHAIR MUST SUBMIT A WRITTEN DRAFT REPORT TO THE PEER REVIEW COORDINATOR BEFORE DEPARTURE ON THURSDAY JANUARY 29, 2009.

What are the post-meeting obligations?

The Panel Chair, with assistance (if needed) from the Peer Review Coordinator, will complete the draft report and circulate it to all members of the panel for their approval. A final Peer Review Report will be submitted by the Panel Chair to the Peer Review Coordinator no later than **FEBRUARY 27, 2009.**



SCHEDULE

All panel members are to arrive on Monday, January 26, in time to attend a 5:00 p.m. Executive Session with NERL's Director, Dr. Lawrence Reiter; Deputy Director, Ms. Jewel Morris; Associate Director for Health, Dr. Linda Sheldon; Director of the Research Planning and Coordination Staff (RPCS), Dr. Robert Dyer; and Peer Review Coordinator, Lee Riddick. The Executive Session will be held in the Old Chatham Ball Room Section 1, which is in the hotel where you will be staying. This meeting will last approximately two hours. Please note that this is not a dinner meeting. The Hilton Garden Inn Durham Southpoint is located at 7007 Fayetteville Road, Durham, NC 27713 the phone number is 919-544-6000. A block of rooms has been set aside for you. Please contact the hotel directly to make your reservation by 5pm Friday December 26, 2008 and mention that you are with the AMAD Peer Review group.

Upon arrival at the Executive Session, the Peer Review Coordinator will collect the written critiques and statements/bullets prepared by each panel member. The material will be copied and distributed to all panel members to facilitate discussions during the review and for incorporation into the draft Peer Review Report. On January 27-29, the Division's program will be presented through oral and poster presentations. Ample time has been set aside for the reviewers to confer with Division staff and each other. These interactions will allow reviewers to obtain more detailed information on the Division's program, query researchers, and clarify outstanding issues. A portion of January 29 will be devoted to preparing the draft Peer Review Report. During this writing session, Primary Reviewers will modify, as necessary, their preliminary critiques to reflect observations made during the site visit and to incorporate input from Secondary Reviewers. Time also has been set aside on this day for the Chair and panel members to provide an oral summary of major findings and recommendations to NERL and AMAD senior managers.

The timeline can be summed up as follows:

- **Approximately 4 weeks prior to the review:** Panel members receive notebook.
- **Prior to arrival at on-site meeting:** Reviewers prepare written critiques and statements/bullets for their assigned Research Areas.
- **First evening of review (January 26):** Reviewers meet in Executive Session with Laboratory Director, Deputy Director, Associate Director, RPCS Director and Peer Review Coordinator.
- **On-site review (January 27-29):** Division presents its program to reviewers.
- **Last day (January 29):** Reviewers modify written critiques and submit an initial draft of the panel's written report to Peer Reviewer Coordinator. Panel Chair and members hold exit interview with NERL and Division senior staff.
- **Within approximately one month following site visit (February 27):** Panel Chair and members edit document and submit final Peer Review Report to the Peer Review Coordinator.



The Peer Review Coordinator, Lee Riddick, will work with you throughout the peer review process. Questions concerning the review should go directly to her (phone: 919-541-1144; fax: 919-541-7588; e-mail: riddick.lee@epa.gov). **We ask that there be no contact between you and the AMAD staff regarding the review, beginning from the time you agree to serve on the panel, through the delivery of the final Peer Review Report.**

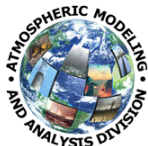


FORMAT FOR PREPARING THE PEER REVIEW REPORT

The following outline for the Peer Review Report is suggested. Parties responsible for the different sections are included in parentheses. The table on page 8 provides guidance for preparing the portions on individual Themes/Research Areas.

- **Executive Summary (Dr. Allen, with input from individual reviewers)**
 - Description and evaluation of overall program, with key panel recommendations and suggestions.
- **Individual Research Areas (Primary Reviewer, as assigned, with input from Secondary Reviewer and others, as appropriate)**
 - Evaluation of each Research Area based upon the material in the review notebook, poster sessions, oral presentations, and discussions.
- **Introduction**
 - Brief description of Research Area
- **Research**
 - Assessment of strengths and limitations, suggestions for improvement, and evaluation of future directions
 - *Quality of the Science and Its Impact*
 - *Responsiveness to Agency Needs*
- **Advice/Assistance**
 - Critique of Division's role in providing advice/assistance to the scientific community and EPA
 - *Quality*
 - *Responsiveness to Agency Needs**
- **Leadership**
 - Critique of Division's leadership role in the scientific community and within the Agency
 - *Quality*
 - *Responsiveness to Agency Needs**
- **Summary and Recommendations**
 - Overall evaluative statement and recommendations

*We acknowledge the difficulty in evaluating the Division's "Advice/Assistance" and "Leadership" roles within the Agency based on the information provided. Please comment on these two areas to the extent possible.



GUIDANCE FOR DIVISIONAL REVIEW

	Research	Advice/Assistance	Leadership
Quality of the Science	<p>Division's approach to a given environmental problem Examples:</p> <ul style="list-style-type: none"> • Has the Division identified major uncertainties and appropriate research priorities? • Are approaches scientifically sound? • In what ways has the Division advanced scientific understanding of the problem? (Has it had an impact?) • Are future directions sound? <p>Division's resources (assume fixed numbers) Examples:</p> <ul style="list-style-type: none"> • Are Division's resources effectively and strategically allocated across problems (appropriate depth and breadth)? • Is the skill mix optimized for the scientific direction taken? • Does workforce maintain cutting-edge knowledge and skills? <p>Mechanisms and extent to which findings/products are disseminated to scientific audience in a timely fashion</p>	<p>Extent to which Division's assistance is sought by, or provided to, the scientific community Examples:</p> <ul style="list-style-type: none"> • Do scientists serve on national/international workgroups, symposia, professional societies, publication boards? • Are they members of research review boards (e.g., study sections) for other organizations? • Do they provide scientific or technical guidance to local, state, tribal and international governments? 	<p>Division's leadership role in the scientific community (influence on agendas, decisions, priorities of other researchers/organizations) Examples:</p> <ul style="list-style-type: none"> • Do scientists lead collaborative research efforts at the national/international level? • Do they serve on advisory boards of other major agencies/organizations? • Are they invited to chair major committees? • Do they organize major conferences, symposia? • Do they receive awards/honors for scientific contributions?
Responsiveness to Agency Needs and Problems	<p>Division's responsiveness to Agency needs Examples:</p> <ul style="list-style-type: none"> • Is research driven by Agency priorities? • Does the research address the critical issues within EPA's mission? • Is the Agency using the Division's data/products? • Does the Agency adopt approaches or methods developed by the Division? • Does the Division provide information necessary for EPA users to meet statutory requirements or other policy needs? • What problems has the Division solved for the Agency? <p>Balance between core and problem-driven research</p> <p>Mechanisms and extent to which findings/products are disseminated to Agency in timely fashion</p>	<p>Extent to which Division's advice/ technical support is sought by the Agency (Program Offices, Regional Offices) Examples:</p> <ul style="list-style-type: none"> • Does Division staff participate on major within-Agency workgroups? • Do Division scientists assist the Agency in developing testing guide-lines, interpreting research advances, reviewing Program Office or Regional documents? 	<p>Division's leadership role in the Agency (influence on research planning efforts, decisions, and priorities of the Agency) Examples:</p> <ul style="list-style-type: none"> • Does Division staff lead research planning and coordination efforts across Divisions, Agency Labs and Offices? • Do scientists represent ORD/Agency on workshops or workgroups addressing major risk assessment or environmental issues? • Do they receive major Agency awards/honors?