



Office of Oceanic & Atmospheric Research

Delegations & Directives

CIRCULAR NUMBER: 216-3

Effective: March 27, 2015

SUBJECT: OAR Laboratory and Program Science Reviews

SECTION 1. PURPOSE

.01 This policy establishes the authorities and responsibilities for managing regular and recurring science reviews of the quality, relevance, and performance of individual programs (hereafter referred to as programs) and laboratories to evaluate their success in achieving intended outcomes through research, development, and transition activities conducted by and through National Oceanic and Atmospheric Administration's (NOAA) Office of Oceanic and Atmospheric Research (OAR) laboratories and programs.

SECTION 2. BACKGROUND

.01 This policy supersedes OAR 001.07, dated July 23, 2007. This policy has been updated per the requirements of NOAA Administrative Order (NAO) 216-115, "Strengthening NOAA's Research and Development Enterprise," as well as the OAR mission and evaluation criteria articulated in the 2014 OAR Strategic Plan. The scope of the reviews now explicitly includes as the subjects of assessment all three components of OAR's mission: research, development, and transition, including extension services and outreach. Quality, relevance and performance (including portfolio management) are defined as the criteria for evaluation. The applicability of the policy has been expanded to include the activities of programs in addition to those of laboratories. The required periodicity of reviews has changed from once every four years to once every five years.

.02 As the primary research and development organization within NOAA, OAR supports NOAA's four strategic goals: climate adaptation and mitigation; a weather ready nation; healthy oceans; and resilient coastal communities and economies. As articulated in OAR's Strategic Plan, OAR "intends to lead the world in understanding the Earth system through observations, models, predictions, and associated scientific information, tools, and methodologies. Its mission is to conduct research to understand and predict the Earth system; develop technology to improve NOAA science, service and stewardship; and transition the results so they are useful to society."

.03 OAR can most effectively achieve consistent standards of excellence through periodic reviews of its research, development, and transition, including extension services and outreach. The purpose of these reviews is to provide external assessments of the quality, relevance, and performance of laboratories and programs in meeting goals and objectives, as specified in the laboratory/program, OAR, NOAA, and appropriate interagency groups'

strategic and operating plans. Such reviews can:

- Inform performance improvements and portfolio management;
- Encourage innovative and collaborative approaches to meet goals and objectives;
- Assess research contributions and clearly articulate the value of the research toward achieving the NOAA mission and as appropriate interagency goals;
- Evaluate for stakeholders the outcomes of OAR research, development, and transition; and
- Highlight directions for future strategic plans.

.04 This policy addresses the requirement in NOAA Administrative Order (NAO) 216-115 for reviews of the quality, relevance, and performance of individual laboratories and programs by expert panels.

SECTION 3. SCOPE

Each review will focus on a single laboratory or program. Each review will evaluate the research, development, and transition activities, including extension services and outreach, conducted by (intramural) and through (extramural) OAR laboratories and programs. The reviews will assess science, technology, their transition to applications, and portfolio management.

SECTION 4. APPLICABILITY

This policy applies to OAR research laboratories and programs. These include: Air Resources Laboratory (ARL), Atlantic Oceanographic and Meteorological Laboratory (AOML), Earth System Research Laboratory (ESRL)¹, Geophysical Fluid Dynamics Laboratory (GFDL), Great Lakes Environmental Research Laboratory (GLERL), National Severe Storms Laboratory (NSSL), Pacific Marine Environmental Laboratory (PMEL), National Sea Grant College Program (NSGCP); NOAA Office of Ocean Exploration and Research (OER); NOAA Climate Program Office (CPO); Office of Weather and Air Quality (OWAQ); NOAA Unmanned Aircraft Systems Program (UASP); NOAA Ocean Acidification Program (OAP); and NOAA Technology Partnerships Office (TPO).

SECTION 5. RESPONSIBILITIES (See Enclosure A)

SECTION 6. POLICY

Science reviews evaluate quality, relevance and performance of research, development, transition (including extension services and outreach) to both internal and external interests, and help to strategically position the laboratories and programs for future planning. Each laboratory and program will undergo a science review at least once every five years, at the discretion of the OAR AA, or until superseded by NOAA policy.

¹ Science Reviews of ESRL will be conducted separately for each Division. These reviews shall include any research, development, or transitions managed and/or funded by the ESRL Director's Office.

SECTION 7. PROCEDURES

.01 Laboratories and Programs will be evaluated according to criteria and processes that are detailed in the OAR Science Review Implementation Plan (SRIP). Per NAO 216-115, the assessment criteria will include quality, relevance, and performance (described below). The composition of review panels should reflect the diversity of expertise necessary to assess the laboratory or program on all of these criteria. The reviews will be conducted in compliance with the Federal Advisory Committee Act (FACA). When appropriate, the review can be done in coordination with a Federal Agency Committee or other review process. Additional criteria may be considered.

.02 “Quality” is “a measure of the novelty, soundness, accuracy, and reproducibility of a specific body of research.”² This refers to the merit of R&D within the scientific community. Assessing the quality of scientific and technical work relies heavily on the time honored tradition of peer review. Bibliometric data on peer-reviewed publications and citations, patents, awards, and other professional recognitions are some of the factors to consider.

.03 “Relevance” is “a measure of how well a specific body of research supports NOAA’s mission and the needs of users and the broader society.” This primarily refers to value of R&D to users beyond the scientific community. Relevance includes not only hypothetical value, but actual impact. It considers the question, “What would not have happened if you did not exist, and how much would society have missed?” Examples of ways the impact of R&D can be realized include the application of scientific knowledge to policy decisions, the improvement of operational capabilities at NOAA’s service lines and other collaborating institutions, or licensing of inventions for commercial use.

.04 “Performance” is “a measure of both effectiveness (the ability to achieve useful results) and efficiency (the ability to achieve quality, relevance, and effectiveness in timely fashion and with little waste).” It refers to the effectiveness and efficiency with which R&D activities are organized, directed, funded, and executed. Assessing performance may include considerations of technical execution, finances, workforce, infrastructure, and leadership necessary to achieve the organization’s goals, though the laboratory or program’s own capacity and that of its partners. This necessarily involves understanding the quality of management, including interaction with stakeholders, clear articulation of strategic direction, as well as the balance of the R&D portfolio across time frames and intended applications.

SECTION 8. EXCLUSIONS

.01 The OAR Chief Financial Officer (CFO) maintains primary responsibility in establishing policy and procedures for internal reviews that assess the financial health and business practices of OAR research laboratories and programs.

² The definitions of quality, relevance, and performance are quoted from NAO 216-115.

SECTION 9. REVISIONS

.01 The Office of Policy, Planning, and Evaluation (PPE) is responsible for developing and revising this policy for the OAR Assistant Administrator (AA). Submit recommended changes to this policy to OAR Headquarters, The Director of Office of Policy, Planning, and Evaluation, SSMC3 11th Floor, Silver Spring Maryland 20910.

SECTION 10. DISTRIBUTION.

.01 OAR-wide and OAR internet accessible.



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Assistant Administrator

ENCLOSURE A

RESPONSIBILITIES

To simplify the following text “Director” refers to the Director of the laboratory, program, or ESRL division that is being reviewed. “Relevant DAA” refers to the Deputy Assistant Administrator (DAA) that oversees the organization being reviewed.

Assistant Administrator (AA). The AA authorizes and approves all policies associated with review and evaluation of OAR research laboratories and programs. The AA charges and appoints a review panel of experts, receives the final summary report and makes final decisions on actions to be taken as a result of the review. The AA delegates responsibility to conduct the reviews to the relevant DAA.

Chief Financial Officer (CFO). The CFO coordinates with OAR components to ensure sufficient resources are available for laboratory and program science reviews.

Deputy Assistant Administrator for Laboratories and Cooperative Institutes (DAA LCI) and Deputy Assistant Administrator for Programs and Administration (DAA P&A). The DAA LCI or the DAA P&A, in collaboration with the Laboratory or Program Director, is the lead management official for conducting laboratory and program science reviews, respectively. When the review is overseen or coordinated by a Federal Advisory Committee (FAC), the relevant DAA or his/her designee will coordinate with the FAC, as appropriate. The DAAs reviews and approves the SRIP. The relevant DAA suggests potential review panel members and meets with the review panel to plan the science review, reviews the summary reports and makes recommendation to the AA on actions to be taken in response to the reports. In instances where the DAA LCI is also the Director of the laboratory being reviewed, the responsibilities as the lead management official for the review will be transferred to the DAA P&A.

Director of Policy, Planning and Evaluation (DPPE) and Executive Director, Laboratories and Cooperative Institutes (Exec Dir LCI). Both provide OAR-level corporate oversight for reviews to ensure conformance with policy and advice on science review issues. Incorporating direction from the AA and DAAs and input from labs and programs, the DPPE and Exec Dir LCI create and revise the SRIP to ensure the reviews are useful for OAR and NOAA. The DPPE and Exec Dir LCI coordinate reviews for programs and laboratories, respectively. Responsibilities include:

- Coordinate with the lab/program to schedule reviews;
- Appoint a Headquarters liaison to work with a Review Coordinator, appointed by each Program or Laboratory Director, on actions identified in the SRIP;
- Implement the review process in accordance with the SRIP;
- In collaboration with CFO, ensure resources are available to support science reviews;
- In collaboration with the Director, analyzing the final review panel recommendations;
- Review draft summary reports for technical corrections and accuracy of content and consistency of findings with policy prior to DAA review; and
- Track and monitor implementation of recommendations.

Directors. Directors collaborate with the relevant DAA to define the scope, emphasis, and issues of the review and provide input on potential reviewers. In accordance with the SRIP, the Directors prepare briefing materials, responses to specific questions, and other pertinent information for the Review Panel. Directors identify a Review Coordinator to work with the Headquarters liaison to complete actions identified in the SRIP and ensure on-site logistical support for science reviews. Directors review the draft report for technical corrections and comments; and prepare the OAR response to review findings and recommendations for the relevant DAA.