

LABORATORY ASSESSMENTS BOARD



The National Academies of
SCIENCES • ENGINEERING • MEDICINE



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Since 1959, the National Academies of Sciences, Engineering, and Medicine has performed assessments of the scientific and technical R&D programs at federal laboratories. Assessments are performed in consultation and in cooperation with agency sponsors and are tailored to address the missions, goals, and needs of the given agency. The National Academies consists of the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), and the National Academy of Medicine (NAM), which forms and supports the committees of pro bono experts who volunteer to perform the peer review assessments in a collegial spirit. The assessments are conducted under the auspices of the National Academies Laboratory Assessments Board, which operates within the Division on Engineering and Physical Sciences.

BENEFITS OF THE NATIONAL ACADEMIES PEER REVIEW

■ VALIDATE IMPRESSIONS OF THE SPONSOR

- Objective and independent—potential perceptions of bias and conflict of interest carefully explored
- Expertise pool includes 6000 NAS, NAE, and NAM experts, as well as thousands of additional experts who have participated on National Academies committees (in a given year, 7000 experts participate in 700 committees)
- National Academies committees recognized by Congress and federal agencies as gold standard for expertise and objectivity
- Valid methodology for GPRA reporting
- Tried and true assessment vehicle since 1959 and across multiple agencies
- Committees work with sponsoring agencies as respected peers

■ PROVIDE INFORMATION TO ASSIST MANAGEMENT INVESTMENT DECISIONS

- Identify tradeoffs between leveraging external results vs. performing work in-house
- Identify duplication of efforts conducted in-house and extramurally
- Identify lessons learned from other researchers
- Identify promising avenues of exploration

■ OFFER FRESH PERSPECTIVES AND NEW APPROACHES

- Identify linkages, contacts, and liaisons
- Identify crosscutting opportunities in-house

■ FLEXIBILITY TO ADDRESS MANAGEMENT INTERESTS

- Assess technical quality and/or strategic plans and/or management structures and/or effective resource allocation

- Assess in-house vs. outside agency sponsored R&D
- Address special issues posed by sponsor
- Overall agency laboratory assessment vs. selected individual programs and projects
- Assess science vs. engineering, basic vs. applied projects
- Look back (accomplishments) vs. forward (planning and opportunities)
- Assess one time, annually, or over other periods of time

■ PRO BONO SERVICE OF RENOWNED EXPERTS YIELDS EXTREMELY COST-EFFECTIVE ASSESSMENT

■ THE “DELIVERABLE” OUTPUT OF THE ASSESSMENT PROCESS

- A high-quality, objective, independent, credible report that is valuable to sponsors for various reasons. However, it has often been noted by sponsors that the process of engaging in the assessment encourages and provides opportunity for interaction with renowned colleagues on the committees as well as self-assessment and awareness of the work of other colleagues at the agency—and this is often appreciated as a key value of the assessment



STANDARD ELEMENTS OF THE PROCESS ARE TAILORED TO MANAGEMENT INTERESTS

■ WORK TASK AND CHARGE DETERMINED BY SPONSOR IN CONSULTATION WITH THE NATIONAL ACADEMIES

- Includes definition of the scope of the assessment and the key assessment criteria (e.g., technical quality of the science and engineering, adequacy of resources to conduct the R&D mission, likely impact of the work, or other criteria)

■ COMMITTEE FORMED BY THE NATIONAL ACADEMIES

- Candidates identified through suggestions from the sponsor, National Academies members, databases of thousands of current and past members of National Academies committees; potential perceptions of conflict of interest and bias are formally examined; the committee chair is appointed

■ CHAIR, SPONSOR, AND NATIONAL ACADEMIES STAFF WORK TOGETHER TO DEVELOP AGENDA FOR ASSESSMENT MEETINGS

■ Format:

- Presentations: programmatic context vs. technical detail
- Read-ahead materials
- Tours
- Demonstrations
- Small group discussions

■ Agenda:

- Includes opportunities for sponsor to convey information and for the committee to deliberate to develop its reportable findings

■ ASSESSMENT MEETINGS

- Generally conducted at sponsor site, where committee can interact with management and S&T staff and experience the facilities

- Sponsor provides read-ahead materials to committee

■ MULTIPLE LEVELS OF INTERACTION BETWEEN COMMITTEE AND SPONSOR

- The final formal report from the National Academies is the only official presentation of the committee's findings, conclusions, and recommendations; however, additional levels of informal timely communication include:

- Immediate interaction during presentations, demonstrations, tours
- After review meeting, further discussion to clarify facts and context with sponsor

■ COMMITTEE PREPARES DRAFT REPORT:

- Detailing findings, conclusions, and recommendations
- Report is reviewed by separately appointed committee of reviewers who examine whether committee has addressed and stayed within the scope of its charge and whether findings are supported by evidence and a clear rationale
- After committee successfully responds to the reviewer comments, the report undergoes security review by the sponsoring agency (if necessary) and is then released to the sponsor and to the public

■ COMMITTEE BRIEFS SPONSOR ON REPORT FINDINGS

■ COMMITTEE BRIEFS OTHER AUDIENCES, AS APPROPRIATE, AND THE NATIONAL ACADEMIES DISSEMINATES THE REPORT

ROLES FOR EFFECTIVE AND MEANINGFUL ASSESSMENT

■ SPONSOR

- Provides charge to the committee
- Recommends committee members
- Determines scope of assessment
- Specifies details of assessment process collaboratively with committee
- Determines specific projects and programs to assess
- Determines assessment criteria collaboratively with committee
- Develops agendas collaboratively with committee
- Provides context and content of read-ahead materials
- Hosts the assessment at selected site
- Supports fact checking by committee
- Performs security review of the draft report if necessary
- Attends report briefing by the committee
- Provides suggested dissemination list to the National Academies
- Considers the committee's advice, which is not binding, since this is not an oversight committee

■ COMMITTEE

- Reviews sponsor-provided contextual and technical materials to prepare for assessment
- Participates in assessment at sponsor sites
- Determines assessment criteria collaboratively with sponsor
- Develops agendas collaboratively with sponsor
- Responds to specific issues identified by sponsor
- Prepares report of assessment

- Responds to security checking by sponsor
- Responds to National Academies review
- Briefs the report to sponsor and others
- Supports dissemination of the report



■ THE NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE - HIGHLY QUALIFIED AND EXPERIENCED TECHNICAL AND ADMINISTRATIVE STAFF

- Develops work statement, including assessment criteria, in consultation with sponsor
- Recruits committee members and conducts extensive review of candidates through review chain that extends through the President of the National Academies
- Processes security clearances for committee members, where appropriate
- Explores potential perceptions of sources of bias and conflict of interest within the committee
- Educates committee members with respect to sponsor mission and organization
- Educates committee members with respect to the assessment process and criteria
- Serves as conduit for interactions with sponsor and committee—coordinates communications and tracks and manages materials exchanges
- Supports needs of committee members and responds to sponsor questions and requests
- Handles logistics—travel, meals, meeting arrangements
- Supports review meetings
- Manages report development, editing, publication, release, and dissemination
- Manages briefings and dissemination of report findings

Contact Information

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