

## **Response of the Office of Nuclear Physics to the recommendations from the Nuclear Science Advisory Committee report of the Committee of Visitors, 2007**

January 5, 2010

The Office of Nuclear Physics (NP) Committee of Visitors (COV) visited Germantown headquarters on January 9-11, 2007, and their report, transmitted by the Nuclear Science Advisory Committee (NSAC), can be found on the SC web page [http://www.science.doe.gov/SC-2/COV-NP/NP\\_Reviews.htm](http://www.science.doe.gov/SC-2/COV-NP/NP_Reviews.htm) . As can be seen from the report, the Committee examined the processes and actions of the Office of Nuclear Physics in handling grant proposals, project oversight, and monitoring of laboratory research and operations and developed a number of recommendations. We find the recommendation to be helpful. Our responses to those recommendations are indicated below. Actions in response to two of them (Nos. 1&2) are planned in coordination with an SC-wide administrative systems development that is currently in progress and a single response is made to these recommendations.

- 1) While there is an Office of Science-wide database, a common database of reviewers specifically for the ONP office is needed, one that can be shared among the program managers, particularly as there continues to be more cross-over between the different subprograms.
- 2) We recommend a more extensive database of the information contained in the proposals, to facilitate tracking of the overall health of the program. Statistical data such as the number of PI's per grant, average grant size, and time to notification of a proposal action are among the statistics that would be valuable to track.

NP concurs with this recommendation, which has been forwarded to the Deputy Director for Science Programs in the Office of Science (SC). SC is in the process of acquiring new administrative systems software which will allow a unified approach across all SC programs. As part of this process, NP is working with SC Resource Management on the development and implementation of information technology resources to address this recommendation.

- 3) For the review process of the laboratory research groups, we recommend that there be a more direct mapping between the review criteria and the suggested list of materials to be included for the review. Examples are in the area of outreach activities and in workforce development. We recommend that the hosting of graduate students and the mentoring of postdocs be incorporated as an assessment item in the review process.

NP concurs with this recommendation. The processes and criteria used to review laboratory and university research progress are continually assessed for effectiveness and to identify opportunities for improvement. With respect to the example given, the review charge presently used requests reviewers to evaluate contributions to “training the next generation of scientists” including post docs and graduate students. The present submission package instructions for the National Laboratory Groups review (Attachment A of those instructions) calls for a “statement on student education and training supported by the group”, if such information is relevant to the submission. These changes have been made to identify objective measures for inclusion in requested review material to help facilitate evaluation of such metrics.

- 4) “Cost effectiveness” is a performance measure that is difficult to determine. We recommend that the program office continues to improve this measure for the laboratory research groups, and to develop a more uniform methodology to evaluate the cost effectiveness of the laboratory research programs.

NP concurs with this recommendation and recognizes that while “cost effectiveness” is difficult to quantify, it is nevertheless an important factor in assessing the appropriate level of support for laboratory research groups. As part of its improvement process, NP has implemented a pre-formatted budget breakdown that allows reviewers to map resources to effort.

- 5) We recommend continued incremental improvements to the laboratory research reviews procedures with a specific goal of developing consistency between the 4-year review process and the research reviews during the annual site visits to facilities.

As commented earlier in items 3 and 4, NP continues to make improvements to the laboratory 4-year review process with the goal of making these reviews analogous to the grant review process at large universities. The 4-year reviews of the laboratory research groups have a different focus and goal than the annual Science and Technology (S&T) reviews used to evaluate the scientific productivity of a laboratory facility. The 4-year reviews address the groups accomplishments; the proposed future research; contribution to the national effort;

leadership, creativity, and productivity of group personnel; and cost effectiveness. The S&T reviews are used to evaluate the scientific and technical productivity of a laboratory facility as a whole. NP is sensitive to the need to coordinate the focus of laboratory research reviews and annual Science and Technology reviews to avoid redundancy. As an example, since the laboratory nuclear theory research groups were reviewed in FY 2009, nuclear theory was not part of the FY 2009 S&T Reviews.

- 6) The ONP should seek opportunities to better educate the scientific community regarding the process, approach and constraints in the development of new initiatives into projects. This could, for example, include a primer posted on the ONP website and explanations during presentations at relevant national meetings.

NP agrees that there is a need to better inform the community concerning the origination and evaluation of proposals and projects. A guidance document has been prepared, which explains the application and evaluation process as well as DOE milestone requirements for projects depending on project category (e.g. Major Items of Equipment) and which has been posted to <http://www.sc.doe.gov/np/dev/projects/index.shtml>

- 7) Site visits, even informal ones, are extremely important for communicating project issues concerns and needs. As more staff are added to ONP, we encourage more frequent, but informal, visits (more than once per year) to sites with projects in progress. The COV noted that all program managers already have significant travel obligations, so this recommendation depends strongly on filling the vacant positions within the office. While travel funds have increased since the last COV, additional funds will be needed in the ONP program management budget to accommodate the recommended more frequent site visits as well as address inflation of travel expenses.

NP agrees that site visits are an important tool to promote close, effective communication and to properly monitor projects and their progress. At present, sites that have multiple projects are visited more than once per year and NP visits all national labs and university Centers of Excellence that have projects at least once a year. Additional project management is accomplished through monthly and quarterly teleconferences. NP agrees with the COV that additional site visits would be valuable and, as staffing and workload permit, NP will seek to increase the frequency of site visits as appropriate.

- 8) We recommend that the appropriate program manager visit each laboratory at least once during a 4-year cycle.

NP concurs with this recommendation. Presently, program managers make at least one and usually more site visits to each laboratory each year with a facility at which they have programs within their responsibility. Additional visits, especially to laboratories not running a facility are subject to the availability of resources. NP is tracking the frequency of site visits by program managers to monitor this metric.

- 9) There is ample evidence of the need for the additional staff requested by NP. We encourage the filling of the vacant positions as soon as possible, and strongly support the use of detailees where appropriate.

NP continues to proactively search for and recruit additional detailees/IPAs and federal employees to effectively carry out its mission. Currently, four detailees / IPAs are present in the Office: two in the Research Division and two in the Facilities and Project Management Division. NP is also working to fill the following vacant positions:

Program Manager for Nuclear Physics Instrumentation – filled

Program Manager for Low Energy Nuclear Physics – filled

Program Manager for Nuclear Theory – filled

Program Manager for NP National User Facilities – search underway

Program Manager for Major Initiatives – filled

Technical Advisor – to be advertised

Program Manager for Research Isotopes – search underway

Program Manager for Isotope Facilities – search underway

Financial Advisor—Filled

Associate Director—Filled

- 10) We encourage the ONP to develop a fellowship program to strengthen the field in accelerator physics. We encourage the ONP to work with the other program offices in DOE-SC in developing this program.

A general accelerator R&D effort was identified in the FY 2009 Budget Request. The new Office of Science Early Career Research Program, which is coordinated across all DOE SC Offices, will be used to identify fellows in all thrusts of nuclear science, including accelerator R&D. As part of its support for accelerator physics R&D in general, NP also communicates and coordinates with other DOE-SC offices on accelerator R&D topics of mutual interest. As an example, NP recently participated in the DOE *Accelerators for America's Future Workshop*, sponsored by the Office of High Energy Physics. SC has also established a new Graduate Fellowship Program in which the Office of Nuclear Physics participates – the first awards will be in FY 2010.

- 11) The COV encourages the use of retiring grants to fund new young investigators (whether through the OJI program or through the regular grants program), rather than to enhance existing grants.

NP evaluates new and existing grant proposals based on merit established through peer review. The Outstanding Junior Investigator program has been used to identify and support university faculty early in their careers to establish their own research efforts. In addition, in FY 2008 and FY 2009, the NP Research Division instituted a new solicitation for new grant applications that required Program Managers to review and act on such applications within the fiscal year submitted. This encouraged new grant applications to directly compete with the renewal applications for existing grants. The NP Research Division plans to follow this approach for FY 2010 also, even though a specific solicitation with an early due date was not published. This approach takes account of the fact that many NP grants are group grants that take on new faculty as part of a succession plan when senior PI's retire. Such new faculty are peer reviewed just as if they submitted a new grant application. This approach accomplishes the goals of the COV recommendation and allows a self-consistent approach to the evaluation of grant applications.