

**NSF Committee of Visitors Report  
Instrumentation and Facilities Program  
Division of Earth Sciences  
Directorate for Geosciences  
July 26-28, 2010**

**RESPONSE TO SPECIFIC COMMENTS IN THE COV REPORT**

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On July 26-28, 2010, a Committee of Visitors (COV) met at NSF to review the Instrumentation and Facilities (IF) Program in the Division of Earth Sciences (EAR). The review covered IF proposal and award actions for the Fiscal Years of 2007, 2008, and 2009 as well as more recent activities that illustrate new developments in the IF Program. We are very pleased with the overall results of the COV as outlined in the Executive Summary of their report:

“The overall impression of the 2010 COV is that the EAR Instrumentation and Facilities program is remarkably effective and efficient in providing both operational and strategic support to the full spectrum of research and educational endeavors supported by the EAR Division. Under ever-present budgetary constraints, the program fulfills its mission of giving U.S. Earth Scientists access to the tools they need and ensuring competitiveness in both research and education on the international scene. The COV perceives, further, that the program is managed with integrity and vision by program officers D. Lambert, R. Kelz and T. Boyd.”

While overall very positive and complimentary of NSF’s management of the IF program, the COV report contains some specific recommendations on IF Program areas that the COV believes could be improved:

*Recommendation 1:* The BI criterion should continue to be used in the evaluation of every IF proposal, and the COV encourages the IF program officers and panels to remain flexible in their weighting of the intellectual merit (IM) and BI criteria. The best guarantee of fairness in evaluating and balancing IM and BI in the review process is communication with the scientific community re. expectations.

We agree. The IF program officers intend to use the BI (broader impact) criterion in the evaluation of every proposal and they will continue to be flexible in their relative weighting of the intellectual merit and BI criteria. The expectations for broader impacts in proposals are well described on the NSF website. Research infrastructure, which is the primary focus of the IF program, is in itself one of the important broader impacts.

*Recommendation 2:* Given that the cost-sharing policy is set at the highest administrative level of the NSF, the COV recommends that the IF program officers prepare a proposal to reinstate a cost sharing requirement for equipment line items in IF proposals.

We agree that cost sharing in the IF program is appropriate. NSF has recently clarified mechanisms to request individual program deviations from the overall NSF policy. EAR intends to evaluate its needs and request appropriate cost sharing for the IF program.

*Recommendation 3:* The COV recommends that the IF program officers submit a proposal to the NSF to establish a program for the support of meritorious projects falling in the "mid-size infrastructure" range. This might be accomplished in the short term by raising the cap on MRI proposals to \$10M or \$20M.

We agree. The mid-sized infrastructure gap is an issue that is recognized and under discussion for the entire GEO Directorate. Under current rules, the funding for mid-sized infrastructure involves policies of NSF upper management and the National Science Board who must approve these projects. Therefore, any resolution of these policies must be considered at those levels.

*Recommendation 4:* The rotator position in the IF program (currently filled admirably well by detailee Tom Boyd) should be made permanent.

We agree that the IF position in question, which is currently temporary because it is filled by a detailee from another agency, should be made a permanent rotator position. EAR will put that position at a high priority for future staffing requests.

*Recommendation 5:* The COV suggests that the program officers ask all PIs in the program to submit a list of their top 10 most heavily cited publications arising from IF-enabled research, and to describe in layman's terms "What we know today that we did not know 10 years ago." These contributions could then be compiled and perhaps made available at the NSF web site.

NSF reporting requirements are currently undergoing a major revision including the imposition of an additional PI report in laymen's terms of results for a website that is intended for public access. We believe that additional requirements should not be added at this time to PI reporting until the effectiveness of the new systems in publicizing NSF research becomes clear.

*Recommendation 6:* Optimize management quality by organizing an annual or semi-annual workshop at the NSF that would bring together managers and other representatives of various IF supported labs and facilities for the purpose of discussing, designing and benchmarking best management practices in a scientific setting.

We agree that a best practices management workshop would be useful for EAR facilities and will organize this in the near future.

In addition to the primary recommendations above, the text of the Core Questions and Report Template has further recommendations (recommendation numbers added by NSF).

*Recommendation 7.* In general, every effort should be made to bring grayzone proposals to the panel, especially when a declination is the anticipated outcome.

We agree. While panel review is not required by NSF, and indeed is not used by some divisions, EAR believes that a combination of *ad hoc* and panel review should be used whenever possible. However, time constraints and proposal loads have forced almost all of the EAR programs to withhold some proposals from panel consideration where it is believed that a proposal is not competitive, or a proposal is so highly rated that panel consideration is not necessary for the decision. Thus, the panel can concentrate its valuable time on the grey zone proposals. While panel time considerations sometimes make it difficult, the IF program will continue to do its best to bring all grey zone proposals to the panel for discussion.

*Recommendation 8.* IF program officers should make every effort to communicate to the PI more concrete, constructive, and if necessary – blunt – justification as to why a gray-zone proposal was not funded.

We agree. It is becoming more common that high quality proposals that are deserving of funding do not make the cutoff simply because the program ran out of funds. However, the IF program has increased its efforts to make a more complete communication to the PI as to why that proposal did not make the cutoff. Efforts to accomplish this have improved with the addition of a third IF program officer.

*Recommendation 9.* Especially in cases of declined gray zone proposals, every effort should be made for the primary IF program officers (Lambert, Kelz, Boyd) to prepare the review analysis and to communicate reasons for the decision to the PI.

We agree. With the addition of a third IF program officer, all review analyses are now prepared by IF program officers unless dictated by situations such as conflicts, etc.

*Recommendation 10.* It is important for the EAR IF program to continue to strive for balance in supporting projects across the full range of EAR subdisciplines.

We agree, and subdiscipline balance will continue to be a consideration in IF program decisions.

*Recommendation 11.* In order to proactively increase the participation of underrepresented groups in EAR research, the COV encourages the IF POs to establish a mechanism for providing special supplements to PIs (possibly not minority themselves) who work with minority students, such as in Minority Serving Institutions (MSIs). On a broader scale, the COV recommends that special efforts be made and some mechanism be established across the geosciences programs to encourage and assist HBCUs in establishing geosciences programs in their institutions to enable the training of geosciences minority students.

We agree that this is an important goal. EAR and GEO have established special programs, the Education and Human Resources program in EAR and the Education and Diversity program in GEO, that have as one of their main functions to accomplish the increase in participation of underrepresented groups. These programs actively interact with all programs in EAR and GEO and we will continually seek to improve and find more effective means to accomplish this.

*Recommendation 12.* The COV applauds the IF POs for their proactive approach to leveraging the program's resources and encourages them to continue seeking creative opportunities for co-funding with other agencies, other NSF programs and divisions, and with international groups and agencies in order to expand the IF program's reach and maximize its visibility.

We agree and will continue to seek creative opportunities for collaboration with other programs, divisions, directorates, agencies, and international groups.

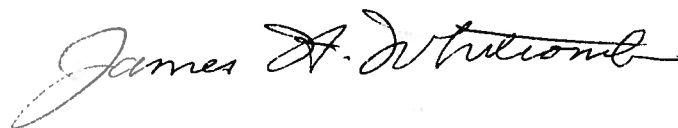
The COV also made a number of suggestions for improving the COV process as follows:

The IF program officers, Division Director and Assistant Director of NSF for Geosciences were extremely helpful both prior to and during the COV. The only suggestions we have for management of future COVs are the following:

1. Provide access to relevant materials further in advance of the meeting at NSF (say, ~2 weeks).
2. Keep access to the COV module open to committee members—or at least to the chair(s)—for the intervening period between the meeting at NSF and the due date of the report is due (Note: this was done at the chairs' request this year).
3. Provide an additional week or two for report preparation.
4. Allow the COV chair(s) to determine the format of the report. The current format requires placement of answers to specific questions in the boxes of a pre-formatted MSWord table. This was sometimes cumbersome, especially because of perceived overlap and some redundancy in the questions.

We agree with suggestions 1-3 and can arrange them at the time of preparatory discussions between the COV Chair and program officers. Suggestion 4 dealing with the format of the COV report is not within our authority to implement. The COV report format is set by NSF management for the entire foundation.

We again would like to thank Professors Foufoula and Watson and the other members of the COV for their time and efforts in making these excellent recommendations that will improve the Instrumentation and Facilities Program of EAR.



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Concurrence by:



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