

CORE QUESTIONS and REPORT TEMPLATE
for
FY 2012 NSF COMMITTEE OF VISITOR (COV) REVIEWS

Guidance to the COV: The COV report should provide a balanced assessment of NSF's performance in the integrity and efficiency of the **processes** related to proposal review. Discussions leading to answers for Part A of the Core Questions will require study of confidential material such as declined proposals and reviewer comments. **COV reports should not contain confidential material or specific information about declined proposals.** The reports generated by COVs are made available to the public.

We encourage COV members to provide comments to NSF on how to improve in all areas, as well as suggestions for the COV process, format, and questions. For past COV reports, please see <http://www.nsf.gov/od/oia/activities/cov/covs.jsp>.

**FY 2012 REPORT TEMPLATE FOR
NSF COMMITTEES OF VISITORS (COVs)**

The table below should be completed by program staff.

Date of COV: May 9-10, 2012
Program/Cluster/Section: NCAR and Facilities Section (NFS)
Division: Atmospheric and Geospace Sciences
Directorate: Geosciences
Number of actions reviewed: Awards: 5 Declinations: 1 Other: 5 (UCAR/NCAR reviews, reviews of ongoing programs)
Total number of actions within Program/Cluster/Division during period under review: Awards: 5 Declinations: 1 Other: 5 (UCAR/NCAR reviews, reviews of ongoing programs)
Manner in which reviewed actions were selected: All actions of the Section were reviewed

INTEGRITY AND EFFICIENCY OF THE PROGRAM'S PROCESSES AND MANAGEMENT

Briefly discuss and provide comments for *each* relevant aspect of the program's review process and management. Comments should be based on a review of proposal actions (awards, declinations, and withdrawals) that were *completed within the past three fiscal years*. Provide comments for *each* program being reviewed and for those questions that are relevant to the program under review. Quantitative information may be required for some questions. Constructive comments noting areas in need of improvement are encouraged.

I. Questions about the quality and effectiveness of the program's use of merit review process. Please answer the following questions about the effectiveness of the merit review process and provide comments or concerns in the space below the question.

QUALITY AND EFFECTIVENESS OF MERIT REVIEW PROCESS	YES, NO, DATA NOT AVAILABLE, or NOT APPLICABLE
<p>1. Are the review methods (for example, panel, ad hoc, site visits) appropriate?</p> <p>Comments: In general the use of review methods is deemed appropriate. The COV compliments the section, in particular, on the rigor and timeliness of the reviews that were conducted for the NCAR Wyoming Supercomputer Center (NWSC). For observing facilities, such as CHILL, the merits of a site visit as part of the proposal review process should be considered.</p>	<p>Yes</p>
<p>2. Are both merit review criteria addressed</p> <p style="padding-left: 20px;">a) In individual reviews?</p> <p style="padding-left: 20px;">b) In panel summaries?</p> <p style="padding-left: 20px;">c) In Program Officer review analyses?</p> <p>Comments:</p>	<p>a) Usually, but not always.</p> <p>b) Usually, but not always.</p> <p>c) Yes</p>

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<p>3. Do the individual reviewers provide substantive comments to explain their assessment of the proposals?</p> <p>Comments:</p>	<p>Yes, where applicable</p>
<p>4. Do the panel summaries provide the rationale for the panel consensus (or reasons consensus was not reached)?</p> <p>Comments:</p>	<p>Yes, where applicable.</p>
<p>5. Does the documentation in the jacket provide the rationale for the award/decline decision?</p> <p>(Note: Documentation in jacket usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), program officer review analysis, and staff diary notes.)</p> <p>Comments: While most jacket documentation is clear, the jacket documentation for the A10 project, including a decline of one relevant proposal, was somewhat confusing. Based upon discussions with the program officer, the COV notes that the A10 proposal began as a response to the mid-size infrastructure competition in 2007-8. This competition included preproposals and invited full proposals, with an ultimate success rate of about 15%. Moreover, the A10 review process was protracted due to issues regarding availability of funds and the need to obtain interagency agreements, and, therefore, the consideration of this proposal extended over the time periods considered by two COVs. The current COV deems this process appropriate.</p>	<p>Yes</p>

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<p>6. Does the documentation to PI provide the rationale for the award/decline decision?</p> <p>(Note: Documentation to PI usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), and, if not otherwise provided in the panel summary, an explanation from the program officer (written or telephoned with diary note in jacket) of the basis for a declination.)</p> <p>Comments:</p>	<p>Yes</p>
<p>7. Additional comments on the quality and effectiveness of the program's use of merit review process:</p> <p>For the NWSC proposal, there is clear documentation of actions the PIs will take in response to concerns raised in reviews. In other cases (CHILL and A10), while we understand from program officers that the PIs were responsive to the reviews, this is not clearly documented.</p>	

II. Questions concerning the selection of reviewers. Please answer the following questions about the selection of reviewers and provide comments or concerns in the space below the question.

SELECTION OF REVIEWERS	YES , NO, DATA NOT AVAILABLE, or NOT APPLICABLE
<p>1. Did the program make use of reviewers having appropriate expertise and/or qualifications?</p> <p>Comments: In general the COV believes the program managers do an excellent job in obtaining reviews from a technically appropriate and diverse pool of reviewers. In the case of SOARS, while reviews were sought from a broad community, the COV notes that the reviews obtained were all from people closely associated with geosciences education and diversity. While the COV believe broader reviewer input for this program would be useful, it appreciates the difficulty of obtaining such input.</p>	Yes
<p>2. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments: While not formally a conflict of interest, the COV notes that a potential future user of an observing facility could have a vested interest in the outcome of the review and recommends that the section be alert to this as a potential source of bias.</p> <p>More generally, the COV feels that the standard NSF jacket documentation does not allow us to address this question fully.</p>	Yes
<p>Additional comments on reviewer selection:</p>	

III. Questions concerning the management of the program under review. Please comment on the following:

MANAGEMENT OF THE PROGRAM UNDER REVIEW

1. Management of the program.

Comments:

Overall, the COV found the Section's management of a complex suite of facilities, programs and a national laboratory to be proactive, forward-looking and effective.

NFS management of NCAR and the observing facilities is greatly enhanced by the effective engagement of science discipline program officers, especially those in the Atmospheric Section (AS). The involvement of these programs is especially important for NCAR's annual planning and budgeting processes. The COV suggests that UNIDATA and SOARS would benefit from similar involvement.

The review of UCAR/NCAR was a key management activity in the period covered by this COV. The COV considers the site-visit format for these reviews appropriate and applauds the Section on its selection of members of the site-visit team (SVT). While the COV agrees that NCAR lab directors should continue to provide responses to SVT reports, we suggest that the NCAR director also provide responses. Given that the NCAR laboratories provide services to the community, the COV suggests that user surveys should be a routine part of NFS reviews of NCAR.

The COV recognizes the unavoidable tension at NCAR between the competing demands of excellent scientific research and service to the community in the provision and maintenance of observing facilities and community models. We believe the review process should explicitly address the balance between these functions, in terms of the national role of NCAR and the morale of NCAR scientists.

The SVT reports on NCAR laboratories provide generally favorable reviews of their activities. In some cases, however, the SVT and the program officer noted potentially serious issues. In such cases, it is not clear to the COV what the follow-up activities have been; these should be considered by our successors. Where such issues arise, as per the comment above, it seems reasonable that the NCAR director should be involved.

2. Responsiveness of the program to emerging research and education opportunities.

Comments: The COV considers community workshops to be useful tools for setting future directions for the suite of observing facilities. Because such workshops often have significant and lasting outcomes, it is important that the attendees represent a broad cross-section of stakeholders. For example, the upcoming (fall 2012) NSF radar-facilities workshop will influence critical decisions regarding the future of NSF radars. It is, therefore, important that the attendees go beyond the direct users of these facilities to include scientists taking diverse approaches, such as modeling and theory, and working in diverse science areas (e.g. climate and hydrology).

3. Program planning and prioritization process (internal and external) that guided the development of the portfolio.

Comments: In regard to NCAR, the COV endorses the processes and procedures laid out in the current cooperative agreement. In regard to observing facilities, the close interaction between NFS and AS, as well as community workshops, in determining future community needs for facilities and developing new technologies appears to be working well.

4. Responsiveness of program to previous COV comments and recommendations.

Comments:

In general, the COV found that the Section was responsive to suggestions and comments from its predecessor. Specifically:

- The NFS heeded the advice of the previous COV to carefully screen reviewers of the supercomputing center for potential biases or vested interests.
- As recommended, education and outreach activities by observing facilities have increased at the encouragement of the Section.

At the same time, the previous COV suggested that observing facility cooperative agreements be regularly competed. While the complexities of conducting such competitions are acknowledged, this COV believes there may be virtue in holding open competitions for meeting some of the community's observational needs. Whether or not such competitions are useful or appropriate must necessarily be decided on a case-by-case basis.

IV. Portfolio Review. Please provide comments on whether the program's portfolio goals are appropriate and whether the program has achieved its goals for portfolio balance and community service.

(Some dimensions of portfolio balance to consider include: balance across disciplines and sub-disciplines, award size and duration, awards to new investigators, geographical distribution of awards, awards to different types of institutions, innovative/potentially transformative projects, projects with elements of risk, inter- and multi-disciplinary projects, projects that integrate research and education, and projects that are relevant to agency mission or national priorities).

As the NFS portfolio comprises NCAR, two other UCAR programs, and a suite of observing facilities, many of the above questions are not applicable. In regard to the geographical distribution of activities, the strength and success of NCAR leads to a natural concentration of atmospheric sciences activity along the Front Range. In recompeting key facilities, NFS should be mindful of community concerns that atmospheric science research resources are over-concentrated in this region.

OTHER TOPICS

1. Please comment on any program areas in need of improvement or gaps (if any) within program areas.
2. Please provide comments as appropriate on the program's performance in meeting program-specific goals and objectives that are not covered by the above questions.
3. Please identify agency-wide issues that should be addressed by NSF to help improve the program's performance.
4. Please provide comments on any other issues the COV feels are relevant.

The COV notes that the DOW sets an apparent precedent, in investing a national facility in a private entity. The COV encourages NFS to give this careful consideration.

Much of the NFS portfolio comprises activities that serve broad user communities. Regularly conducted surveys of these communities could prove valuable for reviewing and managing these facilities and activities.

5. NSF would appreciate your comments on how to improve the COV review process, format and report template.

In closing, the COV appreciates the helpful and forthcoming responses of Steve Nelson, Bernard Grant, Sarah Ruth, and Jim Huning to our many questions. We thank Carolyn Walton for setting up this visit and arranging our travel.

Finally, we note that Jarvis Moyers served as head of this Section from May 2010 to July 2011. This culminated Jarvis' long and distinguished service to atmospheric science and the National Science Foundation. We wish to acknowledge the great courage and commitment he displayed in returning to this important work while battling cancer. The positive outcomes of his leadership are clearly evident to this COV.

SIGNATURE BLOCK:

For the Committee of Visitors to the NCAR Facilities Section
Walt Robinson
Chair