

**CORE QUESTIONS and REPORT TEMPLATE  
for  
FY 2011 NSF COMMITTEE OF VISITOR (COV) REVIEWS**

**Guidance to NSF Staff:** This document includes the FY 2011 set of Core Questions and the COV Report Template for use by NSF staff when preparing and conducting COVs during FY 2011. Specific guidance for NSF staff describing the COV review process is described in Subchapter 300-Committee of Visitors Reviews (NSF Manual 1, Section VIII) that can be obtained at <[www.inside.nsf.gov/od/oia/cov](http://www.inside.nsf.gov/od/oia/cov)>.

NSF relies on the judgment of external experts to maintain high standards of program management, to provide advice for continuous improvement of NSF performance, and to ensure openness to the research and education community served by the Foundation. Committee of Visitor (COV) reviews provide NSF with external expert judgments in two areas: (1) assessments of the quality and integrity of program operations and program-level technical and (2) managerial matters pertaining to proposal decisions.

The program(s) under review may include several sub-activities as well as NSF-wide activities. The directorate or division may instruct the COV to provide answers addressing a cluster or group of programs – a portfolio of activities integrated as a whole – or to provide answers specific to the sub-activities of the program, with the latter requiring more time but providing more detailed information.

The Division or Directorate may choose to add questions relevant to the activities under review. NSF staff should work with the COV members in advance of the meeting to provide them with the report template, organized background materials, and to identify questions/goals that apply to the program(s) under review.

Suggested sources of information for COVs to consider are provided for each item. As indicated, a resource for NSF staff preparing data for COVs is the Enterprise Information System (EIS) –Web COV module, which can be accessed by NSF staff only at <http://budg-eis-01/eisportal/default.aspx>. In addition, NSF staff preparing for the COV should consider other sources of information, as appropriate for the programs under review.

For section IV addressing portfolio balance the program should provide the COV with a statement of the program's portfolio goals and ask specific questions about the program under review. Some suggestions regarding portfolio dimensions are given on the template. These suggestions will not be appropriate for all programs.

**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 2011 REPORT TEMPLATE FOR NSF COMMITTEES OF VISITORS (COVs)

The table below should be completed by program staff.

<b>Date of COV:</b> December 15-16, 2011
<b>Program/Cluster/Section:</b> SBE Office of Multi-Disciplinary Activities
<b>Division:</b> SMA
<b>Directorate:</b> SBE
<b>Number of actions reviewed:</b> 182  <b>Awards:</b> 85  <b>Declinations:</b> 97  <b>Other:</b>
<b>Total number of actions within Program/Cluster/Division during period under review:</b> 429  <b>Awards:</b> 144  <b>Declinations:</b> 285  <b>Other:</b>
<b>Manner in which reviewed actions were selected:</b>  Jackets were sampled via the following format: <ul style="list-style-type: none"> <li>• Using MS Excel, a complete list of proposal actions (awards/declines) were sorted by fiscal year and proposal action. Next, using a random number generator, each section was assigned a number. Then, each section was re-sorted by lowest to highest random number. Lastly, the first 10 proposals from each section were selected to be part of the COV review sample.</li> </ul>

**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.

In this report, the Committee of Visitors (COV) considers all three of the programs under review: the Science of Science and Innovation Policy (SciSIP); the Research Experiences of for Undergraduates (REU); and, the SBE Minority Postdoctoral Research Fellowship (MPRF) program. Responses to the questions are for all three. Where appropriate, observations or recommendations specific to individual programs are made in the comments section.

**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.

<b>QUALITY AND EFFECTIVENESS OF MERIT REVIEW PROCESS</b>	<b>YES, NO, DATA NOT AVAILABLE, or NOT APPLICABLE</b>
<p>1. Are the review methods (for example, panel, ad hoc, site visits) appropriate?</p> <p>Comments:</p> <p>Site visits were not used by any of the programs.</p>	Yes
<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>	Yes

<p>Across categories a), b) and c), criteria were not addressed well, in that they lacked specifics.</p> <p>MPRF In the review analysis document, the criteria were not addressed in most cases. In at least one case, a program panel summary was missing for 2010. Additional merit review criteria required by MPRF were not addressed by the COV.</p>	
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<p>3. Do the individual reviewers provide substantive comments to explain their assessment of the proposals?</p> <p>Comments: About a quarter of reviews provided <i>substantive</i> comments.</p>	<p>No</p>
<p>4. Do the panel summaries provide the rationale for the panel consensus (or reasons consensus was not reached)?</p> <p>Comments: The provision of the rationale is uneven.</p>	<p>Yes</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:</p>	<p>Yes</p>

<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>The COV recommends that more information be provided, especially to applicants with declined proposals. This is especially valuable for researchers trying to improve the quality of their proposals, thus serving the primary mission of the NSF.</p>	<p>Yes</p>
<p>7. Additional comments on the quality and effectiveness of the program's use of merit review process:</p> <p>The COV commends the diversity of academic disciplines and the intellectual strength of panelists in all three programs and the involvement of reviewers with policy experience in the SciSIP program.</p> <p>The COV recommends that reviewers be given training (i.e. a calibration exercise) or, at the very least, information on the grading of proposals. This followed a discussion of the implication of the Good (G) rating of a proposal which may seem a high rating for a reviewer, on a scale of Excellent, Very Good, Good, Fair, but which is seen as mediocre when it comes the decision to award funding. Reviewers could benefit from a simple table of grades and outcomes based on past experience.</p> <p>The COV notes the culture of the NSF which gives Program Officers considerable discretion in making funding decisions and does not recommend changes to this. However, it does recommend that the NSF examine other models ranging from DARPA where program officers can act independently of reviewers to NIH where the review and award process is separated from responsibilities of the Program Officer.</p> <p>The COV received no instruction on how to assess the additional merit criteria required by MPRF 2009 Solicitation, Section VI.A. No comments are provided on these additional criteria.</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:</p> <p>The response is based on the information available, but the COV was of the opinion that more information was required to permit substantive evaluation.</p>	Yes
<p>2. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments:</p> <p>This responses was based on interviews with program officers/.</p>	Yes
<p>Additional comments on reviewer selection:</p> <p>The COV commends the program officers on their efforts to seek reviewers and to broaden the pool while working under tight time constraints.</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:

The COV commends efforts to find panelists by, for example, selecting them in advance of submission, using professional networks, and various electronic search tools.

The COV commends the outreach activities of the program officers in support of the three programs under review, including presentations at conferences and the engagement of relevant interest groups. In the case of SciSIP, outreach activities have included initiating an interagency group dealing with the Science of Science Policy (SOSP), the STAR Metrics program, the SciSIP website, the listserv with over a thousand subscribers, and the SciSIP Newsletter. In addition, there were AAAS workshops to link PIs with policy analysts. This was part of building a community of practice.

The COV also commends the impact of the SciSIP program, noting its prominence in the NSF Strategic Plan for Fiscal Years (FY) 2011-2016, the publications in *Science*, appearances before Congressional Committees, and the influence of SciSIP alumni and their presence on influential committees. Outside of the United States, the program has been duplicated by the government of Japan and has been presented and considered in a number of international forums.

While the programs under review are performing well with very limited resources, the COV is concerned about the vulnerability of the programs, both in respect of changes in leadership and their position within the organization. The impacts of the programs under review reflect the capacities of the program officers. However, they function without a level of support where the knowledge needed to run the programs could be stored. This makes them vulnerable to a change of leadership.

The three programs are present in what appears to be an ad hoc unit, the SBE Office of Multi-Disciplinary Activities (SMA), which does not have the status of an SBE division. The advantage of this is that the program officers have considerable discretion in managing their programs but the disadvantage is that they lack the management structure and support that a division affords.

The recommendation is that management of the SBE Directorate review the place of multi-disciplinary programs in the Directorate and provide them with a core mission, institutional visibility, and support. This would allow the programs reviewed to be linked to a core mission.

More specifically, resources are clearly an issue in the programs under review and the COV recommends that consideration be given to having two submissions a year rather than one to spread the demands on the time of the program officers more evenly. Of course this assumes that they will be dealing with fewer submissions more frequently.

There are issues, which follow, related to broadening participation and capacity building that require consideration and the COV recommends that this be done.

In the present circumstances, the Minority Postdoctoral Research Fellowship cannot restrict applications to members of minorities. It can focus on supporting work related to advancing minorities in the academic system. However, the name of the present program, and its objectives, need reconsideration. As this is not just an NSF issue, an interagency review of minority participation programs could be considered and initiated by the NSF to provide guidance to this process.

Similarly, it is impossible to review the capacity of the REU program as an instrument for broadening participation as participants are not required to report ethnicity. The REU program could be part of a broader review of broadening participation in the SBE Directorate.

While there are programs that support the broadening of participation in the SBE Directorate, there is an issue of how to build the capacity to respond to the solicitations from these programs. This is a question of communication and of providing means to help people not accustomed to responding to NSF solicitations.

The SciSIP program deals with science of the policies of science and innovation and these policies can include the study of framework conditions that influence policy implementation. These include the development of a trained workforce, the wellness of the population, or the provision of infrastructure to support science and innovation. The SciSIP program could consider a solicitation, perhaps in collaboration with the REU and the MPRF programs that could address capacity building, the broadening of participation in science and innovation activities, as well as in the related policy activities, and the advancement of innovation and its policy analysis. A move in this direction would make SciSIP more of an umbrella program for the present activities of the SMA.

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

### Comments:

Research and education opportunities can result from the development of a program or from other sources such as behavioral change in the society.

SciSIP has gradually shifted its emphasis from the science of science policy to more work on the science of innovation policy, while at the same time trying to increase participation by the political science community. This should provide new opportunities for new research and education related to understanding the interaction of society and the implementation of science and innovation policies. At a more opportunistic level, SciSIP has been filling gaps left by organizations outside of NSF that were active in funding work related to science and innovation policy but are no longer so.

As a response mechanism, SciSIP used RAPID and EAGER programs, which were not applicable for use by REU and by MPRF.

The COV recommends use of social media, across all programs, for communicating with the community

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

Comments:

With limited resources, internal program planning and prioritization have been driven by the program officers responding to opportunities, such as ARRA funds, or dealing with declining funding in the case of the REU and MPRF programs. Outside of SMA, the concerns of the SBE Directorate about capacity building, broadening participation and innovation, and the NSF goals to transform the frontiers, to support innovation for society, and to perform as a model organization, have been addressed, where appropriate, under III.1

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

Comments:

Not applicable

**IV. Questions about Portfolio.** Please answer the following about the portfolio of awards made by the program/s under review.

<p align="center"><b>RESULTING PORTFOLIO OF AWARDS</b></p>	<p align="center"><b>APPROPRIATE, NOT APPROPRIATE, OR DATA NOT AVAILABLE</b></p>
<p>1. Please comment on the demographic and disciplinary diversity of the program’s portfolio.</p> <p>Comments:</p> <p>It is important for SciSIP funded programs to address the diversity of data development and evidence that inform public policy, including quantitative and qualitative tools, data and models. The program should strive for more demographic diversity in PIs, consistent with the NSF Strategic Plan. It should continue efforts to strive to strengthen disciplinary diversity, especially in fields such as political science, sociology, anthropology and history.</p> <p>For MPRF funded programs, it is important to address demographic diversity in PIs, and to strengthen disciplinary diversity. In the present state psychology is over represented and males are underrepresented.</p> <p>For REU funded programs, demographic and disciplinary diversity should be improved. At the moment white males are over represented. Among the research topics, the social sciences are over represented. There is evidence of geographic diversity in site location.</p>	
<p>2. Are there any major gaps in the program’s award portfolio?</p> <p>Comments:</p> <p>The COV recommends that international co-operation with developed and developing countries be strengthened.</p> <p>For MPRF, there is a gap in the participation of Hispanic Latinos. A large number of SBE disciplines are not represented in the portfolio, especially political science and economics.</p>	
<p>3. Are there particular strengths in the program’s award portfolio?</p> <p>Comments:</p> <p>The COV supports the NSF policy of providing autonomy to program directors and none of the COV recommendations should be interpreted as an</p>	

invitation to reduce this autonomy.

#### SciSIP

Support for database creation and validation that is later made available to the research community for follow-on research.

Support for projects that facilitate meaningful policy evaluation.

There is an evident strategic focus in the portfolio, driven by a strong program officer.

SciSIP is funding research other agencies are not funding. As a consequence of this funding, there has been a shift in the activities of previously uninvolved academics -- in particular engineers, computer scientists, psychologists, and scholars in business schools -- in policy-oriented research. In time, with this shift in research activities, SciSIP has successfully managed to build a community among these previously disconnected scholars.

SciSIP funded activities have had significant policy impact. Noteworthy examples include high impact publications, Congressional testimony and joint research and influence at many levels of government.

#### MPRF and REU

A strength is the geographical and institutional diversity of PIs.

For MPRF, in 4 out of 17 cases examined, the PIs were persons with disabilities.

## OTHER TOPICS

1. Please comment on any program areas in need of improvement or gaps (if any) within program areas.

Promote cross- institutional collaboration across different types of colleges and universities.

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.

Consider making use of foreign reviewers for the MPRF.

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.

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

The COV recommends that each of the ejackets for the program areas be sampled independently and that the samples represent each of the years in scope and for declines and awards in each of the years. For SciSIP, the sample should represent each of the EMPHASIS areas (DAT, MOD and TLS).

The COV found it very challenging to review three very distinct programs within one report, especially since a single global response was requested for each question. The COV often found the responses were quite different across the programs being evaluated.

The COV felt that the information provided on reviewers was quite inadequate for evaluating the reviewers' appropriateness for the panels. The COV would suggest either providing additional information on reviewers (short bios) or removing the question.

There were issues with many of the tables in the self-study. While the COV appreciates the effort that went into creating these, some improvements are suggested. Tables should be split out for the different programs, rather than putting all three programs in a single table. Totals on a per program basis should be provided (e.g. so that the COV can figure out how many reviewers served on a particular program in one year). It was unclear in some cases whether the categories in the tables were mutually exclusive or not, (e.g., Ph.D. programs vs. research intensive Ph.D. institutions. p. 28, table 15)

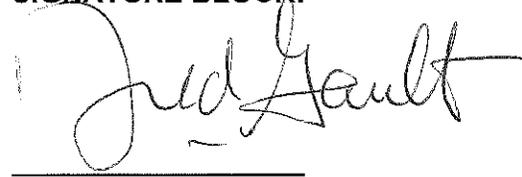
There should be an explanation as to why the number of reviewers is so high for some applications.

It would be helpful to provide written instructions for how to find the minority and handicapped codes for PIs with respect to the question about demographic diversity.

The COV would benefit from a table or map giving information in one place on the international awards (i.e., for the MPRF, which ones had an international component, and where that activity was located).

The timing of the COV should not coincide with critical points in the academic term.

**SIGNATURE BLOCK:**

A handwritten signature in cursive script, appearing to read "Fred Gault", written over a horizontal line.

For the SBE Office of Multi-Disciplinary Activities COV  
Fred Gault  
Chair