



NATIONAL SCIENCE FOUNDATION
Directorate for Engineering
4201 Wilson Boulevard, Room 575
Arlington, Virginia 22230

MEMORANDUM

DATE: December 30, 2010

TO: Dr. Thomas W. Peterson, Assistant Director, ENG

FROM: Dr. Kesh S. Narayanan, Division Director, Innovation and Partnerships

SUBJECT: Response to Recommendations Report of the Committee to Visitors for the Division of Industrial Innovation and Partnerships

Attached please find the Division of Industrial Innovation and Partnerships (IIP) response to recommendation provided in the 2009 Committee of Visitors (COV) report.

IIP's first COV review was conducted April 28-30, 2010. The recommendation report was transmitted to Dr. Steven Castillo, Chair of the Directorate for Engineering Advisory Committee on June 30, 2010 from Thomas Knight and Louis Martin-Vega, the Co-Chairs of the 2010 IIP COV.

The COV report was accepted without additional comment by the Engineering Advisory Committee on October 21, 2010.

The attached response relates recommendations covered under the IIP's proposal actions and active awards during FY 07-09. The Division is pleased with the overall assessment of its performance and progress in meeting the Foundation's goals as well as the goals of related federal programs such as the SBIR/STTR Program.

These responses focus on specific recommendations noted in the COV report. Related recommendations were cited in a number of sections in the COV report template, the recommendations have been summarized into five major areas with the sections of the COV template referenced and the Division response provided for each major area.



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1. Review Process

The COV had the following recommendations concerning the review process.

- (A.1.; p.4, C.3; p. 26, C.3; p. 24) Provide a consistent definition of terms such as “Intellectual Merit”, “Broader Impact”, “Innovation” and “Transformative” in IIP communications.
- (A.2.2; p.7, A.4.4; p. 16) Expand the use of virtual review processes (i.e. video/internet conferencing), conduct panel meetings in other geographic locations, and expand the use of external written reviews for deeper domain knowledge.
- (A.4.1; p.15) Provide more detailed rationale in review analysis for declined proposals that have high panel ratings.

Division Response: As part of the strategic planning process as well as the development of new solicitations, “Dear Colleague” letters and review criteria, IIP is reviewing definitions of common terms to insure consistency across the division.

The division is expanding its use of alternative methods and locations for conducting review panel meetings as appropriate and within our budget constraints. The use of supplemental adhoc written reviews is being utilized to provide deeper domain knowledge for specific proposals as warranted.

The Program Directors have been advised to provide a more detailed explanation of the reason for declining proposal that has high individual reviewer ratings. This is being closely monitored as part of the approval process in the electronic jacket.

2. Reviewer Identification and Selection

The COV had the following recommendations concerning the identification, selection and invitation of reviewers.



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- (A.2.2. p.8; A.2.4; p.9) Expand the processes and tools for identifying, selecting and inviting panel participants.
- (A.4.4;p. 16) Continue to increase the number of reviewers from the commercial sector for all the IIP program reviews.

Division Response: The IIP Division has taken the lead in the development and implementation of the new Panel and Reviewer Information Management (PRIM) process which significantly improved the entire panel and reviewer management process. The PRIM process is currently being adapted by the entire ENG directorate as well other directorates throughout NSF.

IIP continues to proactively expand the portfolio of reviewer candidates with commercialization experience for use on review panels throughout the division.

3. Diversity

The COV had the following recommendations concerning diversity in the total program.

- (A.2.2; p.7, C.1; p. 23-24) Increase the participation of individuals from underrepresented groups (including women) as reviewers in the IIP programs.
- (A.3.11; p.13, C.3; p. 26) Increase the participation of underrepresented groups (including women) as in the program portfolios at all levels including investigators.
- (A.2.2; p.7) NSF should adapt the census categories in order to increase self-reported responses to diversity-related questions.

Division Response: IIP has secured the services of an AAAS fellow, Dr. Malathi Srivatsan, to focus on programs to broaden participation of a diverse distribution of innovators, investigators and reviewers. Encouraging broader participation among researchers, innovators and entrepreneurs is a



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key element of the division's strategic plan. A diversity working group is operational within the division and within the frame work of the plan.

The SBIR program has recently made an award to the American Society for Engineering Education (ASEE) to establish the Small Business Postdoctoral Research Diversity Fellowship Program to attract individuals from the underrepresented community who recently received a Ph.D. to work for small business who have a Phase II award from NSF. The program will encourage recent graduates to engage in hands-on research projects in an innovative small business environment.

IIP will explore the adaptation of the census categories to help capture diversity related information.

4. Program Assessment

The COV had the following recommendation concerning program assessment.

- (B.1; p. 18, C.1; p. 24, C.2; p. 24, C.3; p. 26) Provide better and broader assessment methodologies that quantitatively assess the impact of the awards in the IIP portfolio and the operational effectiveness of the division.

Division Response: IIP is institutionalizing the Division Information Management System (DIMS) throughout all of the divisions programs that interfaces with commercialization outcomes and other data collected historically.

Assessment metrics from DIMS will be used to guide divisional strategy and operational decision.

The division will identify external benchmarks as a reference to determine the performance of the IIP portfolio of programs as well as operational excellence targets.



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5. Program Management

The COV had the following recommendations concerning the management of programs within the division.

- (A.1.7; p.5, C.3; p. 24, C.3; p. 26) Improve the timeliness of the award process by shortening the time from proposal submission to award disbursement.
- (A.4.3; p. 15, A.4.5; p. 16, B.3; p. 20, C.1; p. 23) Provide additional information on the program solicitation generation process including how input is received from the community including industry and how national issues such as the “grand challenges” are considered.
- (B.2; p.19, C.1; p. 22, C.1; p. 23, C.1; p. 24) Broaden the exposure of researchers to the innovation and commercialization process including pre-proposal training for new applicants and commercialization assistance to successful awardees.
- (C.1; p. 24, , C.4; p. 26) To help bridge the “Valley of Death,” stimulate earlier investment and partnering from industry and increase industry funding of university programs.
- (C.1; p. 24, C.4; p. 26) Cross-pollinate best practices of each IIP program by revising the highlight format to reflect consistency, sharing these highlights with other IIP program awardees, and conducting combined conferences that include all of the IIP programs awardees.

Division Response: A working group has been established with CAAR and DGA to develop process improvements to significantly reduce the dwell time from “DD Concur to award in SBIR/STTR Phase II process. Concurrently the processes from receipt of proposals to “DD concur” are also being reevaluated. The findings of these process improvement efforts will be applied to other IIP programs as appropriate.



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The process of program solicitation development is being reviewed and documented to insure input from the community on research issues and potential topics. The focus of the solicitation on national issues such as the “grand challenges” will be considered as a basis to determine the broader impact of awards in addition to commercialization success.

Commercialization assistance programs are available for SBIR/STTR Phase I and Phase II grantees. Additional support mechanisms are being explored including networks of mentors and support services to assist in quality proposal preparation as well as broadened assistance to successful grantees.

Networks of entrepreneurial mentors, potential individual and group investors, as well as potential industrial partners are being pursued to encourage investment in NSF grantees.

The division continues to focus on improvement to the highlight format, the organization of joint program conferences, as well as the interchange of personnel to cross pollinate best practices in the IIP programs.

6. Improving the COV Process

The COV had the following recommendations to improve the COV process

- (C.5; p. 27) Provide information incrementally to the COV member by an expanded use of teleconferencing and the development of a customized IIP template.
- (C.5; p. 27) Provide assessment data bases and more quantitative results in IIP’s response to the previous COV recommendations.
- (C.5; p. 27) Improve the highlight formats with a better definition of “stars” and the inclusion of “super stars” more than 3 years old.



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- (C.5; p. 27) Include some members of the current COV on the next COV for IIP to provide continuity.
- (C.5; p. 27) Provide additional information opportunity for discussion on the vision, mission, and strategy of the IIP division.

Division Response: IIP will expand the use of teleconferencing as well as the customization of the templates for IIP, where possible, in the next COV preparation.

Assessment data will be more widely available for the next COV consideration.

The highlight format and content will be reevaluated with the COV requirements in mind.

To provide continuity a number of current COV members will be considered for the next IIP COV.

More opportunity will be provided to discuss the division's vision, mission and strategy prior to and during the COV meeting.