

EPSCoR Responses to Findings and Recommendations of the 2015 Committee of Visitors Report

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The OIA Committee of Visitors (COV) met June 9-10, 2015, at the National Science Foundation to review the EPSCoR program for the period FY 2012 – FY 2014. This review focused on:

- Integrity and efficiency of the program's processes and management practices, including quality and effectiveness of merit review processes, selection of reviewers, portfolio of awards, and management of the program; and
- Other aspects of the program structure and management, including EPSCoR's responsiveness to recommendations from previous COVs and other external evaluations.

The report prepared by the COV reflects careful examination and insightful evaluation of the program. Dr. Costello Brown served as Chair of the COV and led its detailed analysis of 74 of the 1,174 actions (978 actions associated with the Co-Funding investment mechanism) taken during the period of review, including 45 awards, 28 declinations, and 1 withdrawn proposal. This included a sample of the Research Infrastructure Improvement (RII) actions, all of the Workshop actions, and a representative set of Co-Funding actions.

The Committee of Visitors found no program areas in need of significant improvement or gaps; however, the Committee provided nine specific recommendations (shown in italics below). This document provides the program's action plan developed in response to those recommendations.

COV: Training for *ad hoc*/individual reviewers and continued promotion of broader impacts through EPSCoR activities.

1. *As is the case NSF-wide, there was a wide variation in the comprehensiveness of evaluations provided by individual/ad hoc reviewers. Evaluation of individual proposal*

jackets found that some reviewers wrote brief and uninformative reviews. The COV endorses the improvement made in the EPSCoR review process by the teleconference training of panelists. The COV recommends exploration of a mechanism for extending training to reviewers.

- 2. The role and significance of broader impacts remains a critical issue for NSF. Reviewers should be trained in identifying best practices and panel members should be held accountable for meaningful review of broader impacts in each proposal.*

EPSCoR will continue its efforts to ensure that reviewers fully understand the program's goals and objectives and provide comprehensive written reviews. Since FY 2011, EPSCoR has introduced a reviewer preparation process that begins with dialogue at the time of panelist recruitment, followed by pre-panel webinars, and culminating with a more extensive panel charge. During the review period, EPSCoR continued to employ webinars to prepare panelists prior to the review sessions. The webinars addressed issues such as the RII program's breadth and state-based character, RII merit review in context of the NSF-wide criteria – intellectual merit and broader impacts, and the insidious nature of implicit bias. EPSCoR has the added challenge of ensuring that panelists and reviewers have a sound understanding of the program's goals and scope, since most reviewers are not familiar with the program (unlike many other NSF programs, EPSCoR reviewers do not share a core disciplinary community). EPSCoR contends that better understanding of the program's goals could strengthen the individual written evaluations of the proposals. To complement the training provided as stated above, EPSCoR will consider development of training modules specifically targeted to *ad hoc* reviewers (prior to FY 2014, RII panelists were the only reviewers), ensure that the panel meetings have sufficient time for modifying/finalizing written reviews, and formalize the panel debriefings to obtain feedback from the panelists on what could be done to further improve the process.

- 3. Quantitative data on EPSCoR outcomes including the full range of broader impacts with respect to education and diversity are important for COV evaluation of the EPSCoR program. The COV commends the EPSCoR program for attempting to address this situation by improved collection of data. However, the COV encourages the best possible disaggregation of data and making that data available to future COVs.*

NSF EPSCoR strongly agrees that detailed data, captured in a uniform fashion over time, is essential to assessing the outputs and outcomes of EPSCoR investments, and effective program management overall. In FY 2009, EPSCoR introduced mandatory, standardized data reporting for RII Track-1 awards. In FY 2016, standardized data collection will be extended to the RII Track-2 inter-jurisdictional collaborative projects. For future COVs, EPSCoR will present both the aggregated and disaggregated data. This can be easily presented in the program's information package provided to the committee.

COV: Program Portfolio

- 4. The RII Track-3 solicitation appears promising, and should be continued and assessed in future years. In order to capitalize on the longitudinal opportunities within this program, the budget limitation of RII Track-3 awards should be increased to more than \$750 K.*

EPSCoR introduced the RII Track-3: Building Diverse Communities initiative as a pilot where the jurisdictions serve as a testbed to promote transformative research experiences for groups underrepresented in STEM (underrepresented minorities, women and girls, persons with disabilities, and those in underserved rural regions). RII Track-3 focuses on innovative initiatives that can transform the frontiers in science by recruiting, training, mentoring, and retaining diverse populations for full participation in the nation's research and education enterprise. Projects should lead to promising strategies, models, and/or technologies for broadening participation. Projects are expected to demonstrate novel and effective strategic approaches for inclusiveness in S&E that can be adapted and replicated nationally and deliver sustainable learning activities that complement existing NSF investments in broadening participation.

As initially envisioned, the funding level was deemed appropriate for a 3-5 year pilot with a goal of demonstrating the potential of the strategy/model for larger-scale adaptation/adoption nationally. EPSCoR plans to provide additional funding to implement the successful strategies/models more broadly and has had discussions with other organizations at the Foundation on possible partnerships to achieve this larger-scale implementation. In addition, since the RII Track-3 program was initiated, NSF has launched the INCLUDES initiative (a comprehensive national initiative using a collective impact approach to increase the preparation, participation, advancement, and contributions of those who have been traditionally underserved/underrepresented in STEM fields for broadening participation (FY16 budget request is \$15M)). EPSCoR may have opportunities to leverage INCLUDES networks and alliances to implement national transformative solutions. NSF EPSCoR Program Officers (POs) have incorporated information about INCLUDES into their jurisdictional meeting presentations and have initiated discussions about potential leveraging of INCLUDES with RII Track-3 Principal Investigators. EPSCoR plans to assess the outcomes of the pilot and use that assessment to inform changes to the program, including funding level.

- 5. Workshop and conference awards have covered a number of important topics. We recommend expansion to include more emerging topics, such as Big Data and multi-scale modeling and analysis.*

NSF EPSCoR welcomes unsolicited proposals from EPSCoR jurisdictions for workshops that address major regional or national themes and require multi-jurisdictional collaboration for optimal success. These community-based activities explore opportunities in emerging areas of science and engineering, and provide a venue to share best practices in areas of importance to EPSCoR jurisdictions. Workshop topics are proposed by the community, but

NSF EPSCoR can more strongly encourage the community to take advantage of the workshop mechanism more frequently. NSF EPSCoR will ask that the workshop solicitation be posted on jurisdictions' EPSCoR webpages and that the Project Directors (usually the Principal Investigators for the RII Track-1 projects) disseminate information on the workshop mechanism more broadly across the jurisdictions, encouraging faculty/staff to use it to the largest extent possible. In addition, EPSCoR POs disseminate information on emerging topics and NSF strategic priorities at jurisdictional annual meetings. EPSCoR will investigate the possibility of posting this type of information on the jurisdictional websites and ask that the Project Directors disseminate the information across the jurisdictions as broadly as possible.

COV: The COV Review Documents

6. *The current COV template does not align consistently with the goals and processes of the EPSCoR program. A review of questions, and perhaps the inclusion of program-specific questions, would be helpful to future COVs. One key feature of EPSCoR is the responsiveness to jurisdictional priorities, and the COV template does not capture this facet of the program.*

NSF has developed COV Core Questions and Reporting Templates to assist and guide the committee in its balanced assessment of a program's performance in relation to the integrity and efficiency of proposal review processes and encourages the use of these standard tools. Given EPSCoR's uniqueness in its jurisdiction-wide scope, EPSCoR will coordinate with NSF's COV Liaison on modifications to COV templates to address responsiveness to jurisdictional priorities for the next EPSCoR COV which is planned for FY 2018.

COV: Standing Advisory Committees

7. *It is recommended that EPSCoR establish a standing Advisory Committee, that would provide regular and sustainable advice to the program. An Advisory Committee can be justified on the basis of the uniqueness of the program and the mostly rural states that they serve.*

EPSCoR's parent organization, the Office of Integrative Activities, has an *Ad Hoc* Advisory Committee. Within this context, EPSCoR proposes to convene an advisory panel at regular intervals (perhaps every 2 years) building on the mechanisms used for the *EPSCoR 2020* and *EPSCoR 2030* workshops. In each case, a panel of nationally recognized scientists and engineers (e.g., representatives from OSTP, state and federal government, businesses, academic institutions, and professional societies; both EPSCoR and non-EPSCoR) met at the behest of the NSF to examine EPSCoR and provide recommendations intended to inform programmatic direction and effectiveness. EPSCoR will convene an advisory panel in FY 2017.

COV: Post Award Management

8. *The COV recommends the implementation of formal Site Visits as part of the post award management for RII Track-1 and RII Track-2 projects.*

Currently, NSF EPSCoR conducts two Reverse Site Visits (RSVs) for each RII Track-1 award over the five year duration of the project, assembling an external panel of reviewers for each. The RSV panels provide NSF EPSCoR with expert external advice on the progress of the awards relative to the original proposals and the current strategic plans, which are considered along with the annual reports to NSF and the external evaluation reports. RSV panels often also include NSF POs with appropriate domain expertise. NSF EPSCoR makes recommendations to the project teams based on the RSV panel's advice. The project team provides action plans in response to the recommendations and progress is monitored by NSF EPSCoR through interim and annual project reports. Additionally, informal site visits by the managing PO occur annually, during jurisdictional meetings.

To further strengthen post-award evaluation and assessment, and complement the informal site visits conducted by POs annually, NSF plans to initiate site visits for RII Track-1 projects in FY 2016, subject to AOAM budget provisions within OIA. Thus, projects will undergo one Reverse Site Visit and one Site Visit during the 5-year performance period. NSF will consider initiating Site Visits for the RII Track-2 projects in FY 2017.

COV: Staffing

9. *The ratio of permanent to rotating Program Officers in EPSCoR should be increased to help improve award management continuity during the 5-years of RII Track-1 awards.*

Currently EPSCoR has six POs (two permanent, one temporary federal employee or Fed Temp, and three Intergovernmental Agency Appointees or IPAs). EPSCoR will work with the Head of OIA on options to address this recommendation. Workload and staffing will be reassessed annually.