EPSCoR Responses to Findings and Recommendations of the

2020 Committee of Visitors Report

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The Committee of Visitors (COV) for NSF's Established Program to Stimulate Competitive Research (EPSCoR) met June 4-5, 2020 in a virtual online environment to review NSF EPSCoR for the period spanning FY 2015 to FY 2019. 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. Sian Mooney from Indiana University served as Chair of the COV and led its detailed analysis of 127 of the 1,804 total merit review actions taken by EPSCoR during the study period (including 1,107 actions associated with the Co-Funding investment mechanism). The study sample included 84 award actions, 42 declinations, and 1 withdrawn proposal. This sample included a representative subset of EPSCoR Research Infrastructure Improvement (RII) actions, all of the program's Workshop actions, and a representative subset of its Co-Funding actions.

The COV found no significant programmatic gaps or needs for significant improvement. However, the Committee did provide four specific recommendations for how EPSCoR could further improve its performance. The specific COV recommendations are shown in bold below. This response document details EPSCoR's plan for addressing the COV's recommendations.

1. **Continue the work to enhance reviewer training (particularly with respect to Broader Impacts).**

EPSCoR recognizes that panelists and *ad hoc* reviewers play a critical role in the merit review process and is committed to providing them with the resources necessary to develop thorough proposal reviews that adequately address intellectual merit, broader impacts, and additional solicitation-specific criteria.

To this end, EPSCoR intends to continue to host reviewer webinars for RII Track-1 and Track-2 to provide an in-depth overview of the EPSCoR program and the specific opportunity for which they are reviewing. These webinars also provide important conflict-of-interest information, guidance on avoiding implicit bias, and examples of broader impacts. EPSCoR is also committed to maintaining Program Officer (PO) oversight of proposal reviews and panel summaries. POs routinely read the reviews and panel summaries of all the proposals and address issues as needed, ensuring high quality review analyses that help to justify their funding decisions. EPSCoR also

plans to continue to provide a standard Track-specific reviewer template. This template is designed to help to ensure that broader impacts are addressed in all reviews.

Despite these efforts, we acknowledge that some submitted reviews are less complete in responding to all merit review criteria than is desirable. EPSCoR will continue to enhance reviewer training with regards to broader impacts. Beginning in FY21, EPSCoR plans to begin providing reviewers with examples of complete individual reviews and panel summaries that have strong sections for broader impacts and solicitation-specific criteria. Providing quality examples of proposal reviews and panel summaries will help to emphasize the importance of all merit review criteria. EPSCoR is also planning to create a video for RII Track-4 *ad hoc* reviewers, highlighting expectations and emphasizing the importance of broader impacts.

2. Encourage hosting and conduct of the Future of EPSCoR meeting to be held in 2021.

EPSCoR plans to host a stakeholder engagement meeting, The Future of EPSCoR, in 2021 that will lay the groundwork for programmatic strategic revisioning. This meeting will incorporate feedback from the recently completed EPSCoR contract on defining Academic Research Excellence and Competitiveness (AREC) and will include jurisdictional stakeholders, subject matter experts, and other external interests (such as members of the EPSCoR Interagency Coordinating Committee) who are positioned to provide meaningful input on future directions for the program. EPSCoR is currently developing plans for the event within NSF and intends to announce these plans by the end of 2020. The main Future of EPSCoR event is targeted for Fall of 2021.

3. Encourage continued identification of opportunities and the design, shaping, and implementation of innovative programs that serve the EPSCoR community.

EPSCoR is committed to continuing to identify and implement strategies that will help it achieve its statutory mission to strengthen STEM capacity and capability across EPSCoR jurisdictions. Keeping this mission at the forefront of its future planning, EPSCoR will be selective in shaping and implementing strategies that will have the most impact, particularly with respect to increasing academic research competitiveness.

EPSCoR plans to implement a focused internal strategic planning effort in coordination with the Future of EPSCoR activity to help identify potential impactful programmatic changes with respect to achieving our overall mission. These efforts are meant to be complementary. An expected outcome over this year-long revisioning will be a revised set of strategic priorities and an implementation plan that will leverage our full staffing capacity. EPSCoR will embed evidence-based metrics in the implementation plan that will further help to ensure that the program achieves the objectives identified in its planning.

Over the next three years, EPSCoR will partner with the NSF Office of Integrative Activities (OIA) Evaluation and Assessment Capability (EAC) Section to implement activities designed to answer two Learning Agenda questions that focus on EPSCoR's efforts. The mission of EAC is to provide NSF with the capacity to operate from a basis of evidence in policy decisions. This partnership will enable EPSCoR to further evaluate the impacts of its investments, to effectively make data-driven decisions, and to establish a stronger culture of evidence-based planning and policy-making. To address the Learning Agenda questions, the partnership will leverage prior studies and stakeholder engagements, significant historical data, and the recently completed AREC

Framework to gain greater insights into how EPSCoR funding strategies contribute to increasing academic research competitiveness across jurisdictions.

Just as the EPSCoR program was originally envisioned to be "experimental," we plan to continue to evolve while maintaining programmatic flexibility and implementing targeted strategies for research infrastructure improvement that meet the needs of individual jurisdictions. To this end, EPSCoR will use the AREC framework to identify opportunities for improvement that capitalize on jurisdictions' strengths and diversity.

A key pathway for greater impact and enhancing competitiveness is to increase new collaborations and enhance existing partnerships. Engagement within and between the EPSCoR community and other public/private institutions is one specific strategy that will help to increase jurisdictional engagement in the national research enterprise. For example, a recently funded RII Track-1 project has an integral industry-education partnership, developing innovative educational pathways to train the next generation of data scientists. This integration of the research, education and workforce plans, with partnerships and collaborations to ensure a better trained workforce and to improve employment opportunities, maximizes the resources available to support the advancement of STEM in this jurisdiction. EPSCoR intends to continue encouraging these types of partnerships in alignment with jurisdiction-specific STEM priorities.

4. **We recommend that NSF consider increasing EPSCoR's staffing levels in the context of the significant management demands associated with co-operative agreements and the benefits from increased collaboration across the agency and outreach efforts targeted at technical assistance for underprepared PIs and under-resourced institutions, in addition to increased demand for data analytics.**

EPSCoR's budget, proposal submissions, awards, and oversight requirements have all increased significantly over the last decade. EPSCoR has strived to maintain a highly capable and forward-thinking workforce to adapt to its increasing workload while still providing the highest quality outcomes possible across all its activities. In efforts to manage the workload, and in response to the 2015 COV's recommendation, EPSCoR recently added three FTEs for permanent Program Officers. These recent hires bring the total designated PO staff count to eight (62.5% permanent, 37.5% rotators). EPSCoR is working with OIA senior management to develop a cohesive staffing and retention plan to maintain baseline staffing levels which will help to reduce effort loss and better balance PO workload.

Additionally, EPSCoR plans to work more closely with the Evaluation and Assessment Capability (EAC) section in OIA to address the some of the data analytic projects necessary for continued programmatic evolution. Specifically, plans are in place to leverage the work done on the AREC framework, and to develop a visualization tool that will allow EPSCoR to examine outcome variables. This will, in turn, help to provide guidance for planned strategic activities, such as the Future of EPSCoR event to be held in 2021.