

August 11, 2012

Dr. Wanda E. Ward
Head, Office of Integrative Activities
National Science Foundation
4210 Wilson Blvd
Suite 93507
Arlington, VA 22230

Dear Dr. Ward:

Attached to this communication you will find the Report of the 2012 EPSCoR Committee of Visitors (COV). I would immediately thank the EPSCoR staff for their excellent responsiveness in addressing questions and requests, and providing information and documentation to this COV. I would also like to commend the members of the 2012 EPSCoR COV for their comprehensive and thoughtful review and their diligent pursuit of information critical to a comprehensive review of the EPSCoR program. The EPSCoR staff and the members of the COV diligently and effectively worked together to gather information and thoroughly discuss issues through pre-meeting teleconferences, the meeting at NSF headquarters in Arlington on July 24 and 25, 2012, and a post-meeting teleconference as well as through many e-mail exchanges.

Executive Summary

The most important observation of the 2012 EPSCoR COV is that the EPSCoR Program and the EPSCoR Staff are performing exceptionally well and this COV strongly endorses continuation of current practices. Recommendations presented in the Report and summaries in this letter are minor.

The 2012 EPSCoR COV agrees with the observation of the 2009 EPSCoR COV Report that moving the EPSCoR Program from EHR to OIA has been an important and effective transition, raising the visibility of EPSCoR within the National Science Foundation and promoting interaction of the EPSCoR Program with Directorates and Offices across the Foundation. Indeed, the 2012 COV has observed a very effective cooperation of EPSCoR staff with staffs of various Directorates and Offices, most noticeably involving co-funding activities but also in terms of implementation of workshops and conferences. The EPSCoR Staff and Program have also done a magnificent job of interacting with Stakeholders in the Jurisdictions in terms of both communicating information about solicitations and reviews to principal investigators, and interacting with funded programs to assure that reviewers' concerns are effectively addressed and appropriate progress is made as reflected in follow-on reverse site visit reports. Indeed, the EPSCoR Staff has promoted a high degree of transparency in the review process and in the management of funded programs, contributing to noticeable success in achieving EPSCoR and Foundation goals. The small staff of the EPSCoR

program has been very impressive in so successfully executing the broad range of activities ranging from management of proposal review and funding, to coordination with the staff of other Directorates and Offices, to effectively interacting with the Stakeholders of the Jurisdictions.

The Management and Staff of the EPSCoR program have effectively implemented the recommendations of the 2009 COV Report and of the 2020 Workshop. Proposal review has been handled in a timely and effective manner with a high level of transparency and increasingly improved documentation. This COV has only praise for the performance of the EPSCoR Management and Staff for the effective implementation of peer review and for generating appropriate documentation, which was made available to this COV. Explicitly, the 2012 COV finds no gaps or program areas in need of significant improvement. Overall, the EPSCoR Program is observed to utilize an excellent and diverse group of reviewers representing both EPSCoR and non-EPSCoR institutions. Excellent integration and cooperation with programs across NSF and positive interaction with Stakeholders have been promoted contributing to high quality review of programs seeking co-funding. The EPSCoR program has become increasingly respected in the Foundation.

Research and education activities are well-integrated in EPSCoR programs and both NSF Review Criteria (Intellectual Merit and Broader Impacts) are carefully and effectively addressed and documented.

Response to the 2009 COV and 2020 Workshop

The 2012 COV finds that the EPSCoR Program has effectively addressed all of the recommendations in the previous COV Report, including having a member of the previous COV on the current COV. Dr. Pearson provided important “institutional memory” and continuity to the current COV. The responses of EPSCoR management and staff to the 2009 COV Report, including updates, were very complete and very much appreciated by the current COV. The responses, together with actions taken, clearly demonstrate the strong commitment of the EPSCoR staff to implementing recommendations and to thoughtful improvement of the EPSCoR Program.

Management

The current leadership team is respected and responsive, being well-attuned to NSF and National priorities and sensitive and well-attuned to capacities of the individual Jurisdictions. The Management has placed a high priority on transparency and has done a good job of achieving it. Responsibilities have been delegated appropriately and cooperation with Directorates and Offices across NSF has been promoted. The Management is thoughtful, orderly, and of high caliber. The Management has played an important role in promoting the evolution of the EPSCoR program in many positive ways including enhanced collaboration with non-EPSCoR researchers and educators, improved effectiveness in the utilization of cyberinfrastructure, and better realization of broader impacts and the documentation of broader impacts.

Recommendations

•The 2012 EPSCoR COV recommends that the EPSCoR Management and Staff continue the implementation of the recommendations of COVs past and present, in particular with respect to the improved training of reviewers and future COVs. Webinars and teleconferences are viewed as particularly useful in this respect. This COV also endorses continued appointment of at least one member from previous COVs to future COVs to maintain an “institutional memory” and continuity. The current portfolio of EPSCoR funding mechanisms and performance priorities are endorsed. The COV endorses the continued promotion of broader impact through EPSCoR activities, including workforce development and enhancement of the diversity of the workforce, information dissemination and public policy impact, technology development and transfer, and promotion of improved STEM education as well as promotion of research of high intellectual merit.

•Given the need for cyberinfrastructure to accomplish any research development and enhancements, the RII Track-2 and RII C2 program efforts are important. The COV suggests that EPSCoR consider incorporating the goals of RII C2 into RII Track-1, given the synergy between the two. In addition, the COV encourages continuing the RII Track-2 with an incorporation of collaboration across jurisdictions that is beyond the establishment and use of cyberinfrastructure. The COV endorses the efforts of the EPSCoR program in directing the jurisdictions to seek cyberinfrastructure support from other sources both outside of NSF and inside, across other Directorates and Offices.

•Given the importance of cybertechnology to the EPSCoR Program, the COV recommends increasing the pool of CI reviewers and the increased utilization of CI expertise as reviewers across EPSCoR funding mechanisms. The COV also encourages the participation of more early-career reviewers.

•The COV recommends that the EPSCoR Program encourage project leadership to engage new investigators as part of the team that implements the project. In this manner, early career investigators will gain experience in developing a project of such expense, as well as learn how large programs are managed and implemented.

•The COV recognizes that data collection and subsequent data mining could be an important tool for documenting the critical successes of the EPSCoR program. In that regard, it would be opportune to have an on-line data collection system readily accessible to EPSCoR grantees to facilitate collection and accuracy of data required by NSF EPSCoR and amenable to data mining by the EPSCoR staff. An attractive route to the development of such an on-line data collection system would be the collaboration of several EPSCoR jurisdictions and NSF in the development of a prototype data base. The RII Track-2 could be a mechanism to implement the pilot system.

•The COV feels strongly about broadening participation as a critical National need in STEM professions. This lies at the very heart of generating and maintaining an effective domestic STEM workforce. Any change to the language of the Broader Impacts criterion that diminishes the importance of broadening participation may have a distinctly unwanted effect. The COV strongly encourages the continuation of EPSCoR's efforts focused on broadening participation and maintenance of language in EPSCoR solicitations that emphasize the importance of broadening participation. The COV encourages the development of data bases that permit tracking of progress in broadening participation. The COV also supports the expanded participation of MSIs in EPSCoR programs and projects, including in leadership and full partner roles. The COV recommends that EPSCoR partner with EHR (HRD) and the SBE directorates to identify practices to inform and support senior leadership of PUI (including two-year institutions) and MSI institutions to develop the administrative infrastructure necessary to fully participate in EPSCoR project activities, and build capacity for continued growth.

•Given the magnitude and range of responsibilities that must be executed by EPSCoR, the COV recommends increasing the size of the EPSCoR staff.

Respectfully submitted,

A handwritten signature in blue ink that reads "Larry R. Dalton". The signature is written in a cursive style with a prominent initial "L".

Larry R. Dalton
For the 2012 EPSCoR COV

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

The table below should be completed by program staff.

Date of COV:	July 24-25, 2012								
Program/Cluster/Section:									
Division:	Experimental Program to Stimulate Competitive Research (EPSCoR)								
Directorate:	Office of Integrative Activities								
Number of actions reviewed:	<table> <tr> <td>Research Infrastructure Improvement (RII)#:</td> <td>40*</td> </tr> <tr> <td>Co-Funded Actions (CFA):</td> <td>20*</td> </tr> <tr> <td>Workshops & Conferences (W&C)</td> <td>13*</td> </tr> <tr> <td>Total:</td> <td>73*</td> </tr> </table>	Research Infrastructure Improvement (RII)#:	40*	Co-Funded Actions (CFA):	20*	Workshops & Conferences (W&C)	13*	Total:	73*
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Co-Funded Actions (CFA):	20*								
Workshops & Conferences (W&C)	13*								
Total:	73*								
<p>*Actions reviewed by full COV; additional actions were reviewed by one or more members of the COV #Includes collaborative actions</p>									
Total number of actions within Program/Cluster/Division during period under review:									
Awards:	902 (RII = 123; CF = 768; W&C = 11)								
Declinations:	447 (RII = 37; CF = 408; W&C = 2)								
Other:	13 (includes PI Transfer, Return without Review, and Withdrawn)								
Manner in which reviewed actions were selected:									
<p>Lists of all EPSCoR actions for the RII activities and the W&C investments, as well as a representative sample of randomly selected RII and CF actions, during the FY 2009 – FY 2011 review period were made available to COV members in advance of the meeting.</p> <p>The Chair, on behalf of the Committee, directed the staff to select (40) RII actions and 20 CF actions for the FY 2009-2011 period of review. The RII sample was selected from the award and decline actions only (not including CGIs, supplements, or PI transfers). Though the sample was random, care was taken to ensure a proportional distribution of actions by year, jurisdiction, and project type (e.g. Track-1, Track-2, and C2). The co-funding sample was selected in much the same way. Effort was made to identify a proportional number of both awarded and declined co-funding actions by year, taking care that there was adequate jurisdictional, and NSF Directorate/Office representation.</p> <p>Jackets from the RII and CF samples, as well as all of the W&C actions, were made available to the Committee through e-Jacket. In total, the Committee had immediate electronic access (e-Jacket) to documentation for (73) EPSCoR actions. NOTE: The 73 actions included collaborative awards, thus the COV panel had immediate electronic access to 94 jackets. COV could avail themselves to any additional jackets upon request.</p>									

**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>NOTE: Unless noted otherwise, all responses are relative to the jackets reviewed and data provided by the EPSCoR staff prior to and or during the on-site review. This included the program overview, self-assessments, emails, and the staff responses to questions posed by the committee.</p> <p>Comments:</p> <p>The review methods for all categories of proposals were appropriate and well exercised. The number of reviews received for each proposal was appropriate. The results are fair and equitable for all proposals. <i>Ad hoc</i> reviews were appropriately utilized when special technical expertise was required. The COV recognized the increased number of EPSCoR-owned actions since the 2009 COV and these were primarily enabled by the American Recovery and Reinvestment Act-ARRA funds (referred to as Stimulus funds in this document).</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>	<p>YES</p> <p>YES</p> <p>YES</p> <p>YES</p>

<p>The COV was impressed by the quality of analysis of both review criteria in the panel summaries, individual reviews, and in the review analyses. As noted by the 2009 COV report, the three parts of the review process (individual reviews, panel summaries, and the review analyses) were integrated in a manner that provided significant checks and balances to the review process. The diary notes were well documented and very helpful to the COV. The COV commends the outstanding response by the program to the 2009 recommendation of a systematic approach to document the assessment of the PI responses to reviewer concerns. The review analyses increasingly include more thorough articulation of the staff's assessment of responses to reviewer concerns, clearly connecting information in the response to the specific weaknesses raised by reviewers.</p> <p>It was noted by the COV that even RAPID actions that were co-funded by EPSCoR addressed both merit review criteria.</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>Although the quality of individual reviews varied as expected, the overall quality was high, consistent with the expectations of peer review. The reviewers provided rational and substantive comments that supported their assessments of the proposals. The written reviews were consistent with the individual ratings.</p>	<p>YES</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>The COV was impressed by the excellent quality of the panel summaries, which provided strong syntheses of strengths and weaknesses and appear to capture the substantive dialogue of the panel discussions. The summaries clearly show the panelists' dialog and range of opinions as applicable.</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: The overall quality of the documentation for the RII proposals was excellent. Indeed, the quantity and quality of documents was impressive. As noted by the 2009 COV, the quality and thoroughness of documentation on co-funded proposals (CFAs) was not as extensive in comparison to the RII documentation but fully adequate for analysis and action recommendation. W&C proposal jackets were efficient in the brevity of the documentation, but still of a good quality.</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>For RIs as well as W&Cs, the PIs are generally provided good documentation with rationale on the award/decline decisions. The panel summaries are the main focus for PIs and these are of high quality. As noted by the 2009 COV, this COV encourages the EPSCoR staff to continue their practice of following up to ensure that weaknesses highlighted to the PI are addressed with appropriate corrective action. The volume of awards in 2009 and 2010, reflecting the impact of Stimulus funds, represented a particular challenge across the National Science Foundation. The EPSCoR staff did an outstanding job in responding to the additional workload associated with the Stimulus funding. The EPSCoR staff has done a laudable job of emphasizing to the PIs the importance of responding to comments of reviewers (both merit review and post-award review, e.g., Reverse Site Visit (RSV).</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 felt that the deadlines for proposal submission, reports, and responses to proposal and reverse site visit reviews were very clear, the timelines for processing proposals were met, and the staff was communicative. Stimulus funds clearly impacted the workload of the EPSCoR staff, especially in FY2009, and represented a challenge for review and management; however, the EPSCoR staff has handled this situation very well.</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.

<p>SELECTION OF REVIEWERS</p>	<p>YES , NO, DATA NOT AVAILABLE, or NOT APPLICABLE</p>
<p>1. Did the program make use of reviewers having appropriate expertise and/or qualifications?</p> <p>Comments:</p> <p>The Panelist Selection Process is adequately providing the appropriate expertise for proposals to be substantively reviewed. The EPSCoR staff is encouraged to increase the pool of Computing Infrastructure reviewers for the panels. Many panels did not include a CI reviewer, and CI is very critical for research infrastructure. In addition, the list of CI panelists in the pool of potential reviewers was somewhat shallow. The COV felt that good use was made of ad hoc reviewers in technical specialties. The EPSCoR staff is sensitive to the need for diversity (disciplines, institutions, racial/ethnic, position, etc.), in the pool of reviewers including early career investigators. The COV encourages maintenance and continuing improvement of this practice.</p>	<p>YES</p>
<p>2. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments:</p> <p>The process of recognizing, resolving and documenting conflicts of interest is sound.</p>	<p>YES</p>
<p>Additional comments on reviewer selection:</p> <p>The COV noted the demographics of the panelist for FY09-FY11 to range from 18% to 31% for underrepresented minorities and 33% to 45% for females. EPSCoR staff efforts on demographic criteria are producing commendable results.</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 EPSCoR Director and Program Staff do an excellent job of managing the program including responding to increases in workload associated with 2009 Stimulus Funding. As evidenced by staff profiles, a talented and respected staff has been maintained over the period of this COV review. Responsibilities have been delegated appropriately and effectively executed. The quality of the personnel and program management is visible in all the documentation, from the solicitation to the diary notes associated with post-award management. This COV agrees with the 2009 COV that moving the program from the EHR Directorate to OIA was appropriate and has encouraged interaction of this program with Directorates across the Foundation. The move has increased the visibility and clout of the EPSCoR program. EPSCoR management has been proactive in stimulating broader impact of EPSCoR researchers, educators, and administrators with counterparts in non-EPSCoR states and with State and Federal agencies. The management and staff have appropriately emphasized the development of critical infrastructure including cyber technology. Broader impacts have been appropriately emphasized and this COV strongly encourages such emphasis. The management has implemented a transparent process to address panelists' concerns prior to funding and the small staff has done an excellent job of outreach. This COV recognizes the complexity of the EPSCoR program, which requires coordination across NSF and extensive interaction of EPSCoR staff with stakeholders. The COV applauds the improvement of the technical diversity of the EPSCoR staff. However, given the magnitude and range of responsibilities that must be executed by EPSCoR, the COV recommends increasing the size of the EPSCoR staff.

The level of co-funding appears to have increased and covers a broader array of programs, indicating an increased level of cooperation between EPSCoR staff and staff in other programs, working towards meeting a common goal of developing research and education capacity at the EPSCoR jurisdictions. In addition, co-funding efforts are strong and leverage EPSCoR funding in significant ways, particularly in support of individual investigators and collaborative teams in EPSCoR jurisdictions. Co-funding also strengthens the broader impacts of EPSCoR investments.

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

Comments:

EPSCoR management is aware of and sensitive to the emerging research and education opportunities in each jurisdiction and is thus able to assist the process by bringing this information to the forefront as recommendations by panelists are analyzed. Program officers are aware of area (geographical) specific opportunities and factors that are sometimes not clear to panelists and they effectively incorporate this additional information to support funding as appropriate. It is clear from

the EPSCoR self-assessment document that the management and staff are sensitive to jurisdictional and NSF priorities. RII funding shows excellent integrated research and education efforts at the frontiers of science that have regional and national impact. The management's deep understanding of the jurisdictions is reflected on assessments of activities and outcomes that align well with the jurisdictions' unique opportunities for development.

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

Comments: EPSCoR has continued to implement recommendations from the EPSCoR 2020 workshop. The program, located within the Office of Integrative Activities, Office of the NSF Director, affords EPSCoR management the opportunity to align planning and priorities with the NSF and national priorities.

The COV commends the program for working collaboratively with the EPSCoR community, and participating in the planning and delivery of activities that foster increased communication and joint planning. Through activities such as the EPSCoR 2020 workshop, the program and the EPSCoR jurisdictions have jointly identified actions to apply findings and recommendations of reports by the National Science Board and the National Science Foundation, among others, to the EPSCoR mission.

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

Comments:

Suggestions from the previous COV, including the appointment of a member of the previous COV to the present one, have been sufficiently addressed in the 2010 response and the 2012 updated response. Indeed, suggestions regarding more thorough preparation of reviewers have commenced and will be implemented through the introduction of webinars in the next fiscal year. It is recommended that at least one member of the COV be appointed to next COV. The presence of such an individual provides critical "institutional memory" and, therefore, some continuity. The COV noted an increased emphasis on documentation by EPSCoR staff for funding of projects at the funding borderline, as recommended by the previous COV. Panelists should be pleased with the level of evidence provided by the staff to substantiate why funding (or declination) was appropriate.

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

<p align="center">RESULTING PORTFOLIO OF AWARDS</p>	<p align="center">APPROPRIATE, NOT APPROPRIATE, OR DATA NOT AVAILABLE</p>
<p>1. Does the program portfolio have an appropriate balance of awards across disciplines and sub disciplines of the activity?</p> <p>Comments:</p> <p>RII awards are well-aligned with the science and technology roadmaps of the jurisdictions and there is an appropriate balance of awards across disciplines and sub-disciplines.</p> <p>EPSCoR co-funded proposals from each Directorate and Office in NSF and there is a commendable distribution of activity across the Directorates or Offices.</p>	<p align="center">APPROPRIATE</p>
<p>2. Are awards appropriate in size and duration for the scope of the projects?</p> <p>Comments:</p> <p>The awards are appropriate in size and scope for the projects supported. The program also considered the current economic situation to adjust the cost-sharing requirement (from 50% to 20% of funds requested from NSF and only for RII Track-1 projects). Based on recommendations from the EPSCoR community and the EPSCoR 2020 Workshop, funding levels for Track-1 increased by 25% to a maximum of 5 years. This affords an opportunity for a project to be funded at a \$20M level over 5 years, allowing innovative and substantive work to take place.</p>	<p align="center">APPROPRIATE</p>
<p>3. Does the program portfolio include awards for projects that are innovative or potentially transformative?</p> <p>Comments:</p> <p>The COV recognizes that transformative projects are defined within a geographical area and it is clear that the EPSCoR staff strives to fund research that has the potential to be transformative in a jurisdiction. Solicitations now allow for budgeting of funds to seed emerging and potentially transformative initiatives.</p>	<p align="center">APPROPRIATE</p>
<p>4. Does the program portfolio include inter- and multi- disciplinary projects?</p>	<p align="center">APPROPRIATE</p>

<p>Comments:</p> <p>By definition, all of the RII projects of the EPSCoR program are inter- and multi-disciplinary. W&Cs also support multi-disciplinary activities. The COV commends this aspect of the EPSCoR program.</p>	
<p>5. Does the program portfolio have an appropriate geographical distribution of Principal Investigators?</p> <p>Comments:</p> <p>Principal Investigators from all participating 29 EPSCoR jurisdictions are supported through the RII activity. Additionally, all 29 jurisdictions received co-funding in FY 2010 and FY 2011.</p>	<p>APPROPRIATE</p>
<p>6. Does the program portfolio have an appropriate balance of awards to different types of institutions?</p> <p>Comments:</p> <p>The involvement of various institutions in new RII Track-1 awards is commendable. Also, the structure of RII Track-2s and RII C2s enable multi-institutional participation in EPSCoR, especially C2 projects that emphasized participation of minority serving institutions (MSIs) and community colleges. In the documentation provided to the COV, all MSIs are included in the tracking of institutional involvement.</p>	<p>APPROPRIATE</p>
<p>7. Does the program portfolio have an appropriate balance of awards to new investigators?</p> <p>NOTE: A new investigator is an investigator who has not been a PI on a previously funded NSF grant.</p> <p>Comments:</p> <p>Due to the complex, multi-faceted nature and scope of the EPSCoR RII programs seeking to increase academic research of institutions within the jurisdiction, senior investigators are usually identified by the state committees as PIs. However, the EPSCoR program continually looks for ways to support new investigators and this is done through co-funding of projects such as CAREER from various directorates. During the reporting period, 24% of the co-funding budget was invested in CAREER awards, which are restricted to new investigators. New investigators also benefit from the EPSCoR outreach</p>	<p>APPROPRIATE</p>

<p>investments. The COV recommends that the EPSCoR program encourage project leadership to engage new investigators as part of the team that implements the project. In this manner, early career investigators will gain experience in developing a project of such expanse, as well as learn how large programs are managed and implemented.</p>	
<p>8. Does the program portfolio include projects that integrate research and education?</p> <p>Comments:</p> <p>The COV noted that besides engaging graduate and undergraduate students in the research, Workforce Development and External Engagement activities are well integrated in the RII Track-1 projects. Workforce Development activities include new faculty hires in the strategic areas of research and education at Universities, 2- and 4-year colleges across the jurisdiction; students at all levels (graduate, undergraduate, and secondary school) and K-12 teachers are engaged in research. External Engagement activities include extensive outreach to K-12 schools and members of the general public.</p>	<p>APPROPRIATE</p>
<p>9. Does the program portfolio have appropriate participation of underrepresented groups?</p> <p>Comments:</p> <p>The EPSCoR does a commendable job of encouraging projects to include and implement activities engaging students and faculty from underrepresented groups. The percentage of minority students involved from K-12 institutions is close to 40%, which is outstanding.</p>	<p>APPROPRIATE</p>
<p>10. Is the program relevant to national priorities, agency mission, relevant fields and other constituent needs? Include citations of relevant external reports.</p> <p>Comments:</p> <p>In accordance with the NSF mission to “strengthen science and engineering research potential and education at all levels throughout the United States; and avoid undue concentration of such research and education, respectively,” EPSCoR strives to build research infrastructure to increase competitiveness in under-funded jurisdictions. There is a plethora of information available to support and validate the ongoing efforts of the NSF EPSCoR program. For example, in its Strategic Plan FY 2011-2016, NSF commits to include in its portfolio a “subset of research projects that hold unusual potential for transformative outcomes” by emphasizing interdisciplinary and system-oriented approaches that often lead to transformational concepts, among other activities (page 7). By providing a framework for a variety of stakeholders, within and across jurisdictions, to jointly seek to advance scientific research, promote innovation, and benefit</p>	<p>APPROPRIATE</p>

<p>society, the EPSCoR program uniquely facilitates innovative and transformative projects of broad impact. The increased funding level and time span of Track-1 projects better position jurisdictions to venture into more complex and challenging initiatives which are needed to tackle substantive, innovative and transformative research. EPSCoR mission and recent program changes clearly align with national needs and NSF strategic planning to meet them.</p>	
<p>11. Additional comments on the quality of the projects or the balance of the portfolio:</p> <p>The COV is impressed by the variety of projects effectively managed by the EPSCoR program, in full alignment with its mission and strategic goals. During the period under review, the goals of the program were pursued through the funding of 900 grants and post-award management of EPSCoR-owned projects for planning, research and infrastructure development (including the key issue of cyber support), and workshop and conferences. The co-funding process required the processing of 1,350 applications. The array of projects, large and small, addresses issues of workforce development at every level, with integration of research and education appearing throughout. Analysis of the portfolio reveals that the projects individually and as a group contribute to EPSCoR's mandate to promote scientific progress nationwide. It also shows the effectiveness of the framework that EPSCoR has built to support the development of regional research infrastructure with lasting effects. The program staff is to be commended for effectively administering such a complex charge. The workload argues for an increase in EPSCoR staffing.</p>	

OTHER TOPICS

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

The COV does not see any major gaps within the program but recognizes that data mining could be an important tool for documenting the critical successes of the EPSCoR program. In that regard, it would be opportune to have an on-line data collection system readily accessible to EPSCoR grantees to facilitate collection and accuracy of data required by NSF EPSCoR and amenable to data mining by the EPSCoR staff. An attractive route to the development of such an on-line data collection system would be the collaboration of several EPSCoR jurisdictions and NSF in the development of a prototype data base. The RII Track-2 could be a mechanism to implement the pilot system.

External evaluation is an important component of EPSCoR and the COV endorses EPSCoR's concept of bringing together external evaluators to share experiences and promising practices. This process may also be of benefit in developing the highly useable data base for the EPSCoR program and the jurisdictions as noted above.

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.

EPSCoR extends across all topical areas of science supported by NSF and deals with helping jurisdictions that are not receiving a defined level of NSF funding to achieve scientific competitiveness on the National and global scene. The breadth of the program and the expected outcomes, including the need to coordinate with jurisdictional governments are indeed challenging for both NSF and participants but EPSCoR staff has made significant improvements in the management of the program as noted by the previous COV and by this COV. The EPSCoR staff is to be commended for the role that they have had in making progress toward the grand challenge goals of the EPSCoR program. OIA is clearly the appropriate home for this program. EPSCoR is making excellent progress in achieving its objectives. Emphasis on improving workforce diversity should be continued and the improved documentation of outcomes is important.

3. Please identify agency-wide issues that should be addressed by NSF to help improve the program's performance.

The following issues merit Agency-wide attention: broadening participation to promote a vital scientific workforce, promotion of entrepreneurship (e.g., I-Corp), capacity building in minority serving institutions, leadership development in STEM fields, and encouragement of risk taking (promotion of transformative research). The COV encourages Agency-wide cooperation on these critical issues. EPSCoR can play an important role with respect to the integration of Agency-wide activities through leveraging EPSCoR's experience working effectively with Directorates and Offices across NSF.

4. Please provide comments on any other issues the COV feels are relevant.

The COV endorses plans for incorporation of education and social science research as components of RII proposals in order to begin to influence the culture of these activities with a view towards the broader impacts of science research conducted in the jurisdictions. The COV is impressed by the

excellent outcomes of the workshops and conferences, which clearly have short-term impacts. We applaud the efforts of the EPSCoR staff working with the jurisdictions to follow up on workshop activities, thereby promoting sustainability.

In addition, the COV encourages EPSCoR staff to continue the inclusion of early career STEM professionals as reviewers in all program areas. The COV also encourages the expanded utilization of young faculty in EPSCoR projects to better prepare future leaders.

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

The COV strongly endorses the use of webinars to prepare future COVs for completion of their reports. A more thorough explanation of how the jackets are constructed will facilitate the COV review process. In addition to introduction to the logistics of the review process, it would be helpful to explain to COVs how the reports will be utilized. Lead time to review documents prior to the actual meeting is very helpful and allows for some program feedback and clarifications. The COV panel found discussions through a series of telephone conferences prior to the on-site meeting very helpful in the preparation of the draft report and permitted the committee to spend more time in carefully discussing the comments before a final draft is completed.

ADDITIONAL TOPICS SPECIFIC TO EPSCOR

Please provide feedback and recommendations on the following topics:

1. The reviewer selection process.

The reviewer selection process is appropriate and effectively implemented by the EPSCoR staff, which has made a determined and systematic effort to ensure inclusiveness with appropriate numbers of individuals from traditionally under-represented groups. Although some early career researchers serve as reviewers, the COV would like to see more early-career reviewers. Reviewers with appropriate technical expertise have been identified and selected. The COV encourages continuation of this process with additional caveat of including more cyberinfrastructure specialists in the pool of panelists.

2. The efficacy of the RII Track-2 and C2 programs.

Given the need for cyberinfrastructure to accomplish any research development and enhancements, the RII Track-2 and RII C2 program efforts are important. The COV suggests that EPSCoR consider incorporating the goals of RII C2 into RII Track-1, given the synergy between the two. In addition, the COV encourages continuing the RII Track-2 with an incorporation of collaboration across jurisdictions that is beyond the establishment and use of cyberinfrastructure. The COV endorses the efforts of the EPSCoR program in directing the jurisdictions to seek cyberinfrastructure support from other sources both inside and outside of NSF across other Directorates and Offices.

3. RII Track-1 annual reporting template data – Is the scope, depth, and breadth appropriate in terms of trying to assess the outcomes and impacts of RII? (See templates on [COV website](#))

The annual reporting template provides excellent and useful updates on both review criteria, as well as additional criteria unique to the EPSCoR program, provides data on the measurable outputs of the projects, and aids in the assessment of proper fiscal management. The COV strongly encourages the development of an on-line data base system amenable to data mining.

4. Ways to strengthen broadening participation in light of the revised implementation strategy in the broader impacts merit review criterion.

The COV feels strongly about broadening participation as a critical National need in STEM professions. This lies at the very heart of generating and maintaining an effective domestic STEM workforce. Any change to the language of the Broader Impacts criterion that diminishes the importance of broadening participation may have a distinctly unwanted effect. The COV strongly encourages the continuation of EPSCoR's efforts focused on broadening participation and maintenance of language in EPSCoR solicitations that emphasize the importance of broadening participation. The COV encourages the development of data bases that permit tracking of progress in broadening participation. The COV also supports the expanded participation of MSIs in EPSCoR programs and projects, including in leadership and full partner roles. The COV recommends that EPSCoR partner with EHR (HRD) and the SBE directorates to identify practices to inform and support senior leadership of PUI (including two year institutions) and MSI institutions to develop the administrative infrastructure necessary to fully participate in EPSCoR project activities, and build capacity for continued growth.

5. Approaches to improve coordination with other NSF Directorates and Offices, as appropriate.

EPSCoR has done an exemplary job of coordination with other NSF Directorates and Offices. The EPSCoR staff have been proactive in acquainting other Directorates and Offices with opportunities for co-funding and have participated effectively in the review and oversight of co-funded proposals. Good documentation of this effort is provided in the jackets. The COV suggests that this level of coordination be continued and expanded upon across the Foundation.

SIGNATURE BLOCK:



For the 2012 EPSCoR COV
Larry R. Dalton
Chair