Research Infrastructure Improvement (RII) Track-1 Awards
ANNUAL and FINAL REPORT GUIDELINES
DATE

As of DATE, annual and final reports on NSF EPSCoR RII Track-1 awards will be expected to conform to the following revised guidelines. The major change from the previous guidelines is that, apart from the "Products" and "Participants/Organizations" sections of the report, you will no longer use the format required by the Research Performance Progress Report (RPPR) system. This change has been made because the RPPR reporting format has not proven appropriate for large, multi-institutional projects such as RII Track-1. Future updates to the Report Guidelines will be based on the observations of NSF EPSCoR Program Officers (POs) and feedback from the NSF EPSCoR community, and will be intended to improve the clarity of the reporting expectations and to comply with legislation regulating NSF.

A) Annual and Final Report deadlines

A.1. Annual progress reports are due at NSF 90 days before the anniversary date of the award. The reports must be approved by the managing PO within the 90-day window prior to the award's anniversary date. Reports take approximately five weeks on average to process and approve, and often take longer if revisions are required by NSF EPSCoR. If the report is not approved by the anniversary date, it will be classified as overdue. Final reports should be submitted to NSF no later than 90 days after the expiration date of the award. Overdue reports will delay all pending NSF actions with which the Principal Investigator (PI) and Co-PIs are associated as PIs or Co-PIs.

B) Preparing and submitting your report

B.1. The "Products" and "Participants/Organizations" sections of your report will continue to be entered on the research.gov website using RPPR formats (see http://www.nsf.gov/bfa/dias/policy/rppr/).

B.2. A narrative report should be submitted as a single pdf-format file. NSF EPSCoR stresses that the primary purpose of this document is to provide a clear, specific, and succinct summary of the progress achieved during the current reporting period and the current status of the project with respect to its overall goals and objectives. This information will be used by the managing PO to evaluate all aspects of the project's implementation and make a recommendation on continued funding, based on a comparison between what was planned to be done in the project year (as detailed in the proposal and current, approved strategic plan) with what was actually accomplished. The report should refrain from lengthy justification of the project's value and importance, as well as from general statements that are unsupported by specific information or evidence. The report must be a coherent and carefully edited narrative, rather than an amalgamated "copy and paste" document. Specific and detailed descriptions of results should be included, but the use of jargon should be avoided as much as possible, and

the language in general should be comprehensible to scientists and engineers from outside the specialized discipline under study. Use of bulleted and numbered lists should be minimal. Whenever available and appropriate, quantitative data should be included. If the report is not clear and comprehensive, it **will be** returned for revisions, delaying approval.

The report must contain the following sections, corresponding to the NSF solicitation under which the award was made.

Heading Information
Identify the award number and title, awardee institution, PI, award start date, report submission date, and reporting period dates.

Overview (recommended length: ≤ 2 pages)
In this section, state the vision, mission, and goals of the project, including a discussion of how these fit within the context of the disciplinary field(s) at large. Identify the major participating institutions and their specific roles. Provide a brief summary of key accomplishments achieved during the reporting period, addressing the NSF criteria of intellectual merit and broader impacts. Briefly describe any significant problems, novel opportunities, and/or changes in strategy during the reporting period. Further details will be provided in subsequent sections.

Research and Education Program (recommended length: ≤ 20 pages)
Organized by the major goals or thrust areas of the project, as put forth in the original proposal and approved strategic plan, describe the major accomplishments and research findings during the current reporting period. Discuss the significance of these accomplishments and findings in the context of the disciplinary field(s) involved, how the results influence future directions for the current project and, when appropriate, how they suggest potential directions for future projects. Describe problems, unexpected results, and novel opportunities encountered and your response to them. The narrative should be based on the specific research goals and objectives and refer to the included progress tables (see below) consistent with the strategic plan. Objectives, milestones, and outcomes should be mentioned and it should be clearly stated whether the project is ahead of, on, or behind schedule for each. In cases where the project is behind schedule, the reason(s) for the delay and plans to get back on schedule should be discussed.

Emphasize especially significant, potentially transformative results. Report on how research and education have been integrated through the project, including quantitative information on the involvement of students, post-docs, and junior faculty in each research thrust, as well as outreach and dissemination efforts to make the results more widely known. Refrain from re-descriptions of the end objectives and focus on specific accomplishments and findings. Identify the principal researchers and institutions responsible for each major accomplishment, as well as significant collaborations within and between institutions. A reasonable number of figures may be included in this section, as needed to assist in reporting.

Solicitation-Specific Project Elements (recommended length: ≤ 10 pages)
Describe your progress and achievements with respect to each of the additional project elements identified in the solicitation under which your award was made, such as Workforce Development, Diversity, Partnerships and Collaborations, etc. As with the Research and Education section above, provide quantitative information when available and appropriate, describe problems and opportunities encountered and your response, and summarize products. Refrain from re-descriptions of the end objectives and focus on specific accomplishments. Identify the principal individuals and institutions responsible for each major activity/accomplishment, as well as significant collaborations. A reasonable number of figures may be included in this section, as needed to assist in reporting.

Tabular/Graphic representation of progress to date (length as needed)
Include table(s) showing progress to date relative to **ALL** the goals and objectives of the project as stated in the strategic plan. The table(s) should indicate milestones and specific outcomes and include an easily interpretable representation (e.g. a green/yellow/red "stoplight" color scheme, or other preferred format) of whether items have been accomplished, are on schedule, or are behind schedule. The tabular representations should be referenced in the aforementioned narratives and be fully consistent with the strategic plan. It may be most convenient to use the same tabular format found in the strategic plan.

Special Conditions (length will vary, depending on number and complexity of conditions)
Report with specific information on any outstanding actions taken or planned during the current reporting period in response to Jurisdiction-Specific Terms and Conditions placed on the project at the time of the award, recommendations made through the Reverse Site Visit or Site Visit process, and any other actions required by NSF EPSCoR. Your external evaluation report and response should be separately provided (C.2, below).

C) Other materials required under separate email to your NSF EPSCoR managing PO

There are several additional pieces of information that NSF EPSCoR requires before your reporting is considered complete. The following materials are NOT submitted through the Research.gov system but as email attachments to the managing PO.

C.1. Tables A through H (supplied as an Excel file)
Tables A through H should be emailed the same day you submit your report on research.gov. Guidelines for completing each Table (in Excel format) are included below and in footnotes in the Table templates, provided as a separate Excel file.

C.1.a Table A – Salary Support
Complete the Salary Support Table A for project participants at the faculty level and equivalent who are entered in Research.gov. In Table A, indicate the time (in person

months) they expended on the RII project as well as their salary support from the RII Track-1 project ONLY. This table identifies RII Track-1 salary support both directly to faculty and faculty-level participants (left side of the table), and to member(s) of their groups (right hand side of the table).

C.1.b Table B – Participants
Using the Participants Table B, provide the total number and demographics of participants in the activities funded by this award, including faculty, staff, students, and members of external advisory boards. An RII participant is an individual in the RII jurisdiction who is actively involved in the project, whether or not they receive funding. All project members who receive funding are by definition participants, although not all participants are funded. The data should be reported for each participating institution as shown in the table, and also reported in aggregate for the project.

Please note that the definition of "Participant" used in Participants Table B is more inclusive than that used in the RPPR. When completing the RPPR section on Participants, use the RPPR definition of participant (one who has worked one person-month or more for the project reporting period). In Participants Table B, include individuals who have worked one person month or more during the reporting period, and also those that worked for less than one person-month; for example, a person who planned and led a two-day workshop on a topic related to the RII Track-1 research.

C.1.c Table C – Collaborations
Use the Collaborations Table C to supply current data on collaborations, including the number of organizations and number of individuals from the organizations.

C.1.d Table D – External Engagement
Use the External Engagement Table D to indicate the numbers of different demographic groups that participated in outreach activities.

C.1.e Table E – Outputs
Provide quantitative data on new hires recruited and retained, publications, patents, proposal submissions, award success rates, and number of students and postdocs involved in research using the Outputs Table E.

C.1.f Tables F, G and H – Expenditures, Cost Sharing and Leveraged Support
Use Tables F, G, and H to report details of the expenditures. Please note that these Tables should include completed expenditures and obligations projected to the end of the reporting period. Comments may be made on these Tables and in the discussion of unobligated funds in the report.

C.2 Evaluation and Assessment (supplied as a pdf-format file)
Send to the managing PO any evaluation report (and your detailed response to the report) produced during the reporting period. This may be done by email at any time during the project year.

C.4 Highlights (mix of file formats are required and specified below)
Please send required highlights as attachments to an email to the managing PO on the same day that your report is submitted. A highlight is a crisp, one-page summary with an interesting and informative image highlighting the NSF-funded work. Include a title, a list of authors with affiliation(s), an appropriate color image (avoid graphs), and an acknowledgement of support with award number(s) for each highlight. Also provide an e-mail address of the person who provided the image. NSF EPSCoR plans to use these highlights to illustrate the work that it supports. The highlights might be used in NSF documents and presentations or posted on NSF web pages. The text and graphics should capture the essence of the activity you wish to highlight. The graphics are particularly important and can include images or photographs. The text and graphics should be at the level of a press release, explaining briefly and in non-technical language what has been accomplished and why it is significant. Please see the description from the NSF Office of Legislative and Public Affairs (OLPA), at the end of this document, for additional information.

EPSCoR highlights may be made available to the public through NSF media outlets. By sending a highlight, you grant NSF the right to reproduce and disseminate the images for various possible uses, and the completed NSF form 1515 is required. If there are plans to patent the work presented, it is the responsibility of participant to consult with the appropriate institutional resource to ensure that sending NSF the requested material does not jeopardize the intellectual property rights. Observe the following guidelines:

- Provide one or two science highlights
- Provide one or two education-related highlights
- Provide one to two other highlights on activities you would like to emphasize

Send **all** highlights in MS Word format to the managing EPSCoR PO. For each highlight, the highest resolution graphic available should be provided, both within the MS Word files, **and** as a separate file in jpg or gif format. Be sure to send NSF form 1515, granting NSF permission to use the images. **The annual report will not be approved until the highlights are received at NSF**

Definitions and Examples Related to the RII Track-1 Project

Collaborator An RII collaborator is an individual affiliated with the RII program that does not meet the involvement level of a RII participant.

> **External Collaborator** An external collaborator refers to a member of an institution or organization outside of the jurisdiction that is involved with RII project activities and events but that has no contractual relationship.

Education, or more specifically, science, technology, engineering and math (STEM) education, includes those activities performed by the RII project faculty, staff, and students with the objective of increasing the knowledge and understanding of science and engineering among students or other audiences.

Educational Activities may be directed toward various audiences, including kindergarten, elementary, secondary, undergraduate, graduate, or postdoctoral students as well as the general public. These populations, in turn, may be interested in scientific career preparation, general knowledge of scientific principles, or more general educational objectives.

Educational activities oriented toward graduate and undergraduate education can take many different forms. Graduate education activities may include new required or elective graduate courses, new graduate degree programs, mentoring programs, or graduate student internships in industrial, Federal, foreign or other collaborating laboratories. Undergraduate education may include new required or elective major undergraduate courses, new general education courses for non-majors, new undergraduate degree programs, NSF Research Experiences for Undergraduates programs, or mentoring programs. General educational activities may include science fairs, collaborations with teachers, museum exhibits, Web pages, development of text books, software, and science kits, as well as special programs for underrepresented groups or the general public.

Human Resource Development Various activities within an RII project can enhance or further develop human resources at the technician, college student, graduate student, and/or professional levels. Examples include recruitment for training in technical careers, recruitment to an RII research focus area, retention of new faculty hires and students at multiple levels in a scientific training pathway, general support for academic achievement, support and enhancement for family-friendly recruitment and retention, organization of grant-writing seminars and workshops, support for training and classes to gain cross-disciplinary expertise or change research fields, and other similar activities.

Impacts are similar to outcomes but are less tangible and may not be directly measurable; they may include anticipated outcomes beyond the duration of the project. All project goals that are achieved should have impacts (though not all project impacts will necessarily be related to the stated goals).

Knowledge Transfer refers to the exchange of scientific information, in either direction, between the RII project and industry, Federal, State or independent agencies and/or laboratories, with the objective of applying the knowledge to the operations or activities of the institution receiving the information. Technology transfer is one type of knowledge transfer.

Knowledge Transfer Activities may be accomplished in various ways, including the involvement of industrial or other non-academic specialists on the RII advisory committee, partnership with institutions, faculty consulting relationships with industry, visiting instructorships by industrial scientists, and other approaches. The following illustrate various approaches that an RII project might undertake:

Domestic research collaborations may include work with individual companies, industrial consortia, Federal laboratories, independent laboratories, other universities, or other scientific organizations.

International research collaborations may include work with individual foreign companies, international industrial consortia, foreign government laboratories, foreign independent laboratories, foreign universities, or other international scientific organizations.

Industrial development activities may include the creation of spin-off companies, participation in jurisdictional industrial development initiatives, or various types of cooperative agreements.

Leadership exchanges may include industrial representation on the RII's Advisory Committee or participation of RII faculty and staff on industrial boards, advisory committees, Federal laboratory advisory associations, or international organization advisory associations.

Personnel exchanges may take place through RII faculty or staff working in industrial laboratories, industrial staff working in RII labs, RII faculty or staff working in Federal labs, or Federal Laboratory staff working in RII labs.

Continuing education for technical professionals may include seminars or lecture series on current research, short courses, workshops, or semester-length courses.

Public policy outreach can include participation in advisory committees to government or other advisory groups.

Professional activities such as participation in the development of industrial or technical standards, presentations at professional meetings, and representation at industrial conventions or trade shows may qualify as knowledge transfer activities.

Professional publications and information dissemination, including articles in scientific journals, RII working papers series, RII technical reports, regular RII

newsletter, books and monographs, and Internet professional activities may qualify as knowledge transfer activities.

Mission Statement is a sentence that defines the fundamental purpose of the project and what will be done to achieve the vision. The Mission explains why the project exists.

Outreach The term outreach is distinguished from education in the RII program. Outreach involves the active efforts undertaken by the staff of the RII project to make other institutions and individuals aware of the activities of the EPSCoR RII project and to inform them as to how they might participate in or cooperate with the RII project and EPSCoR in general. As such, outreach is a process or effort that may apply to research, education, knowledge transfer, and other activities equally.

Outreach Activities may be directed toward scientists and students within or beyond the universities involved in the RII project, institutions and teachers who provide instruction in science or engineering, whether conducted in elementary or secondary education systems, institutions of higher education, museums, or other learning settings, private firms, Federal, State, or independent laboratories, and/or the general public. The mechanisms can be quite diverse, and examples include:

Collaboration with teachers may include in-service courses, workshops, and symposia for K-12 teachers, pre-service teacher training, lab and field research experiences for teachers, and long-term support for professional development.

Development of educational tools for teachers and students may be part of outreach, including but not limited to new curricula, science kits, software, and videos. Another example is the use of RII equipment by K-12 teachers.

Development of student programs may be part of outreach, including interactive programs and field trips, science fairs, research experiences for high school students, talks from prominent scientists, or mentoring programs.

Collaboration on K-12 education projects may include work with statewide, regional, rural, and urban educational initiatives, local education improvement projects, and projects with other universities, local or regional science education associations, and school districts.

Outreach to underrepresented groups may include targeting graduate, undergraduate, high school, middle school, or elementary school students to participate in a variety of activities.

Work with larger science education initiatives may involve statewide, urban, and rural initiatives, local improvement projects, and liaison activities with other universities, local or regional science education associations, and school districts.

Community initiatives for the general public may include exhibits or shows at

museums, planetariums, aquariums, or zoos, public lectures, publications, online information, radio or TV programming, and other social media, such as YouTube or Facebook.

Outcomes are changes or benefits produced by the activities, usually observable once specific objectives have been met. Research outcomes include discoveries and new applications. A workforce development outcome might include the inclusion of a new education module in the classroom or the development of a new course or curriculum as a result of the project activities (the module would be an output but its use would be an outcome). Outcomes also include measurable changes in behavior, such as increasing enrollment of students in STEM degree programs as a result of REU experiences. Outcomes are related to project objectives and must be measurable. New, awarded proposals catalyzed by the project are also examples of outcomes.

Outputs are tangible products produced by the activities which can be quantified (counted). Examples of research outputs include published papers and distributed or disseminated data. Students graduated is an example of an education output.

Participant An RII participant is an individual in the RII jurisdiction who is strongly involved in the project, whether or not they receive funding. All project members who receive funding are by definition participants, although not all participants are funded.

External Participant An external RII participant is an individual outside the RII jurisdiction who is strongly involved in the project.

Publications are journal articles, text books, monographs, chapters in books, conference proceedings, technical reports, abstracts, or other formal written documents, in both print and electronic media.

Research refers to the scholarly or scientific investigation conducted with the objective of increasing knowledge about a phenomenon. The term includes theoretical, experimental, empirical, or simulation activities conducted by the scientists, engineers, and technical support staff and their RII project teams.

RII Faculty or Equivalent RII faculty or equivalent are defined as faculty or senior staff members at any participating university, college, or community college who devote part of their professional activities to one or more of the research areas of the RII project, or to tasks related to the RII project's education, outreach, or knowledge transfer missions. This may include senior professional or research staff as appropriate.

RII Graduate Student RII graduate students are defined as students enrolled in a graduate degree program at one of the RII project's participating universities or colleges, who devote part of their research and educational activities to one or more of the research areas of the RII program under the supervision of an RII faculty or staff member. This category includes both students who are financially supported by the RII funds and those without direct support but who contribute to the RII project.

RII Support

Primary RII Support Primary RII support means that RII funds were largely used to support the project and related outcomes and are within or closely related to the intellectual scope of the RII proposal.

Partial RII Support Partial RII support may include projects and related outcomes, use of equipment acquired by the RII award, or other similar activities that are related to the intellectual scope of the RII project, but that were also supported through other funds.

RII Undergraduate Student RII undergraduate students are defined as students enrolled in an undergraduate degree program at one of the RII project's participating universities, colleges, or community colleges, who are participating in one or more of the research areas of the RII project under the supervision of a RII faculty member. This category includes both students who are financially supported by the RII funds and those without direct support but who contribute to the RII project.

Underrepresented Minorities Underrepresented minorities are individuals whose representation in science and engineering is less than their representation in the population: Blacks or African Americans, Hispanics, and Native Americans, including American Indians, Alaskan Natives, Native Hawaiians and other Pacific Islanders, and persons with disabilities. Specific reporting Tables may have more precise definitions as needed in their notes.

Workforce Development Workforce development may include activities targeted to students at all levels, teachers, and the general public to increase the jurisdiction workforce capacity in STEM fields, and especially in the research focus areas of the RII project. Examples of professional workforce development include student participation in conferences, internships, entrepreneurship courses, intellectual development activities outside of the students' main research area, teacher training, and other activities.

Vision Statement is a sentence stating the long-term view of the project. The Vision is the ideal, desired state that the project aims to contribute to. It is usually something more utopian versus realistic; there is no expectation that it would be achieved solely through the project activities.