

FY 2017 ANNUAL PERFORMANCE PLAN

NSF's FY 2017 Performance Plan reflects NSF's priorities as identified through its planning and budget process. The table below provides a summary of NSF's performance goals for FY 2017 and two new Agency Priority Goals (APGs) for FY 2016 and FY 2017. The remaining pages of this section provide a detailed description of each goal along with the proposed target measures, milestones, or deliverables.

ID	Goal Short Title	Lead Organization	Goal Statement
1	Agency Priority Goal: Improve Graduate Student Preparedness	GEO and ENG	<p>Improve STEM graduate student preparedness for entering the workforce.</p> <p>By September 30, 2017, NSF will fund at least three summer institutes and 75 supplements to existing awards to provide STEM doctoral students with opportunities to expand their knowledge and skills to prepare themselves for a range of careers.</p>
2	Agency Priority Goal: Invest Strategically in Public Participation in STEM Research (PPSR)	EHR and CISE	<p>Build the capacity of the Nation to solve research challenges and improve learning by investing strategically in crowdsourcing and other forms of public participation in science, technology, engineering, and mathematics research (PPSR).</p> <p>By September 30, 2017 NSF will implement mechanisms to expand and deepen the engagement of the public in STEM research.</p>
3	Ensure that Key Program Investments are on Track	BFA	Ensure that key FY 2017 NSF-wide program investments are implemented and on track.
4	Ensure that Infrastructure Investments are on Track	BFA	Ensure program integrity and responsible stewardship of major research facilities and infrastructure.
5	Use Evidence to Guide Management Decisions	OIRM	Use evidence-based reviews to guide management investments.
6	Make Timely Award Decisions	OIA/OD and BFA	Inform applicants whether their proposals have been declined or recommended for funding in a timely manner.
7	Foster a Culture of Inclusion	ODI/OD	Foster a culture of inclusion through change management efforts resulting in change leadership and accountability.
8	Evaluate NSF Investments	OIA/OD	Enable consistent evaluation of the impact of NSF investments with a high degree of rigor and independence.

FY 2017 Annual Performance Plan

9	Increase the Percentage of panelists participating in merit review virtually	OIA/OD	Increase the percentage of proposal review panelists that participate virtually while maintaining the quality of the merit review process.
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Goal 1: Agency Priority Goal: Improve Graduate Student Preparedness

Goal Statement	<p>Improve STEM graduate student preparedness for entering the workforce. By September 30, 2017, NSF will fund at least three summer institutes and 75 supplements to existing awards to provide STEM doctoral students with opportunities to expand their knowledge and skills to prepare for a range of careers</p>
Indicator and Target Measure, Milestone, or Deliverable	<p>Number of summer institute sessions funded ≥ 3 Number of supplements funded ≥ 75 Number of students supported by supplements</p>
Description	<p>A strong global economy is reliant on the ability to capitalize on technical innovations that result from a skilled and agile STEM workforce. As a result, the Nation’s scientific workforce must evolve and mature to include more doctoral level researchers in positions outside of academia. These positions require comprehensive preparation in science at the graduate level, as well as proficiency in other critical skills.</p> <p>Surveys of graduate students analyzed in recent reports have demonstrated that graduate student training has not kept pace with STEM workforce needs beyond traditional roles in academia. In recent years there has been a shift in the job market for science and engineering doctorate holders that has resulted in more varied career choices. Scientists and engineers with doctorates are now more evenly split between the business sector (45 percent) and the education sector (46 percent) (Source: <u>Survey of Doctorate Recipients</u>, National Science Foundation, National Center for Science and Engineering Statistics 2013). Within the education sector, over 90 percent of doctorates are employed at four-year institutions. However, Ph.D. training remains largely focused on preparation for the research component of academic careers with an emphasis on skills needed at research institutions. There is considerable value to traditional academic training, which can provide doctoral graduates with experience in critical thinking as well as oral and written communication that are beneficial in a wide range of careers. However, opportunities to acquire broad knowledge, experience, or skills that are useful in other sectors (business, government, non-profits, etc.) are often lacking.</p> <p>The purpose of this APG is to provide opportunities for science and engineering doctoral students so they can acquire the knowledge, experience, and skills needed for highly productive careers, inside and outside of academe. Although investments in the Graduate Research Internship Program (GRIP) and Graduate Research Opportunities Worldwide (GROW) provide support across disciplines that help address this issue, a larger, agency-wide effort directed at the specific goal of determining effective approaches to increased graduate student preparedness is needed.</p> <p>The activities in this APG will be undertaken in coordination with NSF’s forthcoming strategic framework for investment in graduate education. In addition, these approaches will be reported at the National Science and Technology Council (NSTC) Committee on STEM Education’s Interagency Working Group on Graduate Education (co-chaired by NSF and the National Institutes of Health).</p>

	<p>The NSTC Committee on STEM notes that “tomorrow’s STEM workforce will need to include effective change makers and entrepreneurs in business, public service, civil society, and academia. Some universities are encouraging students to set and meet more ambitious goals for their research, education, and service; giving students greater autonomy earlier in their career; connecting students to real-world problems at a regional, national, and global level; and involving students in the design of university curricula, research initiatives, and collaborations with external partners.” This APG will explore ways to partner with universities to identify and spread promising practices for achieving this vision.</p> <p>Strategies</p> <p>To achieve this APG, NSF will pilot two approaches that invite the community to propose a range of solutions to improve doctoral student preparedness for entering the workforce.</p> <ol style="list-style-type: none"> 1. Support <u>summer institutes</u> that propose convincing, theory, or evidence-based strategies for how to provide students with broad experiences in professional development areas that have been identified in numerous reports as being essential for workforce preparedness. Summer institutes may be awarded for interdisciplinary activities as well as those that are discipline-specific; partnerships with industry, government, and other sectors will be encouraged. 2. Provide support for <u>supplements</u> to existing research awards to enhance graduate education opportunities at two levels. <i>Enhanced experience</i> awards will enable single/collaborative awardees to request appropriate levels of additional support for existing graduate students to acquire professional development experience that will broaden avenues for entering the workforce. These supplements could provide graduate students with the opportunity to augment their assistantships/fellowships with additional “mentoring” activities and short-term training opportunities. <i>Enhanced activities</i> awards will be available to larger institution-level, “center-like” activities to support cohorts of graduate students with the goal of developing new “best practice activities” for enhancing graduate student preparedness for entering the workforce. At the end of the award, after the term of this APG, all principal investigators (PI) will document implementation of their approach in their final report to advise on potential scaling to other institutions in the future. <p>For both the summer institutes and supplemental awards, a common set of metrics will be developed and provided to awardees to assist in verifying the impacts and benefits of these approaches.</p> <p>By the end of FY 2017, NSF will support at least three two-year summer institutes where PIs will be invited to propose evidence-based and evidence-generating strategies and approaches to improve the preparation of graduate students for a wider variety of careers. By the second quarter of FY 2016, NSF will release a Dear Colleague Letter to encourage requests for supplements to existing NSF awards that will support innovative and useful approaches for doctoral student preparedness. At least seventy-five supplements will be awarded in total in FY 2016 and FY 2017.</p>
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	<p>Analysis of awards made as part of this priority goal will inform steps to be taken beyond FY 2017 regarding whether to scale up or specifically target ideas that emerge from priority goal activities. In addition, all students who benefit from participation in the institutes or through the supplements will have the opportunity to complete follow-up surveys so that their career paths and readiness for those career paths can be monitored. Analysis of these data will be completed after the end of this APG.</p> <p>Timeline FY 2016 Quarter 2: Release Dear Colleague Letter to solicit applications for supplements. FY 2016 Quarter 3: A common set of metrics will be developed and provided to awardees of both summer institutes and supplemental awards. FY 2016 Quarter 3: Request proposals for summer institutes. FY 2017 Quarter 1: Award at least three summer institutes. FY 2017 Quarter 3: Initiate portfolio analysis of awards made. FY 2017 Quarter 4: At least seventy-five supplements awarded.</p>
Trend Information	This is a new goal in FY 2016. The topic was identified as a priority from the 2015 Strategic Review process.
Strategic Alignment	Strategic Goal G1: Transform the frontiers of science and engineering, Objective 2: Integrate education and research to produce a diverse STEM workforce with cutting-edge capabilities.
Lead Organization/s	Directorate for Geosciences Directorate for Engineering

Goal 2: Agency Priority Goal: Invest Strategically in Public Participation in STEM Research (PPSR)

<p>Goal Statement</p>	<p>Build the capacity of the Nation to solve research challenges and improve learning by investing strategically in crowdsourcing and other forms of public participation in science, technology, engineering, and mathematics research (PPSR).</p> <p>By September 30, 2017, NSF will implement mechanisms to expand and deepen the engagement of the public in research.</p>
<p>Indicator and Target Measure, Milestone, or Deliverable</p>	<p>Success will be indicated by achieving milestones and by meeting target metrics. These milestones and metrics are:</p> <ol style="list-style-type: none"> 1. NSF will fund at least two convenings that include current or possible stakeholders external to the federal government to identify trends, opportunities, and gaps in PPSR. These convenings will inform how NSF targets funding opportunities towards scientific needs and public audiences. Milestones: FY 2016 Q3 & FY 2017 Q2. 2. NSF will confer with other federal agencies at least three different times in order to inform and coordinate efforts related to PPSR. Milestones: FY 2016 Q2; FY 2016 Q3; FY 2017 Q3. 3. NSF will issue one specific call for Research Coordination Networks (RCNs). Milestone: FY 2016 Q3. Indicator: At least one RCN is funded in FY 2017 Q2. 4. NSF will solicit EARly-concept Grants for Exploratory Research (EAGERs) that include PPSR. Indicator: NSF funds at least five EAGERs that include PPSR in both FY 2016 Q4 and FY 2017 Q4. 5. NSF will solicit supplements that include PPSR. Indicator: NSF funds at least five supplements that include PPSR in both FY 2016 Q4 and FY 2017 Q4. 6. NSF will issue at least two communications highlighting PPSR and related funding opportunities. Indicators: FY 2016 Q3; FY 2017 Q2.
<p>Description</p>	<p>Scientists, mathematicians, and engineers have involved the public in their research efforts to solve challenging problems for centuries in a variety of fields. For example, daily precipitation data collected by volunteers throughout the U.S. have been used to develop more accurate, fine-grained models that improve weather forecasting, agriculture, and disaster risk analyses. Water quality and wildlife monitoring projects allow communities to understand their local environments in systematic ways and allow them to compare their findings with those from other areas. These types of activities have been referred to in a variety of ways. For this APG, PPSR is used as an overarching term that includes citizen science, crowdsourcing research, and similar activities.</p> <p>PPSR has grown significantly in the past decade, in part due to new technological tools that facilitate interactions between scientists and participants. There are a number of economic, societal, and technological trends that are increasing the variety and value of what public participation in research can accomplish. These trends include: the democratization of the tools needed to design and make a variety of items; the Maker Movement; the emergence of online communities with shared interests in projects such as exploration of diverse fields of science, technology,</p>

<p>engineering, and mathematics (STEM) by members of the public; and crowdfunding platforms that allow teams to raise funding for their projects.</p> <p>New technological tools also have facilitated crowdsourcing research, a process in which open calls are made for voluntary contributions to STEM problem-solving. These calls are typically either to a non-specified group of individuals ("the crowd") or to individuals with specific expertise, thus leveraging the skills and knowledge of many.</p> <p>Without public participants and their contributions, some STEM research that addresses challenging problems would not be practical or even possible, e.g., projects mandating data collection from many geographical locations or over long periods of time or projects that require expertise for analysis of data as well as large sets of visual or numeric data. PPSR approaches hold promise to continue to address new research questions and contribute to ongoing STEM research.</p> <p>Moreover, citizen science and crowdsourcing research provide opportunities for the broadest possible participation in learning how STEM research is done and in engaging in it directly. Participants include individuals from urban, suburban and rural communities; diverse economic, geographic, racial, ethnic, gender, and linguistic groups; and individuals with a range of abilities and disabilities.</p> <p>The motivation for PPSR may be derived from community concerns or may be researcher-led. The level of public involvement varies from being contributory (e.g., collecting and recording data) to collaborative (e.g., analyzing samples and discussing results) to co-created (in which the public might be involved in all phases of the scientific process from defining the question for investigation, to experimenting, analyzing, and reporting). Thus, people with various interests and abilities are often able to participate and contribute productively.</p> <p>With the opportunity to reach more people and therefore collect and analyze data sets more extensively than possible through the efforts of scientists alone, PPSR may go beyond simply enhancing our ability to do traditional STEM research better. Citizen science and crowdsourcing science enable us to pursue entirely <i>new avenues of research and development</i> that can only be achieved through public-scientist collaborations. The different perspectives and habits of mind that public participants can bring to bear on the interpretation of data may also open new avenues of research and development.</p> <p>Over the past decade, NSF has funded hundreds of STEM research projects that rely on PPSR across a diverse array of fields. The scope of PPSR is broad and encompasses geosciences and biological sciences, technology and engineering, social and behavioral sciences, education, computer and information sciences, and physical sciences. These projects collectively have created a strong foundation for future PPSR activities and have identified areas for potential improvement and expansion. The next phase of NSF investments will expand beyond project-by-project approaches to explore underlying issues and areas for innovation. In particular, this next phase could help identify: new research challenges that might be addressed using PPSR; new PPSR-enabling technology; social aspects of working with the public; effective PPSR program design; learning experience facilitated by PPSR; ways in which PPSR can broaden participation in STEM; and</p>
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	<p>a myriad of data-related issues, including data quality and collection, data management, visualization, and data ownership models. This phase of investments should also prompt the broader community to tackle long-standing but unresolved STEM challenges and to open doors to new STEM research areas.</p> <p>To achieve this APG NSF will use three specific mechanisms to fund proposals that explicitly include PPSR approaches: Research Coordination Networks (RCNs), EAGERs, and supplements to existing awards. RCNs support communication and coordination across disciplinary, organizational, institutional, and geographic boundaries, thus facilitating ongoing activities above the project level. EAGERs are designed as "high risk-high payoff" awards. These types of awards will likely push our collective understandings of how PPSR is leveraged to support scientific discovery and the public's engagement with research. Supplements to existing awards provide opportunities to (1) include PPSR approaches in projects that are appropriate for PPSR but haven't already incorporated PPSR approaches and (2) for other projects to deepen their use of PPSR approaches.</p> <p>This APG also takes advantage of the Executive Branch's momentum in this area. For example, the White House honored Citizen Science Champions of Change and included citizen science projects and opportunities in its recent science fair. Office of Science and Technology Policy (OSTP) rolled out a new toolkit for federal-sponsored PPSR projects on September 30, 2015 and issued a memo with actions for federal agencies with respect to PPSR.</p> <p>Among the public communities that NSF serves, this APG is relevant and timely. It addresses the need for investments in PPSR as articulated in recent journals, such as <i>Science</i>; at conferences, such as the citizen science pre-conference workshop at AAAS in 2015; and by practitioner organizations, such as the Citizen Science Association.</p> <p>Key barriers and challenges to its achievement</p> <ol style="list-style-type: none"> 1. Coordinate cross-program and cross-directorate investments that enhance both an understanding of and ability to implement PPSR approaches. 2. Manage expectations among colleagues across the federal government and public sphere as PPSR is further developed to support their daily work. <p>External factors</p> <p>OSTP and the Federal Community of Practice for Citizen Science and Crowdsourcing (FCPCSC) have directly contributed to development of this APG. In addition, activities by federal agencies and offices related to open innovation, citizen science, and crowdsourcing research will inform the state of the field with respect to challenges and opportunities in PPSR.</p>
<p>Trend Information</p>	<p>This is a new goal in FY 2016. The topic was identified as a priority from the 2015 Strategic Review process.</p>
<p>Strategic Alignment</p>	<p>Strategic Goal G1: Transform the frontiers of science and engineering, Objective 1: Invest in fundamental research to ensure significant continuing advances across science, engineering, and education.</p>

	<p>Objective 2: Integrate education and research to produce a diverse STEM workforce with cutting-edge capabilities.</p> <p>Strategic Goal G2: Stimulate Innovation and Address Societal Needs through Research and Education, Objective 2: Build the capacity of the Nation to address societal challenges using a suite of formal, informal and broadly available STEM educational mechanisms.</p>
<p>Lead Organization/s</p>	<p>Directorate for Education and Human Resources Directorate for Computer and Information Science and Engineering</p>

Goal 3: Ensure that Key Program Investments are on Track

Goal Statement	Ensure that key FY 2017 NSF-wide program investments are implemented and on track.
Indicator and Target Measure, Milestone, or Deliverable	<ol style="list-style-type: none"> 1. Monitor the progress of the following NSF-wide investments using a common set of milestones and indicators: NSF INCLUDES, INFEWS, Risk and Resilience, and UtB. 2. Review the results with senior leaders quarterly in data-driven performance reviews.
Description	<p>Key investments will be strategically monitored using a set of common metrics. These may include:</p> <ul style="list-style-type: none"> • Contextual indicators, such as the investment’s funding level. • Input indicators, such as date of release of solicitation, number of proposals received, numbers of reviews conducted. • Output indicators, such as number of awards, average and total amounts awarded, and funding rate. • Medium-term output and outcome indicators that gauge whether funded projects are on track. • Activity-specific outcome indicators, e.g., those relating to programmatic long term goals. <p>Progress will be assessed quarterly and discussed at quarterly review meetings with leadership.</p>
Trend Information	This was a new goal in FY 2014. In FY 2014, NSF monitored the implementation and progress of CIF21, CEMMSS, SaTC, and SEES. In FY 2015, UtB was added. The list of monitored programs is subject to change each year based on strategic considerations. For more information on those goals, refer to NSF’s FY 2014 and FY 2015 Annual Performance Reports.
Strategic Alignment	<p>Strategic Goal G1: Transform the Frontiers of Science and Engineering, all Objectives (O1-O3).</p> <p>Strategic Goal G2: Stimulate Innovation and Address Societal Needs through Research and Education, all Objectives (O1-O2).</p>
Lead Organization/s	Office of Budget, Finance, and Award Management

Goal 4: Ensure that Infrastructure Investments are on Track

Goal Statement	Ensure program integrity and responsible stewardship of major research facilities and infrastructure.																					
Indicator and Target Measure, Milestone, or Deliverable	Construction Project Monitoring: For all Major Research Equipment and Facilities Construction (MREFC) projects under construction that are over ten percent complete, keep negative cost and schedule variance at or below ten percent.																					
Description	NSF monitors the performance of projects funded by the MREFC account by monitoring cost and schedule, a standard measure of performance for construction projects. Projects that are under ten percent complete are not considered eligible for this goal because Earned Value Management (EVM) data are statistically less meaningful in early stages.																					
Trend Information	<p style="text-align: center;">Construction Project Monitoring Performance Trends, FY 2010-FY 2015</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Fiscal Year</th> <th>Result (%)</th> <th>Target (%)</th> </tr> </thead> <tbody> <tr> <td>FY 2010</td> <td>60%</td> <td>100%</td> </tr> <tr> <td>FY 2011</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>FY 2012</td> <td>83%</td> <td>100%</td> </tr> <tr> <td>FY 2013</td> <td>83%</td> <td>100%</td> </tr> <tr> <td>FY 2014</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>FY 2015</td> <td>83%</td> <td>100%</td> </tr> </tbody> </table> <p><i>Note.</i> For more information on end-of-year projections, which are below 100 percent, see NSF’s FY 2015 Performance Report in this chapter.</p>	Fiscal Year	Result (%)	Target (%)	FY 2010	60%	100%	FY 2011	100%	100%	FY 2012	83%	100%	FY 2013	83%	100%	FY 2014	100%	100%	FY 2015	83%	100%
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FY 2015	83%	100%																				
Strategic Alignment	Strategic Goal G1: Transform the Frontiers of Science and Engineering, Objective O3: Provide world-class research infrastructure to enable major scientific advances.																					
Lead Organization/s	Large Facilities Office, Office of Budget, Finance, and Award Management																					

Goal 5: Use Evidence to Guide Management Decisions

Goal Statement	Use evidence-based reviews to guide management investments.
Indicator and Target Measure, Milestone, or Deliverable	<p>PortfolioStat:</p> <ol style="list-style-type: none"> 1. NSF’s information technology governance boards will evaluate and prioritize proposed investments for FY 2016. 2. NSF’s information technology governance boards will maintain a “green status” with investments on the Federal IT Dashboard for cost and schedule attributes (within 10 percent of target) associated with major IT investments. <p>HRStat:</p> <ol style="list-style-type: none"> 3. Monitor the progress of three workforce initiatives of strategic importance designed to meet the objectives of the Opportunities for Action in NSF’s FY 2014 and FY 2015 Strategic Reviews for Strategic Goal 3, Objective 1. 4. Develop metrics to demonstrate whether NSF met its workforce goals for transition to the new NSF Headquarters.
Description	<p>This goal captures NSF’s commitment to two government-wide processes, PortfolioStat and HRStat, which aim to ensure that decisions regarding resource investments are made through formal processes involving cross-agency decision-makers. Data regarding business need, cost, and risk-analysis will be provided. This approach to decision making promotes transparency and accountability through data driven decision-making.</p> <p>As directed in OMB M-12-10, “Implementing PortfolioStat”, NSF will employ this new tool to assess the current maturity of its IT portfolio management process, make decisions on eliminating duplication, augment current Chief Information Officer (CIO)-led capital planning and investment control processes, and move to shared solutions in order to maximize the return on IT investments across the portfolio.</p> <p>NSF will build upon its experience with HRStat, incorporate lessons learned from the development of its human capital dashboard, and continue to update and refine its evidence-based review process, as it establishes indicators and methods to measure human capital management initiatives aligned with the goals set out in the NSF Strategic Plan. The FY 2014 and FY 2015 Strategic Review processes and on-going human capital management planning activities have identified three broad areas for continuing, high-visibility workforce initiatives: hires and losses, employee engagement, and workload. In addition to initial development of key indicators for progress in these areas, NSF has targeted some aspects of the workforce for particular attention, such as the program officer workforce and the executive corps. FY 2017 will see the relocation of NSF’s headquarters to Alexandria, VA and NSF will be able to assess outcomes relative to the FY 2014 Strategic Review recommendation of taking actions to ensure that 70 percent of the permanent workforce makes the move with the agency.</p>

<p>Trend Information</p>	<p>In FY 2014 through FY 2016, NSF developed workforce initiatives and processes and indicators for regular data-driven reviews of progress on the initiatives. Specifically, a human capital management dashboard was developed and three areas of focus for workforce initiatives were identified: 1) Engagement, 2) Hiring and Losses, and 3) Workload. In addition, NSF continues to closely monitor the IT investment evaluation process. See the Annual Performance Report for FY 2014 and Annual Performance Report for FY 2015 for more information.</p>
<p>Strategic Alignment</p>	<p>Strategic Goal G3: Excel as a Federal Science Agency, all Objectives (O1-O2).</p>
<p>Lead Organization/s</p>	<p>Office of the CIO and Office of the CHCO, Office of Information and Resource Management</p>

Goal 6: Make Timely Award Decisions

Goal Statement	Inform applicants whether their proposals have been declined or recommended for funding in a timely manner.																					
Indicator and Target Measure, Milestone, or Deliverable	Inform 75 percent of applicants whether their proposals have been declined or recommended for funding within 182 days, or six months, of deadline, target, or receipt date, whichever is later.																					
Description	Time-to-decision or “dwell time” is the amount of time that passes between receipt of a proposal and notification to the principal investigator about the funding decision. One of the most significant issues raised in customer satisfaction surveys is the time it takes NSF to process proposals. Too long a time period inhibits the progress of research as it delays the funding process, but too short a time period may inhibit the merit review process. The optimal dwell time depends on a number of factors including the complexity of the proposed activity, the need for co-review by more than one panel, the need for site review, infrastructure requirements of the proposed activity, and the potential size of the award. Large, complex, proposals with a multi-stage review process require a lengthy dwell time to ensure that taxpayer dollars are invested wisely.																					
Trend Information	<p>NSF has tracked six month dwell time as a performance goal for over a decade and has consistently met a target of 70 percent. In FY 2015, the six month target was increased to 75 percent, and NSF met the increased target.</p> <p style="text-align: center;">Time to Decision Performance Trends, FY 2010-FY 2015</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Time to Decision Performance Trends, FY 2010-FY 2015</caption> <thead> <tr> <th>Fiscal Year</th> <th>Result (%)</th> <th>Target (%)</th> </tr> </thead> <tbody> <tr> <td>FY 2010</td> <td>75%</td> <td>70%</td> </tr> <tr> <td>FY 2011</td> <td>78%</td> <td>70%</td> </tr> <tr> <td>FY 2012</td> <td>78%</td> <td>70%</td> </tr> <tr> <td>FY 2013</td> <td>76%</td> <td>70%</td> </tr> <tr> <td>FY 2014</td> <td>72%</td> <td>70%</td> </tr> <tr> <td>FY 2015</td> <td>76%</td> <td>75%</td> </tr> </tbody> </table>	Fiscal Year	Result (%)	Target (%)	FY 2010	75%	70%	FY 2011	78%	70%	FY 2012	78%	70%	FY 2013	76%	70%	FY 2014	72%	70%	FY 2015	76%	75%
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FY 2014	72%	70%																				
FY 2015	76%	75%																				
Strategic Alignment	Strategic Goal G3: Excel as a Federal Science Agency, Objective O2: Use effective methods and innovative solutions to achieve excellence in accomplishing the agency’s mission.																					
Lead Organization/s	Office of Integrative Activities, Office of the Director Office of Budget, Finance, and Award Management																					

Goal 7: Foster a Culture of Inclusion

Goal Statement	Foster a culture of inclusion through change management efforts resulting in change leadership and accountability.	
Indicator and Target Measure, Milestone, or Deliverable	Revised FY 2016 Goal	FY 2017 Goal
	By September 30, 2016, ODI will conduct the new IQ process with two NSF organizational units. Improve the two NSF organizational units' New IQ Self-Survey Scores by five percent above established baseline.	By September 30, 2017, ODI will conduct the new IQ process with three additional organizational units. Improve the three NSF organizational units' New IQ Self-Survey Scores by seven percent above established baseline.
Description	<p>Fostering inclusive work environments and realizing the full potential of the workforce's diversity requires agencies to employ effective management practices. The Office of Personnel Management (OPM), in partnership with the Department of Veterans Affairs, developed the New Inclusion Quotient (New IQ) in FY 2013 to drive inclusive intelligence in the federal workplace. Inclusive intelligence is the intentional, deliberate, and proactive acts that increase work group intelligence by ensuring people feel they belong and are uniquely valued. The New IQ consists of 20 questions identified through a rigorous factor analysis trial of the Federal Employee Viewpoint Survey (FEVS) questions with the highest correlation to inclusive environments. The questions are grouped into five habits of inclusion, F.O.C.S.E (Fair, Open, Cooperative, Supportive, Empowering).</p> <p>OPM's Office of Diversity and Inclusion (ODI) has recently developed a process to supplement use of the New IQ. The process uses a set of change management tools that equip agencies with instruments and practices necessary to support diversity and inclusion more fully. The 90-day process is designed to help leaders strengthen their workplace teams to their fullest potential by leveraging unique experiences, perspectives, and viewpoints of all members of the team. A self-survey will be conducted at the beginning of the ninety-day process to establish a baseline and then again at the end of the process. The expected outcome of the process is that the leaders will improve the employee engagement levels of their employees, resulting in an increase in the overall New IQ scores and corresponding FEVS scores over time.</p> <p>The New IQ Contagious Change Framework begins with training a small number of people in a set of behaviors, spread through the organization with the expectation that these behaviors will result in sustainable change. NSF has realized slippage in the FEVS inclusion-related results over several years and recognizes that having a workforce comprised of a mix of permanent and temporary rotator staff requires specific targeted efforts to ensure that behaviors are learned, practiced, and developed into habits of inclusiveness. In addition, NSF's workforce is challenged on another inclusion front with the administrative and scientific staffs' feelings about uniqueness and belongingness. NSF anticipates that implementing the New IQ process in several of NSF's</p>	

	<p>organizational units will initiate a set of behavior changes that can become contagious habits of inclusion throughout the Foundation.</p> <p>NSF ODI will implement the New IQ process in an organizational component in six steps:</p> <ol style="list-style-type: none"> 1) Meet with the leadership team, provide an overview of the New IQ process, and set up their New IQ survey; 2) Meet with leadership team, review respective New IQ scores, identify implementation dates and identify potential change agents; 3) Conduct change agent training with 10 to 20 selected participants; 4) Conduct 4 hour New IQ workshop for the organization’s participants; 5) Conduct regular checkups over 6 weeks with workshop participants; and 6) Conduct 90 minute action planning seminar to review participant action plan and make modifications to ensure success. <p>Initially, ODI will work with leadership to identify organizational units to participate. The ideal participant would be a unit with both concerns about their level of inclusiveness and an openness to change.</p>
Trend Information	<p>NSF has had a performance goal relating to diversity and inclusion since FY 2011. Focusing specifically on inclusion represents a new direction for this goal in FY 2016, one that reflects the priorities of current leaders at NSF which aligns with the federal and private sectors. This is a revised performance goal in FY 2016 that replaces the goal published in the FY 2016 Budget.</p>
Strategic Alignment	<p>Strategic Goal G3: Excel as a Federal Science Agency, all Objectives (O1-O2).</p>
Lead Organization/s	<p>Office of Diversity and Inclusion, Office of the Director</p>

Goal 8: Evaluate NSF Investments

Goal Statement	Enable consistent evaluation of the impact of NSF investments with a high degree of rigor and independence.	
Indicator and Target Measure, Milestone, or Deliverable	Revised FY 2016 Goal	FY 2017 Goal
	By September 30, 2016, NSF will have developed three illustrative models of evaluation frameworks ¹ in the following three areas: (1) investments in the development of U.S. science and engineering human capital, (2) investments in established NSF-wide priorities, and (3) long-term strategic investments.	By September 30, 2017, NSF will have developed seven additional evaluation frameworks. The Evaluation and Assessment Capability will work with at least seven programs (one in each directorate) to develop evaluation frameworks to be included in program management plans. This effort will build on what was learned in developing illustrative examples in FY 2016.
Description	<p>The mission of the EAC is to enable NSF to consistently evaluate the impacts of its investments, make more data-driven decisions, and establish a culture of evidence-based planning and policy-making. In FY 2016, EAC will develop plans for continuous program and portfolio improvement, informed by activities carried out in the three investment areas. These illustrative examples will be the first step to scale up the number of evaluation frameworks incorporated in program management plans in FY 2017:</p> <ol style="list-style-type: none"> 1. Investments in the development of U.S. STEM human capital (for example, GRFP, REU). For this example, the EAC will develop at least one evaluation framework for longitudinal analysis rather than a cross-sectional evaluation of investments in human capital. 2. Investments in established NSF-wide priorities (for example, INFIEWS, UtB). The EAC will work with program officers and other stakeholders to develop and include standard evaluation framework language in the management plan of at least one program in a priority area. 3. Long-term strategic investments (for example, I-Corps™, EPSCoR). The EAC will develop an evaluation framework for programmatic evaluation of at least one established long-term strategic investment. <p>In FY 2017, EAC will expand its efforts for continuous program and portfolio improvement, by working with programs across NSF to help them incorporate evaluation frameworks into their management plans.</p>	
Trend Information	This is a revised performance goal in FY 2016 that replaces the goal published in the FY 2016 Budget.	

¹ NSF defines evaluation frameworks to include, among other tasks, the articulation of (1) criteria for what constitutes evidence, (2) processes and methods for obtaining such evidence, and (3) how that evidence can be analyzed, synthesized, and used to determine both the direction and degree of progress towards desired objectives in complex adaptive situations. NSF's objective is to develop flexible and context dependent frameworks suitable for evaluating investments in all types of research and education.

FY 2017 Annual Performance Plan

Strategic Alignment	Strategic Goal 1: Transform the Frontiers of Science and Engineering, all Objectives (O1-O3). Strategic Goal 2: Stimulate Innovation and Address Societal Needs through Research and Education, all Objectives (O1-O2). Strategic Goal 3: Excel as a Federal Science Agency, all Objectives (O1-O2).
Lead Organization/s	Office of Integrative Activities, Office of the Director

Goal 9: Increase the Percentage of panelists participating in merit review virtually

Goal Statement	Increase the percentage of proposal review panelists that participate virtually while maintaining the quality of the merit review process.																										
Indicator and Target Measure, Milestone, or Deliverable	Revised FY 2016 Goal		FY 2017 Goal																								
	By September 30, 2016, at least 28 percent of merit review panelists will participate virtually.		By September 30, 2017, at least 28 percent of merit review panelists will participate virtually.																								
Description	The merit review process is NSF’s most critical business function. Increased proposal submissions without attendant increases in staff have resulted in increased workload for staff and reviewers. Virtual participation can be an effective mechanism to improve efficiency.																										
Trend Information	<p>This is a revised performance goal for FY 2016 that replaces the goal published in the FY 2016 Budget. The table below shows trend information for virtual panel participation. The percentage of panelists participating virtually increased dramatically in FY 2013 as NSF piloted approaches to virtual panels. In FY 2014, the rate of increase slowed. In FY 2015, there was a decrease in virtual panel participation to below FY 2013 levels.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Fiscal Year</th> <th>Virtual Panelists</th> <th>Total Panelists</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>742</td> <td>18,865</td> <td>3.9%</td> </tr> <tr> <td>2012</td> <td>1,199</td> <td>17,728</td> <td>6.8%</td> </tr> <tr> <td>2013</td> <td>4,025</td> <td>16,835</td> <td>23.9%</td> </tr> <tr> <td>2014</td> <td>4,622</td> <td>17,130</td> <td>26.9%</td> </tr> <tr> <td>2015</td> <td>4,224</td> <td>17,127</td> <td>24.7%</td> </tr> </tbody> </table> <p><i>Note.</i> GRFP panelists are not included in table.</p>			Fiscal Year	Virtual Panelists	Total Panelists	Percentage	2011	742	18,865	3.9%	2012	1,199	17,728	6.8%	2013	4,025	16,835	23.9%	2014	4,622	17,130	26.9%	2015	4,224	17,127	24.7%
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Strategic Alignment	Strategic Goal 3: Excel as a Federal Science Agency, Objective 2: Use effective methods and innovative solutions to achieve excellence in accomplishing the agency’s mission																										
Lead Organization/s	Office of Integrative Activities, Office of the Director NSF Chief Technology Officer (CTO), Office of the Director																										