

FY 2019 ANNUAL PERFORMANCE PLAN

NSF’s FY 2019 Annual 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 2019. The remaining pages of this section provide a detailed description of each goal along with the proposed target measures, milestones, or deliverables.

	Performance Goal	Lead Organization	Goal Statement
1	APG: Expand Public and Private Partnerships	CISE	Expand public and private partnerships to enhance the impact of NSF’s investments and contribute to American economic competitiveness and security.
2	Ensure that Key Program Investments are on Track	BFA	Ensure that key FY 2019 NSF-wide program investments are implemented and on track.
3	Ensure that Infrastructure Investments are on Track	BFA/LFO	Ensure program integrity and responsible stewardship of major research facilities and infrastructure.
4	Make Timely Award Decisions	OIA/OD and BFA	Inform applicants whether their proposals have been declined or recommended for funding in a timely manner.
5	Improve Review Quality	OIA/OD	Improve the quality of written reviews of NSF proposals.
6	Foster a Culture of Inclusion	ODI/OD	Foster a culture of inclusion through active engagement of leadership.
7	Align job requirements with competencies.	OIRM/HRM	By the end of FY 2019, the Division of Human Resource Management will review, modernize, or eliminate 10 percent of the existing position descriptions requiring review.
8	Improve user interactions with IT systems	CIO and OIRM/DIS	Streamline and simplify user interactions with IT systems and functions that support the merit review process, reducing non-value-added steps and reducing the time spent managing the proposal and award lifecycle.

Goal 1: Agency Priority Goal: Expand Public and Private Partnerships

<u>Goal Statement</u>	Expand public and private partnerships to enhance the impact of NSF’s investments and contribute to American economic competitiveness and security.
<u>Indicator and Target Measure, Milestone, or Deliverable</u>	By September 30, 2019, NSF’s number of partnerships and/or award actions with other federal agencies, private industry, and foundations/philanthropies will grow by five percent, relative to the FY 2017 baseline, to make available infrastructure, expertise, and financial resources to the U.S. scientific and engineering research and education enterprise.
<u>Description</u>	<p>This goal aligns with one of the four agency operational reform areas described in this Request’s Overview.</p> <p>Private industry, foundations, and non-profits, together with other federal agencies and international funding organizations, bring additional expertise, resources, and capacity to NSF-funded research. This, in turn, accelerates discovery and translation of research to products and services, and enhances preparation of the future workforce to benefit society and grow the American economy. Partnerships require significant time and intellectual capital, as well as strategic foresight, in their development. NSF will improve efficiencies in developing, implementing, and managing partnerships to ultimately grow the number and scope of partnerships and maximize the scientific, economic, and societal impacts of its investments.</p> <p>An implementation plan for this APG will be posted on performance.gov.</p>
<u>Trend Information</u>	This is a new activity in FY 2018.
<u>Lead Organization/s</u>	Computer and Information Science and Engineering,

Goal 2. Ensure that Key Program Investments are on Track

<u>Goal Statement</u>	Ensure that key FY 2019 NSF-wide program investments are implemented and on track.															
<u>Indicator and Target Measure, Milestone, or Deliverable</u>	<ol style="list-style-type: none"> 1. Monitor the progress of selected NSF-wide investments using a common set of milestones and indicators: Understanding the Brain (UtB) and Secure and Trustworthy Cyberspace (SaTC). 2. Review the results with senior leaders quarterly in data-driven performance reviews. 															
<u>Description</u>	<p>Each year, NSF highlights a number of cross-agency investments in the NSF-Wide Investments chapter of its Budget Request to Congress. Although the overall impact of these investments will not be realized for many years, tracking near-term indicators of implementation and progress can help the agency make formative changes or course corrections.</p> <p>Key investments will be selected at the beginning of FY 2019 for strategic monitoring with 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>															
<u>Trend Information</u>	<p>This has been a goal since FY 2014.</p> <table border="1"> <thead> <tr> <th>FY</th> <th>Target</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>Monitor 4 programs (NSF INCLUDES, INFEWS, Risk and Resilience, and UtB); review results with leadership.</td> <td>Achieved.</td> </tr> <tr> <td>2016</td> <td>Monitor 3 programs (NSF INCLUDES, INFEWS, and UtB).</td> <td>Achieved.</td> </tr> <tr> <td>2015</td> <td>Monitor 4 programs (CEMMSS, CIF21, SaTC, and SEES).</td> <td>Achieved.</td> </tr> <tr> <td>2014</td> <td>Monitor 6 programs (CEMMSS, CIF21, I-Corps™, INSPIRE, SaTC, and SEES)</td> <td>Not achieved (4 of 6 monitored).</td> </tr> </tbody> </table> <p>The list of monitored programs is subject to change each year based on investment priorities for a particular year.</p>	FY	Target	Result	2017	Monitor 4 programs (NSF INCLUDES, INFEWS, Risk and Resilience, and UtB); review results with leadership.	Achieved.	2016	Monitor 3 programs (NSF INCLUDES, INFEWS, and UtB).	Achieved.	2015	Monitor 4 programs (CEMMSS, CIF21, SaTC, and SEES).	Achieved.	2014	Monitor 6 programs (CEMMSS, CIF21, I-Corps™, INSPIRE, SaTC, and SEES)	Not achieved (4 of 6 monitored).
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<u>Lead Organization/s</u>	Office of Budget, Finance, and Award Management															

Goal 3: Ensure that Infrastructure Investments are on Track

<p><u>Goal Statement</u></p>	<p>Ensure program integrity and responsible stewardship of major research facilities and infrastructure.</p>																					
<p><u>Indicator and Target Measure, Milestone, or Deliverable</u></p>	<p>Construction Project Monitoring: For all (100 percent) MREFC facilities under construction that are over 10 percent complete, keep negative cost and schedule variance at or below 10 percent.</p>																					
<p><u>Description</u></p>	<p>NSF monitors the performance of major facility projects by monitoring cost and schedule variances using Earned Value Management (EVM), a standard measure of performance for construction projects. Projects that are under 10 percent complete are not reported against this goal because EVM data are statistically less meaningful in early stages. The final Q4 EVM results for the reportable projects in the construction stage are used to determine whether NSF has met this goal.</p>																					
<p><u>Trend Information</u></p>	<div style="text-align: center;"> <p>Construction Project Monitoring Performance Trends, FY 2012-2017</p> <table border="1" style="margin: 10px auto;"> <caption>Performance Data from Chart</caption> <thead> <tr> <th>Fiscal Year</th> <th>Actual Performance (%)</th> <th>Target (%)</th> </tr> </thead> <tbody> <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> <tr> <td>FY 2016</td> <td>67%</td> <td>100%</td> </tr> <tr> <td>FY 2017</td> <td>67%</td> <td>100%</td> </tr> </tbody> </table> </div> <p><u>Note:</u> NSF currently has only three projects in the construction stage that are greater than 10 percent complete due to project completions since FY 2015. For more details on these projects, see the MREFC chapter of this Request.</p>	Fiscal Year	Actual Performance (%)	Target (%)	FY 2012	83%	100%	FY 2013	83%	100%	FY 2014	100%	100%	FY 2015	83%	100%	FY 2016	67%	100%	FY 2017	67%	100%
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<p><u>Lead Organization/s</u></p>	<p>Large Facilities Office, Office of Budget, Finance, and Award Management</p>																					

Goal 4: Make Timely Award Decisions

<p><u>Goal Statement</u></p>	<p>Inform applicants whether their proposals have been declined or recommended for funding in a timely manner.</p>																											
<p><u>Indicator and Target Measure, Milestone, or Deliverable</u></p>	<p>75 percent of proposal funding decisions are made within 182 days of deadline, target, or receipt date, whichever is later.</p>																											
<p><u>Description</u></p>	<p>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. An important issue 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 weaken the merit review process by forcing premature decisions. 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 require more time under review to ensure that taxpayer dollars are invested wisely.</p>																											
<p><u>Trend Information</u></p>	<div style="text-align: center;"> <table border="1" style="margin: 10px auto;"> <caption>Time to Decision Performance Trends, FY 2012-2017</caption> <thead> <tr> <th>Fiscal Year</th> <th>Red Line (Diamond)</th> <th>Blue Line (Circle)</th> </tr> </thead> <tbody> <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> <tr> <td>FY 2016</td> <td>77%</td> <td>75%</td> </tr> <tr> <td>FY 2017</td> <td>71%</td> <td>75%</td> </tr> <tr> <td>FY 2018</td> <td>-</td> <td>75%</td> </tr> <tr> <td>FY 2019</td> <td>-</td> <td>75%</td> </tr> </tbody> </table> </div> <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. NSF did not meet the 75 percent target in FY 2017 for reasons relating to its move to new headquarters at the end of the fiscal year. For more detail, see the FY 2017 Performance Report.</p>	Fiscal Year	Red Line (Diamond)	Blue Line (Circle)	FY 2012	78%	70%	FY 2013	76%	70%	FY 2014	72%	70%	FY 2015	76%	75%	FY 2016	77%	75%	FY 2017	71%	75%	FY 2018	-	75%	FY 2019	-	75%
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<p><u>Lead Organization/s</u></p>	<p>Office of Integrative Activities, Office of the Director Office of Budget, Finance, and Award Management</p>																											

Goal 5: Improve Review Quality

<u>Goal Statement</u>	Improve the quality of written reviews of NSF proposals.												
<u>Indicator and Target Measure, Milestone, or Deliverable</u>	<p>By September 30, 2019,</p> <ol style="list-style-type: none"> 1. 60 NSF programs will have had reviewers view the presentation “Tips on how to write better reviews.” 2. 8,000 reviewers of NSF proposals will have viewed “Tips on how to write better reviews” prior to preparing written reviews. 3. Improve the perceptions reported by survey respondents in a repeat survey of proposers and reviewers. <ul style="list-style-type: none"> • Increase the percentage of PI survey respondents who agree that written reviews are thorough from a baseline of 55 percent (2015) to 57 percent in FY 2019. • Increase the percentage of PI survey respondents who agree that written reviews are technically sound from a baseline of 63 percent (2015) to 65 percent in FY 2019. 												
<u>Description</u>	<p>This goal aligns with one of the four agency operational reform areas described in this Request’s Overview.</p> <p>This goal addresses and incorporates feedback NSF has received about its customer service. Committees of Visitors (COVs), program officers, and principal investigators frequently note that the quality of individual written reviews is variable. In 2015, NSF conducted a survey of researchers who were submitting and/or reviewing proposals. Survey respondents identified the quality of reviews as the factor that would have the most significant effect on improving their proposals and fostering science (see chart below, $n=22,174$ respondents).</p> <div> <table border="1"> <thead> <tr> <th>Factor</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Quality of feedback to PIs in the form of reviewers' comments and panel summaries</td> <td>55%</td> </tr> <tr> <td>Timeliness of decisions about, and responsiveness to, proposals by NSF staff</td> <td>16%</td> </tr> <tr> <td>Quality of the review process from the perspective of a reviewer</td> <td>14%</td> </tr> <tr> <td>Quality of PI conversations with, and written comments from, program officers</td> <td>12%</td> </tr> <tr> <td>Quality of information available during proposal submission</td> <td>3%</td> </tr> </tbody> </table> </div> <p>This goal measures the implementation of a pilot program, initiated in December 2016, to improve the quality of written reviews of NSF proposals. The pilot encourages NSF programs to use the video presentation “Tips on how to write better reviews” early in the review process to orient reviewers and provide information on how to write more effective reviews. The assumption is that orienting reviewers before the reviews are written (as opposed to at the beginning of a review panel, at which time the reviews have been drafted but not finalized) helps reviewers better understand and apply the review criteria. The intention is to make written reviews more useful to both principal</p>	Factor	Percentage	Quality of feedback to PIs in the form of reviewers' comments and panel summaries	55%	Timeliness of decisions about, and responsiveness to, proposals by NSF staff	16%	Quality of the review process from the perspective of a reviewer	14%	Quality of PI conversations with, and written comments from, program officers	12%	Quality of information available during proposal submission	3%
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Performance

	<p>investigators and NSF program staff.</p> <p>NSF will conduct another survey in FY 2019 to learn whether the perceived quality of reviews has changed. The anticipated survey will take upwards of a year to field and analyze following the pilot program.</p> <p>For additional information about how this performance goal is aligned with reform efforts, costs and savings, and a multi-year roadmap of this activity, please see the Agency Reform Plan chapter.</p>
<u>Trend Information</u>	<p>A strategic review in the spring of 2015 recommended that NSF apply what was learned from the PI and reviewer survey to inform a new performance goal aimed at improving customer service. This goal was designed in response to that recommendation and was new in FY 2018.</p>
<u>Lead Organization/s</u>	<p>Office of Integrative Activities, Office of the Director</p>

Goal 6: Foster a Culture of Inclusion

<u>Goal Statement</u>	Foster a culture of inclusion through active engagement of leadership.																			
<u>Indicator</u>	To be determined in spring 2018.																			
<u>Description</u>	<p>NSF puts a high premium on diversity and inclusion: by engaging the talent of all our workforce, individuals are empowered to realize their full potential; by insuring that our workforce is diverse, our collective ability to deliver on our scientific mission is enhanced. NSF is always looking for ways to intensify and innovate diversity efforts through active leadership and include and engage everyone in the workplace.</p> <p>In mid-FY 2018, NSF is establishing a new Diversity and Inclusion Leadership Group that will help NSF to continue its effort to attract, retain, and cultivate diverse leaders and staff. The group will have members representing a cross-section of NSF employees: leadership, the NSF Union, administrative staff, and programmatic staff. The Head of ODI, the Chief Human Capital Officer (CHCO), the Deputy CHCO, and the Labor Relations Officer will serve in an advisory capacity to the group as ex-officio (non-voting) members. The group will be action-oriented, proposing approaches to cultivate and model a workplace culture that supports inclusion, collaboration, employee engagement, transparency, and information sharing to enable the NSF to achieve the highest level of organizational performance.</p> <p>Once the group is established, it will plan its first few years of activities. Targets for FY 2019 will be established in spring of 2018.</p>																			
<u>Trend Information</u>	<p>NSF has had a performance goal relating to diversity and inclusion since FY 2011. For five years, goals were largely focused on NSF’s efforts to attain “Model EEO Agency” status. Inclusion represented a new direction for this goal since FY 2016. For more information, refer to the FY 2015 APR in the FY 2017 NSF Budget Request.¹</p> <table border="1"> <thead> <tr> <th>FY</th> <th>Target</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>Conduct the New IQ process with two NSF units, improve the units’ New IQ Self-Survey Scores by five percent above established baseline.</td> <td>Not achieved.</td> </tr> <tr> <td>2016</td> <td>Conduct the New IQ process with two NSF units, improve the units’ New IQ Self-Survey Scores by five percent above established baseline.</td> <td>Not achieved.</td> </tr> <tr> <td>2015</td> <td>Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.</td> <td>1 of 2 targets achieved.</td> </tr> <tr> <td>2014</td> <td>Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.</td> <td>Not achieved.</td> </tr> <tr> <td>2013</td> <td>Attain five of six essential elements of a model EEO agency.</td> <td>Achieved.</td> </tr> </tbody> </table>		FY	Target	Result	2017	Conduct the New IQ process with two NSF units, improve the units’ New IQ Self-Survey Scores by five percent above established baseline.	Not achieved.	2016	Conduct the New IQ process with two NSF units, improve the units’ New IQ Self-Survey Scores by five percent above established baseline.	Not achieved.	2015	Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.	1 of 2 targets achieved.	2014	Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.	Not achieved.	2013	Attain five of six essential elements of a model EEO agency.	Achieved.
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<u>Lead Organization</u>	Office of Diversity and Inclusion, Office of the Director																			

¹ [nsf.gov/about/budget/fy2017/pdf/56_fy2017.pdf](https://www.nsf.gov/about/budget/fy2017/pdf/56_fy2017.pdf)

Goal 7: Align job requirements with competencies.

<p><u>Goal Statement</u></p>	<p>Ensure that employee job requirements are aligned with competencies and skills needed for the future.</p>
<p><u>Indicator and Target Measure, Milestone, or Deliverable</u></p>	<p>By the end of FY 2019, the Division of Human Resource Management will review, modernize, or eliminate 10 percent of the existing position descriptions requiring review.</p>
<p><u>Description</u></p>	<p>This goal aligns with one of the four agency operational reform areas described in this Request’s Overview.</p> <p>Technological improvements have automated many tasks once performed by NSF staff. Requirements for NSF’s administrative staff have evolved from the more traditional competencies related to general clerical and office tasks such as categorizing, processing and tracking paper forms to more advanced competencies related to the use of multiple automated data systems. Additionally, the increasing high number of proposals NSF receives, processed by the relatively stable number of program officers, means greater support is needed in data processing, data mining, analytics, and use of automated processes. NSF is also putting into place efforts to enable transdisciplinary, convergent research, and the agency needs to ensure its current and future workforce can adapt to this convergent approach. NSF will review and realign its workforce to ensure its greatest resource – its people – are equipped with the knowledge, skills, and abilities for success now and in the future. Ultimately, this will result in increased alignment between NSF’s organizational structure, its core mission, and strategic plan.</p> <p>NSF will improve performance and increase accountability by systematically reviewing the NSF workforce from top to bottom. This review will allow NSF to revise position descriptions (PDs) that are outdated or do not reflect current and future work responsibilities. This PD modernization effort will enable NSF to identify the skills needed in today’s work environment and will establish more relevant opportunities for training and developing NSF’s existing workforce, while also enabling hiring managers to better target recruitment and outreach efforts to obtain the highest caliber of external candidates.</p>
<p><u>Trend Information</u></p>	<p>This will be a new activity in FY 2018 and FY 2019 relating to agency operational reform.</p>
<p><u>Lead Organization/s</u></p>	<p>Division of Human Resource Management, Office of Information and Resource Management</p>

Goal 8. Improve user interactions with IT systems.

<u>Goal Statement</u>	Streamline and simplify user interactions with IT systems and functions that support the merit review process, reducing non-value-added steps and reducing the time spent managing the proposal and award lifecycle.
<u>Indicator and Target Measure, Milestone, or Deliverable</u>	<ol style="list-style-type: none"> 1. By the end of FY 2019, NSF IT systems will have been available 99.5 percent of the time, excluding 469 hours of planned downtime. 2. By the end of FY 2019, 72 percent of internal merit review functions will be accessible through a single portal. 3. By the end of FY 2019, 32 percent of external merit review functions will be accessible through a single portal.
<u>Description</u>	<p>This goal aligns with one of the four agency operational reform areas described in this Request’s Overview.</p> <p>As NSF positions itself to operate as a more agile organization, information technology (IT) will play a major role in enabling NSF’s mission and allowing NSF to remain flexible to adapt to reform areas. NSF will look to leverage state-of-the-art IT solutions from the private and public sectors to develop flexible tools that support the formation of agile work teams; to drive changes in the way research is solicited, identified, and funded; and to ensure user adoption is achieved to the maximum extent possible while also easing the use of IT systems. This emphasis on efficiency and improved service to end users will ensure that IT responds rapidly to changes in the way NSF is organized and carries out its mission, with the goal of ensuring that NSF IT tools minimize staff workload and simplify decision-making by providing accurate data, easy-to-use interfaces, and readily available and reliable access.</p> <p>Indicator 1, Percent of Systems Availability, measures the amount of time that the system is up and running, AND is available for access because connectivity is available (i.e. no network or internet outages impact accessibility). Indicator 2 is the percentage of internal merit review functions accessible through a single portal. Indicator 3 is the percentage of external merit review functions accessible through a single portal.</p> <p>For more information about implementation, costs and savings, and a multi-year roadmap of this activity, please see the Agency Reform Plan chapter.</p>
<u>Trend Information</u>	<p>As of June 30, 2017, the values for the three indicators were:</p> <ol style="list-style-type: none"> 1. Systems Availability: 99.7 percent, excluding planned downtime. 2. Internal merit review functions available through a single portal: 59 percent. 3. External merit review functions available through a single portal: 14 percent.
<u>Lead Organization/s</u>	Office of the Chief Information Officer and the Division of Information Systems, Office of Information and Resource Management