FY 2018 ANNUAL PERFORMANCE REPORT AND
FY 2020 ANNUAL PERFORMANCE PLAN

This document combines NSF's FY 2018 Annual Performance Report (APR) and FY 2020 Annual Performance Plan. FY 2019's goals and five years of historical information on individual goals are also provided when available. In FY 2018, NSF tracked progress toward its three strategic goals using seven performance goals, one of which is an Agency Priority Goal. Five of the seven goals fully achieved their targets in FY 2018 and two did not achieve one or more targets. Below is a tabular overview.

Goal ID	Performance Goals	FY 2018 Result	FY 2019 status	FY 2020 status
1	Agency Priority Goal: Expand Public and Private Partnerships	Achieved	Final year of goal	-
2	Ensure that Key Program Investments are on Track	Achieved	Continuing	Continuing
3	Ensure that Infrastructure Investments are on Track	Achieved	Continuing	Continuing
4	Use Evidence to Guide Management Decisions	Achieved	-	-
5	Make Timely Proposal Decisions	Not Achieved	Continuing	Continuing
6	Improve Review Quality	Partially Achieved	Continuing	Continuing
7	Foster a Culture of Inclusion	Achieved	Continuing	Continuing
8	Align Job Requirements with Competencies	-	First year of goal	Second year of goal
9	Improve User Interactions with IT Systems	-	First year of goal	Second year of goal

This section presents results for each performance goal in its strategic context, with reference to strategic goals, objectives, and targets from NSF's 2018-2022 Strategic Plan. Multiple years of trend data are available for NSF's longstanding quantitative performance measures (Infrastructure Investments and Timely Proposal Decisions). Other performance goals monitor progress towards multiyear goals, such as implementation of a new process (Improve Review Quality, Culture of Inclusion), upgrades to ongoing processes (Align Job Requirements, Improve User Interactions), or strategically important investments (Key Program Investments, Expand Public and Private Partnerships).

Goal 1, Agency Priority Goal: Expand Public and Private Partnerships
Lead Organizations: Directorate for Biological Sciences, Directorate for Computer and Information Science and Engineering.

Goal Statement
Expand public and private partnerships to enhance the impact of NSF's investments and contribute to American economic competitiveness and security.

Measure, Milestone, or Deliverable

Current Year	
FY	**Target**
2019	By September 30, 2019, NSF's number of partnerships and award actions with other federal agencies, private industry, and foundations/philanthropies will grow by 5 percent, relative to the FY 2017 baseline, to make available infrastructure, expertise, and financial resources to the US scientific and engineering research and education enterprise.

Reporting Year		
FY	**Target**	**Result**
2018	None	2017 = 56 partnerships (baseline)
		2018 = to be reported in June 2019 on performance.gov

Previous Years		
This is a new goal in FY 2018. The topic was identified as a priority from the agency reform/Renewing NSF process.		

Strategic Alignment
Strategic Goal 2: Advance the capability of the Nation to meet current and future challenges. Objective 2.1, Societal Impacts: Support research and promote partnerships to accelerate innovation and to provide new capabilities to meet pressing societal needs.

About this Goal
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.

Discussion of FY 2018 Results
To collect reliable information on the number and types of partnerships and/or award actions in use at NSF, an NSF-wide Implementation Team determined data sources and designed a data collection methodology and inventory instrument that would be uniform across all units in FYs 2017 (baseline year), 2018, and 2019. For the purposes of this APG, a partnership activity was defined as a formal agreement between NSF and at least one external, domestic stakeholder and for which there was investment, other quantifiable

contribution, or new commitment formalized in the fiscal year. "Formal agreements" include, but are not limited to, Interagency Agreements (IAA) and Memoranda of Understanding (MOU). A partner was defined as the external stakeholder with whom NSF engages in a partnership activity. Partnership activities were categorized as interagency, private (including industry), and/or nonprofit/foundation, depending on the nature of the partners. Within NSF's 56 partnerships in FY 2017, 46 were with other agencies, seven were with the private sector, and three were with the nonprofit sector. Seven of the interagency partnerships also included one or more international partners.

FY 2019 and beyond
Reporting on this subset of NSF's partnerships will conclude at the end of FY 2019, although NSF expects to continue quantifying partnerships as appropriate. The working group is developing internal administrative tools, best practices, and processes to help NSF staff consider and evaluate the potential value of entering into new partnerships in the future. Use of these newly developed strategic resources will begin in FY 2019.

Goal 2, Ensure that Key Program Investments are on Track

Lead Organization: Office of Budget, Finance, and Award Management.

Goal Statement
Ensure that key NSF-wide program investments are implemented and on track.

Measure, Milestone, or Deliverable

Current and Upcoming Years	
FY	**Target**
2020	1. Monitor the progress of selected NSF-wide investments using a common set of milestones and indicators: 10 Big Ideas. 2. Review the results with senior leaders quarterly in data-driven performance reviews.
2019	1. Monitor the progress of the following NSF-wide investments using a common set of milestones and indicators: 10 Big Ideas. 2. Review the results with senior leaders quarterly in data-driven performance reviews.

Reporting Year		
FY	**Target**	**Result**
2018	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.	Achieved

Previous Years		
FY	**Target**	**Result**
2017	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.	Achieved
2016	Monitor the progress of the following NSF-wide investments using a common set of milestones and indicators: NSF INCLUDES, INFEWS, and UtB.	Achieved
2015	Monitor the progress of Cognitive Science and Neuroscience, CEMMSS, CIF21, SaTC, and SEES using a common set of milestones and indicators.	Achieved
2014	Monitor the progress of CEMMSS, CIF21, I-Corps™, INSPIRE, SaTC, and SEES using a common set of milestones and indicators.	Not achieved

Strategic Alignment
- Strategic Goal 1: Expand knowledge in science, engineering, and learning, all Objectives
- Strategic Goal 2: Advance the capability of the Nation to meet current and future challenges, all Objectives.

About This Goal
NSF instituted the Key Program Investments goal in FY 2014 to track the interim progress of major investments towards their long-term goals. Each year, NSF highlights a number of cross-agency investments in its Budget Request to Congress. Most are described in the NSF-Wide Investments chapter of the Request. Although the overall impact of these investments might not be measurable for many years, tracking near-term indicators of progress can help the agency make formative changes or course corrections.

NSF selects a subset of these investments for closer quarterly tracking by leadership, based on internal assessments of the value that tracking is likely to add. For example, new programs, programs with recent changes, or high-profile programs may particularly benefit from the attention of leadership, and programs that are stably operating or sunsetting have reduced need for monitoring.

Discussion of FY 2018 Results
In FY 2018, NSF successfully monitored the progress of four NSF-wide investments—Understanding the Brain (UtB), Innovations at the Nexus of Food, Energy and Water Systems (INFEWS), Risk and Resilience, and NSF INCLUDES–using a common set of indicators and reviewed the results with senior leaders. The indicators that NSF chose to measure were programmatic inputs and outputs that can provide valuable signals to managers and leaders about a program's health, such as whether the program is being administered as planned or whether the program is generating enough interest from the community. The following were tracked quarterly in FY 2018:
- Input indicator: progress towards the investment's funding level target.
- Output indicators: solicitations issued, proposals received, awards made.
- Investment-specific activities: defined by each investment in its roadmap, this can include PI meetings, Ideas Labs, workshops, and evaluation contract deliverables.

These measures enabled managers and leaders to quickly gauge the status of a program's implementation, interest from the scientific community, whether the review process resulted in awards in a timely manner, and whether the program has met its internal goals for short-term outcomes. Tracking these measures over time provided managers and leaders with the opportunity to assess whether mid-course corrections were needed to improve program management and/or the overall direction of the investment.

FY 2019 and Planned FY 2020 Changes
NSF plans a shift for this goal in FY 2019 to focus on monitoring the implementation of the 10 Big Ideas, which are bold inquiries into the frontiers of science and engineering. By investing in these efforts, NSF endeavors to break down the silos of conventional scientific research to embrace the cross-disciplinary and dynamic nature of the science of the future. Six of the Big Ideas are research ideas, which build on the foundation built by NSF in fundamental research over the last fifty-seven years. The Research Big Ideas are complemented by four process-related Enabling Big Ideas, which are areas in which research endeavors to improve the way in which science is done, from impacting the workforce to developing the infrastructure that will drive the discoveries and aid the discoverers of tomorrow's science. More information about the individual Big Ideas can be found in this Request's Overview or in the NSF-Wide Investments chapter.

All Big Idea programs issuing solicitations in FY 2019 will be monitored as a KPI in FY 2019. This focus is expected to continue into 2020, although the final decision will be made in the first quarter of that year.

Goal Change History
By design, this goal's monitored programs change annually to match the funding priorities of the year. In addition to the annual change in the list of monitored programs, described in the narrative and the table below, the Goal Statements have changed slightly each year for this goal, as follows:

FY 2019: Ensure that key FY 2019 NSF-wide program investments are implemented and on track.
FY 2016: Ensure that key FY 2019 NSF-wide program investments are implemented and on track.
FY 2017: Ensure that key FY 2019 NSF-wide program investments are implemented and on track.
FY 2016: Ensure that key FY 2019 NSF-wide program investments are implemented and on track.
FY 2015: Meet critical targets for key program investments.
FY 2014: Meet critical targets for key FY 2014 program investments.

FY	CEMMS	SaTC	CIF21	SEES	UtB	INFEWS	NSF INCLUDES	Risk and Resilience
2014	✓	✓	✓	✓				
2015	✓	✓	✓	✓	✓			
2016					✓	✓	✓	
2017			sunset	sunset	✓	✓	✓	✓
2018	Sunset				✓	✓	✓	✓

CEMMS: Cyber-enabled Materials, Manufacturing, and Smart Systems
SaTC: Secure and Trustworthy Cyberspace
CIF21: Cyberinfrastructure Framework for 21st Century Science and Engineering
SEES: Science, Engineering, and Education for Sustainability
UtB: Understanding the Brain
INFEWS: Innovations at the Nexus of Food, Energy and Water Systems
NSF INCLUDES: Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science

Goal 3, Ensure that Infrastructure Investments are on Track

Lead Organization: Large Facilities Office, Office of Budget, Finance, and Award Management.

Goal Statement

Ensure program integrity and responsible stewardship of major research facilities and infrastructure.

Measure, Milestone, or Deliverable

Current and Upcoming Years	
FY	**Target**
2020	Construction Project Monitoring (MREFC and R&RA): For 100 percent of • Major Facilities in the Construction Stage that are over 10 percent complete, and • Mid-scale Research Infrastructure in the Construction Stage with a Total Project Cost (TPC) above $20.0 million that are over 10 percent complete and using Earned Value Management (EVM), keep negative cost and schedule variance at or below 10 percent.
2019	Construction Project Monitoring: For 100 percent of MREFC facilities under construction that are over 10 percent complete, keep negative cost and schedule variance at or below 10 percent.

Reporting Year		
FY	**Target**	**Result**
2018	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.	Achieved.

Measure Information for All Years

**Construction Project Monitoring Performance Trends,
FY 2014-2018 and including targets for FY 2019-2020**

Target = 100%
Result = 100%

Strategic Alignment

Strategic Goal 1: Expand knowledge in science, engineering, and learning. Objective 1.1, Knowledge: Advance knowledge through investments in ideas, people, and infrastructure.

About This Goal

The MREFC account supports the acquisition, construction, and commissioning of major research facilities and equipment that provide unique capabilities at the frontiers of science and engineering. Performance of construction projects funded by the MREFC account is monitored using the Earned Value Management (EVM) system. EVM is an integrated management control system for assessing, understanding, and

quantifying what a contractor or field activity is achieving with program dollars. Monitoring cost and schedule is a standard measure of performance for construction projects. Projects that are under ten percent complete are not considered eligible for this goal because EVM data is less meaningful statistically in the very early stages of a project.

Discussion of FY 2018 Results
For more information about all projects currently funded from the MREFC account, see the Major Research Equipment and Facilities Construction chapter of this submission.

All of the projects that were over 10 percent complete by the end of FY 2018 were on track. At the end of FY 2018, the National Ecological Observatory Network (NEON) was 95 percent complete, the Daniel K. Inouye Solar Telescope (DKIST) was 88 percent complete, and the Large Synoptic Survey Telescope (LSST) was 60 percent complete. Each project had cost and schedule variances well below the 10 percent thresholds.

FY 2019 and Planned FY 2020 Changes
The net population of projects monitored by this goal is not expected to change in FY 2019. The NEON project is expected to complete construction during the FY 2019 reporting period, and the Regional Class Research Vessel (RCRV) project, to meet anticipated ocean science requirements for U.S. coastal waters, is expected to cross the percent complete threshold during FY 2019.

In FY 2020, the population of projects will expand. The Antarctic Infrastructure Modernization for Science (AIMS) project is anticipated to be awarded in FY 2019. It is anticipated that AIMS would then cross the percent complete threshold during FY 2020. Additionally, projects funded by the NSF Big Idea Mid-scale Research Infrastructure will be included within the project population for this goal. More specifically, those Mid-scale Research Infrastructure projects with a Total Project Cost (TPC) above $20.0 million and using Earned Value Management (EVM) will be reported.

Goal 4, Use Evidence to Guide Management Decisions

Lead Organization: Office of Information and Resource Management

Goal Statement

Use evidence-based reviews to guide management investments.

Measure, Milestone, or Deliverable

Current and Upcoming Years		
The HR and IT domains are the subjects of separate goals in 2019 and beyond.		
Reporting Year		
FY	**Target Summary (see "Goal Change History" for detailed target language)**	**Result**
2018	HRStat: NSF will develop metrics and targets to monitor the progress of three initiatives. PortfolioStat: NSF's IT governance boards will evaluate proposed investments and maintain a "green status" on the Federal IT Dashboard.	All targets achieved.
Previous Years (see "Goal Change History" for details)		
FY	**Target Summary**	**Result**
2017	HRStat: NSF will monitor progress of workforce initiatives and develop metrics for move to new NSF Headquarters. PortfolioStat: NSF's IT governance boards will evaluate proposed investments and maintain a "green status" on the Federal IT Dashboard.	3 of 4 targets achieved.
2016	HRStat: NSF will assess progress of workforce initiatives and focus evidence-based reviews on initiatives. PortfolioStat: NSF's IT governance boards will evaluate proposed investments and use cost and schedule data to inform investment decisions.	All targets achieved
2015	HRStat: NSF will establish indicators to assess workforce initiatives and focus evidence-based reviews on initiatives. PortfolioStat: NSF's IT governance boards will evaluate proposed investments and use cost and schedule data to inform investment decisions.	All targets achieved
2014	HRStat: NSF will develop a human capital management dashboard and establish quarterly reviews of HC metrics by senior management. PortfolioStat: NSF's IT governance boards will evaluate proposed investments and NSF will reduce IT costs.	All targets achieved

Strategic Alignment

Strategic Goal 3: Enhance NSF's performance of its mission, all Objectives.

About This Goal

HRStat and PortfolioStat are processes in which agency leaders conduct regular data-driven reviews of human resources and IT portfolio information.

HRStat

Since inception of this goal, the HRStat program and its targets have focused on providing NSF leadership with the human capital (HC) data and analyses needed to make decisions effecting targeted performance

objectives. In FY 2014, NSF developed a first-generation human capital management dashboard that included Federal Employee Viewpoint Survey scores and internal HR data. In FY 2015, the dashboard was updated to include three areas of focus for workforce initiatives that year: Employee Engagement, Recruitment and Retention, and Workload. In FY 2016, the dashboard and HRStat briefings were expanded to include data about Diversity and Inclusion. Federal regulations and OPM guidance governing HRStat changed in FY 2017 while NSF further expanded the scope of the HC and HR data it provided to leadership via HRStat briefings. Expanded HRStat briefings included progress updates toward agency HC goals established via NSF's Strategic Reviews, GPRA-MA, and OPM-required initiatives (e.g., OPM's Hiring Excellence campaign). In FY 2018, NSF's HRStat program shifted to satisfy specific requirements of the new 5 CFR 250 regulations and OPM guidance. In its current form, NSF's HRStat program provides updates and data relative to the agency's Human Capital Operating Plan that is aligned with, and a derivative of, the agency's strategic plan, annual performance plan, and agency reform plan (i.e., "Renewing NSF").

PortfolioStat
These targets monitor NSF's IT investment evaluation process. NSF's IT investments support the Foundation's business needs through a formal and disciplined IT investment review and decision-making process. Specifically, NSF's process for approving centrally-funded IT investments requires advocates for new IT investments to complete detailed justification and business case documentation. This ensures that advocates for new IT investments have fully considered the business need, benefits, impacts, and strategic alignment of each potential investment. This also helps the CIO and governance boards verify that IT, rather than policy changes or business process reengineering, is the appropriate solution to a business need. The process provides NSF's CIO and governance boards the information needed to review, approve, and prioritize investment proposals using a comprehensive evaluation methodology. Targets relating to monitoring of in-process investments cost and schedule data ensure that governance boards are aware of the progress and accomplishments for those investments that they recommended for funding.

Discussion of FY 2018 Results
HRStat
NSF's performance target for HRStat in FY 2018 ensured that the agency's HRStat program contained metrics and targets for agency initiatives related to NSF's new strategic plan, new OPM and/or Administration initiatives, and NSF's agency reform plan.

PortfolioStat
In preparation for the FY 2020 budget development, IT Governance groups carried out investment oversight activities to monitor the performance of all ongoing investments. Following established processes, the IT Governance groups evaluated the FY 2020 planned priorities for all ongoing and new proposed investments, ensuring alignment to agency strategic priorities.

FY 2019 and Planned FY 2020 Changes
To align with agency reform/Renewing NSF efforts, this goal was modified in FY 2019 and beyond (see Goals 8 and 9). HRStat and PortfolioStat continue within the CHCO and CIO reporting frameworks.

Goal Change History
FY 2014 HRStat
1. Develop a human capital management dashboard to report progress toward human capital (HC) goals and to monitor HC metrics, for use as an internal resource for informing investment decisions.
2. Establish a review process which culminates in quarterly reviews of HC metrics by senior management and which incorporates, to the extent possible, OPM's human capital accountability system requirements.
FY 2014 PortfolioStat
3. NSF's IT governance boards will evaluate and prioritize proposed investments for FY 2016.

4. NSF will move toward a standardized computing environment, reducing purchase costs by $300,000 below FY 2012 levels by FY 2014.
5. Migration to cloud email provider will reduce costs by approximately $240,000 below FY 2012 levels by FY 2014.

FY 2015 HRStat
1. Establish indicators to assess the impact and progress of three workforce initiatives designed to advance progress toward or address barriers to the accomplishment of mission related goals and objectives.
2. During FY 2015, focus at least two evidence-based reviews on the three identified workforce initiatives.
FY 2015 PortfolioStat
3. NSF's information technology governance boards will evaluate and prioritize proposed investments for FY 2017.
4. NSF's information technology governance boards will use cost and schedule data on existing investments to inform investment decisions for FY 2017. Percentage of IT projects within ten percent of budgeted costs and percentage of IT projects within ten percent of budgeted schedule will be tracked.

FY 2016 HRStat
1. Establish indicators to assess progress of three workforce initiatives designed to meet the objectives of the Opportunities for Action in NSF's FY 2014 Strategic Review for Strategic Goal 3, Objective 1.
2. During FY 2016, focus at least two evidence-based reviews on the three identified workforce initiatives.
FY 2016 PortfolioStat
3. NSF's information technology governance boards will evaluate and prioritize proposed investments for FY 2018.
4. NSF's information technology governance boards will use cost and schedule data for ongoing investments to inform investment decisions for FY 2018.

FY 2017 HRStat
1. 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.
2. Develop metrics to demonstrate whether NSF met its workforce goals for transition to the new NSF Headquarters.
FY 2017 PortfolioStat
3. NSF's information technology governance boards will evaluate and prioritize proposed investments for FY 2019.
4. 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.

FY 2018 HRStat
1. NSF will develop metrics and targets to monitor the progress of three initiatives relating to NSF's new Strategic Plan, new OPM or Administration initiatives, and/or NSF's Headquarters relocation.
FY 2018 PortfolioStat
1. NSF's IT governance boards will evaluate and prioritize proposed investments for FY 2019.
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.
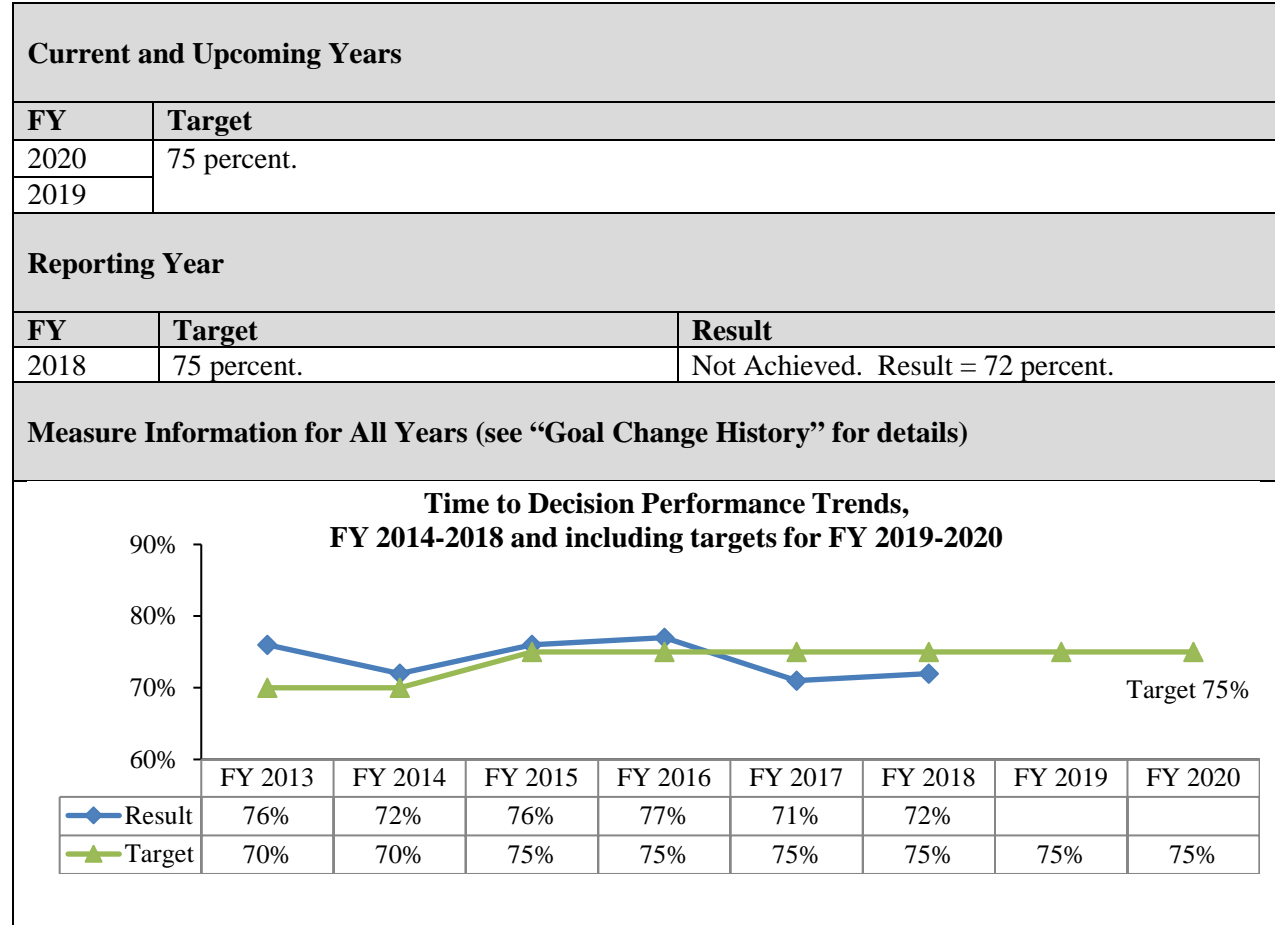
Goal 5, Make Timely Proposal Decisions

Lead Organization: Office of Integrative Activities.

Goal Statement

Inform 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.

Measure, Milestone, or Deliverable

Current and Upcoming Years

FY	Target
2020	75 percent.
2019	

Reporting Year

FY	Target	Result
2018	75 percent.	Not Achieved. Result = 72 percent.

Measure Information for All Years (see "Goal Change History" for details)

**Time to Decision Performance Trends,
FY 2014-2018 and including targets for FY 2019-2020**

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Result	76%	72%	76%	77%	71%	72%		
Target	70%	70%	75%	75%	75%	75%	75%	75%

Target 75%

Strategic Alignment

Strategic Goal 3, Enhance NSF's performance of its mission. Objective 3.2, Processes and Operations: Continually improve agency operations.

About This Goal

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. At the time of this goal's establishment in the early 2000s, one of the most significant issues raised in customer satisfaction surveys was the time it takes NSF to process proposals, with dwell times only around 50 percent. 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 70 percent target sought to strike a balance between the need of the investigator for timely action and the need of NSF for a credible and efficient merit review system. NSF's response time has been consistently above 70 percent for nearly two decades, and more recent surveys have shown that

this is now the second most common concern mentioned by PIs (see Goal 6, Improve Review Quality, for more recent survey results).

Discussion of FY 2018 Result

<u>Explanation of Unmet Goal</u>

NSF missed this goal in FY 2017 and FY 2018 for reasons related to the headquarters move at the end of FY 2017. NSF staff were directed to prioritize processing award decisions ahead of decline decisions in FY 2017 to facilitate an early close-out in advance of NSF's move to new headquarters in Alexandria. To reduce impact on individual employee performance, this goal was not included in any employee performance plans for the GWF performance period April 2017-March 2018. The FY 2017 result likely reflects this delay in decline processing and the FY 2018 result likely reflects this change in employee performance plans.

FY 2019 and Planned FY 2020 Changes

The 75 percent dwell time will continue.

Goal Change History

In FY 2015, this target was raised from 70 to 75 percent to be more in line with the historical trend of achievement between 75 and 80 percent. (The exception of FY 2014, in which NSF exceeded the 70 percent target by a historically low margin, was likely due to Foundation-wide delays in proposal processing after the lapse in funding authority in October 2013.)

Goal 6, Improve Review Quality
Lead Organization: Office of Integrative Activities, Office of the Director.

Goal Statement
Improve the quality of written reviews of NSF proposals.

Measure, Milestone, or Deliverable

Current and Upcoming Years	
FY	**Target**
2020	By September 30, 2020, 1. 140 NSF programs will have had reviewers view the presentation "Tips on how to write better reviews." 2. 10,000 reviewers of NSF proposals will have viewed "Tips on how to write better reviews" prior to preparing written reviews.
2019	By September 30, 2019, 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. • 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.

Reporting Year		
FY	**Target**	**Result**
2018	By September 30, 2018, 1. 50 NSF programs will have held orientation sessions that include "Tips on how to write better reviews." 2. 5000 reviewers of NSF proposals will have viewed "Tips on how to write better reviews" prior to preparing written reviews.	1. Achieved 2. Not achieved.

| Previous Years |
| --- |
| New goal in FY 2018. |

Strategic Alignment
- Strategic Goal 1: Expand knowledge in science, engineering, and learning, all Objectives
- Strategic Goal 3, Enhance NSF's performance of its mission. Objective 3.2, Processes and Operations: Continually improve agency operations.

About This Goal
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). 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.
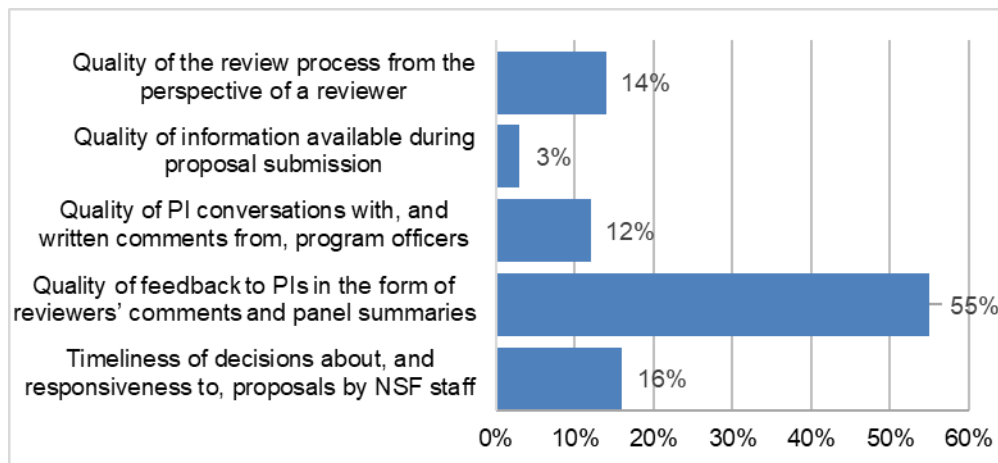
This goal measures the implementation of a pilot program, initiated in December 2016, to improve the quality of written reviews of NSF proposals. The pilot encourages NSF programs to use the video presentation "Tips on how to write better reviews" early in the review process to orient reviewers and provide 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 investigators and NSF program staff.

Discussion of FY 2018 Results
Through September 30, 2018, reviewers across 127 programs viewed the orientation video, exceeding the target of 50 programs. 3,022 reviewers viewed the orientation video prior to preparing written reviews, not reaching the target of 5,000 reviewers.

Explanation of Unmet Goal
Goals in their first year often take time to ramp up to full performance. After a midyear progress review, outreach within NSF and to the community was increased, which led to increased performance the second half of the fiscal year, resulting in exceeding the target for the number of programs. Of the two targets, the reviewer target was anticipated to be harder to achieve. Increasing the number of programs can be done solely with outreach to NSF employees, but increasing the number of reviewers viewing the video involves influencing the behavior of thousands of external reviewers. Nevertheless, the outreach effort did lead to a sharp rise in the second half of the year in the number of reviewers who saw the video.

FY 2019 and Planned FY 2020 Changes
NSF will conduct another survey in FY 2019 to learn whether the perceived quality of reviews has changed. Despite the funding lapse in Q2 of FY 2019, this survey is still scheduled for FY 2019. In light of the exceeded FY 2018 target, the target for number of programs was increased for FY 2020 to 140.

Goal 7, Foster a Culture of Inclusion
Lead Organization: Office of Diversity and Inclusion, Office of the Director.

Goal Statement
Foster a culture of inclusion through change management efforts resulting in change leadership and accountability.

Measure, Milestone, or Deliverable

Current and Upcoming Years		
FY	**Target**	
2020	In FY 2019 and FY 2020, all NSF leaders will participate in culture change activities.	
2019		

Reporting Year		
FY	**Target**	**Result**
2018	1. By September 30, 2018, ODI will conduct the new IQ process with four organizational units. 2. Improve the four NSF organizational units' New IQ Self-Survey Scores by five percent above established baseline.	1. Achieved. Four units. 2. Achieved. Increases averaged 10 percent.

Previous Years (see "Goal Change History" for details)		
FY	**Target Summary**	**Result**
2017	1. By September 30, 2017, ODI will conduct the new IQ process with three additional organizational units. 2. Improve the three NSF organizational units' New IQ Self-Survey Scores by seven percent above established baseline.	No targets achieved.
2016	1. By September 30, 2016, ODI will conduct the new IQ process with two NSF organizational units. 2. Improve the two NSF organizational units' New IQ Self-Survey Scores by five percent above established baseline.	No targets achieved
2015	Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.	Not Achieved (4/6 elements, 2 desk reviews)
2014	Attain six of six essential elements of a model EEO agency, perform two compliance desk reviews under antidiscrimination laws.	Not Achieved (5/6 elements, 0 desk reviews)
2013	Attain five of six essential elements of a model EEO agency.	Achieved
2012	Attain four of six essential elements of a model EEO agency.	Achieved
2011	Attain three elements of a model EEO agency.	Achieved

Strategic Alignment
Strategic Goal 3, Enhance NSF's performance of its mission. Objective 3.1, Human Capital: Attract, retain, and empower a talented and diverse workforce.

About This Goal
This goal incorporates principles from Renewing NSF, the agency operational reform plan initiated in FY 2017 in response to M-17-22.

Fostering inclusive work environments and realizing the full potential of the workforce's diversity requires agencies to employ effective management practices. 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. This goal will encourage leaders to participate in engagement initiatives being used around the Foundation, including, but not limited to:
- New Inclusion Quotient (New IQ) workshops,
- Diversity and Inclusion Dialogues,
- Workforce Inclusiveness Assessment,
- Special Emphasis observances,
- Employee Resource Groups,
- unconscious bias awareness training, and
- inclusion learning activities for all employees.

Discussion of FY 2018 Results

Starting in FY 2016, this goal focused on bringing the New IQ process to NSF to increase the inclusion scores of specific organizational units. The Office of Personnel Management (OPM), in partnership with the Department of Veterans Affairs, developed the (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.

Unit	2016 NewIQ score (from FEVS)	2018 post-test	Increase
Unit 1	57%	70%	+13%
Unit 2	57%	67%	+10%
Unit 3	77%	85%	+8%
Unit 4	70%	80%	+10%

OPM's Office of Diversity and Inclusion (ODI) 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. The most recent FEVS scores, or a self-survey conducted at the beginning of the ninety-day process, establish a baseline for the group, and the survey is distributed again at the end of the process. The expected outcome of the process is improved employee engagement levels, as measured by an increase in the overall New IQ scores and corresponding FEVS scores over time.

In FY 2018, NSF used the New IQ process to improve scores across four organizational units by an average of 10 percent.

FY 2019 and Planned FY 2020 Changes

In FY 2019, and beyond, this goal will expand beyond the New IQ to also count other inclusion activities.

Goal Change History

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. The focus on leadership represents a new direction for this goal in FYs 2019 and 2020. For more information, refer to the FY 2015 Annual Performance Report in the FY 2017 NSF Budget Request.[1]

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[1] nsf.gov/about/budget/fy2017/pdf/56_fy2017.pdf

Goal 8, Align Job Requirements with Competencies
Lead Organization: Division of Human Resource Management, Office of Information and Resource Management

Goal Statement
Ensure that employee job requirements are aligned with competencies and skills needed for the future.

Measure, Milestone, or Deliverable

Current and Upcoming Years	
FY	**Target**
2020	In FY 2019 and in FY 2020, the Division of Human Resource Management will review,
2019	modernize, or eliminate 10 percent of the existing position descriptions requiring review.
Reporting Year	
2018	*See Goal 4, "Use Evidence to Guide Management Decisions," for precedents.*

Strategic Alignment
Strategic Goal 3, Enhance NSF's performance of its mission. Objective 3.1, Human Capital: Attract, retain, and empower a talented and diverse workforce.

About This Goal
This goal incorporates principles from Renewing NSF, the agency operational reform plan initiated in FY 2017 in response to M-17-22.

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.

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.

FY 2019 and Planned FY 2020 Changes
This is a new goal in FY 2019.

Goal 9, Improve User Interactions with IT Systems
Lead Organization: Office of the Chief Information Officer and the Division of Information Systems, Office of Information and Resource Management

Goal Statement
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.

Measure, Milestone, or Deliverable

Current and Upcoming Years	
FY	**Target**
2020	By the end of FY 2020, 1. NSF IT systems will have been available 99.6 percent of the time, excluding 469 hours of planned downtime. 2. 86 percent of internal merit review functions will be accessible through a single portal. 3. 32 percent of external merit review functions will be accessible through a single portal.
2019	By the end of FY 2019, 1. NSF IT systems will have been available 99.5 percent of the time, excluding 469 hours of planned downtime. 2. 72 percent of internal merit review functions will be accessible through a single portal. 3. 32 percent of external merit review functions will be accessible through a single portal.
Reporting Year	
2018	*See Goal 4, "Use Evidence to Guide Management Decisions," for precedents.*

Strategic Alignment
Strategic Goal 3, Enhance NSF's performance of its mission. Objective 3.2, Processes and Operations: Continually improve agency operations.

About This Goal
This goal incorporates principles from Renewing NSF, the agency operational reform plan initiated in FY 2017 in response to M-17-22.

As NSF positions itself to operate as a more agile organization, information technology 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 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.

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.

FY 2019 and Planned FY 2020 Changes
This is a new goal in FY 2019.