

# **National Science Foundation Agency Recovery Plan American Recovery and Reinvestment Act of 2009**

Updated May 2010

## **Program Plans**

### **Name of Program**

Education and Human Resources (EHR) Recovery Plan Major Research Equipment and Facilities Construction Program (MREFC) Recovery Plan Research and Related Activities (R&RA) Recovery Plan

### **Agency Plan**

### **Broad Recovery Goals**

NSF's broad goals for its three American Recovery and Reinvestment Act programs – Research and Related Activities (R&RA), Education and Human Resources (EHR), and Major Research Equipment and Facilities Construction (MREFC) – are derived directly from the purposes and principles expressed in Section 3 of the Act. NSF investments in basic research, education, and research infrastructure will yield new discoveries that will enhance productivity and fuel economic growth for many years to come and contribute to the preparation of a dynamic U.S. workforce. NSF's investments will strengthen fundamental science and engineering research and education, advance discovery and learning, and spur innovations in products and services that create new wealth and contribute to our quality of life. NSF's Recovery Act awards have had an immediate impact, and will ultimately support an estimated additional 40,000 researchers, educators, post-doctoral fellows, and graduate and undergraduate students in institutions of higher education and other organizations throughout the Nation.

In the R&RA program, NSF is funding high-risk, potentially transformative research proposals that were already in hand, but otherwise would have been declined due to lack of funds. NSF is also investing in research infrastructure and instrumentation in this program, including awards made through the Major Research Instrumentation (MRI) and the Academic Research Infrastructure (ARI) competitions.

In the EHR Program, NSF is funding awards for science, technology, engineering, and mathematics (STEM) education in three programs: the Robert Noyce Teacher Scholarship Program, the Math and Science Partnership Program (MSP), and a new professional Science Masters Program. The Robert Noyce Teacher Scholarship Program seeks to encourage talented science, technology, engineering, and mathematics majors and professionals to become K-12 mathematics and science teachers in high-need areas throughout the Nation. The Math and Science Partnership (MSP) Program aims to enhance schools' capacity to provide challenging curricula for all students and promote institutional and organizational change from kindergarten through graduate school. The

Science Masters professional degree program will provide a three-year professional education to prepare participants for employment in science and engineering industries.

In the MREFC Program, NSF is funding the construction of three major facilities: the Advanced Technology Solar Telescope (ATST), the Alaska Region Research Vessel (ARRV), and the Ocean Observatories Initiative (OOI). The ATST, which still requires National Science Board approval prior to the start of construction, is the first new large solar telescope constructed in nearly 30 years. It will enable scientists to study solar activity and address broad scientific questions, such as: How are cosmic magnetic fields generated? What are the mechanisms responsible for new solar variability (that ultimately affects the Earth)? The ARRV will be the first new NSF ship built since the early 1980s. It is a major federal contribution to academic fleet renewal. The vessel will provide a technologically-advanced, safe, and highly effective oceanographic platform to enable multidisciplinary teams to conduct field research at the ice edge and in seasonal sea ice. The OOI is an integrated observatory network of deep-sea buoys, cables, and sensors to be deployed in critical parts of the U.S. and global coastal ocean. The network's 24/7 telepresence will capture climate, carbon, ecosystem, and geodynamic changes on the time scales on which they occur, rather than when research vessels are able to be in the area. The network will dramatically alter ocean science by providing the means to collect unique, sustained, time-series data sets that will enable researchers to study complex and interlinked processes throughout the global ocean.

### **Competition on Contracts**

NSF reviewed its past competition achievements and plans to continue to maximize competition wherever practicable for ARRA funded contracts. Of the estimated \$47.5 million of ARRA contractual funds, it is forecast that 100% of the dollars spent will be competitive dollars. \$25.0 million was awarded to support FY 2010 activities under the preexisting, competitively-awarded contract for Integrated Ocean Drilling Program (IODP) operations to cover the day rate and some fuel for the Scientific Ocean Drilling Vessel (SODV). The purchase of South Pole traverse equipment, Greenland traverse equipment, Toolik Field Station upgrades, emergency and airfield vehicles at McMurdo Station, and energy improvements at McMurdo Station account for the remaining \$22.5 million of funds, which were awarded competitively as subcontracts under preexisting, competitively-awarded contracts.

### **Contract Type**

NSF reviewed its use of fixed-price contracts and maximized fixed pricing wherever practicable for ARRA funded contracts. \$25 million of the estimated total of \$47.5 million of ARRA contractual dollars funded 2010 activities under an existing cost reimbursable, no fee contract for IODP operations. These funds were flowed down to an existing fixed price subcontract to cover the day rate and fuel for the SODV. The purchase of South Pole traverse equipment, Greenland traverse equipment, Toolik Field Station upgrades, emergency and airfield vehicles at McMurdo Station, and energy

improvements at McMurdo Station account for the remaining \$22.5 million. \$17.7 million was awarded as fixed-price subcontracts under existing cost reimbursable contracts. The approximate \$4.8 million remains to be committed and is planned to be awarded on fixed-price subcontracts. None of the awarded dollars funded contracts coded as fixed price in the Federal Procurement Data System – Next Generation (FPDS-NG) because, as per NSF ARRA program plans, agency ARRA funds were placed on preexisting, competitively-awarded contracts that are coded cost reimbursable in FPDS-NG.

### **Accountability Plan**

NSF will review performance results and engage senior leaders for each Recovery Act program through the NSF ARRA Steering Committee, which is chaired by the Deputy Director, who is also the Senior Accountable Official for Recovery Act activities. The NSF ARRA Steering Committee will hold managers accountable for achieving the goals and mitigating risks in the agency's three ARRA programs. Senior officials have been named as the goal lead for each of NSF's ARRA programs. The goal leaders will report to the NSF ARRA Steering Committee on a regular basis. All Directorates and Offices within the Foundation have developed plans to meet NSF's priorities for Recovery Act funding. Those priorities are to support new principal investigators, high-risk/high-return research, and research that is directly related to larger Administration priorities including clean energy and climate change. NSF will ensure that the durations of awards cover two to five years in order to structure a sustainable portfolio. In doing so, NSF will work with its partners, primarily institutions of higher education (including two-year colleges) and other research organizations (e.g., independent research museums, independent non-profit research laboratories, and non-profit research consortia).

NSF will continue to make performance information and results of Recovery Act awards available in a timely manner to the public on its website ([www.nsf.gov/recovery](http://www.nsf.gov/recovery)). This website features press releases, announcements, and notices on milestones in the Foundation's three Recovery Act programs. As results and outcomes of the Foundation's Recovery Act awards are reported, case studies will illustrate the types of awards and kinds of impacts they are making on the scientific, engineering, and education communities throughout the United States. NSF will also make performance information and results of Recovery Act awards available through the "Research Spending and Results" function on [www.research.gov](http://www.research.gov). That information includes awardee or award information (full text search); funds obligated to date; project director or principal investigator, including co-project director and co-principal investigator; award date; awardee location; primary location of performance; and performance Congressional district.

### **Obligations and Outlays Actuals and Projections**

NSF agency-level actual and projections for outlays and obligations *as of March 31, 2010* are included in the table below.

**National Science Foundation**  
**ARRA Obligations and Outlays as of March 31, 2010**

(Dollars in Millions)

	<b>FY10 Target</b>	<b>Total, FY 2009</b>	<b>Oct 2009</b>	<b>Nov 2009</b>	<b>Dec 2009</b>	<b>Jan 2010</b>	<b>Feb 2010</b>	<b>Mar 2010</b>	<b>Apr 2010</b>	<b>May 2010</b>	<b>Jun 2010</b>	<b>Jul 2010</b>	<b>Aug 2010</b>	<b>Sept 2010</b>
<b>National Science Foundation</b>														
Projected Obligations (Submitted Nov 2009)	\$3,000	\$2,402	\$2,402	\$2,402	\$2,765	\$2,765	\$2,765	\$2,780	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Actual Obligations through March & Revised Projections (as of April 2010)	\$3,000	\$2,402	\$2,402	\$2,402	\$2,426	\$2,598	\$2,637	\$2,683	\$2,683	\$2,698	\$2,698	\$2,929	\$2,979	\$3,000
Projected Outlays (Submitted Nov 2009)	\$1,324	\$27	\$239	\$335	\$454	\$544	\$634	\$730	\$825	\$926	\$1,051	\$1,174	\$1,207	\$1,324
Actual Outlays through March <sup>1</sup> & Revised Projections (as of April 2010)	\$1,103	\$27	\$41	\$92	\$104	\$136	\$222	\$225	\$279	\$342	\$416	\$575	\$801	\$1,103
<i>Delta</i>														
Obligations	-	-	-	-	(\$339)	(\$167)	(\$129)	(\$97)	(\$317)	(\$302)	(\$302)	(\$71)	(\$21)	-
Outlays	(\$221)	-	(\$198)	(\$243)	(\$350)	(\$408)	(\$412)	(\$505)	(\$546)	(\$584)	(\$635)	(\$599)	(\$406)	(\$221)

Italicized data indicate projections.

Totals may not add due to rounding.

<sup>1</sup>Actual Outlays for October through March are subject to change up to 40 days from the end of the second quarter (March 31).