

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

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 will have an immediate impact, supporting 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 will fund high-risk, potentially transformative research proposals that are already in hand, but otherwise would have been declined due to lack of funds. NSF will also invest 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 will fund 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 will fund 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 has 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 is planned to support FY 2010 activities under the pre-existing contract for Integrated Ocean Drilling Program (IODP) operations, which was awarded competitively. These funds will be flowed down through an existing competitive subcontract to cover the day rate 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 are planned to be competitively issued subcontracts under existing contracts awarded using competitive procedures.

Contract Type

NSF has reviewed its use of fixed-price contracts and plans to maximize fixed-price use wherever practicable for ARRA funded contracts. \$25 million of the estimated total of \$47.5 million of ARRA contractual funds are planned to fund the 2010 activities under the existing cost reimbursable, no fee contract for IODP operations. These funds will be flowed down through an existing fixed price subcontract to cover the day rate 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, which are planned to be fixed-price subcontracts issued under existing cost reimbursable contracts. Therefore, the competitively awarded subcontracts are forecast to be 100% fixed-price of the total estimated ARRA funding. It is forecast that 0% of the dollars spent will be for contracts coded as fixed price in the Federal Procurement Data System – Next Generation (FPDS-NG). This is due to the funds being placed on existing 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 make performance information and results of Recovery Act awards available in a timely manner to the public on its website (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. 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.