



American Society of Civil Engineers

Washington Office
101 Constitution Ave., N.W.
Suite 375 East
Washington, D.C. 20001
(202) 789-7850
Fax: (202) 789-7859
Web: <http://www.asce.org>

**Statement of
Patrick J. Natale, P.E.
Executive Director
AMERICAN SOCIETY OF CIVIL ENGINEERS
Before the Subcommittee on Commerce, Justice, Science and Related Agencies
Committee on Appropriations
U.S. House of Representatives
on Appropriations for the
National Science Foundation and the National Institute of Standards and Technology
For the Fiscal Year 2009
April 2, 2008**

I am Patrick Natale, Executive Director of the American Society of Civil Engineers (ASCE). ASCE is pleased to offer this testimony on the proposed budgets for the National Science Foundation (NSF) and the National Institutes of Standards and Technology (NIST) for Fiscal Year 2009.

I. The American Society of Civil Engineers

ASCE, founded in 1852, is the country's oldest national civil engineering organization representing more than 140,000 civil engineers in private practice, government, industry and academia dedicated to the advancement of the science and profession of civil engineering. ASCE is a 501(c) (3) non-profit educational and professional society.

II. Hazard Mitigation

Within the NSF and NIST, and other Federal agencies, there exist a number of small but critical programs designed to mitigate the impact of natural disasters. These critical programs such as the National Earthquake Hazards Reduction Program (NEHRP), the National Windstorm Impact Reduction Program and others hold the potential to save countless lives and billions of dollars. These programs deserve Congress's full attention and funding.

Each year, the United States suffers an estimated \$52 billion in property damage, disruption of commerce, and lost lives due to natural disasters such as hurricanes, tornadoes, wildfires, earthquakes. A single major event—a big earthquake or hurricane— could cause some \$80 billion to \$200 billion in economic losses in the affected areas. The tragedy caused by

Hurricanes Katrina and Rita in August and September 2005 underscores the growing risk to society from natural disasters.

III. National Earthquake Hazards Reduction Program (NEHRP)

For the past 30 years NEHRP has provided the resources and leadership that have led to significant advances in understanding the risk earthquakes pose and the best ways to counter them. Under NEHRP, there has been a constant source of funding for seismic monitoring, mapping, research, testing, code development, mitigation and emergency preparedness. A recent study and report by the Multihazard Mitigation Council entitled “Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities,” has concluded the money spent on reducing the risk of natural hazards is a sound investment. On average, a dollar spent by FEMA on hazard mitigation provides the nation about \$4 in future benefits. The type of research to be conducted under this program has the potential to increase the benefit greatly.

The 2004 reauthorization of NEHRP (P.L. 108-360) has given the National Institute of Standards and Technology (NIST) new responsibility as the lead agency for NEHRP and an expanded role in problem-focused research and development in earthquake engineering. **ASCE is pleased that the Administration has requested \$3.3 million for the NEHRP programs at NIST. This money was requested by the President for FY 2008 and approved by both the House and the Senate; however, it was left out of the final FY 2008 omnibus appropriations.**

ASCE would go further and urge that for NIST to fully carry out its responsibilities, the full funding levels contained in the reauthorization for FY 2009 of \$14.6 million for NEHRP responsibilities at NIST.

In addition to its leadership role, NIST is now specifically tasked to carry out problem-focused research and development in earthquake engineering aimed at improving building codes and standards for both new and existing construction and advancing seismic practices for structures and lifelines.

ASCE applauds NIST’s commitment to NEHRP by making money available without specific authorizations and for moving ahead with its responsibilities as the NEHRP lead agency. Additionally, the NEHRP office at NIST has created the Advisory Committee called for by law and an important step in its efforts at greater integration of the program.

ASCE also supports the President’s request for \$4 million for the structural safety in hurricanes, fires and earthquakes program at NIST. ASCE further urges that this program be closely coordinated with the NEHRP and Wind Hazards Programs.

The NSF also has a major role to play within NEHRP. The NSF has the responsibility to advance fundamental knowledge in earthquake engineering, earth science processes, and societal preparedness and response to earthquakes. Additionally, the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES), operated by NSF, will expand knowledge through new methods for experimental and computational simulation.

ASCE requests that Congress direct NSF to acknowledge the \$64.7 million funding level for NEHRP responsibilities at NSF for FY 2009 and to urge NSF to fulfill that obligation. We further support the Administration's request of \$23.02 million for the operation of the Network for Earthquake Engineering Simulation at NSF and ask that Congress urge NSF to maximize the potential of Network Earthquake Engineering Simulation (NEES) through research grants.

IV. National Windstorm Impact Reduction Program at NIST, NSF and the National Oceanic and Atmospheric Administration (NOAA)

In October 2004 the President signed Public Law 108-360 authorizing the creation of the National Windstorm Impact Reduction Program. As recent events on the Nation's Gulf coast have so vividly illustrated, the nation remains highly vulnerable to major windstorms.

This vulnerability was recognized by Congress in 2004 when it created the National Windstorm Impact Reduction Program. However, while the program has been authorized for FY 2006 through FY 2008, there has been no appropriation of funds or specific budget request.

ASCE urges full funding for the National Windstorm Impact Reduction Program. For Fiscal Year 2009 the law authorizes \$25 million in spending, spread between four federal agencies. The Coalition urges the Congress to support full funding levels. Specifically, for the agencies under the jurisdiction of this subcommittee, the law authorizes:

- **\$9.4 million for the National Science Foundation (NSF);**
- **\$4 million for the National Institute of Standards and Technology (NIST); and,**
- **\$2.2 million for the National Oceanic and Atmospheric Administration (NOAA).**

V. U.S. Global Competitiveness

ASCE is please that the President has once again requested funding for the American Competitive Initiative (ACI) with its focus on research and development. ASCE is encouraged by and supports ACI and urges Congress and the Administration to carry through and fund these programs.

ASCE believes that technological innovation has been the engine that drove the nation's economy expansion of the last fifty years. ASCE firmly believes that by maintaining strong continuing and steadily increasing support for the research and education we will continue to enjoy the rewards of economic expansion. If we do not continue to invest in research and technology, we will loose our position in an ever more integrated and competitive world. The basic research funded by NSF, in engineering and all other areas of science, is the foundation of that investment in the future. Global competition increasingly requires the United States to make the necessary investments in science and engineering research and education.

VI. National Institute of Standards and Technology

ASCE supports the President's requested budget for NIST of \$638 million for FY 2009 and would strongly urge Congress to appropriate the request fully as presented. ASCE is concerned that money requested for NIST's core laboratory and standards activities may be moved to fund other programs, as has happened in the past.

Scientific & Technical Research & Services (STRS) - These are NIST's core programs that provide the measurements and standards on which the nation's industry stands and grows. The NIST laboratories provide industry and the science and engineering community with the measurement capabilities, standards, evaluated reference data, and test methods that provide a common language needed at every stage of technical activity. U.S. scientists rely on NIST's evaluated data services and measurement expertise for a host of basic and applied research activities. **ASCE supports the Administration's request of \$535 million to fund the core programs at NIST. If fully appropriated, the funding would permit NIST to carryout its core responsibilities and greatly enhance U.S. competitiveness.**

Building and Fire Research Laboratory – ASCE believes that the services provided by the Building and Fire Research Laboratory (BFRL) are invaluable to the building industry. BFRL works to improve the productivity of U.S. construction industries and serves as the premier fire research laboratory in the U.S. It develops technologies to predict, measure, and test the performance of construction materials, components and practices. BFRL is the nation's central laboratory for providing the tools (i.e. research and measurements) needed to rebuild the nation's infrastructure.

Laboratory activities include: fire science and fire safety engineering; building materials; computer-integrated construction practices; structural, mechanical and environmental engineering; and building economics. The laboratory conducts investigations at the scene of major fires and structural failures due to earthquakes, hurricanes or other causes. The knowledge gained from these investigations guides research and is applied to recommendations for design and construction practices to reduce future hazards.

Construction is one of the nation's largest industries, comparable in size to the health care and agricultural industries. Like those vital areas of the nation's economy, the construction industry needs research and development to enhance international competitiveness and increase public health and safety. Funding for construction-related research, from all sources, is a fraction of that available to the healthcare and agricultural industries. Due to the fragmented nature of the construction industry, the private sector does not have the resources to conduct the needed research and development on its own.

National Construction Safety Team Act – Public Law 107-231 - created the National Construction Safety Team at NIST with the mandate to investigate major building failures within the United States. The investigations are conducted to establish the technical causes of building failures and evaluate the technical aspects of emergency response. The goal is to recommend improvements to the way in which buildings are designed, constructed, maintained, and used. ASCE supported this act; however ASCE believes that NIST must be provided with the

necessary resources. The National Construction Safety Team (NCST) Advisory Committee, established by the Act has recommended to Congress the creation of a NCST office and funding.

ASCE supports these recommendations and urges Congress to appropriate an additional \$2 million in FY 2009 to create a NCST office within the Building and Fire Research Laboratory at NIST.

VII. National Science Foundation (NSF)

ASCE supports the Administration's request for \$6.85 billion for NSF, an increase of approximately \$800 million over the FY 2008 appropriations. However, in order to carry out the many functions of NSF, ASCE urges Congress to fund NSF at its full funding level as authorized by the COMPETES Act of \$7.326 billion.

In recent years, Congress has increasingly recognized that, to remain technologically and economically competitive, our country is dependent on long-term investment in federal research and education programs in science and engineering. The support that the federal government has provided for NSF in a period of budgetary stringency has helped this country to retain its world leadership position in research and education in both science and engineering. That position is under unprecedented challenge from foreign nations newly committed to establishing leadership positions in research and technology development.

National investment in NSF research and education programs produces the new knowledge and the trained scientists and engineers indispensable to our future economic vitality and national security. ASCE strongly believes that Congress must maintain and increase that support.

Math and Science Partnerships - We encourage you to continue the federal commitment to math and science education by maintaining the peer-reviewed Math and Science Partnerships (MSP's) at the NSF and supporting robust funding for both the U.S. Department of Education (ED) and the NSF Math and Science Partnership programs. We urge you to oppose the Administration's budget proposal that would phase-out the NSF MSP program in favor of the new federal grant administered by the Secretary of Education. The proposal that would, in effect, limit individual states' discretion to target much-needed funds for local science and mathematics education reforms.

Once again, thank you for the opportunity for ASCE to express its views. If you need more information, contact Martin Hight, ASCE Senior Manager of Government Relations at (202) 326-5125 or by e-mail at mhight@asce.org.