

Department of Energy

FY 2012 Congressional

Budget Request



National Nuclear

Security Administration

Office of the Administrator
Weapons Activities
Defense Nuclear Nonproliferation
Naval Reactors

Nuclear Counterterrorism Incident Response

Funding Profile by Subprogram

(dollars in thousands)

	FY 2010 Actual Appropriation	FY 2011 Request	FY 2012 Request
Nuclear Counterterrorism Incident Response			
(Homeland Security)^a			
Emergency Response (Homeland Security) ^a	140,481	134,092	137,159
National Technical Nuclear Forensics (Homeland Security) ^a	10,227	11,698	11,589
Emergency Management (Homeland Security) ^a	7,726	7,494	7,153
Operations Support (Homeland Security) ^a	8,536	8,675	8,691
International Emergency Management and Cooperation	7,181	7,139	7,129
Nuclear Counterterrorism (Homeland Security) ^a	49,228	64,036	50,426
Total, Nuclear Counterterrorism Incident Response	223,379	233,134	222,147

Outyear Target Funding Profile by Subprogram

(dollars in thousands)

	FY 2013	FY 2014	FY 2015	FY 2016
Nuclear Counterterrorism Incident Response				
(Homeland Security)^a				
Emergency Response (Homeland Security) ^a	136,918	138,440	140,098	142,816
National Technical Nuclear Forensics (Homeland Security) ^a	11,694	11,577	11,828	12,274
Emergency Management (Homeland Security) ^a	6,629	6,506	6,694	6,776
Operations Support (Homeland Security) ^a	8,799	8,749	9,000	9,110
International Emergency Management and Cooperation	7,139	7,032	7,276	7,664
Nuclear Counterterrorism (Homeland Security) ^a	48,558	60,376	61,149	63,565
Total, Nuclear Counterterrorism Incident Response	219,737	232,680	236,045	242,205

Mission

The Nuclear Counterterrorism Incident Response (NCTIR) program, formerly the Nuclear Weapons Incident Response program, responds to, and mitigates nuclear and radiological incidents worldwide and has a lead role in defending the Nation from the threat of nuclear terrorism.

Benefits

The National Nuclear Security Administration (NNSA) Office of Emergency Operations remains the United States (U.S.) government's primary capability for radiological and nuclear emergency response and for providing security to our Nation from the threat of nuclear terrorism. Through the development, implementation and coordination of programs and systems designed to serve as a last line of defense in the event of a nuclear terrorist incident or other types of radiological accident, the Office of Emergency Operations maintains a high level of readiness for protecting and serving the U.S. and its allies a readiness level that provides the U.S. Government with quickly deployable, dedicated resources capable of responding rapidly and comprehensively to nuclear or radiological incidents worldwide. The NCTIR program is focused on redefining relationships with old partners such as the Federal Bureau of

^a Office of Management and Budget (OMB) Homeland Security designation.

Investigation (FBI), and strengthening relationships with other newer partners, such as the Department of Homeland Security (DHS). As the need for effective emergency operations activities continues to grow, NCTIR increasingly serves as the Federal Government's comprehensive defense of the Nation against the nuclear terrorism threat.

The NCTIR program functions primarily as a homeland security related activity which also uses its resources and expertise as a unique foreign policy asset for the additional application of international emergency response. Within the NCTIR program, the Emergency Response Homeland Security (HS), Emergency Management HS, National Technical Nuclear Forensics HS, Operations Support HS, International Emergency Management and Cooperation, and Nuclear Counterterrorism HS subprograms each make unique contributions to GPRA Unit Program Number 54.

Emergency Response HS maintains and provides specialized technical expertise in response to nuclear/radiological incidents, including those involving nuclear weapons. These capabilities include immediate situation resolution, longer-term consequence management, and issues relating to human health. These response teams include the Nuclear Emergency Support Team (NEST) and other assets.

Emergency Management HS provides for the comprehensive, integrated emergency planning, preparedness, and response programs throughout the Department's field operations. The program develops and implements specific programs, plans and systems to minimize the impact of emergencies on national security, worker and public safety, and the environment. The program oversees the implementation of emergency management policy, preparedness, and response activities within the NNSA. National Technical Nuclear Forensics HS supports implementation of operations and research and development as well as builds upon nuclear disposition activities already underway, including pre- and post-detonation nuclear forensics.

Operations Support HS activities support Headquarters' emergency response operations through the Headquarters' Watch Office and Operations Centers. Program staffs participate in drills and exercises to improve communication and notification capabilities and procedures. Operations Support HS manages and operates the Headquarters Emergency Communications Network to facilitate unclassified and classified videoconferences in support of Department-wide task forces, meetings/briefings, exercises/drills and all DOE site emergencies. The International Emergency Management and Cooperation (IEMC) program designs, organizes, and conducts training, provides technical assistance, and develops programs, plans and infrastructure to strengthen emergency management systems worldwide.

The Nuclear Counterterrorism (NCT) HS program serves as the premier U.S. Government program regarding Improvised Nuclear Device (IND) and proliferant weapon design and assessment activities. The NCT program provides the necessary analysis of NNSA-specific data needed by other agencies to counter the threat of a terrorist nuclear device or non-stockpile nuclear weapons designs. The NCT program draws on the full range of tools, techniques, and expertise developed within the nuclear weapons design laboratories.

The Nuclear Counterterrorism Incident Response program continues to contribute to the departmental strategic goal of "Securing our Nation: Enhance nuclear security in defense, non-proliferation, nuclear power, and environmental safeguards" through the ongoing and planned international activities to provide consistent emergency plans and procedures, effective early warning and notification of

nuclear/radiological incidents or accidents, and delivery of assistance to an affected nation should an incident/accident occur. Through the IEMC program element, NCTIR is also providing communication and radiation monitoring equipment, technical assistance and training for International Atomic Energy Agency (IAEA) and foreign government emergency programs to address nuclear/radiological incidents and accidents including lost radiological sources. The IEMC supports emergency response cooperative activities bilaterally, multi-laterally and under various international agreements and arrangements and Presidential and Global Initiatives to ensure programs are in place to protect emergency personnel, the public and the environment from the consequences of nuclear/radiological incidents and accidents.

Annual Performance Results and Targets

The Department is in the process of updating its strategic plan, and has been actively engaging stakeholders including Congress. The draft strategic plan is being released for public comment concurrent with this budget submission, with the expectation of official publication this spring. The draft plan and FY 2012 budget are consistent and aligned. Updated measures will be released at a later date and available at the following link <http://www.mbe.doe.gov/budget/12budget/index.htm>.

FY 2010 Accomplishments

- Deployed multiple field teams to conduct operations for special events and elevated threats including 46 high profile special events and 19 emergency responses around the world in support of Homeland Security, FBI and Department of State; including National Special Security Events, and National Security Events. These events included: State of the Union; Super Bowl; several NASCAR events; Nuclear Security Summit; 2010 Winter Olympics; 2010 World Cup; Central American Games; Marine Corps Marathon; MLB All-Star Game; and New Year's Eve support in various cities.
- Participated in 119 interagency domestic and international counterterrorism exercises and drills, including: Tier 1 National Level Exercise 2010, Marble Challenge (2), and Nuclear Weapons Accident Incident Exercise 2010.
- Participated in Eagle Horizon 2010, a White House-directed interagency continuity exercise.
- Continued support to the FBI of its render safe capability and provided Kit Alpha (diagnostics/RDD/isolation) and training to the cities of Los Angeles and Chicago Bomb Squads. The Kit Alpha is accompanied by a five week training curriculum taught by Emergency Response Personnel in conjunction with FBI and provides advanced detection, mitigation, and delay technology for use against Radiological Dispersal Devices (RDDs) and Improvised Nuclear Devices.
- Continued corrective actions from Pre-Detonation Device (Disposition) exercises which called for extensive modifications to traditional forensic support to the FBI and Device Assessment.
- Continued to support the FBI and the Interagency in the National Technical Nuclear Forensics (NTNF) Post Detonation debris collections capability. Completed and validated interagency CONOPS for Post Detonation debris collections through conduct of exercise Shining Tortoise.
- Finished the installation of the Main Ventilation Fan for G-Tunnel at the Nevada National Security Site. This was an identified Life Safety Issue. The G-Tunnel is used to support Disposition activities in support of the FBI in the NTNF mission.

- Outreach activities continued with the conduct of 6 International Radiological Assistance Program Training for Emergency Response and 5 International Radiation Emergency Medical Training courses; assistance in providing radiation detection equipment, assistance and training to 4 partner nations; exercise assistance with 4 partner countries and 2 international organizations; and training, equipment and in-country technical assistance to South Africa during the World Cup.
- Continued Global Initiative to Combat Nuclear Terrorism (GICNT) support through outreach, interagency, and international efforts designed to improve the capabilities of participant nations for response, mitigation, and investigation of terrorist use of nuclear and radioactive materials. Individual events with the GICNT included exercises in the Netherlands and Kazakhstan; conferences in the United Arab Emirates; and, workshops in Australia, the United Kingdom and Morocco.
- Improved the capability of Triage, a radiological reach-back capability, to provide first responders with expert analysis of detector readings and enhanced hands-on training and workshops.
- Established a formal Nuclear Threat Reduction Channel with the United Kingdom to improve nuclear counterterrorism and nuclear counterproliferation technical collaboration.
- Executed 8 major scientific experiments regarding nuclear materials and threat high explosive configurations and one major render safe experiment against a specified threat device.
- DoD deployed several thousand IED disruptor tools, developed by the NCT program for US and Coalition Forces in Afghanistan.

Major Outyear Priorities and Assumptions

The outyear projections for Nuclear Counterterrorism Incident Response total \$930,667,000 for FY 2013 through FY 2016. The focus during this period will be to maintain effectiveness for ensuring required capabilities for a world-wide response to a nuclear or radiological incident and/or accident; Equipment and Training, Render Safe Stabilization Operations, International Emergency Management and Cooperation, and Nuclear Counterterrorism. These initiatives support scientific breakthroughs from Render Safe Research and Development in support of stabilization equipment and training for FBI teams and the continued implementation of international emergency management training and outreach activities to maintain the mission objective of reducing the risk of international nuclear or radiological events through strengthening emergency preparedness and response capabilities worldwide.

The NCTIR outyear budgets will concentrate on the programs that contribute the most to vital national security missions. The program will focus to correct deficiencies surfaced by quarterly evaluation of the readiness performance measure.

Detailed Justification

(dollars in thousands)

FY 2010 Actual Approp	FY 2011 Request	FY 2012 Request
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Emergency Response (Homeland Security)

140,481 134,092 137,159

The Office of Emergency Response serves as the last line of national defense in the face of a nuclear terrorist incident or other type of radiological accident. The mission is to protect the public, environment, and the emergency responders from terrorist and non-terrorist events by providing a responsive, flexible, efficient, and effective nuclear/radiological emergency response framework and capability for the Nation by applying NNSA’s unique technical expertise resident within the Enterprise. The strategic approach for emergency response activities is to ensure a central point of contact and an integrated response to emergencies. Specific attention is focused on providing the appropriate technical response to any nuclear emergency within the Department, the U.S. and abroad. This is accomplished by ensuring that the appropriate infrastructure is in place to provide command, control, communications, and properly organized, trained and equipped response personnel to successfully resolve an emergency event.

▪ **Nuclear Emergency Support Team**

93,682 89,106 90,890

Under the provisions of the Atomic Energy Act of 1954 and Presidential Decision Directives 39 and 62, National Security Presidential Directives (NSPD) 28, NSPD 17/Homeland Security Presidential Directive (HSPD) 4, and NSPD 46/HSPD 15, government agencies are directed to plan for, train, and resource a robust capability to combat terrorism, especially in the area of Weapons of Mass Destruction (WMD). The Nuclear Emergency Support Team (NEST) program provides DOE/NNSA technical assistance to a Lead Federal Agency (LFA), whether it be DHS, FBI, or Department of Defense (DoD), to deal with incidents, including terrorist threats, that involve the use of nuclear materials. The NEST program is comprised of three functional elements which include searching for, rendering safe, and command and control of the assets. Furthermore, there are five primary teams dedicated to the execution of these functions: Accident Response Group (ARG), Radiological Assistance Program (RAP), Nuclear/Radiological Advisory Team (NRAT), Search Response Team (SRT), and Joint Technical Operations Team (JTOT). These teams utilize Radiological Triage for assessment activities. The NEST program has been structured to address threats posed by domestic and foreign terrorists likely to have both the will and means to employ WMD. The NEST response assumes that such an act might occur with little, if any, advanced warning.

Under such circumstances, NEST would respond to assist in the search for, identification, characterization, rendering safe and final disposition of any nuclear weapon or radioactive device. Additionally, NEST has the capability to search for possible additional devices that may have been emplaced. Finally, the NEST Technology Integration program develops innovative equipment and analysis methods for emergency responders.

The Render Safe Research and Development (RS R&D) Program, also part of the NEST program, continues to research technologies that can be used to diagnose, stabilize, and render safe a nuclear

(dollars in thousands)

FY 2010 Actual Approp	FY 2011 Request	FY 2012 Request
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device. Currently, the RS R&D portfolio is focused on diagnostic and stabilization technologies. Several technologies developed by the RS R&D Program have been procured by the RSSO program and delivered to the first stabilization team. The RS R&D and RSSO Programs work closely with other government agencies to leverage available technologies and resources.

▪ **Other Assets** **27,449** **25,660** **25,843**

Additional assets provide assistance to local, state and other federal agencies and conduct exercises in response to emergencies involving nuclear/radiological materials in support of States and local jurisdictions. The DOE/NNSA teams work closely with the Federal coordinating agency which is usually the Department of Homeland Security / Federal Emergency Management Agency. DOE also coordinates with the Environmental Protection Agency (EPA)/Nuclear Regulatory Commission (NRC) and other elements within DOE, and provides support to the NEST programs to ensure the safe resolution of an incident and protect public safety and the environment.

- The Aerial Measuring System (AMS) detects and maps radioactive material at an emergency scene to determine contamination levels using fixed wing and rotary aircraft.
- The Atmospheric Release Advisory Capability (ARAC) develops and disseminates predictive dose and deposition plots generated by sophisticated computer models.
- The Federal Radiological Monitoring and Assessment Center (FRMAC)/Consequence Management Teams provide the technical capabilities focused on radiological consequence management to assist and coordinate federal radiological monitoring and assessment activities and effects with DHS, Federal Emergency Management Agency (FEMA), NRC, EPA, DoD, state and local agencies, and others.
- The Radiation Emergency Assistance Center/Training Site (REAC/TS) provides advice and medical consultation for injuries resulting from radiation exposure and contamination and serves as a training facility. REAC/TS operates the Cytogenetic Biodosimetry Laboratory (CBL) that has the capability to perform clinical dose assessments for potentially exposed individuals. The CBL is the only federally funded civilian facility of its kind in the country. Additionally, REAC/TS provides training to the medical community and maintains a database of medical responders trained to treat radiation injuries within the U.S. and abroad.

▪ **Render Safe Stabilization Operations** **19,350** **19,326** **20,426**

The Render Safe Stabilization Operations (RSSO) is working with the FBI to train and equip teams to isolate and stabilize a nuclear device, IND or RDD until the national response assets arrive to render it safe. The RSSO program has deployed an operational capability to one city. Preparations are in place to begin providing, maintaining, and training on stabilization equipment for the second city. RSSO has developed and tested the concept of operations to support the Stabilization Special Agent Bomb Technicians through the use of the NNSA's render safe home teams.

(dollars in thousands)

FY 2010 Actual Approp	FY 2011 Request	FY 2012 Request
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In FY 2012, the funding requested for Stabilization Operations will facilitate the interchange of information between NCTIR and other agencies, obtain and maintain equipment, develop and train the stabilization field and home teams with the FBI, and deploy the first generation of stabilization equipment to selected FBI teams, thus improving the national emergency response capability and fully integrating this technology with response elements and associated deployed technologies.

National Technical Nuclear Forensics (Homeland Security)

10,227 11,698 11,589

The Office of National Technical Nuclear Forensics (NTNF) provides operational support to Pre-Detonation Device and Post-Detonation technical nuclear forensics program. The NTNF program is a Homeland Security Council (HSC)/National Security Council (NSC) sponsored policy initiative, which aims to establish missions, institutionalize roles and responsibilities and enable operational support for pre-detonation and post-detonation nuclear forensics and attribution programs including training and exercises, equipment purchases and maintenance, logistics, and deployment readiness to support ground sample collection and Deployable Field Laboratory operations. Major program elements include:

- Development and maintenance of the concept of operations, operational plans, and procedures;
- modeling, signatures development, knowledge base and data management;
- support to FBI in collection of pre-detonation device forensics evidence;
- maintenance and improvements to G-Tunnel in support of NTNF;
- support to FBI and DoD in collection, analysis, and evaluation in support of post-detonation TNF;
- support the FBI and interagency in Bulk Analysis of Special Nuclear Materials; and
- training, drills, and exercises.

Emergency Management (Homeland Security)

7,726 7,494 7,153

The Office of Emergency Management develops and implements specific programs, plans, and systems to minimize the impacts of emergencies on worker and public health and safety, the environment, and national security. This is accomplished by promulgating appropriate Departmental requirements and implementing guidance; developing and conducting training and other emergency preparedness activities; supporting readiness assurance activities and participating in interagency activities. The objective is to continue to have a fully implemented and fully integrated Departmental comprehensive emergency management system throughout the Enterprise. In FY 2012, the Office of Emergency Management will conduct six to eight no-notice exercises at DOE/NNSA sites to gauge emergency preparedness.

The Office of NNSA Emergency Management Implementation serves as the single point of contact for implementing and coordinating emergency management policy, preparedness, and response activities

(dollars in thousands)

FY 2010 Actual Approp	FY 2011 Request	FY 2012 Request
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with NNSA, including managing and coordinating NNSA field and contractor implementation of emergency management policy.

The Emergency Operations Training Academy (EOTA) is an academically accepted training and development center that remains on the cutting edge of technology and innovation. It is the Office of Emergency Operations point of service for training development and oversight.

The Continuity Program (CP) continues to include responsibility for all of DOE and NNSA and is a HSC/NSC required policy initiative. These programs develop the Headquarters and the field Continuity of Operations and Continuity of Government plans that are updated constantly. Periodic training and exercises are required. The NNSA and DOE continue to participate in major interagency exercises sponsored by DHS on an annual basis. In the FY 2012/FY 2013 timeframe, the CP plans to complete the National Communications System directive (NCS) 3-10 (Federal) communications equipment and training requirements for the national capital region as well as Albuquerque, New Mexico.

Operations Support (Homeland Security) 8,536 8,675 8,691

Emergency Operations Support operates the DOE Emergency Operations Centers and the Emergency Communications Network (ECN). The DOE Headquarters Emergency Operations Center provides the core functions of supporting Departmental command, control, communications, Geographic Information System (GIS) data and situational intelligence requirements for all categories of DOE emergency response situations. The goal of the Emergency Communications Network Program is to provide the DOE/NNSA national emergency response community a world-class, state-of-the-art, high speed, global emergency communications network to support the exchange of classified and unclassified voice, data and video information.

International Emergency Management and Cooperation 7,181 7,139 7,129

The International Emergency Management and Cooperation (IEMC) subprogram develops program plans and infrastructure; provides technical assistance, and designs, organizes, and conducts training to strengthen and harmonize emergency management systems worldwide. Current ongoing cooperation involves more than 80 countries and 10 international organizations with key cooperative activities involving Argentina, Brazil, Canada, Chile, China, Denmark, Finland, France, Iceland, India, Iraq, Israel, Japan, Malaysia, Mexico, Morocco, Norway, Pakistan, Philippines, Russia, Singapore, South Africa, South Korea, Sweden, and Taiwan. The NNSA will continue liaison with, and participate in projects sponsored by, international organizations (IAEA, European Union (EU), North Atlantic Treaty Organization (NATO), Group of 8, (G8), World Health Organization, (WHO), World Meteorological Organization, (WMO), and Arctic Council), exhibiting leadership under assistance and cooperation agreements to provide consistent emergency plans and procedures, effective early warning

(dollars in thousands)

FY 2010 Actual Approp	FY 2011 Request	FY 2012 Request
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This subprogram element enables specialized R&D for technical analysis, equipment, and procedures necessary to maintain the Nation's capabilities for research on non-stockpile nuclear weapons designs; e.g., Improvised Nuclear Devices or Radiological Dispersal Devices and the laboratory analysis of their aftermath. Additionally, this program element will ensure that we will be able to meet the most urgent of DoD requirements in our role for worldwide render safe support. This effort will enhance our capabilities to respond to intelligence requests and maintain operational readiness through acquisition of needed specialized equipment and training of interagency staff on non-stockpile weapons designs, thus decreasing the Nation's risk in the event of a nuclear terrorist strike.

Total, Nuclear Counterterrorism Incident Response	223,379	233,134	222,147
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Explanation of Changes

FY 2012 vs. FY 2011 Request (\$000)
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Emergency Response (Homeland Security)

▪ Nuclear Emergency Support Team

This increase reflects reinvestment in some capabilities for First Responder mission requirements which were reduced in the FY 2011 budget request to accommodate necessary program activities within other NCTIR elements.

+1,784

▪ Other Assets

This increase reflects reinvestment in mission requirements in the Consequence Management teams, which were reduced slightly in the FY 2011 budget request to accommodate necessary activities within other NCTIR program elements.

+183

▪ Render Safe Stabilization Operations

Reflects an increase in program investment for development and continued deployment of first generation equipment for stabilization teams.

+1,100

Subtotal, Emergency Response

+3,067

National Technical Nuclear Forensics (Homeland Security)

This decrease reflects reprioritization within NCTIR elements to accommodate increases in higher priority mission requirements.

-109

Emergency Management (Homeland Security)

This decrease reflects reprioritization within NCTIR elements to accommodate increases in higher priority mission requirements.

-341

Operations Support (Homeland Security)

Increases Emergency Operations Centers funding to support required maintenance and operation of the Emergency Communications Network.

+16

International Emergency Management and Cooperation

This decrease is commensurate with the planned profile of funding requirements for international outreach efforts.

-10

FY 2012 vs. FY 2011 Request (\$000)
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Nuclear Counterterrorism (Homeland Security)

This decrease results from reallocation within the NCTIR program to accommodate overall program balance and the NCTIR mission within the available resources and the overall needed investment mix. The NCT base program will continue to ensure its mission of reducing the risks of potential INDs. The decrease in this subprogram element scales back the specialized R&D for technical analysis, equipment, and procedures necessary to maintain the Nation's capabilities for research on non-stockpile nuclear weapons designs; e.g., foreign proliferant designs, Improvised Nuclear Devices or Radiological Dispersal Devices and the associated large scale experiments as well as ensuring that we will be able to meet the expectations of DoD in our role for worldwide render safe support.

Total Funding Change, Nuclear Counterterrorism Incident Response

-13,610

-10,987

Capital Operating Expenses and Construction Summary^a

Capital Operating Expenses

(dollars in thousands)

	FY 2010 Actual Appropriation	FY 2011 Request	FY 2012 Request
General Plant Projects	0	0	0
Capital Equipment	2,924	2,988	3,054
Total, Capital Operating Expenses	2,924	2,988	3,054

Outyear Capital Operating Expenses

(dollars in thousands)

	FY 2013	FY 2014	FY 2015	FY 2016
General Plant Projects	0	0	0	0
Capital Equipment	3,121	3,190	3,260	3,332
Total, Capital Operating Expenses	3,121	3,190	3,260	3,332

^a Funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment and general plant projects. The program no longer budgets separately for capital equipment and general plant projects. Funding shown reflects estimates based on actual FY 2010 obligations.