



U.S. DEPARTMENT OF ENERGY  
NATIONAL NUCLEAR SECURITY ADMINISTRATION

NNSA

# NUCLEAR EMERGENCY SUPPORT TEAM (NEST)

The

Department of Energy's (DOE) National Nuclear Security Administration (NNSA) has the world's leading scientists, engineers and technicians from over 50 years of managing the nation's nuclear weapons program. When the need arises, DOE is prepared to respond immediately to any type of radiological accident or incident anywhere in the world with the following seven emergency response assets.

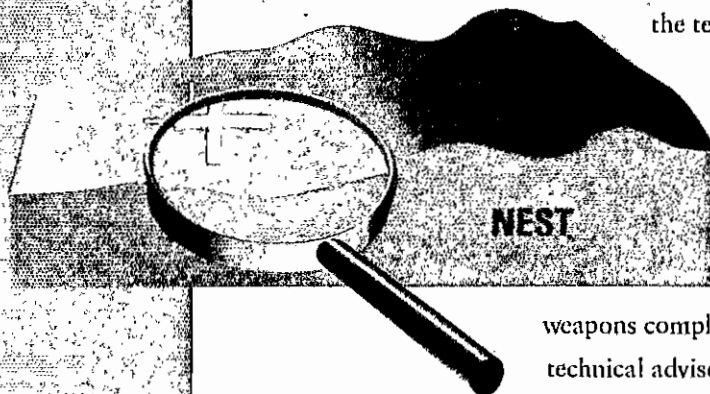
AMS (Aerial Measuring System) detects, measures and tracks radioactive material at an emergency to determine contamination levels. ARAC (Atmospheric Release Advisory Capability) develops predictive plots generated by sophisticated computer models. ARG (Accident Response Group) is deployed to manage or support the successful resolution of a U.S. nuclear weapons accident anywhere in the world. FRMAC (Federal Radiological Monitoring and Assessment Center) coordinates Federal radiological monitoring and assessment activities with those of state and local agencies. **NEST (Nuclear Emergency Support Team)** provides the nation's specialized technical expertise to the Federal response in resolving nuclear/radiological terrorist incidents. RAP (Radiological Assistance Program) is usually the first NNSA responder for assessing the emergency situation and deciding what further steps should be taken to minimize the hazards of a radiological emergency. REAC/TS (Radiation Emergency Assistance Center/Training Site) provides treatment and medical consultation for injuries resulting from radiation exposure and contamination, as well as serving as a training facility.

## INTRODUCTION

NEST is NNSA's program for preparing and equipping specialized response teams to deal with the technical aspects of nuclear or radiological terrorism.

NEST capabilities include search and identification of nuclear materials, diagnostics and assessment of suspected nuclear devices, technical operations in support of render safe procedures, and packaging for transport to final disposition. NEST capabilities are drawn from the nation's nuclear

weapons complex. Response teams vary in size from a five person technical advisory team to a railored deployment of dozens of

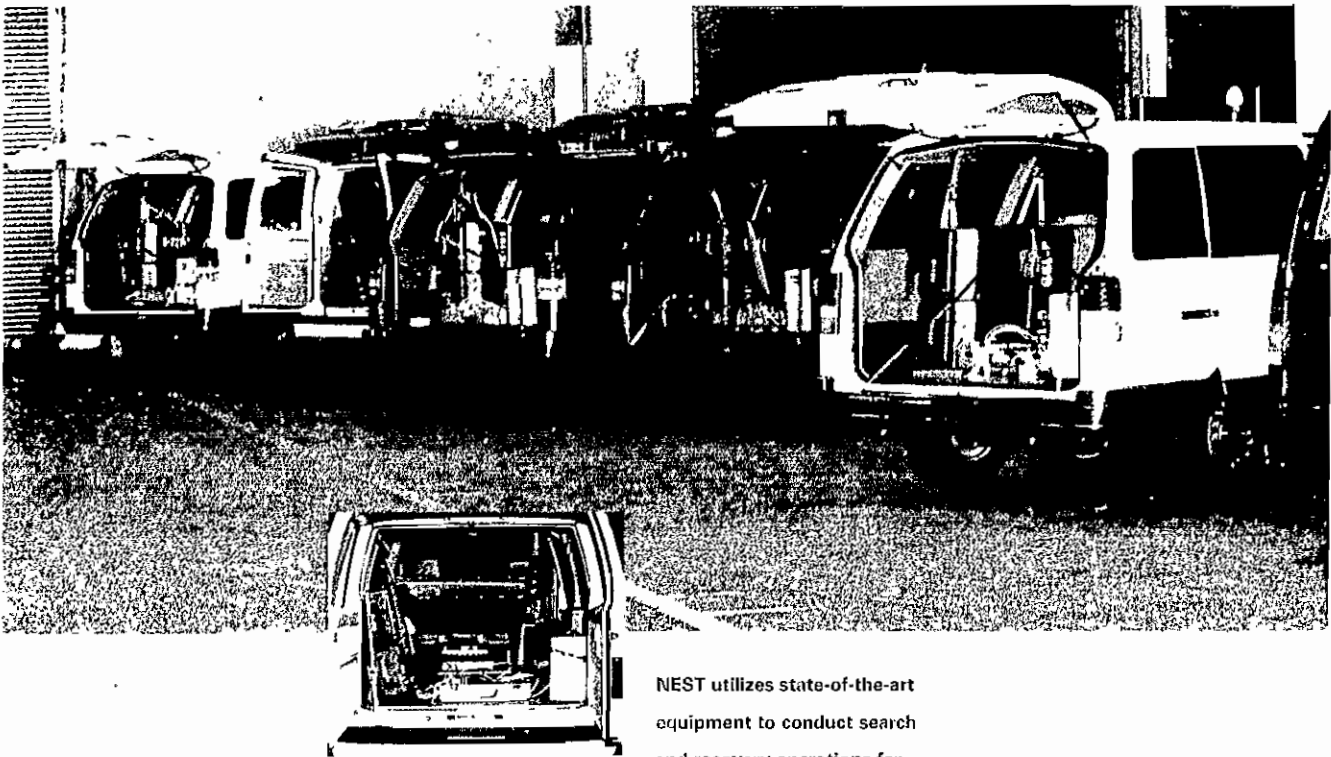




U.S. DEPARTMENT OF ENERGY  
NATIONAL NUCLEAR SECURITY ADMINISTRATION

searchers and scientists who can locate and then conduct or support technical operations on a suspected nuclear device. NEST personnel and equipment are ready to deploy worldwide at all times.

Under the Atomic Energy Act, the Federal Bureau of Investigation (FBI) is responsible for investigating illegal activities involving the use of nuclear materials within the United States, including terrorist threats involving the use of special nuclear materials. The NEST program was initiated in 1974 as a means to provide technical assistance to the FBI. A series of Executive Orders provides authority for NNSA to assist the FBI conduct, direct, and coordinate search and recovery operations for nuclear materials, weapons, or devices, and assist in identifying and deactivating an Improvised Nuclear Device (IND) or a Radiological Dispersal Device (RDD). Today's operations are guided by recent Presidential Decision Directives addressing the threat of weapons of mass destruction terrorism. Under this national policy, the FBI is the Lead Federal Agency (LFA) for terrorism response within the United States, the Department of State is the LFA for terrorism response outside the United States, and NNSA supports the LFA.



NEST utilizes state-of-the-art equipment to conduct search and recovery operations for nuclear materials, weapons, or devices.



## MISSION

The NEST mission is to provide specialized technical expertise to the Federal response in resolving nuclear or radiological terrorist incidents. This expertise is provided by well-trained personnel who form specialized response teams to work in coordination with teams from other Federal agencies to resolve a nuclear

terrorist crisis. NEST experts include engineers, scientists, and other technical specialists from NNSA's nuclear weapons laboratories and facilities to include Los Alamos National Laboratory, Sandia National Laboratories, Lawrence Livermore National Laboratory, the Remote Sensing Laboratory and the Pantex plant. The NEST specialized response teams include coordination, liaison, and advisory teams, search teams, technical operations teams and planning support teams. These teams have been structured to provide a rapid, flexible response and to seamlessly integrate with the LFA or the Department of Defense to help resolve all technical aspects of the crisis.

## HOW NEST OPERATES

Because a nuclear terrorist incident could arise with little or no warning, NEST response teams are prepared to deploy rapidly upon notification. If the crisis develops over time and information is available from intelligence efforts or other warnings, response teams may be alerted or activated for pre-deployment planning. All response team activations and deployments are directed by DOE headquarters after coordination with other concerned agencies. This interagency process may involve strict operational security to protect classified or sensitive details of the response operation. The FBI or State Department coordinates U.S. government assistance to support the resolution of the crisis with state and local officials or foreign governments.

A Nuclear/Radiological Advisory Team deploys as part of an FBI led Domestic Emergency Support Team (DEST) or as part of a State Department led Foreign Emergency Support Team (FEST) for an incident overseas to provide nuclear scientific and technical advice to the LFA. A Senior Energy Official, responsible for coordinating activities with the LFA, will deploy with the Nuclear/Radiological Advisory Team.

search  
detect  
analyze



U.S. DEPARTMENT OF ENERGY  
NATIONAL NUCLEAR SECURITY ADMINISTRATION

# NEST



If the location of a suspected nuclear or radiological device is not known, search operations may be required. NEST search teams are routinely configured to detect and locate a radiological source using a variety of methods ranging from hand-carried to vehicle-mounted search equipment. The basic building block team for search operations is the seven person Search Response Team. Manned by full-time emergency response professionals, the Search Response Team stays ready to deploy within four hours of notification on either civilian or military aircraft. Upon arrival on-scene, the Search Response Team can begin searching immediately or can equip and train local responders, already familiar with the search area, to become searchers. Up to sixteen people can become proficient in novice searcher techniques in less than an hour. The addition of local novice searchers, who can speak the language and blend into the local cultural and ethnic environment, greatly facilitates search efficiency and operational security.

If more extensive search efforts are needed, an enhanced Search Augmentation Team can be deployed. NEST search teams deploy with all necessary equipment to conduct search operations. The teams deploy with secure and non-secure communications packages and Geographic Information System (GIS) databases which provide electronic mapping, electronic business information, and demographics.

When a device is located, the specific resolution is dependent upon the political, technical, and tactical situation. The ultimate goal in resolving a nuclear terrorism crisis is to keep the terrorist device from producing a nuclear yield. This involves special explosive ordnance disposal (EOD) procedures conducted by highly-trained technical personnel. NNSA Joint Technical Operations Teams have been designated to work with military EOD teams during all phases of the crisis response. These phases include a tactical or time-sensitive phase, a follow-on or deliberate phase, and a final disposition phase. The designation of specific phases for the response operation allows teams to focus their training and equipment needs while keeping enough flexibility to handle a wide range of potential scenarios. This approach also draws upon the personnel and equipment resources of NNSA's Accident Response Group. DOE Consequence Management (CM) teams also work for the Senior Energy Official and start planning for possible CM issues in parallel with crisis efforts.

With these tailored and responsive teams, NNSA is able to marshal scientific and technical expertise to successfully resolve a nuclear/radiological incident in support of the LFA.

For more information, contact:  
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