

**Statement of Brigadier General Ronald Haeckel
Acting Deputy Administrator, Defense Programs
National Nuclear Security Administration
Senate Armed Services Committee Hearing
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OVERVIEW

Mr. Chairman and members of the committee, the security and safety of our nuclear weapons and nuclear material stockpiles, as well as our facilities and personnel is the highest priority of the National Nuclear Security Administration (NNSA).

Our nuclear weapons complex is a one-of-a-kind operation, spread over seven states and employing some 25,000 people. Each site has a distinct mission with highly specialized equipment, tooling, materials and workforce. The security and safety of this unique enterprise is maintained through thorough and detailed procedures, training and with sophisticated state-of-the-art equipment. The transportation of nuclear weapons and special nuclear material between our sites and to and from our military users within the continental United States likewise presents us a unique challenge which we meet by developing and using the best technology available at our plants and labs. Our success can be judged by the fact that since 1975 we have accumulated over 100 million miles of over-the-road experience with no accidents causing a fatality or release of radioactive material.

The nuclear weapons themselves have built-in safety features and many incorporate unique use control devices to ensure that an accident or abnormal environment will not lead to a nuclear yield or the scattering or radioactive material over a wide area. In the event of an accident or incident involving nuclear materials the NNSA also maintains special emergency response assets to contain or limit the contamination.

FACILITY SECURITY

The security of our nuclear sites and facilities has always employed "defense in depth" protection. The first line of defense is our protective forces which are over 3,300 strong. In addition, we have 450 special response team members trained in special recapture/recovery tactics located at our special nuclear material and weapon sites. Our protective forces are well equipped with hardened vehicles, semi-automatic handguns, assault-type weapons, body armor, digital encrypted radios, protective masks, and night vision and thermal imaging equipment.

We make use of the most sophisticated state-of-the-art perimeter and interior intrusion detection and assessment equipment along with delay entry systems at hardened storage vaults for our nuclear assets. In addition, we have hardened critical guard posts and make use of hardened guard towers at several locations. NNSA has also hardened and technologically upgraded all of its alarm stations and has compartmentalized access to sensitive facilities and nuclear assets through the use of the most advanced

access control systems available. Personnel access control is monitored by visual badge checks by the protective force, badge swipes, personnel identification number, hand geometry, personal weight verification, X-ray and metal detection, or a combination of these methods.

CYBER SECURITY

All of our nuclear weapons information assets and computing resources at our various sites are protected by firewalls, intrusion detection systems, and software which automatically scans for malicious viruses. Classified assets and systems are also physically separated from the unclassified and sensitive computing systems for greater security. These cyber security defenses are continuously examined through a program of self-assessments, site peer reviews, and independent oversight organizations.

PERSONNEL SECURITY

We also have human reliability programs covering over 14,000 employees with access to nuclear material/weapons, or have been determined to occupy positions that, if abused could cause damage to the health and safety of the public, environment, our work force, and/or National Security. These reliability programs require annual certification of reliability through maintenance of a top secret clearance, physiological interviews and testing, medical evaluations, alcohol and drug testing, security file reviews, and supervision and peer observations.

Our defense-in-depth approach is rigorously assessed through computer modeling and performance tested against the Design Basis Threat through actual force-on-force exercises in the completion of a vulnerability analysis at each nuclear material/weapon site and for the transportation of our nuclear assets. The results of the vulnerability analysis are documented annually in a Site Safeguards and Security Plan approved by the operations manager and concurred in by myself. As with any critical program, the effectiveness of our facility protection postures is validated through internal as well as external independent oversight reviews.

TRANSPORTATION SECURITY

The overall management, command and control of our transportation assets are centralized in Albuquerque, New Mexico, and includes a fully staffed, 24-hours a day, 365-days a year, operations center. The center monitors vehicle status and location; and maintains real-time communications with every convoy. The center also maintains an emergency contact directory of federal and state response organizations located throughout the contiguous United States in the event of an accident or hostile actions. Liaison is also maintained with law enforcement and public safety agencies throughout the country, making them aware of our transportation mission. Law enforcement officers are provided information to assist them in recognizing our vehicles should they be involved in an event, and what actions to take in conjunction with the actions of the federal agents.

Cargo is transported in highly modified tractor-trailers operated by armed federal agents and accompanied by other federal agents in escort, communications, and other convoy vehicles. Federal agents are authorized by the Atomic Energy Act to make arrests and carry and use firearms in the performance of their duties. Federal agents are certified following a rigorous training course and receive on-the-job training the balance of their first year. Agents continue to receive in-service training throughout their careers and must continue to meet regular and demanding qualification requirements relative to weapons, tactics, physical fitness, and driving proficiency. The transportation fleet includes safeguards transporters, safe secure trailers, armored tractors and escort vehicles, which all incorporate special safety and security features. The trailers have access delay systems to deny unauthorized access to materials.

WARHEAD SECURITY

The NNSA and its laboratories take every possible measure to prevent accidents involving nuclear weapons and to prevent them from getting into the wrong hands. The enduring nuclear weapons stockpile was built from the early 1960s through the late 1980's. Some weapons alterations/modifications have been performed to address specific safety and use control concerns. Extensive joint reviews are conducted with the Department of Defense to develop a Stockpile Life Extension Program to refurbish weapons not only ensure continued reliability but also to ensure that the latest safety and use control features are incorporated into our stockpile. The Nuclear Weapons Council oversees the U.S. nuclear weapons stockpile, monitors its safety and security, and provides yearly status reports to the President and the Congress.

Use control features incorporated into our weapons or weapons systems are to ensure that these weapons only operate when properly authorized by the President of the United States and to prevent deliberate unauthorized use. Use control features include: Permissive Action Links, which are electronic locks inside the nuclear weapon that prevent it from being detonated until the proper externally obtained unlock code is inserted; command disable features, which permit nonviolent disablement of a nuclear weapon by destroying critical components if loss of control is imminent; and active protection systems, designed to make it possible to automatically disable critical components within the weapon upon sensing an intrusion by an adversary.

Safety features incorporated into our nuclear weapons include: Enhanced Nuclear Detonation Safety (ENDS), Insensitive High Explosives (IHE), and Fire-Resistant Pits (FRP). ENDS prevents the electrical system within the weapon from accidentally firing the detonators if involved in an accident. All but one of the nuclear weapons types in the stockpile have ENDS; the one that does not employ ENDS and that system is scheduled for retirement. IHE, unlike conventional high explosives, is highly resistant to unintended detonation, significantly reducing the likelihood of scattering radioactive materials in an accident. Only four weapons types (missile warheads) contain conventional high explosives. To mitigate the unlikely event of a high temperature fire involving a nuclear weapon, three of the last four weapon designs have incorporated a pit coating capable of providing additional safety in fire accident

scenarios. Overall, these measures are judged to limit the chance of a weapon producing a nuclear yield if involved in an accident to one chance in a million. They also are judged to limit the chance of a weapon pre-arming, arming, launching, or releasing in all normal and credible abnormal environments to one in a billion and one in a million, respectively.

EMERGENCY RESPONSE

In the event of a nuclear or radiological incident, the Department maintains specialized teams which can be readily deployed to respond to the entire spectrum of nuclear and radiological issues. The Nuclear Emergency Support Team, or NEST, is an umbrella organization of specialized crisis response assets. The Accident Response Group is a team of scientific and technical experts ready to react to any accident or incident involving one of our own nuclear weapons. The Search Response Team conducts searches via ground and air for lost, stolen, or missing weapons, devices, or nuclear material. There is also a Nuclear/Radiological Advisory Team of subject matter experts here in Washington D.C. to support the FBI and the Department of State. There are also advisory teams to support the Department of Defense special mission units and to advise and assist in the neutralization and movement of nuclear devices. It is important to note that NEST operates only in areas secured by law enforcement or the military.

In addition to NEST, the Department also maintains some twenty-six radiological assistance teams arrayed across the nation to conduct radiological measurements, to characterize releases and to provide advice and guidance to state and local authorities. The Department also provides expert medical assistance for radiation exposure accidents through our facility in Oak Ridge, Tennessee. We also establish and manage the coordination of all Federal radiological monitoring and assessment functions for any nuclear or radiological incident. All the individuals on these teams are volunteers from across the complex. They are scientists, physicists, engineers, technicians, and other specialists that volunteer for this duty. We could not perform these vital functions without them.

SEPTEMBER 11th

The terrorist events of September 11, 2001, have changed all of our lives. For NNSA it expanded the threats to our vital nuclear assets to include high energy explosive attacks at multiple locations that are well planned and sophisticated, and involve many people. Let me review the actions taken to address this new threat and on-going efforts to further mitigate this escalated threat.

Immediately following the second plane crash into the World Trade Center, and before the third and fourth crashes, the NNSA went to full alert. We secured our weapons, our nuclear materials, our facilities and our people. Weapon convoys went to safe havens - all were off the roads in an hour and a half. Numerous barriers were set up to restrict traffic, and anyone or anything entering our sites were carefully inspected. Emergency operations centers were immediately staffed and operated around-the-clock to keep communications open, perform vital coordination, and continually assess the security situation. Our emergency response teams went on heightened alert at the first moment of the crisis and

were deployed to New York to assist in recovery while others remained poised for a possible follow-on event.

Our protective forces are highly trained, well equipped and remain energized and motivated even in light of long hours of work. Operations Offices, Plant and Laboratory Directors, and staff are vigilant and prepared for high-energy explosive attacks that were not previously contemplated.

NNSA personnel fully support the strengthened security measures despite some inconveniences created in the day to day work environment. We remain at heightened security with special emphasis on high-energy explosive threats. We expect to be at this level for some time and remain poised to return to even higher security levels if conditions should warrant.

We must implement permanent measures that will better protect our people and mission but at the same time permit us to operate effectively and efficiently. This requires us to utilize technology and to capitalize on the great capabilities resident within the NNSA.

With the above in mind, General Gordon has instituted several on-going initiatives designed to further make the NNSA security posture strong and visible so as to deter terrorists. At the same time, NNSA will continue to provide support to other agencies in accordance with their needs. We will apply the unique capabilities of our laboratories and plants in seeking innovative approaches to strengthening NNSA and U.S. counterterrorism efforts.

The weekend after the September 11, 2001 terrorist attack, General Gordon directed that a vulnerability assessment of our high-risk targets be completed. This "72-Hour Security Review" rated our facilities and laboratories and associated assets against six criteria (nuclear detonation, radiological dispersion, loss of program capability, loss of technical staff, loss of life, and costs). A prioritized list of security improvements has been compiled to address the concerns from the study and are being validated for a supplemental funding request. We plan to apply resources against the greatest needs and will see the work through to completion.

In addition, a 90-day Combating Terrorism Task Force (CTTF) has been established to review Headquarters and field actions to protect NNSA interests in the aftermath of the terrorist attacks of September 11, 2001. Twelve (12) tasks have been initiated and are staffed with the best expertise available. These tasks include development of a revised design basis threat document; site-by-site security review and vulnerability assessments; protection of our cyber data and resources; assessment of current nuclear materials management practices; personnel security review; transportation security review; chemical, biological, radiological and nuclear incident analysis assessment; contributions NNSA can make to other in counterterrorism; review of international programs; chemical/ biological detectors and sensors; emergency management review; and defining the complex of the future.

General Gordon has directed the NNSA to protect ourselves, continue to perform our mission, and

assist others where possible.

To protect ourselves we want security forces that are so efficient and effective, and facilities that are so strong that a terrorist will see no chance of success and take his business elsewhere. The weapons and material we have custody of demand no less.

It is understood that the war on terrorism will last for years and therefore one must be able to accomplish our mission in an enhanced security environment. We must carry out normal stockpile stewardship - production, surveillance, refurbishment - and meet DoD delivery requirements.

With the great talent and the taxpayer's investment in our enterprise, we must make our skills and technology available to others. We will continue to keep our emergency response assets ready to deploy to assist - even as we look to improve them. We are bringing together our multitude of capabilities to make certain other agencies know how we can help with their problems. We are also looking to accelerate materials protection control and accountability work and reactor safety internationally.

So where are we today? Immediate actions have been taken to address the September 11, 2001 events and NNSA remains in an elevated security posture. However, all sites are back to work and our nuclear material convoys are moving. NNSA specialized assets remain on alert and will be deployed when needed. The NNSA Combating Terrorism Task Force is energized and making progress. Consistent with the Task Force efforts, we have identified and prioritized additional actions which will require supplemental resources. We are maintaining close ties with the intelligence and law enforcement community and are a member of the White House Counterterrorism Task Force.

All of us at the National Nuclear Security Administration recognize how vital our mission is to National Security. While the recent terrorist attacks have dramatically changed things, we will maintain the highest levels of security for the nuclear weapons and materials in our custody.