



Appendix E

Nuclear Weapons Accident Response

E.1 **Overview**

This chapter provides an overview of the response activities by the federal government in the event of an accident or incident involving a U.S. nuclear weapon.

The Department of Defense (DoD) defines a U.S. nuclear weapon accident in DoD 3150.8-M, Nuclear Weapon Accident Response Procedures (NARP), as an unexpected event involving nuclear weapons or radiological nuclear weapon components that results in any of the following: accidental or unauthorized launching, firing, or use by U.S. forces of a nuclear-capable weapons system which does not create the risk of an outbreak of war; nuclear detonation; non-nuclear detonation or burning of a nuclear weapon or radiological component; radioactive contamination; seizure, theft, loss, or destruction of a nuclear weapon or radiological nuclear weapon component, including jettisoning; public hazard (actual or implied). “Broken Arrow” is the DoD flag word that is applied to a nuclear weapon accident.¹

There have been thirty-two recordable U.S. nuclear weapon accidents since the fielding of the stockpile in the 1940s, and none since 1982. The inherent safety of U.S. nuclear weapons is demonstrated by the fact that none of these 32 accidents resulted in a nuclear detonation. Figure E.1 portrays the site of the last nuclear weapon accident in Damascus, Arkansas in 1982.



Figure E.1
Last Nuclear Weapon Accident,
Damascus, Arkansas, 1982

¹ CJCSI 3150.03B, *Joint Reporting Structure Event and Incident Reports*, defines a “Broken Arrow” as a US nuclear weapon accident that does not create the risk of a nuclear war; “Broken Arrow” is also the name given to the Operational Report (OPREP) 3 stating that a nuclear weapon accident has occurred.



Figure E.2
DOE Safeguards Transport (SGT)



Figure E.3
C-17 Cargo Transporter

Currently, DoD nuclear weapons are deployed in operational and storage environments. A small number of nuclear weapons are routinely transported via ground or air (see Figures E.2 and E.3) within the continental U.S. or Europe to meet operational, maintenance, and surveillance requirements. While these movements are conducted with strict adherence to safety and security policy and procedures, weapons in transit present the most likely scenario for an accident.

Accordingly, the DoD, in close coordination with the Department of Energy (DOE), the Department of Homeland Security (DHS), the Federal Bureau of Investigation (FBI), the Department of State (DOS) (for weapons transported outside the U.S.), and other federal, state, and local agencies, conducts periodic nuclear weapon accident exercises (NUWAX) to practice the necessary government response in the unlikely event of a U.S. nuclear weapon accident.

E.2 *National Level Response Entities and Responsibilities*

The federal response to a U.S. nuclear weapon accident would involve multiple departments and agencies. The DHS would have overall responsibility for the response in a domestic accident, and the DOS would have overall responsibility if the accident occurs in a foreign country. Both the DoD and the DOE would be involved in the response, and a number of other departments and agencies could be involved in supporting roles.

In any accident involving a nuclear weapon, nuclear components, or radiological material, the first priority for all agencies involved is immediate life-saving actions. Because the accident could be the result of an act of terrorism, until the actual cause is determined, federal law enforcement agencies will protect the area as a crime scene. This may result in accident response activities, other than immediate life-saving, to be delayed until a crime scene investigation is complete.

E.2.1 Interagency – The NCCS Committee of Principals (CoP)

In accordance with National Security Presidential Directive/NSPD-28, *United States Nuclear Weapons Command, Control, Safety, and Security*, the Nuclear Command and Control System (NCCS) Committee of Principals (CoP) was created in 2005 to oversee nuclear weapons activities as defined by its title, as well as nuclear weapon accident and incident response. The NCCS CoP is chaired by the Deputy Secretary of Defense and it includes a CoP Deputies Committee, chaired by the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)). The CoP and CoP Deputies meet three times a year and the status of the nuclear weapon exercise program is a standard agenda item. For more information on the CoP, see Chapter 9, *The NCCS Committee of Principals*.

NCCS CoP activity now also includes the *Nuclear Weapon Accident Response Subcommittee* (NWARS) – formerly the *Nuclear Weapons Accident Response Steering Group* (NWARSG) – a long-standing Senior Executive Service (SES)/O-6 level interagency body that facilitates nuclear weapon accident response activities and procedures. The NWARS is chaired by the Deputy Assistant to the Secretary of Defense for Nuclear Matters (DATSD/NM). The DOE Associate Administrator for Emergency Operations is the Vice-Chair. NWARS members represent the organization of the NCCS CoP, other National Response Plan (NRP) Nuclear-Radiological Incident Annex Cooperating Agencies, and the military departments that routinely maintain custody of nuclear weapons.

The NWARS supports and advises the NCCS CoP Deputies on issues pertaining to federal nuclear/radiological policy, plans, doctrine, and procedures. It facilitates interagency coordination of nuclear weapons accident exercise schedules and the integration of exercises into the National Exercise Plan. The NWARS supports the resolution of issues identified in after-action reports from exercises and real-world accident response. The NWARS is also tasked to harmonize logistics plans and issues among organizations responsible for nuclear weapons accident response as well as to share and discuss information on existing and emerging technologies that could enhance federal response capabilities. Issues not resolved by the NWARS are referred to the NCCS CoP Deputies Committee for resolution.

E.2.2 Department of Homeland Security

Homeland Security Presidential Directive/HSPD-5, *Management of Domestic Incidents*, designates the Secretary of Homeland Security as the principal federal official for domestic incident management and directs the development and use

of a *National Incident Management System* (NIMS) and a *National Response Plan* (NRP).² These two companion documents are published by DHS and integrate the capabilities and resources of various governmental jurisdictions (federal, state, and local), incident management and emergency response disciplines, non-governmental organizations (NGOs), and the private sector into a cohesive, coordinated, and seamless national framework for domestic incident management.

The NIMS provides a consistent doctrinal framework for incident management at all jurisdictional levels regardless of the cause, size, or complexity of the incident. The NIMS represents a core set of doctrines, concepts, principles, terminology, and organizational processes to enable effective, efficient, and collaborative incident management. The *Incident Command System* (ICS) is a major component of the NIMS that is designed to integrate a combination of incident response facilities, equipment, personnel, procedures, and communications within a common organizational structure. Figure E.4 illustrates the Incident Command System organization.

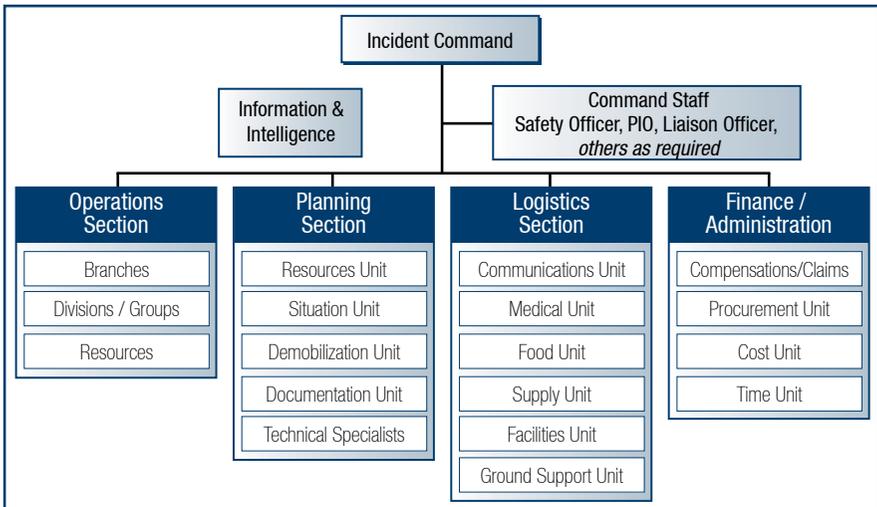


Figure E.4 Incident Command System

The NRP is an all-hazards plan, built on the template of the NIMS, that provides the framework for federal interaction with all levels of government, the private sector, and NGOs. The NRP is always in effect; however, the

² Currently, the National Response Framework (NRF) is being proposed as the replacement for the NRP. At the time that this book was published, the NRF had not yet been released for formal staffing.

implementation of NRP coordination mechanisms is flexible and scalable such that the Secretary of Homeland Security can partially or fully implement the NRP. This selective implementation through the activation of one or more of the NRP elements allows maximum flexibility to meet the unique requirements of any situation requiring federal coordination or a coordinated federal response.

The NRP Incident Annexes apply to situations requiring specialized, incident-specific implementation of the NRP, and these annexes designate “coordinating agencies” and “cooperating agencies” to support the DHS incident management mission. Coordinating agencies provide the leadership, expertise, and authorities to implement critical and specific aspects of the response. Cooperating agencies support the DHS or the coordinating agency by conducting operations and/or by providing personnel, equipment, and other resources. The Nuclear/Radiological Incident Annex includes guidance for the federal response to a domestic nuclear weapon accident and identifies the agency with custody of the weapon at the time of the accident – either the DoD or the DOE – as the coordinating agency. This annex describes how the coordinating agencies and cooperating agencies support the overall DHS coordination of the response to a nuclear/radiological incident requiring federal coordination as well as how the coordinating agencies lead the response to incidents of lesser severity (incidents below the threshold of an Incident of National Significance³).

E.2.3 Department of State

The DOS leads the federal response in a U.S. nuclear weapon accident that falls within the territorial boundaries of a foreign nation. The DOS, in close coordination with the host nation, will lead the U.S. response whether the accident occurs on a U.S.-occupied DoD installation or outside the boundaries of a U.S. installation.

Although DoD forces are not bound by the NIMS and the NRP during a foreign response, DoD forces follow the NIMS/NRP templates to ensure interoperability with other federal departments and agencies that may support the U.S. response. Normally, DoD assets will form the preponderance of the U.S. response and all activities of the DoD are closely coordinated with the DOS Operations Center and the Chief of Mission at the U.S. Embassy in the affected country.

³ *Incidents of National Significance* are high-impact events that require an extensive and well-coordinated multi-agency response to save lives, minimize damage, and provide the basis for long-term community and economic recovery.

E.2.4 Department of Defense

Within the Office of the Secretary of Defense (OSD), the ATSD(NCB) is responsible for issuing DoD guidance for nuclear weapon accident response and for providing technical advice on nuclear weapons. Overall OSD crisis management is the responsibility of the Assistant Secretary of Defense for Homeland Defense (ASD/HD) in the event of an accident.

The Joint Staff (JS), through the National Military Command Center (NMCC), is responsible for deploying response forces and exercising initial operational control over the DoD response. At an appropriate time, the JS/NMCC passes operational control to the regional Combatant Commander which, depending on the location of the accident/incident, will most likely be either U.S. Northern Command (USNORTHCOM) or U.S. European Command (USEUCOM).

The Services are assigned responsibility to organize, train, and equip Response Task Forces (RTFs), including the provision of a general or flag officer as RTF Commander. Currently, the Navy fields two RTFs, one of which is located on the East coast and the other on the West coast. The Air Force fields three RTFs, two in the United States, and one in Europe. RTFs deploy at the direction of the JS/NMCC.

E.3 *DoD Response*

Over time, the DoD has developed a robust body of plans, policies, and technical procedures to respond to real-world events involving nuclear or radiological accidents or hazards, and to heighten the coordination and cooperation between federal, state, and local response agencies. Since 1979, the DoD and the DOE have co-sponsored nuclear weapons accident exercises. These DoD-mandated exercises ensure that DoD units with a nuclear weapons mission are capable of responding to a nuclear accident or incident.

E.3.1 DoD Nuclear Weapons Accident Guidance

A new DoD Directive is being developed to implement the Nuclear-Radiological Incident Annex (NRIA) of the NRP. It will establish DoD policy and assign responsibilities within the DoD for each type of nuclear-radiological incident identified in the NRIA to include a U.S. nuclear weapon accident.

Currently, DoD Directive 3150.8, *DoD Response to Radiological Accidents*, establishes DoD nuclear weapon accident response policy, assigns responsibilities to DoD Components, and authorizes publication of DoD 3150.8-M, *Nuclear Weapon Accident Response Procedures* (NARP). The directive identifies the ATSD(NCB) as the technical advisor to the Secretary of Defense

on radiological accidents. It assigns the ATSD(NCB) responsibilities for managing the exercise program and for establishing policies and responsibilities for the DoD. Military Services are assigned responsibilities to provide Initial Response Forces (IRF) and RTFs. Actions are underway to convert DoD Directive 3150.8 to a DoD Instruction.

DoD 3150.8-M addresses both domestic and foreign accident response and a phased concept of operations from notification through site remediation. It focuses on the nuclear weapon accident response procedures to be employed at an accident site and describes the organizational structure and responsibilities for the IRF and the RTE. The NARP also includes functional area activities for communications, legal, medical, public affairs, security, radiation detection and measurement, and contamination control. A major update of the NARP was initiated in 2006 to make it consistent with the National Response Plan. Figure E.5 illustrates the phases of accident response.

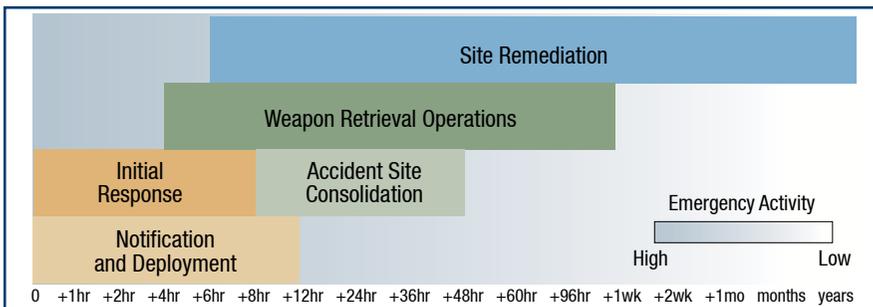


Figure E.5 Accident Response Phases

E.3.2 Accident Notification

The notification process is the initial phase of an accident response. It informs DoD command levels, the Interagency, and alerts response forces about the accident.

When an accident occurs, the lowest level of DoD command with knowledge of the accident must make a voice report following a specific format to the JS/ NMCC within 15 minutes, followed by a message report within an hour. This is the first official DoD notification and is known as an “OPREP 3” message.

The NMCC then convenes a conference call with the affected national-level agencies, including the operations centers of the Services, the appropriate Combatant Commands, the DHS National Operations Center (NOC), the Departments of Energy, State, Justice (FBI), and other federal agencies as appropriate. This conference call is designed to notify and activate the national-level response as well as relevant interagency nuclear weapon response plans and

organizations. The NMCC also notifies the Secretary of Defense, other Defense officials, the White House Situation Room, and appropriate agencies.

In close coordination with the pertinent Combatant Command and Service Operations Centers, the NMCC activates and deploys an IRF from the closest military installation and directs a Service to deploy the appropriate RTF to manage the DoD accident site response. Specialized teams from both the DoD and the DOE are also notified and deployed as necessary.

Concurrent with the above actions, operations center crisis action teams are notified and activated as necessary in the OSD, the Joint Staff, DTRA, the Services, Combatant Commands, and other Departments (DHS, DOE, DOS, FBI, etc.). These teams at the various command levels facilitate and coordinate the provision of support necessary at the accident site. Figure E.6 illustrates the NMCC nuclear weapon accident notification process.

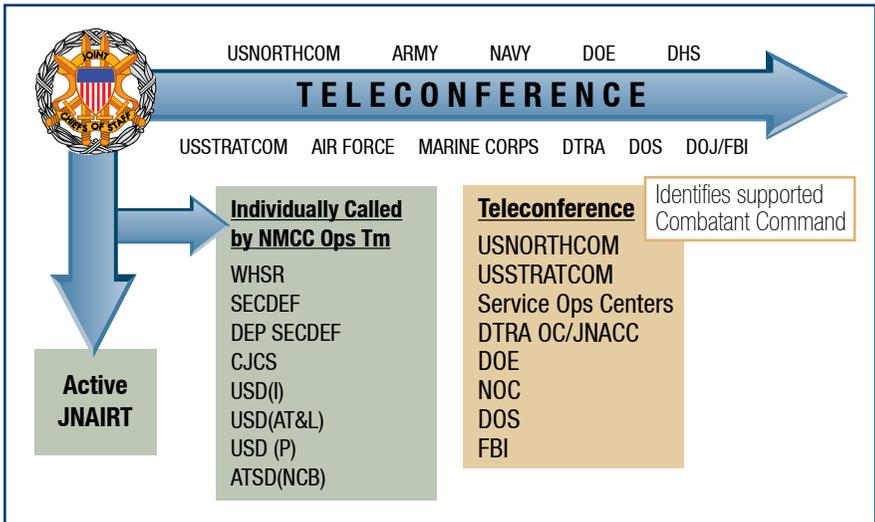


Figure E.6 DoD Notification Process

E.3.3 DoD Response Forces

The IRF is deployed from the closest military installation with the appropriate capabilities and reports to the NMCC until operational control is transferred to the responsible Combatant Command. IRF responsibilities are to: preserve and protect life; prevent additional damage to property and the environment; secure the weapon and related classified components and materials; and preserve evidence. The IRF commander must establish a working relationship with civilian incident response commanders (police, fire, medical) and establish a National Defense Area (NDA) around the accident site to secure the weapon

(see Figure E.7). The IRF Commander exercises command over all DoD forces and individuals at the accident site and has tactical and operational responsibility for accident management activities within the NDA. The IRF commander is the DoD incident commander until relieved by the RTF commander.



Figure E.7 IRF Coordinates with Local Responders

The RTF comes from one of five available RTFs and, based on the geographic location of the accident, may take as long as 48 hours to arrive at the accident site. The main mission of the RTF is the security and retrieval of the nuclear weapon (and its components), and preparation of the weapon for transportation away from the accident site. The RTF is under the operational control of the designated Combatant Command, and the RTF Commander, who must be a flag or general officer, reports to the Combatant Commander. After arrival at the accident site and relief of the IRF commander, the RTF commander assumes command of the NDA and all DoD forces at the accident site. The RTF deploys with the appropriate command, control, radiation detection, and communications elements that enable command and management of the accident site and coordination with the DOE response elements, other federal responders, and state and local officials. As the DoD incident commander, the RTF commander works closely with any federal, state, or local organization having jurisdictional authority or coordination responsibilities outside the NDA. Figure E.8 illustrates RTF oversight of weapon retrieval activities.

When directed, a task-organized DTRA Consequence Management Advisory Team (CMAT) deploys to a nuclear weapon incident. The mission of the CMAT is to provide on-site Chemical,



Figure E.8
RTF Oversees Weapon Retrieval Activities

Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) planning and response advice (pre-, trans-, and post-incident), and hazard prediction modeling using a program called Hazard Prediction Assessment Capability (HPAC) and other DoD-approved software. The goal is to assist the commander in understanding the potential scope of any radiological contamination and its potential effects in order to positively affect decision making.

The basic CMAT consists of two people and can be tailored to meet additional mission requirements. Multiple teams may be deployed to different global locations as scenarios dictate. The CMAT can be augmented with additional



Figure E.9 CMAT in the Desert

capabilities (e.g., public affairs, legal, radiological assessment) depending on the requirements determined through intelligence or the team's on-scene assessment. The CMAT also serves as the conduit to the DTRA reachback/operations center at Fort Belvoir, Virginia. This facilitates direct input from subject matter experts, as well as advice and assessments to the RTF commander regarding

public affairs, legal issues, and physical security considerations. Figure E.9 shows a CMAT team in the desert.

The *Medical Radiobiology Advisory Team* (MRAT) is provided by the Armed Forces Radiobiology Research Institute (AFRRI) in Bethesda, Maryland. The MRAT can provide medical advice on radiation risk exposure, biodosimetry, and the interpretation and analysis of site restoration efforts.



Figure E.10
AFRAT Exercise

The *Air Force Radiation Assessment Team* (AFRAT), based at Brooks AFB, Texas, provides comprehensive on-site hazard assessment capabilities. Figure E.10 is a photograph of an AFRAT exercise.

The *Army Radiation Assistance Medical Team* (RAMT), based at Walter Reed Army Hospital, Maryland, can provide medical

advice to military and civilian authorities for on-site hazard assessments and for casualty management.

The Air Force *Hammer Adaptive Communications Element (ACE)* (see Figure E.11), based at Scott AFB, Illinois, provides rapid response, secure voice, and video communication capabilities in remote areas. The team is trained and equipped for operations in a down-range contaminated environment.

National Guard *Civil Support Teams (CSTs)* are 22-person teams with robust chemical, biological, radiological, and nuclear response capabilities. Capable of deploying from their home station in as little as four hours, CSTs have communications platforms that enable them to communicate with almost any federal, state, or local agency. Additionally, CSTs provide: hazard prediction modeling; advanced nuclear, chemical, and biological detection and sampling analysis; and the ability to operate in contaminated environments for extended periods of time. Civil support teams are state-owned assets controlled by the governors of their home state, unless they are activated to Title 10 status by the Secretary of Defense. All states currently have fully trained and certified CSTs. The three U.S. territories of Guam, Puerto Rico, and the Virgin Islands will eventually have teams assigned.

This is not an all-encompassing list of the DoD response teams. Depending on the circumstances, the IRF or RTF Commander may make requests for additional support such as explosive ordnance disposal (EOD) trained divers for an underwater recovery.

E.4 *Interagency Response*

Depending on the circumstances surrounding a nuclear weapon accident, other departments and agencies may be involved in the federal response.

E.4.1 *Department of Energy*

The DOE and the National Nuclear Security Administration (NNSA) are full partners with the DoD for the response to a nuclear weapon accident for a weapon in DoD custody. The DOE sends a Senior Energy Official (SEO) to an accident site to work closely with the RTF Commander. The most important role the DOE plays is to physically retrieve the weapon (or parts if scattered by an explosion), to package the weapon for transport, and to transport the



Figure E.11
Hammer ACE

package to a location of their choice such as the Nevada Test Site. Figure E.12 illustrates DOE nuclear weapon accident response assets.

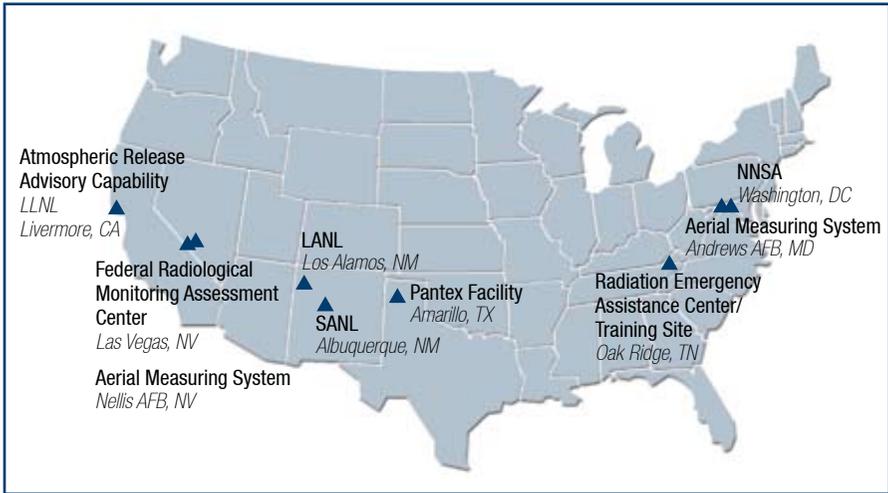


Figure E.12
DOE Nuclear Weapons Accident Response Assets

DOE specialized teams could include the following:

The *National Atmospheric Release Assessment Center* (NARAC), located at Lawrence Livermore National Laboratory, California, provides tools and services that map the probable spread of hazardous material released into the atmosphere. The NARAC can rapidly provide atmospheric plume predictions to enable early responders to take steps to protect public safety until actual radiation measurements are available.

The *Federal Radiation Monitoring and Assessment Center* (FRMAC), based out of Nevada, provides comprehensive radiation measurement and coordinates the detection, monitoring, and analysis of any radiation on the ground. The radiation plots developed by the FRMAC are the basis for determining any necessary site remediation requirements.

The *Aerial Measuring System* (AMS), based at Nellis AFB, Nevada, and Andrews AFB, Maryland, uses both fixed and rotary aircraft for detecting and measuring the extent of any radiological contamination. The AMS works closely with the FRMAC.

The DOE *Radiological Assistance Program* (RAP) is composed of teams that are located regionally around the U.S. These teams have the capability for rapid hazard assessment with portable field radiation monitoring instrumentation. The teams include health physicists and a public information officer.

Conceivably, RAP teams will arrive before the FRMAC and can help support early estimates of radiation dispersal. Figure E.13 shows a RAP team during an exercise.

The *Accident Response Group (ARG)*, based in Albuquerque, New Mexico, performs the weapon retrieval mission. The ARG deploys in phases and includes physicists, engineers, and specialists. The ARG capabilities include liquid abrasive cutters, radiation monitors, HAZMAT detectors, mobile labs, personnel protective clothing, and decontamination equipment.



Figure E.13 RAP Team During an Exercise

Everything necessary to retrieve and package the weapon for movement is self-contained in the ARG.

If an accident occurs when a weapon is in DOE custody, the DOE is the coordinating agency or jurisdictional agency, and the DoD would be a cooperating agency. While the DoD may deploy an IRF for immediate response assistance based on proximity to an accident, it will not likely deploy an RTE. In all cases, the deployment of DoD response forces will be based on requests from the DOE to the NMCC.

E.4.2 Department of Homeland Security

The DHS, as the principal federal coordinator for domestic incidents, has a central role in the federal response to a domestic nuclear weapon accident. In support of the coordinating agency during incidents of lesser severity, the DHS Secretary may activate elements of the NRP, including the establishment of a Joint Field Office (JFO) and the appointment of a Principal Federal Official (PFO). If the accident is determined to be an Incident of National Significance, the DHS would coordinate the federal response. In either case, when a JFO is established, it coordinates the federal response to state requests for assistance and manages all federal public affairs activities. For each accident, the DHS is a focal point for interagency communications through its National Operations Center (NOC).

E.4.3 Department of State

As noted earlier, the DOS is the lead agency for the federal response to an accident occurring in a foreign country involving a U.S. nuclear weapon. For a domestic accident, there are also potential actions that DOS might be required

to take in a cooperating agency role if, for example, the location and nature of an accident might result in contamination crossing a national border.

E.4.4 Department of Justice

The DOJ and the FBI are responsible for the law enforcement and criminal investigative aspects of any nuclear weapon accident. The DOJ coordinates criminal investigative response to acts of terrorism, including intelligence gathering, hostage negotiations, and tactical operations. This would be particularly relevant if the cause of a nuclear weapon accident were the result of terrorist or criminal activity. In these cases, the accident site is a crime scene and close coordination between the senior DOJ official and the RTF Commander is an absolute necessity. As a matter of course, it is assumed that the accident could be the result of terrorism until proven otherwise.

E.4.5 Other Cooperating Agencies

The Federal Emergency Management Agency (FEMA), within DHS, establishes policy and coordinates all civil defense and civil emergency planning. It assists state and local authorities in their emergency planning. It coordinates federal, state, local, and volunteer (e.g., Red Cross) response actions during an accident.

The Environmental Protection Agency (EPA) assists in activities related to contamination control and remediation during a nuclear weapon accident response. The EPA has increased responsibilities for monitoring and assessment of the accident site and the restoration efforts after the initial response phase.

The National Transportation Safety Board (NTSB) provides technical advice and assistance on the transport of radiological materials and the impact of an accident on the transportation infrastructure. If the accident occurs during transport, the NTSB is required to undertake a safety review. This review activity must be coordinated with the ongoing weapon retrieval and any law enforcement reviews at the accident site.

State and local responders will likely be at the accident site for off-installation accidents before federal response elements arrive and will provide most of the initial response, which could include fighting fires and treating the injured. Figure E.14 is a photograph of local emergency firefighters on-scene during the initial



Figure E.14
Local Emergency Firefighters On-Scene

response to an off-installation accident. In off-installation accidents, local and state authorities would also have jurisdictional authority outside the NDA. The local responders provide the initial liaison with the community and local residents. They can assist in maintaining site security until the DoD IRF arrives and in securing an outer perimeter for both the IRF and the RTE.

E.5 *Training and Exercise Program*

The DoD operates an active training and exercise program in close cooperation with the Interagency. The coined term for a nuclear weapon accident exercise is *NUWAX*.

E.5.1 *Management*

The responsibility to manage and oversee the DoD nuclear weapon accident program belongs to the ATSD(NCB).

The ATSD(NCB) has appointed DTRA to be the DoD Executive Agent to plan and conduct nuclear weapon accident exercises.

DTRA is also the Executive Agent for nuclear weapons general interest training. DTRA operates the Defense Nuclear Weapons School (DNWS) at Kirtland AFB, New Mexico. The DNWS offers a wide selection of nuclear weapon accident response courses, some of which are mandatory for RTF personnel.

E.5.2 *Exercises*

There are a variety of types of exercises that are encompassed within the program as described below.

A *Table Top Exercise* (TTX) can be used from the operational to the senior level as a forum to address procedural interactions between organizations. TTXs have proven especially valuable in recent years as the implementation of the NRP proceeds. TTXs require extensive planning but minimal logistical support.

A *Command Post Exercise* (CPX) essentially involves only the headquarters or command elements of organizations that would be involved in a nuclear weapon accident response. Ideally, the situation replicates the likely flow of events occurring during an accident response. A CPX can be planned to last for hours or for days. Another form of a CPX is a *Communications Exercise* (COMMEX), which, as its name implies, is intended to test the communications connectivity between organizations.

A *Full-Scale Exercise* (FSE), referred to in previous years as a *Field Training Exercise* (FTX), is a major event that places response forces in the field to

practice their tactics, techniques, and procedures for responding to a nuclear weapon accident. A FSE involves the Interagency, all levels of command, state and local response elements, and the physical deployment of an RTF and the other response teams described above. Recent FSEs have involved as many as one thousand participants at various levels of government. Recent emphasis has been on practicing interagency coordination as prescribed in the NRP.

E.5.3 Exercise Schedule

The Military Services have the responsibility to ensure that each Response Task Force (RTF) is exercised once a year. The typical exercise rotation for an RTF will normally consist of a three-year cycle of a TTX one year, a CPX the following year, then an FSE in the third year.

Approximately every five years, the annual RTF exercise for a specific RTF will be the centerpiece of that year's annual national level full-scale exercise or NUWAX involving the full Interagency. The most recent NUWAX events included Exercise DINGO KING (2005), which exercised the Navy's east coast RTF, and Exercise VIGILANT SHIELD (2007), which exercised the Air Force Air Combat Command RTF.

Additionally, once every five years, a NUWAX practices response to an accident for a weapon in DOE custody whereby the DOE acts as the coordinating agency and the DoD is a cooperating agency.

