



Department of Energy
National Nuclear Security
Administration
Office of Emergency Response, NA-42

Dr. David Bowman
Acting Director
NA-42

Mission



- Detection/Survey – Techniques and equipment used during normal, routine activities to find nuclear or radiological materials. These activities are normally conducted by the Department of Homeland Security and NNSA Office of Nonproliferation.
- Search/Surge – Techniques and equipment used to detect nuclear or radiological materials during a particular event (intelligence driven, National Special Security Event, survey hit). Law Enforcement lead.
- Render Safe – Disables a potentially yield producing nuclear device by gaining access, performing diagnostics and disablement operations. Safely disposes of the components and supports Attribution. Law Enforcement lead.
- Consequence Management – Addresses the consequence of a nuclear or radiological incident, including a terrorist attack, on people and the environment. Support for affected Site, State/locals, and DHS/FEMA.

Office of Emergency Response

CRISIS

CONSEQUENCE

Nuclear / Radiological
Advisory Team

Search Response Team

Federal Radiological Monitoring
Assessment Center

Joint Technical
Operations Team

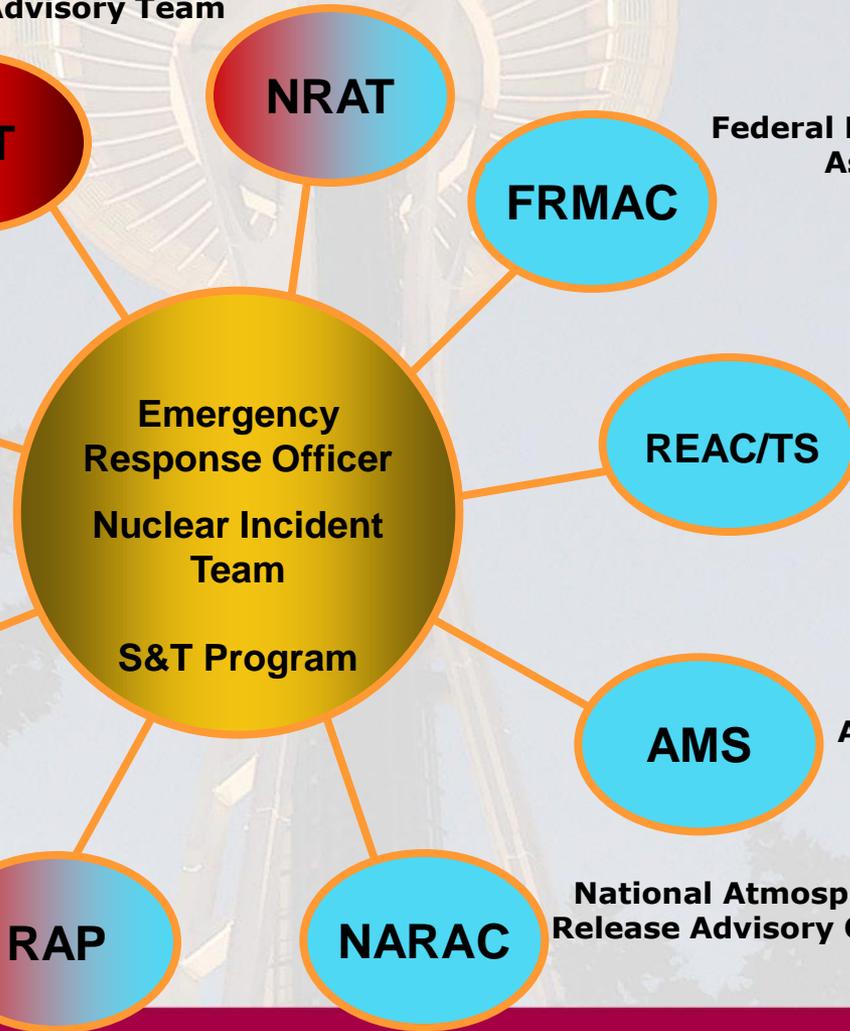
Radiation Emergency
Assistance Center /
Training Site

Accident Response
Group

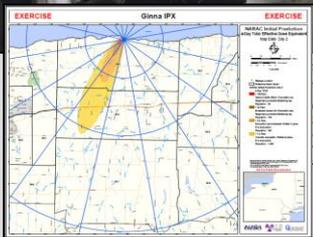
Aerial Measuring
System

Radiological Assistance
Program

National Atmospheric
Release Advisory Center



National Atmospheric Release Advisory Center (NARAC)



Capabilities

Provides real-time predictions of atmospheric transport of radioactivity from a nuclear accident or incident

Support for Protective Action Decisions

- ★ Real-time 24x7 Information to Aid Decision Makers
- ★ Clearly Identifies Affected Incident Areas
- ★ User Friendly, yet Comprehensive Tools
- ★ Unclassified and Classified Access

Plume model predictions

- ★ Sophisticated Web-based Plume Models
- ★ Simple Standalone Plume Models
- ★ Airborne or Ground Contamination and Dose

Accurate results

- ★ Observed and Forecast Weather Data
- ★ Maps with Terrain Features and Populations
- ★ Incorporates On-scene Sensor Data

24x7 scientific & technical support

Radiological Assistance Program NA-42 First Responders



Respond within 4-6 hours

First Responders

★ 2 to 8 member team

Search for Radiological Material

Advise on Public Safety

Characterize Radiation Environment

- ★ Initial Assessment
- ★ Area Monitoring
- ★ Contamination Control
- ★ Decontamination

Material Recovery

RAP may call upon other DOE assets

Capabilities

Provides first response capability to Federal, State, local governments for incidents involving radiological emergencies



Aerial Measuring System



Capabilities

Provides aviation-based equipment to respond to radiological emergencies

Aviation-Based Equipment

- ★ Helicopter & Fixed-wing Aircraft
- ★ Modular Detection Systems of Very High Sensitivity for Use on DOE and Other Response Aircraft

Aerial Radiation Measurements

- ★ Rapid, Wide-area Radioactive Material Deposition Mapping and Radiological Source Searches
- ★ Highly Detailed Aerial Radiation Surveys Including Spectral Mapping
- ★ Near Real-time Data Telemetry to AMS Home Team

Regional Response Aircraft Capabilities

- ★ Timely Nationwide Response from Andrews AFB, Nellis AFB, and Savannah River Site
- ★ EPA and Customs & Border Protection Agreements for Additional Assets
- ★ Training of State and Local responders

Radiation Emergency Assistance Center/Training Site



Capabilities

*Provides 24-hour
consultation on
radiation-affected
health problems*

3-Person Deployable Medical Team to Respond to Radiological Emergencies

- ★ **Physician**
- ★ **Health Physicist**
- ★ **Nurse Paramedic**

On-Call Assistance to Federal, State, Local Governments as well as IAEA, Foreign Governments and Private Physicians

Training Programs for Health Professionals

Operates Cytogenetic Biodosimetry Laboratory to provide post exposure dose evaluation

Maintains “Radiation Accident Registry System”

Federal Radiological Monitoring and Assessment Center



Capabilities

Provides multi-agency operational framework for coordinating on-scene Consequence Management monitoring and assessments during a radiological emergency

Home Team Capability

- ★ On-call Reachback Capability for Federal/State/Local responders for Emergency Radiation Protection/ Health Physics Advice Within One Hour of Notification

Deployable Response Capability

- ★ Extensive Field Monitoring, Detailed Sampling, Data Assessment & Analysis
- ★ Validate Protective Action Decisions
- ★ Define Where Long Term Population Relocation May be Warranted
- ★ Ingestion Pathway Analysis

Digitally Connected

- ★ Electronically Integrated and Interoperable Components with Digital Data Collection and Multi-path Real-time Data Telemetry
- ★ Delivers Timely, Accurate Products for Informed Response Decision Making

Nuclear Incident Team Mission



- The NIT is the primary center of operations for the command, control, and coordination of all DOE/NNSA Emergency Response Assets during an event involving:
 - Nuclear or radiological material;
 - Weapons of mass destruction;
 - Support to any National Security Special Events (NSSE) or Special Event (SE) security operation as requested by the Coordinating Federal Agency.
- The NIT is activated when the Emergency Response Official (ERO) or Operations Program Manager determines that he or she is unable to manage an incident without assistance or when directed by the NA-42 Director.

Fukushima Response



- Aerial and ground surveys
- Customers
 - US Forces Japan
 - US Embassy Tokyo
 - Government of Japan
 - White House
- 2 ½ month deployment



Los Alamos Fires



- Offsite monitoring by Radiological Assistance Program
- No off-site radiological release detected
- Coordinated public safety messaging with EPA, Los Alamos National Laboratory & State of New Mexico



Exercise Participation



- Current participation in NRC exercises, DoD consequence management exercises, and National Level exercises involving radiological release
- Future engagement and participation in site exercises:
 - Information briefings
 - Subject Matter Expertise
 - Home Team Reachback
 - Field teams

Summary



The Department of Energy / National Nuclear Security Administration stands ready with versatile emergency response teams that are:

- Nuclear weapons, modeling, assessment, radiation medicine, and radiological detection experts resourced from the National Laboratories and the DOE Complex
- Highly motivated, trained and equipped
- Staffed on a billeted duty roster
- Rapidly deployable for any radiological emergency
- Supported by a Technical Integration and a R&D program to address the technical needs of the deployable teams.