



# **Emergency Response Capabilities at Sandia National Laboratories**

## **KRMC Training Program Module 5: Transportation of Nuclear Materials**

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Sandia National Laboratories is a multi-program laboratory operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



# Guiding Vision for Sandia's Emergency Response Programs

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- We strive to be leaders in providing technical solutions for anticipating, mitigating, and responding to emerging threats from conventional explosives, chemical, biological, nuclear devices and accidents in support of our Nation.
- Sandia will play key roles in all aspects of Emergency Response.





# SNL/NM Response Capabilities

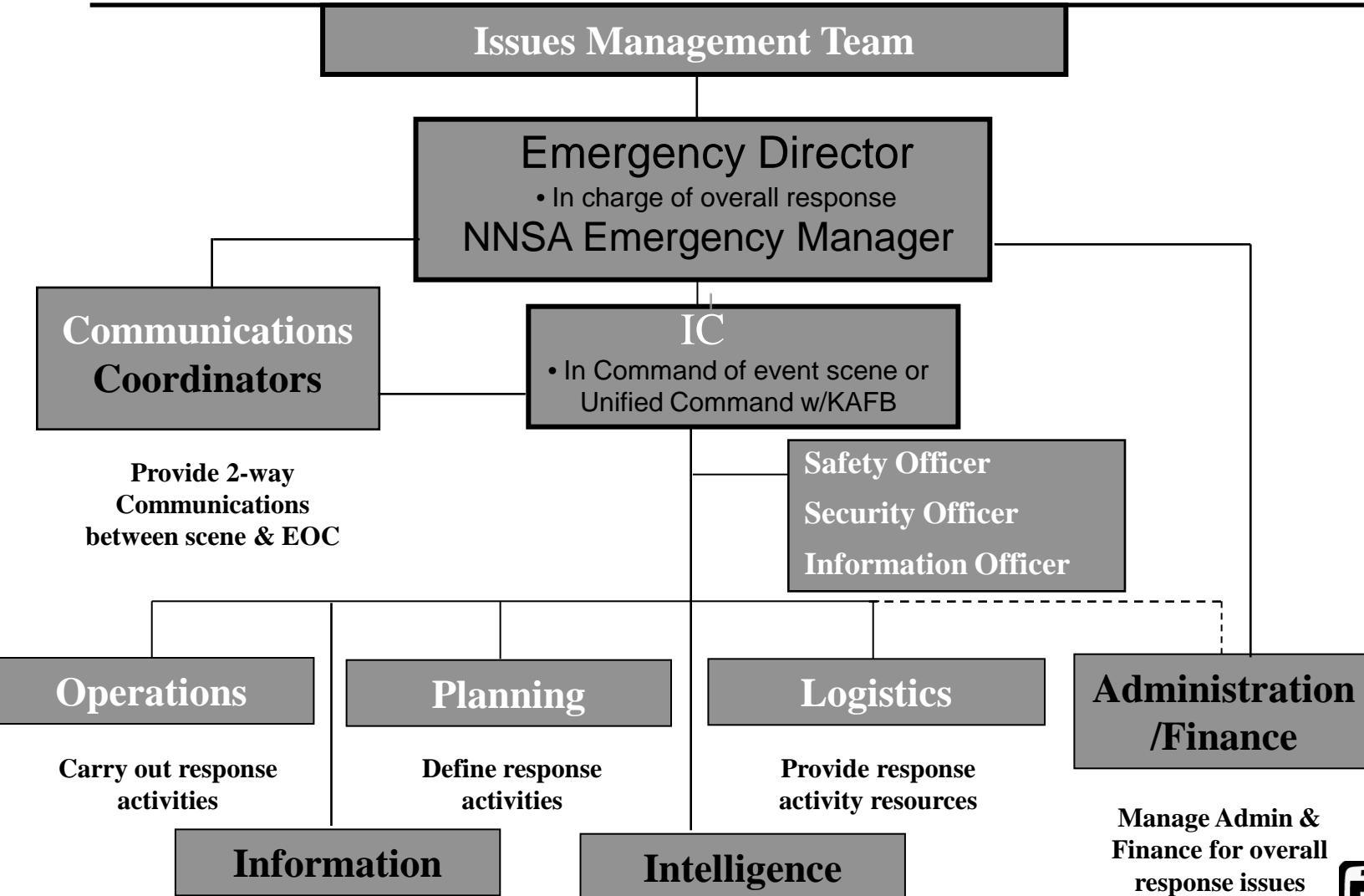
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- Incident Commanders
- Sandia National Laboratories/New Mexico (SNL/NM) Emergency Response Team (ERT) & Volunteer Corp. Hazardous Material (HazMat) Team
- Emergency Operations Center
- 911 Communications
- Kirtland Air Force Base (KAFB) Fire Department & HazMat Team
- KAFB Security Police
- KAFB Explosive Ordnance Disposal
- Ambulances
- Emergency Medical Technician (EMT) Paramedics
- Building Evacuation Teams
- Tone Alert Radios
- Radio Sandia (1640 AM)
- Support Staff
- SNL Protective Force



# Incident Command Structure





# Lead SNL Emergency Responder

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- **SNL Incident Commander (IC)**
  - 24-hour/ 7-day Coverage
  - IC for SNL/NM Responses
  - IC at Scene (Except When KAFB/Fire Department Is Responding to a Fire or Large Hazmat Event Beyond SNL Capability – Then Unified Command Established)
  - Performs DOE Event Categorization & Classification





# SNL/NM Emergency Response Team

- Team Makeup
  - Dedicated Team
    - Hazmat
    - Confined Space Technicians
    - Emergency Management System (EMS) Response





# Corporate HazMat Team

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- 9-Member volunteer team -  
Trained as HazMat  
Operations and  
Technicians
- Subject Matter Experts  
from Environmental Safety  
and Health, Waste  
Management, Facilities, etc.
- On call using pagers and  
phones during normal duty  
hours and off-hours





# SNL Protective Force

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- **On-site Protective Force**
  - Central Alarm Station (CAS)
  - Plans & Training





# Operations Center

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- 911 Communications Coordinators
- Positions to support field response on 24/7 basis:
  - Answer 911 Calls
  - Certified NM Public Safety Telecommunicator
  - NM-Certified emergency medical dispatchers (EMD) & National Academy of EMD (NAEMD)



- Dispatch Emergency Response Organization (ERO)
- Contact Resources
- Make Notifications
- Support Field Communications

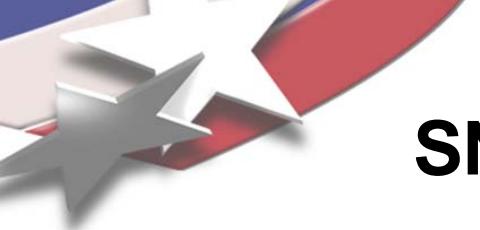


# Tone Alert Radios (TAR)

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- Performs as a wireless, site-wide Public Address system
- Located 1800 radios in key buildings
- Contact TARs individually, in groups, or site-wide
- Pre-recorded or “on-the-fly” messages
- Controlled by Communications Coordinators





# SNL/NM Emergency Operations Center

- Staffed by SNL/NM and Sandia Site Office (SSO) Management of Incidents
- Offsite interface
- Coordination of field support
- Interface with KAFB, SSO, DOE Headquarters Emergency Operations Center (EOC), and Offsite Agencies



- Improved EOC Capabilities (Telecommunications Upgrades, Information Displays, Geographic Information System (GIS), Classified Capabilities, Access Controls, computer aided tomography (CAT) includes connectivity to the National Atmospheric Release Advisory Center (NARAC))

# Consequence Assessment

- **Timely initial and continuing assessment capability**
- **Radiological and chemical modeling using site meteorological data**
- **Explosives impacts**
- **Access to building hazmat information, material safety data sheets (MSDS), and other technical information**
- **Subject Matter Expert team, on call**





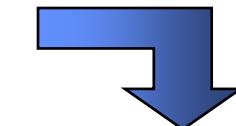
# SNL Roles in Nuclear Incident Emergency Response Programs

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- Incidents involving unknown radiation sources...



- Incidents involving accidents with US nuclear weapons...



- Incidents involving improvised and foreign nuclear weapons....



**Disposition**

- Incidents involving dispersal of radioactive/nuclear materials, Nuclear Detonation, Accident Response Group (ARG) Event,...



**DOE/CM**

Consequence  
Management





# Alphabet Soup

AFRAT  
Air Force

MRAT  
Armed Forces

RAMT  
Army

DTRA  
Defense Threat  
Reduction  
Agency

**RAP**  
Radiological Assistance  
Program

**CMRT**  
Consequence Management  
Response Team

**NRAT**  
Nuclear/Radiological  
Advisory Team

**ARG**  
Accident Response  
Group

**AMS**  
Aerial Measuring System

**NARAC**  
Nat'l Atmospheric Release  
Advisory Center

**WMD-CST**  
National Guard

**NRC**  
Nuclear Regulatory  
Commission

**FRMAC**  
Federal Radiological Monitoring  
& Assessment Center

**EPA**  
Environmental  
Protection Agency

Other Agencies  
Supporting  
the NRP

 State Asset

 DOD

 DOE/NNSA

 Other Support Agencies



## Summary

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- Sandia has its own emergency response capabilities and is not reliant upon the City of Albuquerque to respond to accidents/incidents that occur onsite
- Sandia has dedicated emergency response and hazmat teams capable of responding to incidents involving conventional explosives, chemical, biological, and nuclear devices
- Sandia strives to be on the forefront of research related to the detection, response, and containment of such incidents
- Sandia's emergency operations center uses state-of-the-art consequence modeling to characterize and predict atmospheric plume migration