Office of Counterterrorism and Counterproliferation
Nuclear Incident Policy and Cooperation

Emergency Response Mission Planning Concepts

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Objective

This module is designed to enhance nuclear and radiological emergency response training, highlight mission planning checklists, and identify key factors such as an emergency management system required for response to a radiological accident or incident.

Goals

- Increase knowledge and familiarization on the ten key components of a mission planning checklist
- Understand the importance of an emergency management system
- Discuss and consider safety aspects for emergency response mission planning
- Understand specialized resource requirements
- Plan and account for the role of the media in a radiological emergency response

Mission Planning

- “Mission planning is the process of defining a mission, its goals, and the means of accomplishing those goals. It is an exercise of balancing various trade-offs to arrive at an optimal balance of the different components required for a mission to be successful.”

- Key words:
  - *Defining the mission*
  - *Optimal balance of components*
  - *Successful mission*

Mission Planning Checklist

- ***A Mission Planning Checklist is used to determine mission and resource requirements***
- ***This information will be used to develop the Concept of Operation (CONOPS) for deployment***

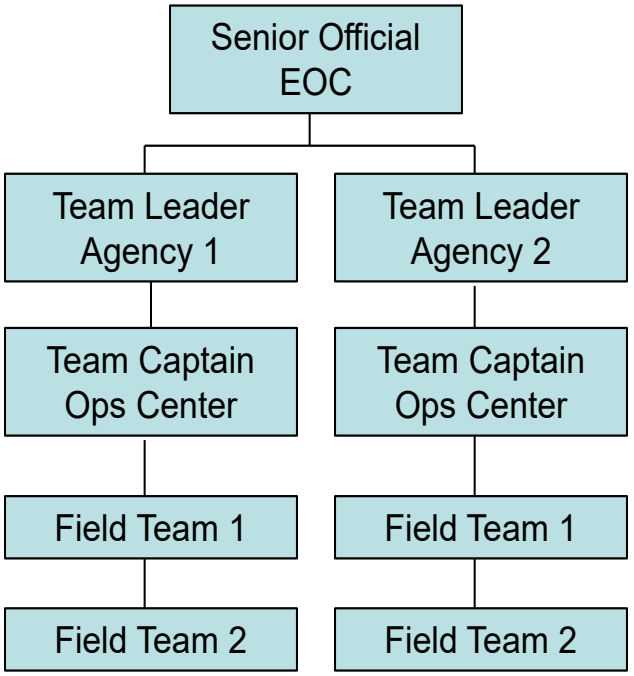
The 10 key elements of a Mission Planning Checklist are:

1. Emergency Management
2. Assistance Requests
3. Mission Definition
4. Radioactive Material Information
5. Public and Responder Safety
6. Subject Matter Experts/Personnel
7. Radiation Detection Resources
8. Search Planning
9. Media Relations
10. Logistics

1. Emergency Management

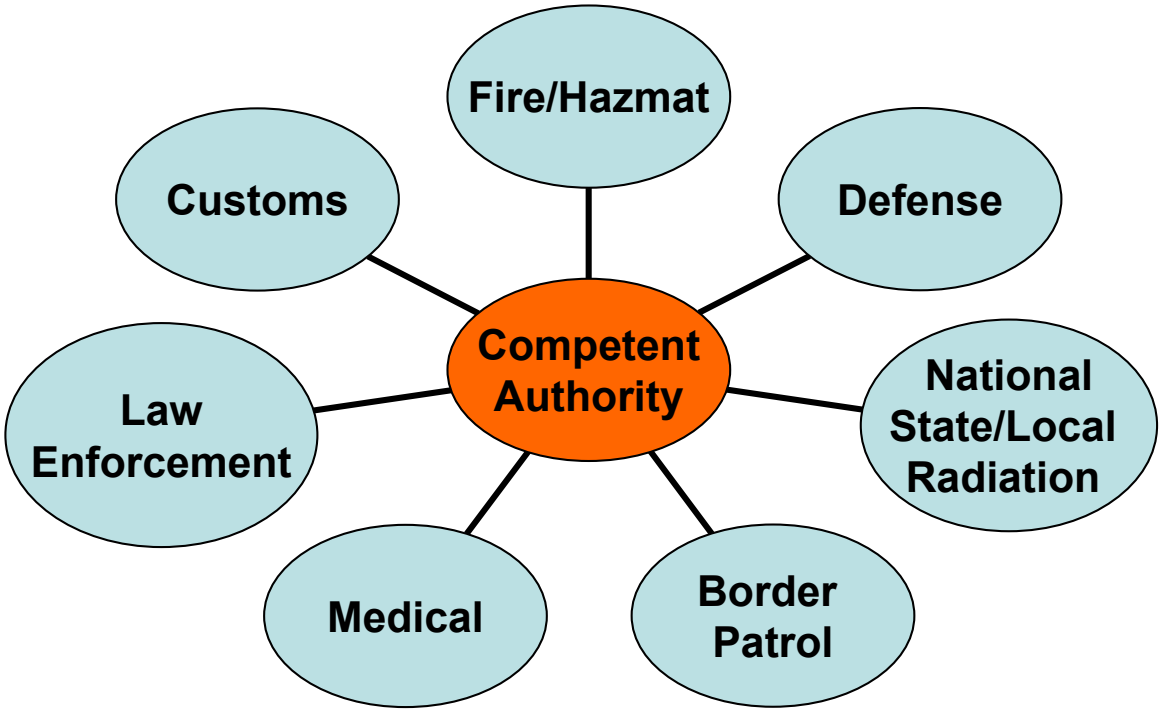
Having an established effective, efficient, and harmonized emergency management system is key to mission success!

- **Emergency Operations Center (EOC)**
  - Command, Control, and Communications
  - Video conferencing/information displays
- **Joint Operations Center (JOC)**
  - Public emergency information center
  - Media center/joint media statements
- **Technical Operations Center (TOC)**
  - Field team staging and equipment depot
  - Data processing and archiving
- **Technical Reachback**
  - Radiological plume models, data analysis, and medical consultation



2. Assistance Requests

- ***Who requested the assistance?***
  - Competent Authorities are designated by States to carry out specific functions with respect to issuing and receiving information relating to nuclear and radiological emergencies
  - A Competent Authority can receive a request for assistance though a variety of state and federal interagency channels



3. Mission Definition

- ***What is the mission*?**
  - Search for a lost or stolen radiation source
  - Recover a radioactive Material Out of Regulatory Control (MORC)
  - Respond to a transportation or industrial accident
  - Respond to an industrial accident
  - Respond to a contamination incident
  - Assist customs with a border, airport, or shipping port interdiction
  - Assess radioactive material interdicted by law enforcement
  - Respond to a reactor accident
  - Respond to a terrorist threat or incident

4. Radioactive Material Information

- ***What do you know about the radioactive material?***
  - What is/are the radioisotope(s)?
  - How much activity is involved?
  - Is/are the radioisotope(s) in a radiography camera, gauge, etc.?
  - What kind of packaging and/or shielding is present?
  - What is the form – gas, liquid, powder, metal?
  - Is it a sealed source? Is there potential for contamination?
  - Has there been a dispersal or is there a potential for dispersal?
  - Do you have little or no information or suspect incorrect information?

100 GBq Co-60
5 MBq Cs-137
50 g U-238
25 Ci Ir-192
7 mCi RaBe
0.5 TBq Sr-90

5a. Safety for the Public

- ***What are the radiological safety concerns for the public?***
  - Is the public safety at risk or not?
  - Is an immediate response required?
  - Or can the response be more deliberate?
  - Should public media messaging be initiated?
  - Where can the public get more information?
  - Should the public shelter-in-place or evacuate?
  - What are the risks associated with evacuation?
  - Who are the most vulnerable in an evacuation?
  - Where should the ***worried well*** report?




5b. Safety for the Emergency Responders

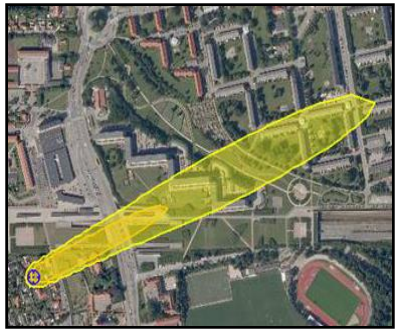
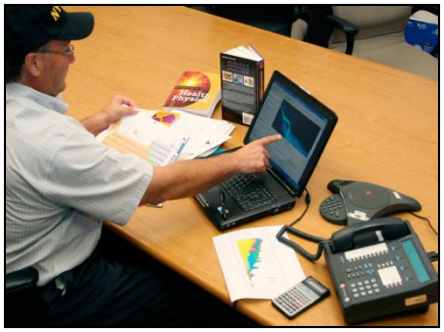
- ***What are the radiological safety concerns for the responders?***
  - Is there potential for a high acute dose? Is life saving needed?
  - Will be responders be working in a radiation area?
  - What are the dose rate turn back limits?
  - What are the stay times?
  - Is there potential for localized contamination?
  - Is there potential for wide spread contamination?
  - What personal protective equipment is required?
  - What dosimetry is required? Threshold settings?
  - What are the non-radiological hazards or safety concerns?




6. Subject Matter Experts

- ***What expertise and how many are required for the mission?***

- **Do you need experts to:**
  - Conduct search operations?
  - Identify radioactive materials?
  - Determine radiation safety requirements?
  - Operate in a contaminated environment?
  - Conduct dose assessments?
  - Provide consultation or calculate medical health effects?
  - Run atmospheric plume models for a dispersal?
  - Represent the manufacturer of a radiation source?
  - Access reachback assistance for technical analysis?


7. Radiation Detection Resources

- ***What radiation detection equipment is available?***

- **What is available at the:**
  - Competent or National Authority?
  - At the National Laboratories?
  - State Radiation Health Departments?
  - Fire Department or Hazardous Materials Teams?
  - With Local and State Law Enforcement Agencies?
  - With Customs Agency and Border Patrol?
  - With other Supporting Agencies?
  - Through International Assistance?





8. Search Planning

- ***What information is needed to conduct a radiological search?***
  - What is the size of the search area?
  - What detection equipment is available for search?
  - What is the maximum detection distance for the detectors?
  - Can the search be conducted on foot or with a ground vehicle?
  - Can the search be conducted using a helicopter or an airplane?
  - Is a more detailed aerial survey required?
  - How long will it take to conduct the search?
  - Is law enforcement required for the search?
  - Do you need to inform or include the media?




9. Media Relations

- ***What is the role of the media?***
  - What agency has the lead to coordinate with the media?
  - What is the media strategy?
  - Who will provide the technical experts to brief the media?
  - Who will write messages and emergency information?
  - What emergency information will be provided?
  - How will social media be used, if at all?
  - Are radiation fact sheets available to the public?




10. Logistics

- ***What are the logistical requirements for this mission?***
  - What are the transportation requirements? Ground? Air?
  - What type of security is required?
  - Is this a long term or a short term mission?
  - What impact will the weather have on this mission?
  - Will areas need to be controlled or cordoned off?
  - What type of access control is required?
  - What type of emergency medical services are required?
  - What are the communications requirements?

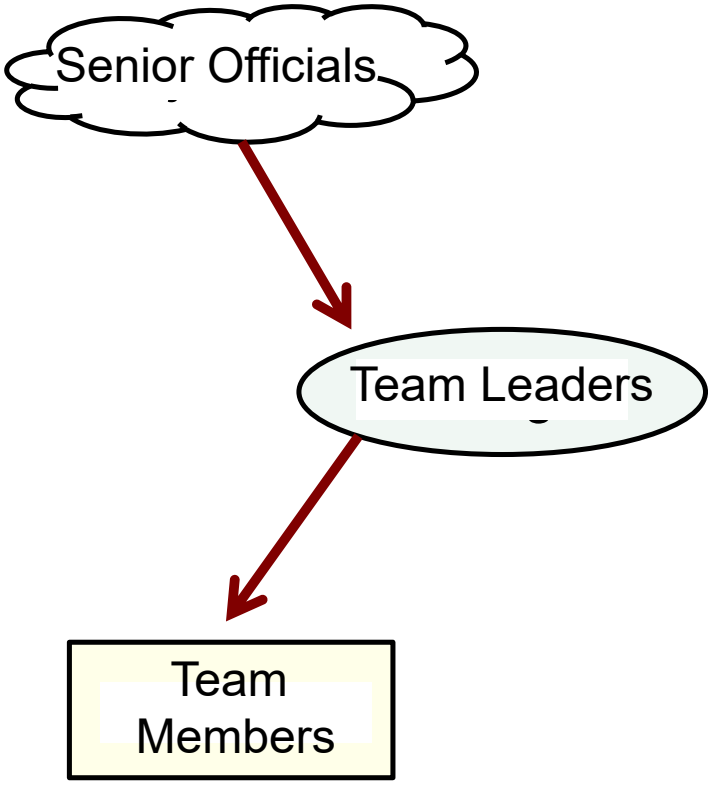



Mission Planning Checklist

1. Who requested the assistance?
2. What is the mission?
3. What is known about the radioactive material?
4. What are the public safety concerns?
5. What are the responder safety concerns?
6. What expert resources are required?
7. What detection resources are required?
8. Is a search is required? What type?
9. What are the media concerns?
10. Any special logistics requirements?

Concept of Operations

- ***Based on the information obtained during the planning process, the Concept of Operations (CONOPS) for the mission can be developed***
- ***The CONOPS is the operational component of the Response Plan and provides Senior Officials, Team Leaders, and Team Members with the detailed information required to accomplish the mission***



Concept of Operations for Response to Material Out of Regulatory Control

Summary

- There are ten key components of the mission planning checklist
- An established Emergency Management System is critical for mission success
- Safety of the Public and First Responders are paramount
- Specialized skills and detection equipment may be required to complete the mission
- For high profile incidents, the media will play a critical role in public messaging

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Questions/Discussion