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FRMAC Health and Safety Working Group Update

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National Radiological Emergency Preparedness Conference
Phoenix, AZ, United States
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FRMAC HEALTH AND SAFETY WORKING GROUP UPDATE

National Radiological Emergency Preparedness Conference
Phoenix, Arizona

May 3-6, 2004

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Radiological Incidences Often Produce Health and Safety Hazards

Why should we worry about responder health and safety?

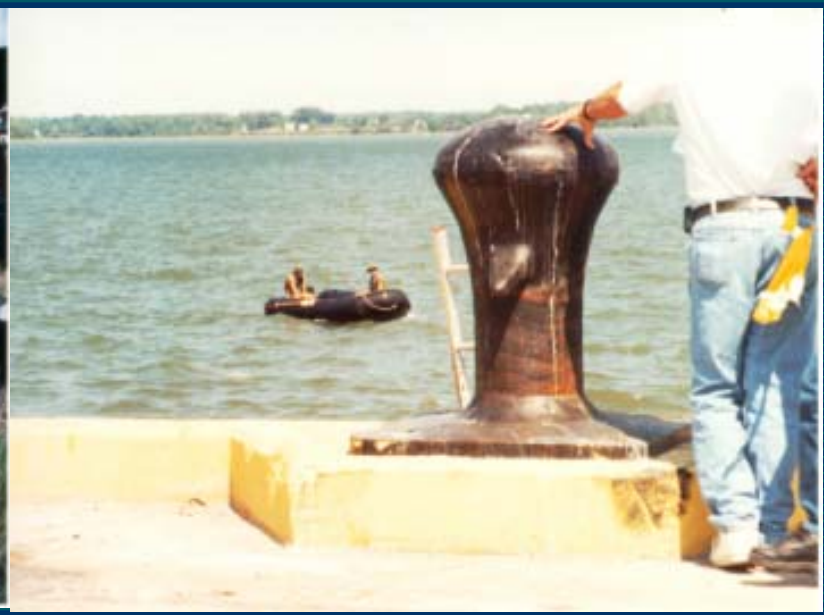
- Historical Evidence
- Recent Exercises
- Future Expectations

Historical Evidence from Major Nuclear / Radiological Incidents

Primary Hazards in Major Accidents/Events

- Palomares - Soil removal, drum handling
- Thule - Cold weather
- Damascus - Fuel vapor ignition
- Morning Light - Cold weather

Health and Safety Hazards in Recent Exercises



Health and Safety Hazards in Recent Exercises

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TOPOFF 2 Exercise

Diligent Warrior Exercise

Dimming Sun Exercise – the accident site had real airplane wreckage

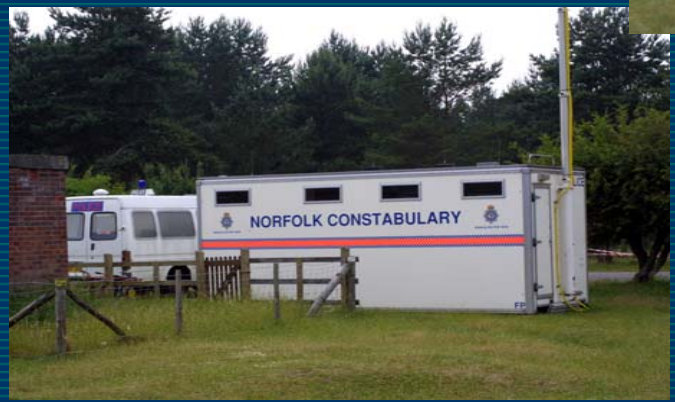
Health and Safety Hazards in Recent Exercises - Biological

Fire was used as an element of realism for the C-17 plane accident

Radiation is not the only hazard when using a LINAC

- Removal of trees and the use of heavy equipment to remove weapon from forest in swamp-like conditions
- Building a dirt shield to reduce dose off site

Traffic during Dimming Sun created hazards including driving on the wrong site of the road



Sanitation Issues Can Shut Down an Exercise

Recent Exercises - SUMMARY

- Health and safety hazards exist as an integral part of radiological accident response activities
- Safety hazards should be included as part of nuclear and radiological accident response planning and training

Future Expectations

- Exercise scenarios are becoming more complex to simulate “real conditions”
- Exercise scenarios need to also simulate current terrorist threats
- WMD exercises are combining radiological/nuclear with chemical and biological hazards
- Health and safety issues will grow in number and complexity
- Common safety hazards will continue to exist

How Has the FRMAC Health and Safety Working Group Addressed These Issues?

Radiological Emergency Response Health and Safety Manual (DOE/NV/11718—440)

- Use during all emergency response activities
- Assist in preparing for deployment
- Required for DOE/NNSA responders, recommended for other FRMAC agencies

Health and Safety Manual Approach

- Health & Safety Manager assigned for all emergency activities
- Hazard Assessments used to identify, assess, and control health and safety hazards
- Daily Health and Safety Briefings for field teams
- Site Health & Safety Plan

Health and Safety Briefings

Daily, prior to start of work

- Scope of work to be performed
- Site conditions
- Personal Protective Equipment requirements
- Dosimetry to be worn
- Mitigation of special hazards
- Hold points and turn-back levels
- Emergency procedures

Emergency Response Health & Safety Plan

- Site Description
- Organization and responsible individuals
- Site health and safety requirements
- Identified hazards requiring monitoring
- General Safe Work Practices (checklist to ensure that common hazards are considered)
- Documentation of PPE requirements
- Emergency procedures
- Communication methods
- Specific hazard plans including Contamination Control Plan, Air Monitoring Plan, and Turn Back Levels

Emergency Responder Exposure Limits

All response activities will follow occupational exposure limits unless specifically designated as “emergency activities”

Recommended Emergency Exposure Levels

Senior Management Approval Required

- Radiological
  - 5 rem for basic work activities
  - 10 rem for protecting major property
  - 25 rem for lifesaving or protecting large populations
- Chemical
  - Emergency Response Planning Guidelines

SUMMARY

- Emergency Responders are our Greatest Asset
- Health and Safety Hazards should be included as part of radiological/nuclear accident response planning and training
- Preplanning is better than post cleanup