RDD/IND Preparedness:
The Importance of Plume Modeling

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Conference on
Transport and Dispersion Modeling
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What is an RDD/IND?

- RDD – Radiological Dispersal Device
  - Radioactive material (Cs-137, Co-60) +
  - Conventional explosives
- IND – Improvised Nuclear Device
  - Stolen/modified “Suitcase” bomb
  - Crude nuclear bomb

RDD/IND Working Group

- Established June 28, 2002
- Initially managed by:
  - Office of Homeland Security
  - National Security Council
- Phase 1 Report issued March 03
- 15 Recommendations based on 45 issues

Phase 1 Recommendations

- 15 Recommendations covered
  - Policy and Protocols
  - Preparedness and Prevention
  - Response and Recovery
  - Testing and Evaluation
- All DHS Directorates must be involved in Phase 2 activities

Phase 2 Kickoff

- June 3, 2003 Kickoff Meeting
- Undersecretary Asa Hutchinson
- Executive Director John McGowan
- Briefed Senior RDD/IND Working Group

Mission Statement

"To prepare policy options to prevent terrorist introduction or use of nuclear and/or radiological devices and material within the United States through detection, interdiction, neutralization, and disposal of such devices, and to respond quickly and effectively in the aftermath of a domestic nuclear and/or radiological event."

Working Group Structure

- 6 Subgroups
  - Radiation Detection and Transportation
  - Radioactive/Orphan Source Management
  - Medical Preparedness and Response
  - Classification and Security Guidance
  - Science and Technology
  - Consequence Management, Site Restoration, Cleanup, and Decontamination
- DHS Chairs all subgroups

Consequence Management Recommendations

- Clearly define Federal responsibilities
- Develop a unified cleanup framework
- Evaluate response capabilities
- Assist in developing the National Response Plan
- Address the unique aspects of a nuclear detonation
- Identify appropriate plume models (TOPOFF2)

Plume Modeling Issues

- Timeliness of plume projections
- Understanding of plume projections
- Number of available models
- Consistency of model inputs
- Consistency of model results

Importance of Modeling Efforts

- Improving modeling capabilities
- Identifying roles and responsibilities
- Establishing response protocols
- Maximizing efficient use of resources

Concluding Remarks

Questions?