Preparing Emergency Responders for Response to a Transportation Accident Involving Radioactive Material

Marsha Keister
Idaho National Laboratory
United States Department of Energy
Transportation Emergency Preparedness Program
Marsha.keister@inl.gov
Transportation by Air, Rail, Highway & Water
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- **Annual Estimates of United States Hazardous Materials Shipping Activities**
  - 500 Billion packages
  - 400 Million are hazardous material
  - 3 Million are radioactive
  - DOE ships 5,000 to 20,000
Transportation by Air, Rail, Highway & Air

- Low-Level Radioactive Waste: 29.0%
- Miscellaneous Radioactive Waste: 10.0%
- Medical/Research Samples: 20.4%
- Uranium Compounds: 4.4%
- Solid Waste/Debris Radioactively Contaminated: 4.7%
- Empty Containers: 3.2%
- Spent Fuel: 0.3%
- Miscellaneous Radioactive Materials*: 28.0%
What do you do when an accident happens?
How can responders prepare for accidents involving radiological material?

DOE Implemented the Transportation Emergency Preparedness Program (TEPP)

www.em.doe.gov/otem
TEPP's Mission

TEPP will assist Department of Energy (DOE) and other federal, state, tribal and local authorities to prepare for response to a transportation incident involving DOE shipments of radioactive material.
TEPP Goals

- Serve as a Department-wide program
- Provide planning and technical assistance to promote a coordinated response to transportation incidents involving radioactive material
- Provide training assistance and promote development of flexible, low-cost, high-quality training materials
- Serve as a link between emergency preparedness and transportation planning
The first step to preparedness.

- Determine applicability and conduct a needs assessment
- The Needs Assessment will:
  - assist in determining readiness
  - identify strengths & weaknesses
Second step – address weaknesses in plans & procedures

TEPP Plans & Procedures

- Model Initial Response Procedures
- Model Annex for Preparedness and Response to a Radiological Transportation Incident
  - provides basic structure and annotated guidance for transportation addendum to existing emergency operations plans
Develop Procedures as needed.....

- TEPP Model Procedures
  - First Responder Procedure
  - Hazardous Materials Team Procedure
  - EMS Responder Procedure for Handling a Radiologically Contaminated Patient
  - Medical Examiner/Coroner Guide for Handling a Radiologically Contaminated Body/Human Remains
  - Radioactive Material or Hazardous Materials Decontamination Procedure
  - Recovery Planning Procedure
and address training weakness

- Modular Emergency Response Radiological Transportation Training (MERRTT)
  - MERRTT has a modular design
    - 16 modules (some with embedded video clips)
    - Hands-on practical exercises
    - Can be integrated into existing hazmat curriculum or delivered as stand-alone course
    - Can be instructor-led or self-paced instruction

- Intended for responders with previous hazardous material response training
  - MERRTT is designed to supplement existing hazmat training

- Many states in the U.S. have adopted MERRTT as their own training program
MERRTT Program

**DAY ONE MODULES**
- Radiological Basics
- Biological Effects
- Radioactive Material Shipping Packages
- Hazard Recognition
- Initial Response Actions
- Patient Handling
- Incident Control
- Radiological Survey Instruments & Dosimetry Devices
- Transportation of Safeguards Material

**DAY TWO MODULES**
- DOE Shipments and Resources
- Decontamination, Disposal and Documentation
- WIPP Module
- Pre-Hospital Practices
- Transportation by Rail
- Incident Command
- Public Information Officer
**CY 2010 MERRRTT Database**

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MERRTT Student Material

- Student Workbooks have been prepared for each module in the MERRTT program
- Everything contained on the MERRTT DVD
Hands On Exercises

• MERRTT includes hands-on practical exercises to reinforce material presented in the modules
  • Instrument Use
  • Patient Handling
  • Package Integrity
  • Contamination Survey
  • Picture Card Practical
TEPP Exercises

- Tabletop, Drill & Exercise Program Manual (Drills-In-A-Box):
  - Guidance For Planning, Conducting and Evaluating Transportation Emergency Preparedness Tabletops, Drills and Exercises
Transportation Accident Exercise Scenarios

• Spent Nuclear Fuel
• Low Specific Activity Material
• Soil Density Gauge
• Radiopharmaceuticals
• Radiography Device
TEPP Full-Scale Exercises
Interagency Coordination

- National Fire Protection Association (NFPA)
  - Participation in development of Standards 472 and 473
- Radiation Specialist Program meeting NFPA 472 requirements
- Hospital Training Program
  - Designed for emergency room personnel
TEPP Implementation Process

1. Determine Applicability
2. Conduct Needs Assessment
3. Identify Procedures/Plan Weaknesses
4. Identify Training Program Weaknesses
5. Adopt Model Procedures
6. Conduct Responder Training
7. Conduct Drills to Validate Procedures & Training
8. Determine Frequency - Repeat as Necessary
Want to know more?

- The TEPP web site provides one-stop shopping
  - MERRTT Training Schedule
  - 24-Hour Points of Contact
  - Model Needs Assessment
  - Exercise Planning Resources

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Questions