



Video User's Guide

Emergency Response to a Transportation Accident Involving Radioactive Material

DISCLAIMER

Viewing this video and completing the enclosed printed study material do not by themselves provide sufficient skills to safely engage in or perform duties related to emergency response to a transportation accident involving radioactive material. Meeting that goal is beyond the scope of this video and requires either additional specific areas of competency or more hours of training than will be presented in this video. The procedures and training in this video are intended as generic guidance which may assist you in the development of standard operating procedures specific to your agency. This video is one of many available resources designed to enhance your existing emergency response program's radiological material response capabilities. Emergency responders are advised to participate in hazardous material training as required by OSHA 1910.120 and respond in accordance with their level of training and local procedures. The techniques demonstrated in this video are generic in nature. Responders working in jurisdictions with specific procedures in place should follow their jurisdiction's procedural requirements.



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PURPOSE

This video will assist appropriately trained emergency responders in developing an understanding of the actions involved in response to a transportation accident involving hazard class 7 (radioactive) material.

VIDEO OVERVIEW

This video will demonstrate basic response techniques to a transportation accident involving radioactive material. Starting with the initial 9-1-1 call, the video will show responders' arrival, size-up, initial response actions, scene entry, victim rescue and treatment, decontamination techniques, and transport to a medical facility. The video emphasizes the importance of using the Emergency Response Guidebook (ERG) to determine responder actions for response to a transportation accident involving radioactive material. The video presents an overall perspective of the agencies involved in an emergency response of this type. The sequence for your arrival at an emergency scene may vary from this video. Each instructor should review the various roles of responding agencies and actions they would implement as the first responder.

HOW TO USE THIS GUIDE

The purpose of this User's Guide is to provide instructors with an overview of the key points covered in the video. The Student Handout portion of this Guide is designed to assist the instructor in reviewing those points with students. The Student Handout should be distributed to students after the video is shown and the instructor should use the Guide to facilitate a discussion on each response disciplines' activities or duties at the scene. During this discussion, the instructor can present response scenarios, each of which would have a different discipline arriving first at the accident scene. The purpose of this discussion would to cover how each discipline's activities would differ if they were first on scene.

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Law Enforcement as the First Responder

What should law enforcement responders consider when arriving first at an accident scene?

- Possibility of hazardous materials
- Identify type of vehicle(s) involved in the accident
- From a safe distance, look for placards or labels
- Quickly control traffic and any crowd at the scene
- Report observations to dispatch and/or other responding organizations
- Inform victim(s) that medical and fire responders are on the way
- Use the ERG to establish control boundaries.

What are some typical law enforcement duties at a hazardous material scene?

- Protect the public by keeping them away from the hazardous area
- Protect response personnel by establishing and maintaining physical security at the incident scene
- Provide expert advice to other response personnel on evidence preservation
- Perform accident investigation.



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Fire Service as the First Responder

What should fire service responders consider when arriving first at an accident scene?

- Possibility of hazardous materials
- Identify type of vehicle(s) involved in the accident
- From a safe distance, look for placards or labels
- Report observations to dispatch and/or other responding organizations
- Inform victim(s) that medical assistance is on the way
- Use the ERG to establish control boundaries.

Identify several scene assessment objectives.

- The ERG states that medical problems should take priority over radiological concerns at a radioactive material incident.
- While the hazards associated with radioactive material should be respected, knowledge of simple protective actions will allow you to safely administer emergency medical care and perform victim rescue.
- Use the basic protection principles of time, distance, and shielding to minimize radiation exposure.
- Stabilize and rescue the accident victim while using protective actions to reduce radiation exposure levels and to prevent the spread of radioactive materials to the victim, yourself, and the environment.

What practices should responders use to prevent/reduce exposure to radioactive material?

- Firefighters wear structural firefighters protective clothing and EMS personnel wear their standard “universal precautions” protective clothing.
- As with all hazardous material incidents, respiratory protection should be worn inside the hot zone until it is determined there is no respiratory hazard.
- Take only necessary equipment into the hot zone to minimize contamination of equipment.



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Identify the information available on the shipping paper that will be useful to emergency responders.

- Emergency contact telephone number
- Shipper and receiver names and addresses
- Total number of packages
- The identity of each material
- The physical and chemical form of each material
- Activity contained in each package
- The category label applied to each package



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EMS Care Providers as the First Responder

What should emergency medical care providers consider when treating a potentially radiologically contaminated patient?

- EMS personnel should wear standard “universal precautions” protective clothing.
- Treat accident victims based on their injuries. Remember that medical treatment takes priority over radiological concern. Use your best judgment, but do not delay life-saving care.
- Take precautions for possible neck and back injuries. Radiation exposure will not cause immediate visible signs of injury. Therefore, any symptoms observed are from something other than radiation. The presence of radiation or contamination will not affect the operation of equipment.
- As with any accident, immediately assess the airway, breathing, and circulation of the victim.
- Provide life-saving care to non-ambulatory victims.
- Time permitting, the ambulance interior can be protected from radiological contamination by taking a few simple steps: stow equipment and items not needed, close all compartment doors, establish ready access to needed treatment equipment; wrap equipment in plastic and set up bags for disposal of contaminated items.

What information should responders provide to the hospital?

- The identity of the radioactive material, if known. This can aid in medical decontamination decisions.
- The number of patients, their condition and medical status, and estimated time of arrival. The hospital will need time to prepare their staff and facility.
- If known, the extent of contamination and any suspicion of internal contamination.
- The ambulance crew should also ask if there is a designated entrance to the hospital's emergency department for contaminated personnel.



All Emergency Responders

Responding to hazardous material accidents is a special challenge requiring planning, training, and practice. The safety of both the public and response personnel may depend on your knowledge and actions. By employing the following actions, emergency response personnel can adequately care for the needs of accident victims, while affording maximum protection to themselves and victims alike.

- Remember that the procedures involved in emergency rescue and transport of accident victims are very similar to those used for fire rescue, or where hazardous materials are involved.
- Set-up control lines and establish a command post upwind and upslope of the accident area.
- Perform rescue and life saving treatment as soon as possible. Spend as little time as possible in the hazardous area. Stay as far as practical from heat, flames, toxic chemicals, or radioactive materials.
- Necessary emergency medical treatment should not be delayed by attempts to measure levels of radioactivity.
- Wear the appropriate level of protective clothing. Use time, distance, and shielding techniques. Do not eat, drink, smoke, or chew anything while on scene.
- Simple isolation precautions and contamination control techniques can prevent the spread of radioactive material.
- At the hospital, responders should give the usual medical report of victims as well as information regarding the radiological status, if known.



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Additional Resources and Information

The Department of Energy (DOE) and the Federal Emergency Management Agency (FEMA) have developed and offer various training programs for preparing responders for response to an incident involving radioactive materials. FEMA, through its Emergency Management Training Institute, offers several Independent Self-Study programs. These training programs can be accessed through the FEMA web site at <http://www.fema.gov>. The DOE, through the Office of Transportation and the Transportation Emergency Preparedness Program (TEPP), also offers additional information for preparedness. Through the TEPP web site (<http://www.em.doe.gov/otem>), training programs and planning tools are offered. The planning tools include various model procedures, drill scenarios, and an assessment document to determine preparedness for response to a transportation accident involving radioactive material.



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Student Handout

Law Enforcement as the First Responder

What should law enforcement responders consider when arriving first at an accident scene?

What are some typical law enforcement duties at a hazardous material scene?

Fire Service as the First Responder

What should fire service responders consider when arriving first at an accident scene?



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Identify several scene assessment objectives.

What practices should responders use to prevent/reduce exposure to radioactive material?

Identify the information available on the shipping paper that will be useful to emergency responders.

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EMS Care Providers as the First Responder

What should emergency medical care providers consider when treating a potentially radiologically contaminated patient?

What information should responders provide to the hospital?

All Responders Should Remember These Points:

Emergency Response to a Transportation Accident Involving Radioactive Material



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This video was produced as a cooperative effort between the Federal Emergency Management Agency (FEMA) and the Department of Energy (DOE) Transportation Emergency Preparedness Program (TEPP). For more information on FEMA and DOE training resources, visit the FEMA website at <http://www.training.fema.gov> and the DOE TEPP website at <http://www.em.doe.gov/otem/program.html>.

