

Title: **Emergency Response Guide (ERG) Familiarization**

Instructor: Danny Braitsch

Time: 1.5 hours

Equipment:

Emergency Response Guide 2016  
PowerPoint Presentation: Emergency Response Guide (ERG) Familiarization  
Hazardous Materials Incident Response Scenarios

Enabling Objectives:

- At the conclusion of instruction, the student should be able to describe the use of the Emergency Response Guidebook 2016 and its importance to first responders.
- At the conclusion of instruction, the student should be able to discuss the value of an effective scene size-up and identify important scene size-up considerations at a potential hazardous materials incident.
- At the conclusion of instruction, the student should be able to identify the different color-coded sections of the Emergency Response Guidebook 2016 and what each section is used for.
- At the conclusion of instruction, the student should be able to successfully use an Emergency Response Guidebook 2016 in mock-scenarios to identify the hazardous material present at the incident and knowledgeably discuss response considerations.

Overview:

- I) Emergency Response Guidebook (ERG)
  - A) What is it?
  - B) Why is it important to first responders?
- II) Scene Size-Up
  - A) Importance of Effective Size-up
- III) ERG 2016 Familiarization
- IV) ERG 2016 Color Coded Directories
  - A) White Pages
  - B) Yellow Section
  - C) Blue Section
  - D) Orange Section
  - E) Green Section
- V) How to Use the ERG 2016 Video Presentation
- VI) Conclusion

Lesson Plan:

- I) Emergency Response Guidebook
  - A) The Emergency Response Guidebook 2016 (or, ERG 2016) is a guidebook for use by first responders to assist in safely conducting operations on an incident involving dangerous goods or hazardous materials.
    - 1) Created by the U.S. Department of Transportation with intent to assist responders on transportation-related incidents
    - 2) Useful for **any** emergency scene in which hazardous materials or dangerous goods pose a significant health or life safety risk.
- II) The Importance of an Effective Scene Size-Up

- A) A thorough scene size-up is critical in effectively identifying the presence of a potential hazardous materials related incident
  - B) Personnel must recognize signs that indicate a hazardous materials-related life-safety or health risk is present
  - C) Assess the Scene
    - 1) What to look for:
      - (a) Placards, labels, or markings indicating presence of hazardous materials
      - (b) Container labels
      - (c) Rail cars or road trailers specific for carrying hazardous materials and dangerous goods
      - (d) Shipping documents or MSDS sheets if readily available to access
      - (e) Vapors, fumes, smoke, or spills
        - (i) Whistling from a tank may indicate leak of gaseous material
        - (ii) Being close enough to smell odors emitted from hazardous materials may mean personnel are too close and in danger
  - D) Other scene size-up considerations
    - 1) Fire, spill, or leak present?
    - 2) Weather conditions and terrain
      - (a) Be uphill and upwind of any hazardous materials incident
    - 3) Who and what is at risk?
      - (a) People, property, exposures, the environment
    - 4) What can be done immediately without unnecessary risk to health and life-safety?
      - (a) Dam/dike leaks
      - (b) Shelter-in-place or evacuate
    - 5) Do you need anymore resources?
      - (a) Special Operations
      - (b) Decontamination Unit
- III) ERG 2016 Familiarization
- A) Now that you've identified that your incident scene involves hazardous materials or dangerous goods...
    - 1) Proper use of the ERG 2016 can allow responders to:
      - (a) Identify the hazardous material
      - (b) Determine the potential hazards associated with the hazardous material
        - (i) Corrosive
        - (ii) Flammable
        - (iii) Toxic upon inhalation, ingestion, etc.
      - (c) Identify the appropriate level of PPE for operating around the hazardous material
      - (d) Secure the scene and specify initial isolation and protective action distances, if needed
      - (e) Determine best methods for mitigating a fire, a spill or leak, or a medical event involving the material
  - B) The newest version of the ERG (Version 2016) provides a flow chart on Page 1 for quick reference upon response to an incident involving hazardous materials.
  - C) It is important for responders to have a baseline knowledge of how to use an ERG for smoother operations on an emergency hazmat incident.
  - D) The first recommendation of the ERG 2016 is to **RESIST RUSHING IN**.
    - 1) Risk assessment must begin at a safe distance.
    - 2) As a first responder, your first responsibility is to keep yourself and the public safe.
- IV) ERG 2016 Color Coded Directories
- A) White Pages
    - 1) Describe how and when to use the guidebook

- 2) Includes:
  - (a) Information about shipping documents
  - (b) A detailed table of markings, labels, and placards
  - (c) Rail car and road trailer identification charts
  - (d) Pipeline transportation information
  - (e) Description of protective clothing requirements
  - (f) Information on Improvised Explosive Devices (IEDs) and safe stand-off distances
  - (g) Emergency response telephone numbers
  - (h) Table of contents
- B) Anytime a provider needs to look up a hazardous material in the ERG, they will begin with the Yellow or Blue Section, which will guide the provider to the Orange Section to determine how to respond to the incident.
- C) Yellow Section
  - 1) ID Number Index
  - 2) Allows providers to search for the name and guide number of the hazardous materials
    - (a) ID Numbers are listed in numeric order from 1001 to 9279
  - 3) Upon identifying the correct hazardous material, the responder will use the provided Guide Number and refer to this corresponding Guide Number in the Orange Section information on how to respond
- D) Blue Section
  - 1) Name of Material Index
    - (a) Allows providers to search for the ID Number and guide number of the hazardous material by searching its name
      - (i) Materials are listed in alphabetical order from AC to Zirconium Tetrachloride
  - 2) Upon identifying the correct hazardous material, the responder will use the provided Guide Number and refer to this corresponding Guide Number in the Orange Section information on how to respond
- E) If the hazardous material entry found in the Yellow or Blue sections is Highlighted in Green, follow these steps:
  - 1) If there is no fire:
    - (a) Go directly to Table 1 in the Green Section
    - (b) Look up the ID number and Name of Material
    - (c) Identify initial isolation and protective action distances
  - 2) If there is a fire or a fire is involved:
    - (a) Also consult the assigned Orange Section
    - (b) Apply the evacuation information shown under Public Safety
- F) Orange Section
  - 1) Details how to respond to an incident involving the hazardous material that has been identified at the scene
    - (a) Potential hazards involved with this particular hazardous material
      - (i) Fire or Explosion hazards
      - (ii) Health Hazards
    - (b) Public safety considerations
      - (i) Protective Clothing recommendations
      - (ii) Evacuation recommendations
    - (c) Emergency response recommendations
      - (i) In the event of
        - (i) Fire
        - (ii) Spill or Leak
        - (iii) First Aid required
- G) Green Section

- 1) Initial Isolation and Protective Action Distances
- 2) Recommends distances (in all directions) to isolate personnel and others from the hazardous material incident
  - (a) Distance recommendations vary based on whether the spill/leak is considered “Small” or “Large”
- H) If there is no placard or information available to responders at an incident that potentially involves a hazardous material, the ERG 2016 recommends utilizing **Guide 111: Mixed Load/Unidentified Cargo** in the Orange Section (the very first guide in the Orange Section)
- I) Rail Car and Road Trailer identification charts should only be used as a last resort with no further information.
- V) How to Use ERG 2016 Video Presentation
  - A) The following 20 minute YouTube presentation explains in thorough detail how to use the ERG 2016 on an emergency incident: <https://www.youtube.com/watch?v=WCpr4Xmhrss>
- VI) Conclusion
  - A) The Emergency Response Guidebook 2016 is an effective tool on any hazardous materials incident.
  - B) Responders should continue to train in order to feel comfortable with effectively sizing-up a potential hazardous materials-related incident.
  - C) Familiarity with the ERG will allow providers to significantly and positively influence a successful outcome on a hazardous materials incident.
- VII) Hazardous Materials Incident Response Scenarios
  - A) Available on PowerPoint Presentation: Emergency Response Guidebook (ERG) Familiarization

#### Summary

- Describe the use of the Emergency Response Guidebook 2016 and its importance to first responders.
- Discuss the value of an effective scene size-up and identify important scene size-up considerations at a potential hazardous materials incident.
- Identify the different color-coded sections of the Emergency Response Guidebook 2016 and what each section is used for.
- Successfully use an Emergency Response Guidebook 2016 in mock-scenarios to identify the hazardous material present at the incident and knowledgeably discuss response considerations.

## References

U.S. Department of Transportation (2016) *Emergency Response Guidebook 2016*. Retrieved from: <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/ERG2016.pdf>

U.S. Department of Transportation (2017) *Pipeline and Hazardous Material Safety Administration*. Washington, D.C. Retrieved from: <https://www.phmsa.dot.gov/hazmat/erg/emergency-response-guidebook-erg>