

Pipeline & Hazardous Materials Safety Administration (PHMSA)

Safe Transportation of Energy Products by Rail

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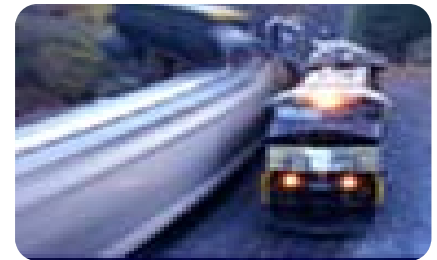
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4/12/16



PHMSA's Mission

To protect people, property, and the environment from the risks of hazardous materials transportation in commerce.



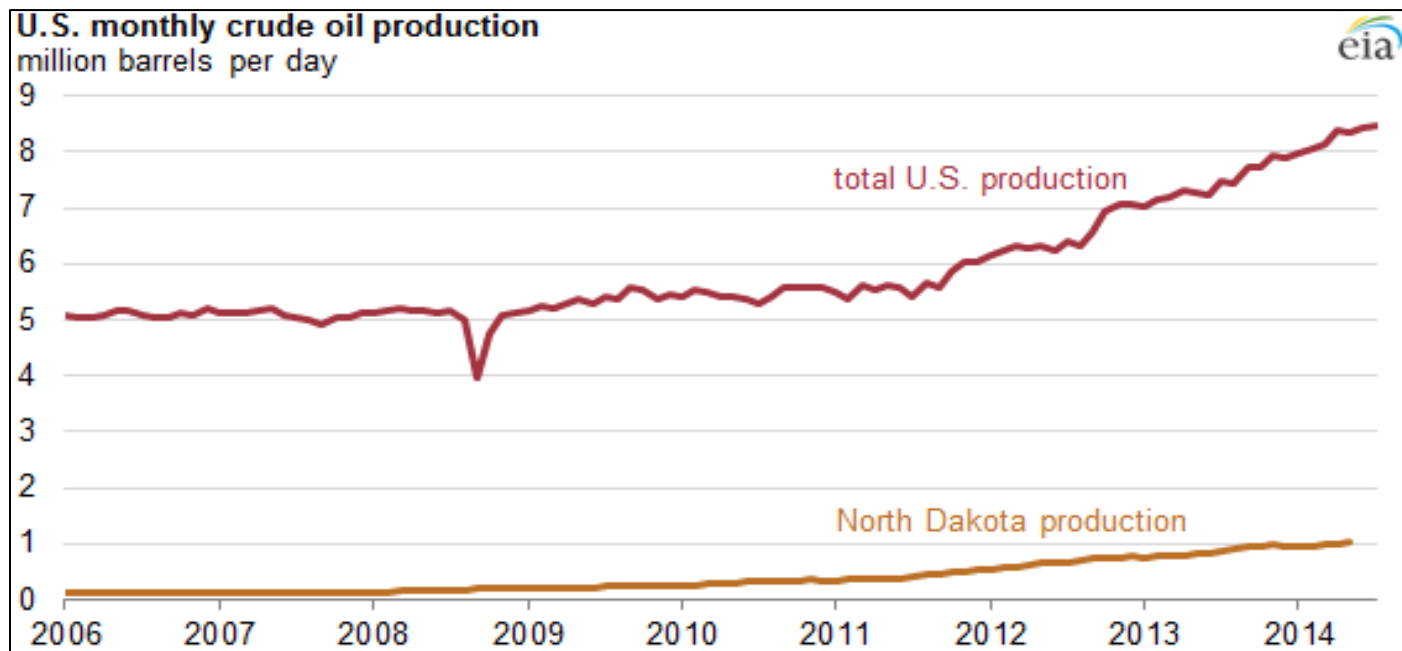
PHMSA's Role

- **PHMSA is a small agency with a big mission.**
- PHMSA's Hazardous Materials Regulations (HMR) provide safety and security requirements for more than \$2.3 trillion in hazmat shipments annually.
- This amounts to 2.5 billion tons of hazmat moved by air, rail, highway, and water.



Energy Growth

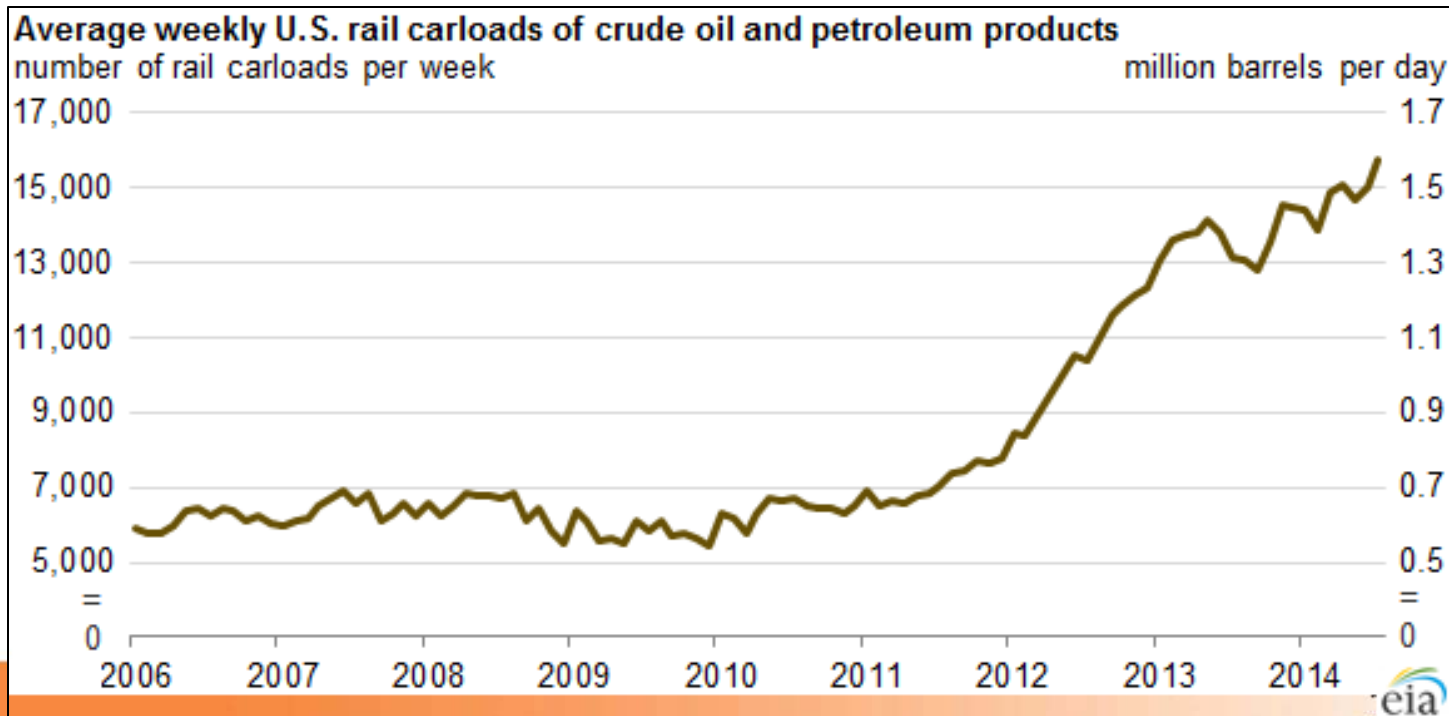
Growing domestic production of crude oil continues to reshape the U.S. energy economy, with crude oil production approaching the historical high achieved in 1970 of 9.6 million barrels per day



State of Crude Oil Transportation

As energy production in the U.S. increases, so does the need to transport that energy in all its forms.

Due to increased production the volume of crude oil moving by rail has quadrupled in less than a decade.



Recent Crude Oil Derailments

- *Heimdal, ND*

May 6, 2015 – town was evacuated after a train carrying crude oil derailed and 10 cars burst into flames

- *Galena, IL*

On March 5, 2015 cars from the BNSF oil train derailed. Seven tanker cars ruptured and 5 of the ruptured cars caught fire. The last fire was put out on the morning of March 8.

- *Mount Carbon, WV*

February 16, 2015 – Derailment unleashed a huge fireball, destroyed a home, forced residents to evacuate and closed downstream public water supply intakes.

- *Lynchburg, VA*

April 30, 2014 – 17 of 105 cars of Bakken Oil unit train derailed

- *Plaster Rock, NB*

January 7, 2014- 16 cars derailed, 8 were hazmat

- *Casselton, ND*

December 20, 2013 - 20 of 106 crude oil tank cars derailed

- *Aliceville, AL*

November 8, 2013 - 25 of 90 crude oil tank cars derailed

- *Lac-Megantic, QE*

July 6, 2013- 74 cars derailed of runaway train resulting in 47 fatalities



Location: *Aliceville, Alabama*

Source: https://www.epaos.org/site/image_list.aspx?site_id=8939



Secretary Foxx's Call to Action

- DOT has taken over 30 actions to date to address rail safety:
 - Emergency Orders
 - Safety Advisories and Alerts
 - Stakeholder Engagement
 - Training and Grants
 - Rulemakings
- For a complete list of actions, visit <http://www.phmsa.dot.gov/hazmat/osd/chronology>



Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (HHFT) (HM-251)



- Final rule published: 5/8/2015
 - Effective date: 7/7/2015
 - Response to appeals: 11/18/2015
- Purpose:
 - In coordination with the Federal Railroad Administration (FRA), PHMSA adopted requirements designed to reduce the consequences and in some instances, reduce the probability of accidents involving trains transporting large quantities of flammable liquids.

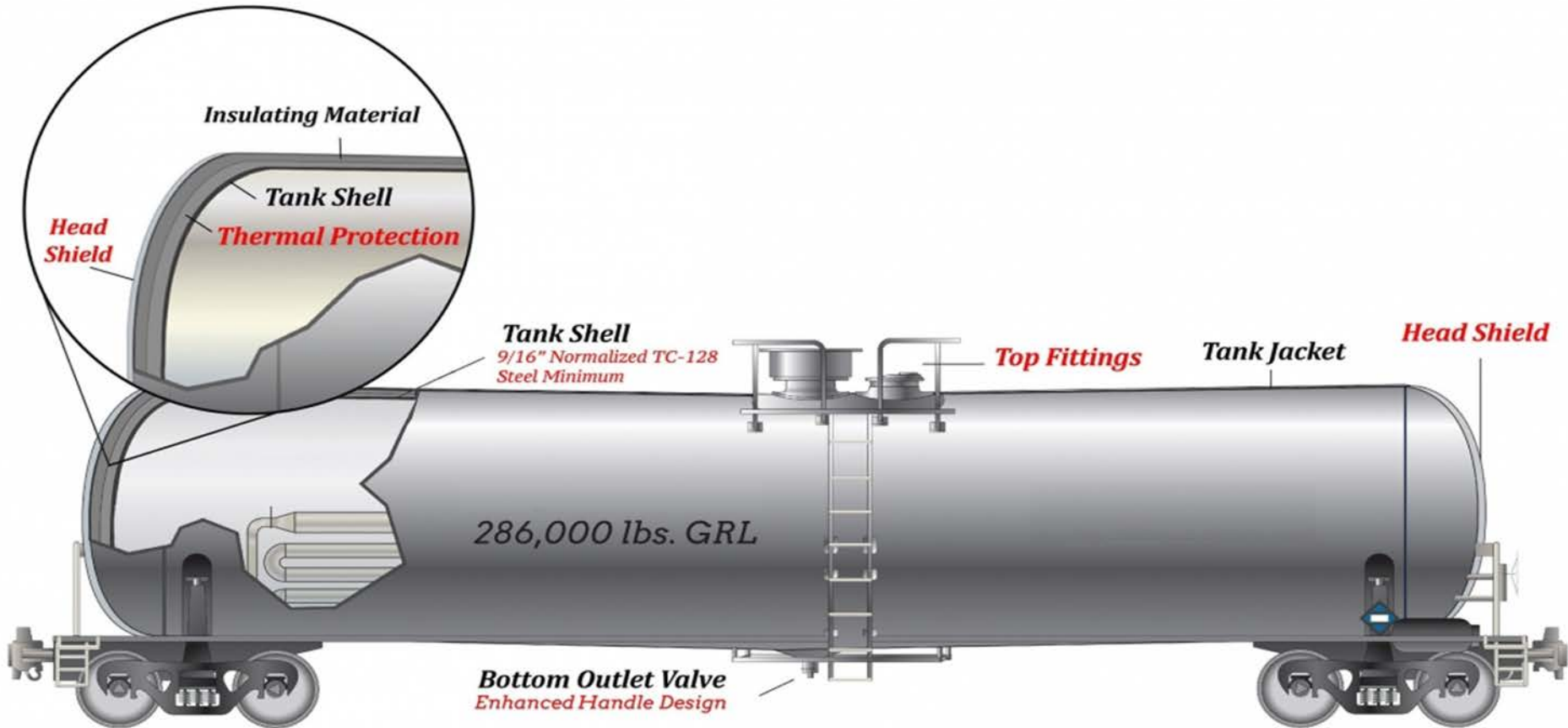


HM-251 (Continued)

- Summary
 - Defined “high-hazard flammable trains” (HHFT) as a continuous block of 20 or more tank cars loaded with a flammable liquid; or 35 or more tank cars loaded with a flammable liquid dispersed throughout a train
 - Adopted requirements for HHFT operations for braking systems, speed limits, and routing analysis
 - Adopted safety improvements in tank car design by adopting DOT Specification 117 standards.
 - Codified a sampling and classification program for unrefined petroleum-based products
- Fixing America’s Surface Transportation (FAST) Act:
 - Signed into law 12/4/2015
 - Includes changes and/or additional study to provisions adopted in HM-251



DOT 117 Specification Car



Safety enhancements of DOT Specification 117 Tank Car:

Full-height ½ inch thick head shield

Tank shell thickness increased to 9/16 inch minimum TC-128 Grade B, normalized steel

Thermal protection

Minimum 11-gauge jacket

Top fittings protection

Enhanced bottom outlet handle design to prevent unintended actuation during a train accident

Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains (HM-251B)

- Advanced Notice of Proposed Rulemaking (ANPRM) published Aug. 1st, 2014.
 - Comment period closed Sept 30th, 2014.



HM-251B ANPRM

Scope / Threshold

Who should develop a comprehensive plan?

1,000,000 gallons or more of crude oil per train consist

An HHFT of 20 or more carloads of petroleum oil per train consist

42,000 gallons of crude oil per train consist

Plan Content

What goes in a comprehensive plan?

Clarity of the current requirements for comprehensive OSRPs

Elements needed to be added or removed

Implementing the plan across the rail line

Cost / Benefit

What is the cost imposed and what are the safety benefits?

Costs of contracting resources or conducting training

Benefits of increased preparedness

Current Compliance

To what extent do railroads already comply?

Secretary's Call to Action

Emergency Order

Voluntary industry efforts



Emergency Order

- **May 2014:** DOT issued an Emergency Order requiring railroads transporting 1,000,000 gallons or more of Bakken crude oil to notify State Emergency Response Commissions (SERCs)
- **May 2015:** DOT [announced](#) that the May 2014 [Emergency Order](#) will remain in full force and effect until further notice while the agency considers options for codifying the May 2014 disclosure requirement on a permanent basis.
- **December 2016:** The FAST Act requires DOT to develop regulations for railroad operators to share real-time Emergency Response Information and to codify the May 2014 Emergency Order for HHFTs.



Hazardous Materials: Oil Spill Response Plans and Information Sharing for HHFTs (HM-251B)

- NPRM, *forthcoming*
- Continuation of Advance Notice of Proposed Rulemaking, which was published on 8/1/14
- Purpose:
 - Revise the applicability of comprehensive oil spill response plans based on thresholds of petroleum oil that apply to an entire train
 - Require railroads to share information about HHFT operations with SERCs and TERCs



Comment on a proposed rule

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What's Trending

- Obstetrics and Gynecology Devices Panel of the Medical Devices Advisory Committee; Notice of Meeting
Closing on Aug 31, 2015
- Mitigation of Exposure to Bees from Acutely Toxic Pesticide Products; Extension of Comment Period
Closing on Aug 28, 2015
- Food Labeling: Nutrition and Supplement Facts Labels; Revision
Closing on Oct 13, 2015
- Instructions on Filing a Submission to FAA for applications/petitions/exemptions and any other items for which a Docket...

Comments Due Soon

- Today (34)
- Next 3 Days (93)
- Next 7 Days (221)
- Next 15 Days (414)
- Next 30 Days (793)
- Next 90 Days (1,167)

Newly Posted

- Last 3 Days (168)
- Last 7 Days (376)
- Last 15 Days (983)
- Last 30 Days (2,019)
- Last 90 Days (5,893)

Browse by Category

- Unified Agenda Spring 2015
- APIs for Developers



Hazmat Grant Program - Mission

- To increase State, Territorial, Tribal, and local effectiveness in safely and efficiently handling hazardous materials accidents and incidents
- To **encourage a comprehensive approach to emergency training and planning** by incorporating the unique challenges of responses to transportation situations



HMEP Grants

- Awarded to States, Territories, and Federally-Recognized Tribes to carry out **planning and training** activities, for example:
 - ✓ Hazmat commodity flow surveys
 - ✓ Emergency response exercises
 - ✓ NFPA-472 related training
- Allocations are formula-based
- Up to \$21.8M annually



Other PHMSA Grants



HMIT

- Competitive
- Up to \$4M
- Nonprofits
- Train hazmat employees



SPST

- Competitive
- Up to \$1M
- Nonprofit fire service
- Train emergency responders



ALERT

- Competitive
- Depending on availability of recovered \$
- Nonprofits
- Train emergency responders for response to HHFTs



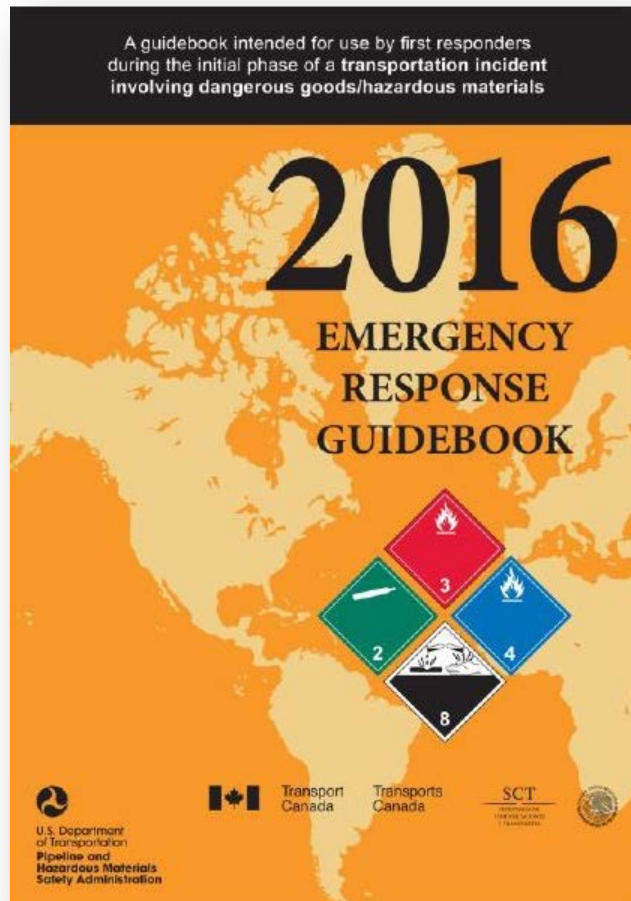
COMMUNITY SAFETY

- Competitive
- Up to \$1M
- Nonprofits
- Outreach and training for HHFTs; and
- Train people who enforce safe hazmat transportation

www.phmsa.dot.gov/hazmat/grants



Emergency Response Guidebook (ERG), 2016 edition, *forthcoming*



- Guidance on the initial response to hazmat incidents
- Collaboration between Canada, the U.S., and Mexico, and others
- Published in English, French, and Spanish
- PHMSA requested input on revisions to the 2012 edition in September 2014 [79 FR 52107]
- Since 1980, over 13 million copies distributed without charge
- Find “State Coordinators List” on phmsa.dot.gov



ERG App*



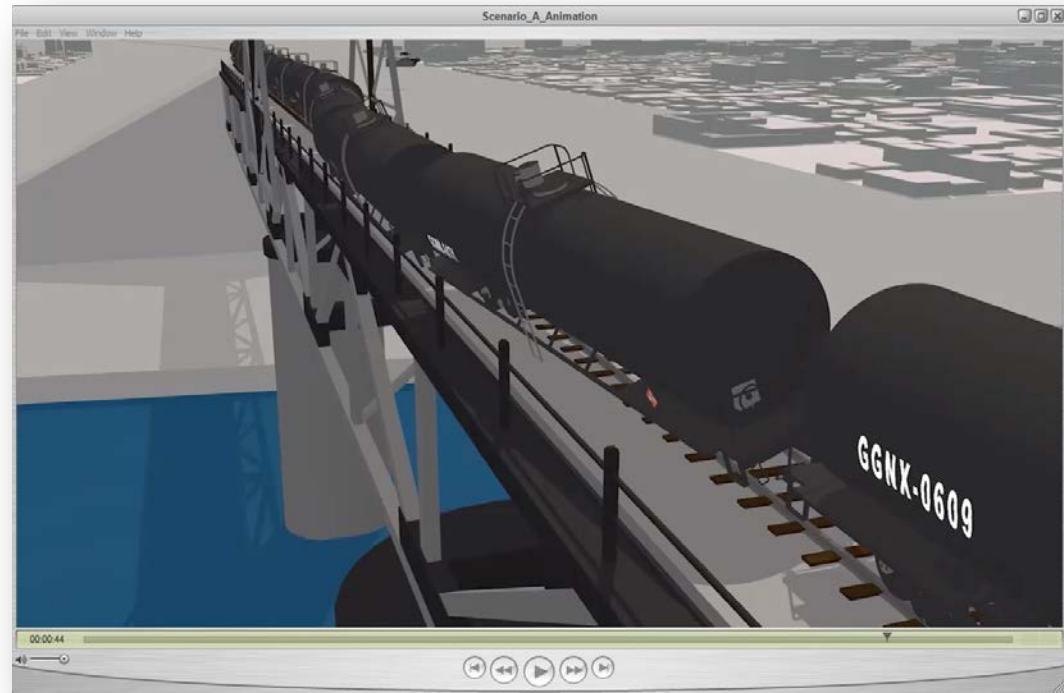
- Free
- Android or iPhone, or Windows
- Developed in partnership with the National Library of Medicine
- For additional information, visit our web site:
phmsa.dot.gov/hazmat/library/erg

** Currently, electronic files, including the ERG App, cannot be substituted for hard copy documents to comply with the Emergency Response Information requirements of Subpart G of Part 172.*



Transportation Rail Incident Preparedness & Response (TRIPR)

- Nine training modules
- Three, animated training scenarios to lead tabletop discussions
- Meant to supplement existing programs



<http://dothazmat.vividlms.com/tols.asp>



Transportation Rail Incident Preparedness & Response (TRIPR)

- Communicate critical information on **best practices** related to preparedness and response to rail accidents involving Class 3 flammable liquid commodities
- **Resources:**
 - ✓ PowerPoint Presentations
 - ✓ Student Workbooks
 - ✓ Instructor Lesson Plans
 - ✓ Videos & Animation



<http://dothazmat.vividlms.com/tols.asp>



Transportation Rail Incident Preparedness & Response (TRIPR)

Training Modules:

- ❑ 1.0 Pre-Incident Planning
- ❑ 2.0 Incident Management
- ❑ 3.0 Problem Identification
- ❑ 4.0 Hazard Assessments
- ❑ 5.0 Select Proper PPE
- ❑ 6.0 Resource Management
- ❑ 7.0 Select Response Objectives
- ❑ 8.0 Post Emergency Ops
- ❑ 9.0 Scenarios



<http://dothazmat.vividlms.com/tols.asp>



Transportation Rail Incident Preparedness & Response (TRIPR)

Scenario A

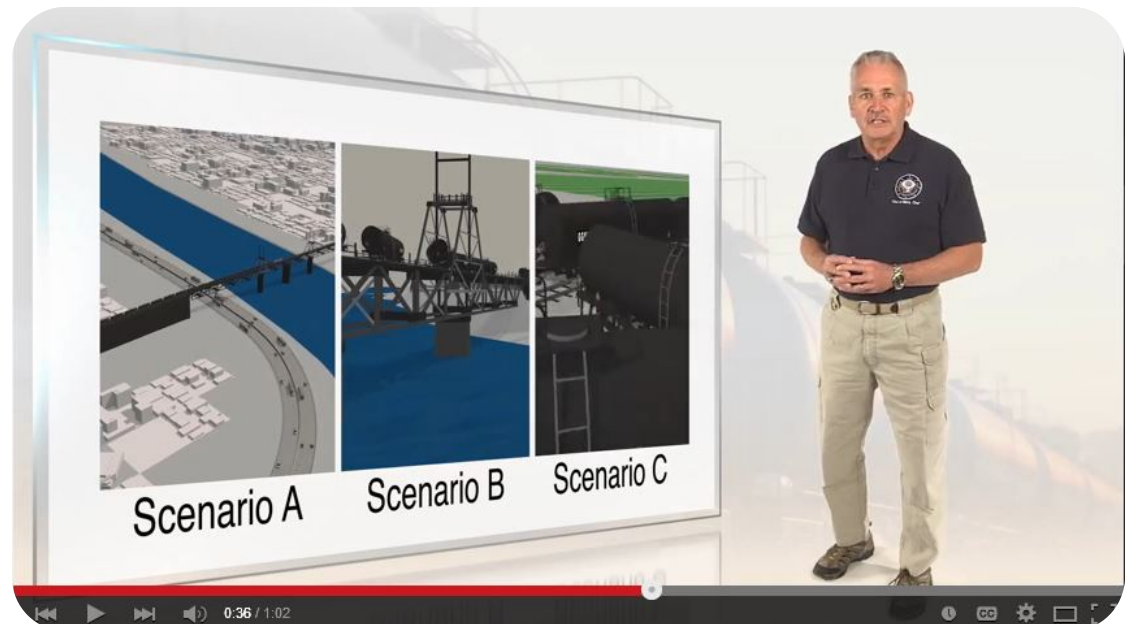
Urban Derailment ,
with No Release or Fire

Scenario B

Urban Derailment with Fire,
1 Car Release,
with Contained Spill and Fire

Scenario C

Rural Derailment with Fire,
Multiple Cars Release,
with Uncontained
Spill and Fire



Additional Information

- Hazardous Materials Information Center
 - (800) HMR-4922 or (202) 366-4488
 - *Hours:* 9 AM to 5 PM, EST
 - *Email:* infocntr@dot.gov
- Safe Transport of Energy Products (STEP):
 - <http://www.phmsa.dot.gov/hazmat/safe-transportation-of-energy-products>

