



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**



# **A REVIEW OF RECENT REGULATORY ACTIONS**

**The Federal Railroad Hazardous  
Materials Seminar  
Houston, TX - August 2018**



# OVERVIEW

1. FAST ACT/Crude by Rail Rulemakings/HM-251
  - New DOT117 Specification Tank Car/DOT111 Phase Out
  - New Operational Controls for High-Hazard Flammable Trains
  - Oil Spill Response Plans
  - Real-Time Train Consist Information for Emergency Response
2. MAP-21 Special Permit Conversion Rulemaking
3. Liquefied Natural Gas Tank Car Authorization
4. RSAC Hazmat by Rail Regulatory Review and Rulemaking Recommendations



U.S. Department  
of Transportation  
Federal Railroad  
Administration

# HM-251

## ENHANCED TANK CAR STANDARDS AND OPERATIONAL CONTROLS FOR HIGH HAZARD FLAMMABLE TRAINS





# LAC-MEGANTIC, QUEBEC

- 1:15 AM July 5, 2013
- Montreal, Maine & Atlantic Railway (MMA) Train Carrying 72 DOT111 Tank Cars full of Petroleum Crude Oil Experienced Uncontrolled Move Down Grade
- Approximately 65 MPH At Time of Derailment
- 63 Tank Cars Derailed
- Approx 1.6 million gallons
- Immediate fire
- 47 Fatalities





U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# LAC-MEGANTIC, QUEBEC





U.S. Department  
of Transportation  
Federal Railroad  
Administration

# ADDITIONAL CRUDE AND ETHANOL DERAILMENTS, RELEASES, FIRES

- Aliceville, AL November 8, 2013
  - 26 Tank Cars of Crude Oil
- December 30, 2013: Casselton, ND
  - 18 Tank Cars of Crude Oil
- February 4, 2015: Waupeton, IA
  - 11 Tank Cars of Ethanol
- February 16, 2015: Mt. Carbon, WV
  - 27 Tank Cars of Crude Oil
- March 5, 2015: Galena, IL
  - 21 Tank Cars of Crude Oil





U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# ADDITIONAL CRUDE AND ETHANOL DERAILMENTS, RELEASES, FIRES





U.S. Department  
of Transportation  
Federal Railroad  
Administration

# HM-251 FINAL RULE

## New Tank Car Standards and Operational Controls for High-Hazard Flammable Trains

- ANPRM – September 6, 2013 (89 FR 26644)
- NPRM – August 1, 2014 (79 FR 45016)
- Final Rule – May 8, 2015







# Elements of HM-251

- 1) Classification
- 2) Tank Car Specification
- 3) Routing/Notification
- 4) Speed Restrictions
- 5) Braking



# SCOPE OF RULE

## **High Hazard Flammable Train (HHFT)**

- 20 or more loaded cars in a continuous block
- 35 loaded cars throughout the train

## **High Hazard Flammable Unit Train (HHFUT)**

- 70 or more loaded tank cars in a single train





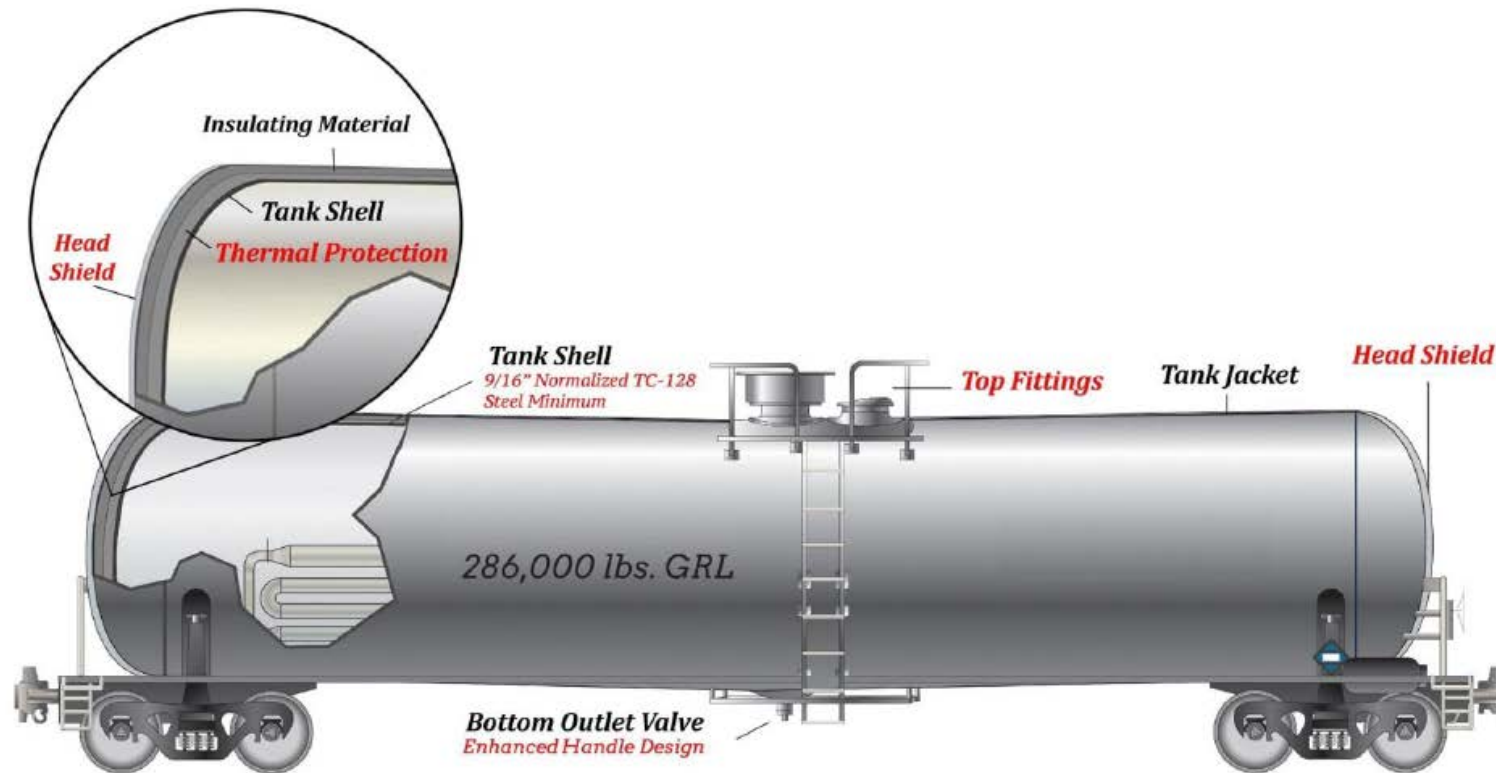
# CLASSIFICATION

- **Sampling and testing program for unrefined petroleum products (49 CFR Section 173.41)**
  - Frequency of sampling/testing
  - Sample prior to offering/changes
  - Sampling method
  - Test methods
  - Quality control measures
  - Duplicate samples
  - Criteria for modification of program
  
- **Certify, document, and make available to DOT**



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# 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

\* New tank cars built after 10/1/2015 must meet DOT 117 design or performance criteria



# RETROFIT PHASE-OUT SCHEDULE

- **Phase-Out Retrofit Schedule was based upon packing group assignment of the commodity as well as the original design specification of the tank. The retrofit phase-out schedule was eventually modified by the FAST Act to be commodity based. We will visit the current schedule later in the presentation when we cover the FAST Act rulemakings.**



# ROUTING/NOTIFICATION

## 1. Risk assessment (49 CFR § 174.310 (1))

- Routing analysis (27 safety and security factors)
- Select a route based on its findings

## 2. Notification (Later modified by the Fast Act)

- Contact information for State and/or regional fusion centers and State, local, and tribal officials
- Request information related to the routing of hazardous materials through their jurisdictions



# SPEED RESTRICTION

## HHFT (49 CFR § 174.310 (2))

- 40 mph in High Threat Urban Area (§ 1580.3)
  - Unless all tank cars meet new standards
- 50 mph otherwise





# ENHANCED BRAKING

- Two way End of Train device
- Distributed Power (DP)
- Electronically Controlled Pneumatic Brakes (Modified by FAST ACT)







U.S. Department  
of Transportation  
Federal Railroad  
Administration

# FIXINING AMERICA'S SURFACE TRANSPORTATION ACT (FAST ACT)

- Signed by President Obama December 5, 2015
- Mandated PHMSA/FRA to amend regulations implemented by the HM-251 Final Rule.





U.S. Department  
of Transportation  
Federal Railroad  
Administration

# FIXING AMERICA'S SURFACE TRANSPORTATION ACT (FAST ACT)

1. Modified DOT-117 Specifications
2. Modified Phase-out Retrofit schedule
3. Issue rulemaking on Part 130 Oil Spill Response Plans
4. Real-Time Accurate Train Consist Information to States and First Responders
5. ECP Brake Review/Reconsideration

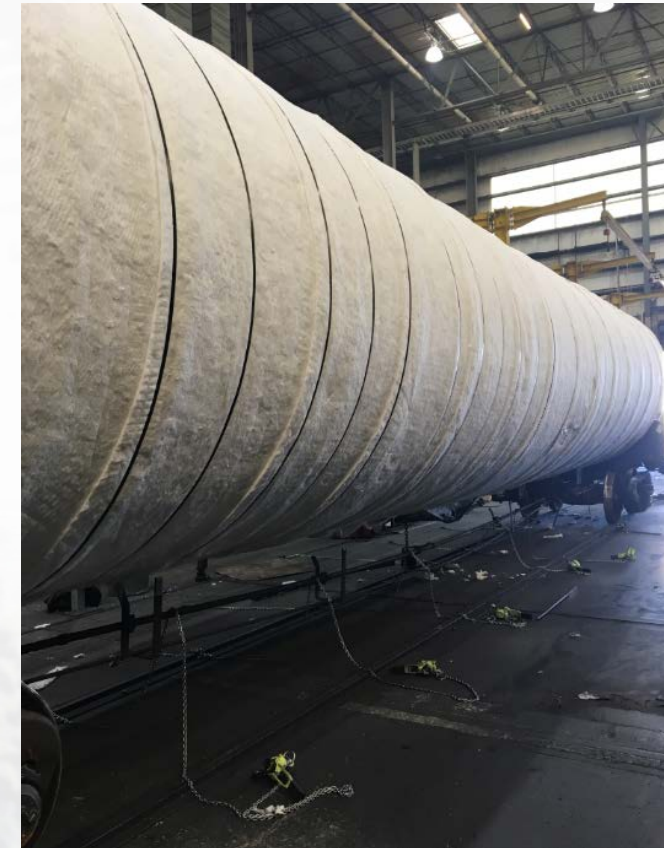




# MODIFIED DOT-117 SPECIFICATION

## HM-251C Final Rule – August 5, 2016

- Require ½” thick approved thermal blankets to be applied to all DOT-117 Tank Cars
- Enhanced Top-Fitting Protection (i.e., Protective Housing) performance standard for DOT-117R tank cars.

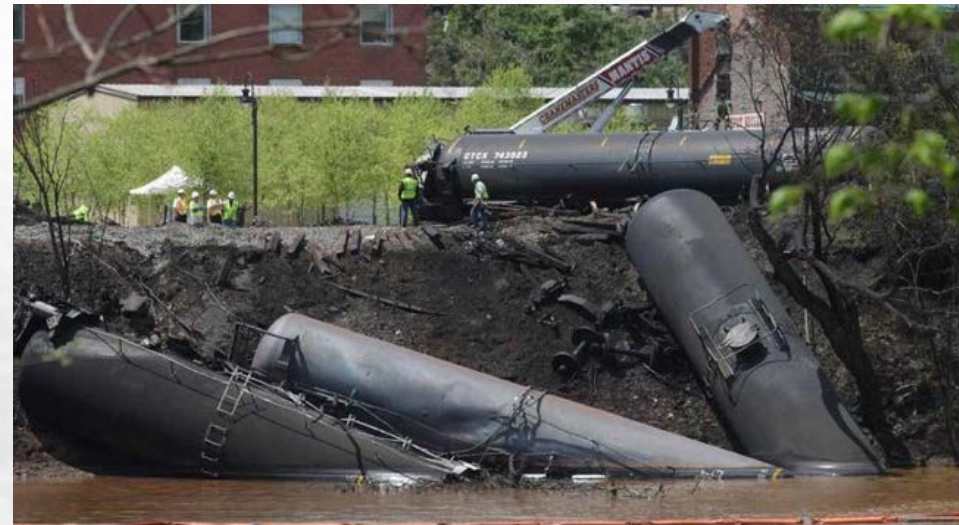




U.S. Department  
of Transportation  
Federal Railroad  
Administration

# HM-251C MODIFIED PHASE- OUT/RETROFIT SCHEDULE

- **Commodity based rather than Packing Group**
  - Crude Oil, then Ethanol, then All Flammable Liquids by Packing Group
- **Aligned Timeline with Transport Canada**





U.S. Department  
of Transportation  
Federal Railroad  
Administration

## Phase-out schedule mandated by FAST Act and 49 CFR §§ 173.242, 173.243:

# DOT-111 PHASE-OUT

### Tank car type/service

### FAST Act phase-out deadline<sup>1</sup>

Non-jacketed DOT-111s

Crude oil - January 1, 2018

Ethanol - May 1, 2023

Flammable PG I–May 1, 2025

Flammable PG II/III–May 1, 2029

Jacketed DOT-111s

Crude oil–March 1, 2018

Ethanol–May 1, 2023

Flammable PG I–May 1, 2025

Flammable PG II/III–May 1, 2029

Non-jacketed CPC-1232s

Crude oil–April 1, 2020

Ethanol–July 1, 2023

Flammable PG I–May 1, 2025

Flammable PG II/III–May 1, 2029

Jacketed CPC-1232s

Crude oil–May 1, 2025

Ethanol–May 1, 2025

Flammable PG I–May 1, 2025

Flammable PG II/III–May 1, 2029



U.S. Department  
of Transportation  
Federal Railroad  
Administration

# FAST ACT IMPLEMENTATION

## ECP BRAKES

### Hazardous Materials:

# Announcement of the Department of Transportation's Decision on Electronically Controlled Pneumatic Braking

#### Action:

Announcement of Department determination.

#### Summary:

#### *Details*

---

**Published Date:**

12/13/2017

**Effective Date:**

N/A

**Comment By:**

N/A

---

**FR Document Number:**

2017-26546



# FAST IMPLEMENTATION ADVANCE NOTIFICATION HHFT

## HM-251B Oil Spill Response Plans and Information Sharing (NPRM) - July 29, 2016

### Proposed Oil Spill Plan Requirements:



- Comprehensive plans for liquid petroleum oil in HHFT's Consistent with National Contingency Plan (NCP)
- Equipment inspection and availability for response
- Plans updated at least every 5 years
- Establish Response Zones/Qualified Individuals
- Approved by FRA
- Contact information/checklists
- 12-hour response times
- Training/Drills etc.
- Plan for worst-case discharge (300,000 gallons)



U.S. Department  
of Transportation  
Federal Railroad  
Administration

# FAST IMPLEMENTATION ADVANCE NOTIFICATION HHFT

## HM-251B Oil Spill Response Plans and Information Sharing (NPRM) - July 29, 2016

### SERC/TERC Notification (Monthly)

- Estimate the number of HHFTs moving through the jurisdictions of the State.
- Routes they travel
- POC at the railroad for HHFT information







U.S. Department  
of Transportation  
Federal Railroad  
Administration

# FAST ACT IMPLEMENTATION

## REAL-TIME TRAIN CONSIST REPORTING

### HM-263:

## Hazardous Materials: FAST Act Requirements for Real-Time Train Consist Information by Rail

**Action:**

Advance notice of proposed rulemaking (ANPRM).



### *Details*

**Published Date:**

01/19/2017

**Effective Date:**

N/A





# FAST ACT IMPLEMENTATION

## REAL-TIME TRAIN CONSIST REPORTING

- (1) require a Class I railroad transporting hazardous materials—
  - (A) to generate accurate, real-time, and electronic train consist information, including—
    - (i) the identity, quantity, and location of hazardous materials on a train;
    - (ii) the point of origin and destination of the train;**
    - (iii) any emergency response information or resources required by the Secretary; and
    - (iv) an emergency response point of contact designated by the Class I railroad



# FAST ACT IMPLEMENTATION

## REAL-TIME TRAIN CONSIST REPORTING

- (B) to enter into a memorandum of understanding with each applicable fusion center to **provide the fusion center with secure and confidential access to the electronic train consist information described in subparagraph (A) for each train transporting hazardous materials in the jurisdiction of the fusion center;** (2) require each applicable fusion center to provide the electronic train consist information described in paragraph (1)(A) to State and local first responders, emergency response officials, and law enforcement personnel that are involved in the response to or investigation of an accident, incident, or public health or safety emergency involving the rail transportation of hazardous materials and that request such electronic train consist information;



U.S. Department  
of Transportation  
Federal Railroad  
Administration

# EXTEND SERVICE LIFE OF INTERIM PIH TANK CAR

## HM-219

- **NPRM Published June 30, 2016**
- **Proposed removal of the 20 year service life for DOT105J500I cars for PIH materials.**





U.S. Department  
of Transportation  
Federal Railroad  
Administration

# LNG TANK CAR AUTHORIZATION

## HM-264 NPRM

- COMING SOON
- Proposed rule to authorize movement of LNG in cryogenic tank cars.
- Addresses a January, 2017 Petition from the AAR





# MAP-21 SPECIAL PERMIT CONVERSION RULEMAKING

## HM-233 NPRM

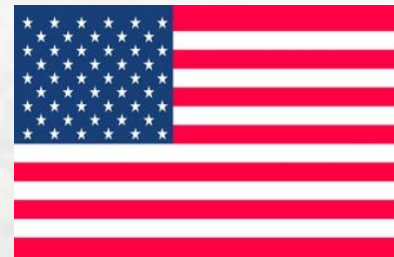
- COMING SOON
- Proposes incorporation of numerous special permits that have been reviewed by the Agency and determined to have merit for rulemaking.
- Specifically would propose to incorporate a special permit for use of a new pressure tank car specification DOT-130/131 for use in transportation of toxic inhalation hazard materials.



# INTERNATIONAL HARMONIZATION

## HM-2150 NPRM

- COMING SOON
- Reciprocity with Canada to recognize one-time movements to or through the United States conducted under TP-14877 or Temporary Certificate issued by Transport Canada.





# RSAC RECOMMENDATIONS

## HM-???

**PHMSA is currently seeking a Regulatory Identification Number to Proceed**

- COMING SOON
- Would propose to incorporate the RSAC consensus recommendations into the regulations.
- Consensus recommendations are available at the FRA RSAC website





# RSAC RECOMMENDATIONS

## UPDATE AAR M-1002 INCORPORATION BY REFERENCE

- **49 CFR 171.7**
- Update the AAR M-1002 (Tank Car Manual) Incorporation by Reference in the 49 CFR from 2000 edition to the 2014 edition.
- Revise the format of the IBR by chapter and appendix rather than the full edition to allow DOT to keep pace with review and incorporation of various amendments made to the M-1002 between new editions.
- Implement a two year review/rulemaking process to ensure that the IBRs are up to date and current with any amendments made to chapters or appendices between new editions.



# RSAC RECOMMENDATIONS

## TANK CAR FACILITY REGISTRATION

### ➤ **49 CFR Part 107 Subpart F**

Applicability. manufacture, assembly, qualification, inspection, modification, maintenance, or repair of a tank car manufactured under the terms of a DOT specification under subchapter C of this chapter or a special permit issued under this part.



# RSAC RECOMMENDATIONS

## TANK CAR CLOSURE PROCEDURES

### ➤ 49 CFR 173.31(d)(1)

Securement of closures on tank cars. The offeror must have and follow a procedure for closing and securing all openings on a tank car prior to shipment. The person responsible for developing or updating the procedure must consider available best practices and guidance from each package and component supplier, such as service equipment manufacturer, gasket manufacturer, tank car owner or other product-specific closure manufacturer. The procedure must be reviewed and updated to reflect changes or modifications of the equipment design, but not later than 2 years from the previous update.



# RSAC RECOMMENDATIONS

## ONE-TIME MOVEMENT APPROVALS

### ➤ 49 CFR 174.50

Clarified applicability: All railcars in hazmat service and non-conforming DOT specification tank cars, regardless of service.



# RSAC RECOMMENDATIONS

## ONE-TIME MOVEMENT APPROVALS

### Exceptions:

- A non-conforming rail car that does not contain any hazardous material or vapors may be moved without repair or approval, provided the non-conforming condition does not affect the structural integrity of the railcar.



# RSAC RECOMMENDATIONS

## ONE-TIME MOVEMENT APPROVALS

### Exceptions:

- Overloaded by 3,000 pounds on weigh-in-motion scale or 1,000 pounds on static scale.



# RSAC RECOMMENDATIONS

## ONE-TIME MOVEMENT APPROVALS

### General Requirements:

- Included general requirements into the regulations that apply to all OTMA movements. DO NOT LOAD stencils, notifications, and recordkeeping.
- Require coordination with railroads and destination facilities to ensure they are willing to accept the car, are certified to repair the car, and/or have the means of offloading or cleaning the car.



# RSAC RECOMMENDATIONS

## ONE-TIME MOVEMENT APPROVALS

Revocation of OTMA-3 (standing approval) privileges. If found to be repeatedly in violation of the OTMA process, FRA may issue written notice to the applicant requiring all future OTMA requests to be submitted as OTMA-1.





U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# Questions?



# RESOURCES

- **FRA RSAC WEBSITE:** <https://rsac.fra.dot.gov/>
- **DOT Regulatory Agenda:**  
[https://www.reginfo.gov/public/do/eAgendaMain?operation=OPERATION\\_GET\\_AGENCY\\_RULE\\_LIST&currentPub=true&agencyCode=&showStage=active&agencyCd=2100&Image58.x=25&Image58.y=7](https://www.reginfo.gov/public/do/eAgendaMain?operation=OPERATION_GET_AGENCY_RULE_LIST&currentPub=true&agencyCode=&showStage=active&agencyCd=2100&Image58.x=25&Image58.y=7)
- **PHMSA RULEMAKING:** <https://www.phmsa.dot.gov/regulations-fr/rulemaking>