Enhancing Railroad Hazardous Materials Transportation Safety 
Rail Routing

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Our Regulated Community

- More than 550 railroads
- 170,000 miles of track
- 220,000 employees
- 1.3 million railcars
- 20,000 locomotives
- 3,500 chemical shippers
- Roughly 2 Million annual HM shipments
Need for a National Approach

- At least 14 cities and 1 state considered rail routing requirements
- Potential Impact on National Transportation System
- Need arose for national uniformity
  - Criteria for analyzing risk
  - Central Arbiter of routing decisions
  - Methodology and tools
HM-232E Introduction

• Notice of Proposed Rulemaking
  • Issued December 21, 2006

• Interim Final Rule
  • Issued April 16, 2008
    - Effective June 1, 2008
    - Voluntary compliance May 16, 2008
  • IFR because of 9/11 Commission Act requirements

• Final Rule
  • Issued November 26, 2008
Regulations

Located in 49 CFR 172.820, 172.822 & Appendix D to Part 172

- Applicability
- Primary and alternate rail route analysis
- Route selection
- Route analysis completion
- Rail carrier POC’s on routing issues
- Storage, delays in transit and notification
- Recordkeeping
- Compliance and enforcement
Regulations

Located in 49 CFR 172.820, 172.822 & Appendix D to Part 172

- Preemption – States that any law, order, or other directive of a state, political subdivision of a state or a Native American tribe that designates, limits, or prohibits the use of a rail line (other than a rail line owned by a state, political subdivision of a state or a Native American tribe) for the transportation of hazmat, including, but not limited to, the materials specified in 172.820(a), is preempted
Hazmat Requirements

- Collect data annually
  - Certain high hazard materials
  - By route
- Use previous years data to analyze routes safety and security
- Analyze for a primary and alternate route
- Choose safest/most secure route – primary and alternate
- Allow DOT/DHS to see the data and analysis
- Reduce storage/delays in transit
- Perform security inspections
- Separate appeal process (49 CFR 209.501)
Applicability

Applies to Carriers transporting:

- **Security Sensitive Materials**
  - Designated by DHS

- **Includes**:
  - >5,000 lbs Division 1.1, 1.2, or 1.3 (single carload)
  - A bulk quantity of PIH (includes NH₃)
  - A Class 7 material in HRCQ Quantity
Collecting Data

- Commodity data must be kept and compiled by carriers for the previous *calendar* year
  - Complete by 90 days after end of CY
  - 2008 contained only 6 months (7/1 to 12/31)
    - Unless using delay provisions
- Collected by route, line segment or series of line segments
- Commodity data by UN number
  - Can include all Class 7 and 6.1
- Identified by geographic location
Route Analysis

- In Writing
- Analysis must include Appendix D factors
  - 27 factors are minimum
- Includes:
  - Classification/Switching Yards
  - Sidings
  - Storage Facilities
- Excludes:
  - Offeror/Consignees Facilities
  - Private Sidings/Tracks
27 Risk Factors
Appendix D to Part 172

- Volume
- Traffic density
- Trip length
- Facility presence/location
- Track Type/Class/Main. Sch.
- Track grade/curvature
- “Dark” vs “Signaled”
- Wayside detector presence
- Grade crossing #/types
- Single vs. Double track
- Turnout freq./ location
- Iconic target proximity
- Env. Sensitive areas
- Population density
- Venues along routes

Emer. Response Capability
High Consequence areas
Passenger traffic
Train Speed
Proximity of storage/repair facilities
Known threats
Safety/Security measure in place
Availability of practical alternate routes
Past incidents
Transit times
Crew training & skill levels
Impact on rail network traffic & congestion
Selecting the Route

- Select safest/most secure route
- Annual review required
- Restrict disclosure (SSI)
  - Comparative analysis
  - Charts and Graphs
  - System Maps
Consultation

- Identifying High Threat Targets
- Requires RRs to consult with State, Local, and Tribal Officials
- Two Options
  - Fusion Centers
  - Direct
- Carriers must provide name, title, telephone number, and e-mail address to fusion centers and those officials who contact them
Security Inspections

- By carriers
  - Acceptance
  - Placed in trains
- Specifics
  - Tampering
  - Suspicious items
  - Compromised security
- Indications
  - Follow security plan
- Commodities
  - 172.820 Materials
  - Ammonium Nitrate
  - HM of Interest (Threat based)
Storage/ Delays in Transit

- Written Revisions to Security Plan
  - Procedure for consulting with shippers and consignees
    - Mutual consent required
    - Measures for minimizing
  - Preventing unauthorized access to §172.820 materials
  - Mitigating storage risk in population centers
  - Procedures for notifying consignees of delays
Compliance/ Enforcement

- September 1, 2009
  - Initial Analysis
    - Uses July-December, 2008 data
    - Full Compliance with Rule
  - Written Notification of Delay
    - Could delay analysis until March 31, 2010
    - Must include full 2008 data

- March 31, 2010
  - Compilation of 2009 shipment data
- March 31, 2011
  - Compilation of 2010 shipment data
- ETC. for each year thereafter
Compliance/ Enforcement Approach

- Early (pre-deliverable) start was made to ensure appropriate approach
  - Coordinated with TSA and PHMSA
    - Uniformity
    - Security Expertise for balanced approach
- Enforcement program similar to Security Plan Reviews
  - More resource intensive
- Tool developed to enable national route analysis approach - RCRMS
  - DHS funded
  - Production version was online June 1, 2009
The Rail Corridor Risk Management System (RCRMS) is a tool that can be used by rail carriers to:

1. Maintain HAZMAT commodity flow information
2. Analyze and compare primary/alternative route risks

RCRMS assists in complying with the Pipeline and Hazardous Materials Safety Administration’s (PHMSA’s) regulation entitled “Enhancing Rail Transportation Safety and Security for Hazardous Materials Shipments” – not mandatory that rail carriers use it but all Class 1’s have.
Enforcement Approach

- In 2010, 2011, 2012 and 2013, FRA conducted audits of all Class 1 rail carriers.
- FRA Rail Routing Compliance Team (RRCT)
  - Consists of FRA Safety, Policy and Chief Counsel office personnel, along with representatives from TSA and PHMSA.
- FRA will continue to perform annual compliance audits.
- Class 2 and 3 railroads (shortline) also need to comply if they transport addressed materials.
- RCRMS not as viable for smaller RR’s as it is for Class 1’s.
Enforcement Approach

- Compliance audits of smaller Class 2 and Class 3 RR’s have been done by FRA regional personnel given the much larger # of these rail carriers.

- FRA working with the ASLRRRA and the RRF in developing a comprehensive risk assessment tool, similar to RCRMS, that is geared more for the limited operations of smaller rail carriers.

- Initial work began in FY 2012 - first task complete as of beginning of FY 2013 - project completion expected FY 2013-FY 2014 time frame.

- FRA POC for questions or information – Lisa Matsinger, 202-493-0324 / Lisa.Matsinger@dot.gov.
Moving Ahead for Progress
MAP-21

• First multi-year transportation authorization enacted since 2005.
• Funds surface transportation programs at over $105B for FY 2013 and 2014.
• Transforms the framework for investments to guide the growth and development of country’s transportation infrastructure.
• Many aspects and facets to MAP-21 - Subject would warrant its own topic heading with much more time needed to address more completely.
• MAP-21 heavy on highway and transit issues. Little dealing with freight rail issues.
Moving Ahead for Progress MAP-21

• One aspect of MAP-21 is Title III – Hazardous Materials Transportation Safety Improvement Act of 2012 (Sections 33001 to 33017)

• Focuses on safe transportation of hazmat by all modes and provides resources to PHMSA to continue to carry out critical safety missions.

• Title III Highlights:
  • Training Programs -
    - Training for Emergency Responders: Bill includes provisions to improve training for emergency responders and Hazmat inspectors and investigators.
    - Hazardous Material Enforcement Training: Bill authorizes that an enforcement training program be created that establishes uniform performance standards for hazmat inspectors and investigators.
Moving Ahead for Progress
MAP-21

- Title III Highlights continued:
  - Data Collection and Research -
    - Paperless Hazard Communication Pilot Program: Grants the authority to conduct pilot projects to evaluate feasibility and effectiveness of using paperless hazard communication systems, (i.e. HMACCESS)
    - Improving Data Collection, Analysis, and Reporting: Directs that an assessment be conducted of methods used by PHMSA for collecting, analyzing and reporting hazmat accidents and incidents.
    - Hazardous Material Technical Assessment, Research and Development, and Analysis Program: Authorizes development and implementation of a program to reduce risks associated with transporting hazmat and the evaluation of new technologies to facilitate safe, secure and efficient hazmat transport.
Moving Ahead for Progress
MAP-21

- Title III Highlights continued:
  - Transportation Safety -
    - Inspections: Mandates that rulemaking be conducted within 1 year to address resumption of transportation of perishable hazmat after inspection, appropriate training and equipment for inspectors and closing of packages after opening for inspection.
    - Highway Routing Disclosures: Mandates new State responsibilities relating to highway disclosures to FMCSA.
    - Wetlines: Mandates that GAO evaluate and report on the safety of transporting flammable liquids in external product piping lines of cargo tank motor vehicles.
Moving Ahead for Progress
MAP-21

• Title III Highlights continued:
  • Special Permits -
    - Special Permits, Approvals and Exclusions: Mandates conducting rulemaking to establish SOP and objective criteria for the handling of special permits and approvals.
  • Motor Carrier Safety Permits -
    - Directs FMCSA to conduct a study and submit a report on the implementation of the hazmat safety permit program.
  • Strengthening Enforcement -
    - Removes the minimum civil penalty requirement, makes it a violation when a person refuses to grant access to authorized enforcement personnel and mandates that regulations be issued to prohibit hazmat operations if a person does not pay civil penalties.
Moving Ahead for Progress
MAP-21

For more in-depth info on MAP-21
GO TO:

http://www.dot.gov/map21
Thank You

Still have Question?

• Contact me at 202.493.6315
• Visit FRA’s web page at www.fra.dot.gov
• Visit PHMSA’s web page at http://hazmat.dot.gov
• E-mail me at kevin.blackwell@dot.gov
• E-mail hmassist at hmassist@dot.gov