



MOVING THE
**AMERICAN
ECONOMY**

*Federal Railroad Administration
Rail Hazmat Routing Rule
Fact Sheet*

Background

The primary safety and security concern related to the transportation of hazardous materials by rail is preventing a potentially lethal spill or release from occurring in close proximity to heavily populated areas, events or venues with large numbers of people in attendance, iconic buildings and landmarks or environmentally sensitive areas. A catastrophic event of this nature could be the result of an accident or a deliberate act.

The U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) working in close consultation with the Federal Railroad Administration (FRA) has issued regulations requiring railroads that transport certain hazmat commodities perform a comprehensive safety and security risk analysis in order to determine and select routes which pose the least overall risk. These analyses must include a minimum of 27 specific risk factors including input provided by state and local governments.

Importantly, Congress specifically endorsed this approach to rail hazmat routing in Section 1551 of the *Implementing Recommendations of the 9/11 Commission Act of 2007* [Public Law 110-432]. The law requires railroads to perform the safety and security risk analyses and then to make an appropriate route selection. Further, moving these types of hazmat shipments over rail routes selected in this manner enhances safety and security for people living both in big cities and small towns.

In June 2008, the PHMSA [Interim Final Rule](#) (IFR) on rail hazmat routing became effective at which time railroads began implementing its various provisions, and FRA began related compliance oversight and enforcement activities. In December 2008, the PHMSA [Final Rule](#) became effective which clarified certain provisions of the IFR.

Type of Hazardous Materials Covered

Under the rail hazmat routing rule, security-sensitive hazardous materials are defined as:

- Bulk shipments of Poison Inhalation Hazard (PIH) materials, such as chlorine and anhydrous ammonia, which are known or presumed on the basis of tests to be toxic to humans and pose a hazard to health in the event of a release during transportation;
- More than 5,000 pounds in a single carload of Division 1.1, 1.2, or 1.3 explosive materials which pose a hazard of mass explosion, fragment projection, or a fire hazard with or without a minor blast or fragment projection hazard; and
- Certain high-level radioactive material shipments.

Role of FRA

The FRA is responsible for enforcing federal rail safety and hazardous materials laws, rules and regulations. The agency performs routine inspections, audits, and investigations of hazmat releases that result from train accidents as well as hazmat releases from non-accident events. Violations of federal regulations may result in enforcement actions including fines being levied against a railroad, individuals or companies which offer hazmat for rail transportation.

- **FRA Will Review and Inspect Railroad Risk Analyses and Route Selection**

FRA is incorporating review and inspection of railroad risk analyses and route selections into its regular oversight program. However, it is not pre-approving railroad selected routes in advance. FRA inspectors may offer recommendations to modify or improve the risk analyses or to use a different route if the selection documentation or underlying analysis is found to be deficient. If an inspector's recommendations are not implemented, FRA can compel a railroad to make changes and/or assess a civil penalty.

- **FRA Can Require a Railroad to Use an Alternate Route**

If FRA determines that the route chosen by a railroad is not the safest and most secure practicable route available, FRA can require the use of an alternative route until such time as the identified deficiencies are corrected by the railroad. FRA will consult with PHMSA, the Transportation Security Administration, and the Surface Transportation Board before ordering the use of an alternate route.

Key Provisions of the Rail Hazmat Routing Rule

- **Railroads to Implement Initial Route Selection by September 1, 2009 or by March 31, 2010**

If a railroad elects to use six-months of data (from July to December 2008) for its risk analyses it must implement its initial route selection by September 1, 2009. If a railroad chooses to perform the risk analyses based upon 12-month data (from January to December 2008) it must provide FRA advance notification of that decision and implement its initial route selection by March 31, 2010. Full year data analyses will enable railroads to take into account seasonal variations in the movement of hazardous materials covered by the rule.

- **Railroads Must Perform Safety and Security Risk Analyses Every Year**

Beginning in 2010, railroads are required to conduct risk analyses annually to assess the safety and security risks along the current route utilized to transport the specified shipments, and must also assess the risks on practicable alternative routes over which they have authority to operate. These analyses must include a comprehensive review of all operational changes, infrastructure modifications, traffic adjustments, changes in the nature of potential high-consequence targets along or in close proximity to the route, or other changes affecting the movement of the relevant hazmat shipments. This systematic process will ensure that modifications and changes are taken into account in risk analyses during the same calendar year that they occur. In addition, a railroad is expected to consider changes that may reasonably be anticipated to occur in the upcoming year.

- **Railroads Must Consider at Least 27 Risk Factors in Safety and Security Risk Analyses**

Railroad risk analyses must consider at least 27 factors that may affect the possibility of a catastrophic release along a specific route, including the volume of the commodity transported; the total distance traversed; track attributes; population density; the environmental characteristics of the area surrounding the route; and any prior history of incidents or risk mitigation measures for the route, among others (see below for full list). Railroads must then use the results of the risk analyses to select the route with the fewest overall safety and security risks.

Also, the U.S. Department of Homeland Security provided funding to the Railroad Research Foundation, a non-profit arm of the Association of American Railroads, to develop a sophisticated statistical routing model that railroads may use to conduct risk analyses in order to comply with the rule. Railroads may choose other routing models for use in preparing their risk analyses.

- **Railroads Must Analyze and Assess Practicable Alternate Routes**

In addition to the current route utilized for hazardous materials movements, a railroad is required to analyze the safety and security risks of practicable alternative routes over which it has authority to operate. Railroads must also consider the use of interchange agreements (allowing railroads to exchange railcars at a specific junction point) when determining practicable alternative routes and the potential economic effect of using an alternative route.

- **Railroads Must Seek Information from State and Local Officials**

Each railroad's designated point of contact for hazmat routing issues is required to seek information from state and local officials regarding potential security risks to high-consequence targets along or in close proximity to those routes. Railroads have existing relationships with state and regional fusion centers (organized to share security and first responder information and intelligence) to coordinate routine law enforcement involvement and should use these centers as a focal point for the exchange of information regarding rail hazmat routing. Information or data collected for this purpose will become part of the risk analysis for the current and practicable alternate routes.

- **Railroads Must Address En Route Storage and Delays in Transit**

Railroad security plans must include: (1) a procedure for consulting with offerors and consignees to minimize the time that a hazmat shipment is stored incidental to its movement from origin to destination; (2) measures to limit access to such shipments during temporary storage and delays in transit; (3) measures to mitigate risk to population centers during temporary storage incidental to transportation; (4) measures to be taken in the event of an escalating threat level during temporary storage incidental to transportation; and (5) a procedure for notifying the consignee in the event of transportation delays.

- **Railroads Must Enhance Pre-Trip Inspections of Rail Hazmat Cars**

To minimize the possibility that an unauthorized individual could tamper with rail cars containing hazardous materials to precipitate an incident during transportation, such as detonation or release using an improvised explosive device (IED), railroads are required to include as part of their routine pre-trip inspections of placarded hazardous material rail cars an inspection for signs of tampering with the rail car, including its seals and closures, and an inspection for any item that does not belong, is suspicious, or may be an IED.

Rail Risk Analysis Factors

The following is a list of evaluative criteria that at a minimum must be considered by railroads when performing the safety and security risk analyses:

1. Volume of hazardous material transported;
2. Rail traffic density;
3. Trip length for route;
4. Presence and characteristics of railroad facilities;
5. Track type, class, and maintenance schedule;
6. Track grade and curvature;
7. Presence or absence of signals and train control systems along the route (“dark” versus signaled territory);
8. Presence or absence of wayside hazard detectors;
9. Number and types of grade crossings;
10. Single versus double track territory;
11. Frequency and location of track turnouts;
12. Proximity to iconic targets;
13. Environmentally-sensitive or significant areas;
14. Population density along the route;
15. Venues along the route (stations, events, places of congregation);
16. Emergency response capability along the route;
17. Areas of high consequence along the route, including high consequence targets as defined in § 172.820(c);
18. Presence of passenger traffic along route (shared track);
19. Speed of train operations;
20. Proximity to en-route storage or repair facilities;
21. Known threats, including any non-public threat scenarios provided by the Department of Homeland Security or the Department of Transportation for carrier use in the development of the route assessment;
22. Measures in place to address apparent safety and security risks;
23. Availability of practicable alternative routes;
24. Past incidents;
25. Overall times in transit;
26. Training and skill level of crews; and
27. Impact on rail network traffic and congestion.

For additional information, please contact

FRA Public Affairs

(202) 493-6024

www.fra.dot.gov

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