



**M O V I N G T H E  
AMERICAN  
ECONOMY**

*Federal Railroad Administration  
Background*

**U.S. Department of Transportation Interim Final Rule:  
Enhancing Rail Transportation Safety and Security  
for Hazardous Materials Shipments**

**Background**

The goal of this Interim Final Rule (IFR) is to ensure that railroads use routes with the fewest overall safety and security risks to transport security-sensitive hazardous materials.

A primary safety and security concern in the rail transportation of hazardous materials is the prevention of a catastrophic release in proximity to populated areas, events or venues with large numbers of people in attendance, populated buildings, landmarks or environmentally significant areas. Such a catastrophic event could be the result of an accident or a deliberate act.

The IFR applies to rail carriers who transport:

- 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.

Although this rulemaking is designated as ‘interim’, such designation still requires railroads to begin implementation of the various safety and security provisions and FRA will begin compliance oversight and enforcement on July 1, 2008.

In addition, this IFR fully complies with the 9/11 Commission Act of 2007 (signed into law by President Bush on August 3, 2007). As the public comment period had already closed for the proposed rule (February 20, 2007), the ‘interim’ status for the final rule is being used to provide interested persons an opportunity to comment on the rule, and to provide FRA the opportunity to create a final rule based on actions the Department of Homeland Security (DHS) may take to define “security-sensitive material” and “high consequence target.”

**Summary of Interim Final Rule**

**The IFR requires railroads to compile data for use in make routing decisions**

Beginning July 1, 2008 rail carriers must begin to compile data on specified shipments of hazardous materials and routes currently used. Railroads must use the six months of data they collect between July and December for their initial risk assessments. Thereafter railroads would collect this data annually. Railroads would use the data to analyze safety and security risks along routes where those

materials are transported, assess alternative routing options, and make routing decisions based on those assessments.

### **The IFR requires a railroad perform a methodical safety/security risk analysis**

In collecting the relevant data, each carrier will seek to obtain information from state and local officials regarding security risks to high-consequence locations along or in proximity to those routes. All data will be used to conduct a safety/security risk analysis of the preferred route(s) currently used, and the potential hazards and risks affecting the alternate routes.

The safety/security risk analysis must consider at minimum the 27 Rail Risk Analysis Factors listed in Appendix D to Part 172 that may affect the possibility of a catastrophic release along a specific route, including factors such as 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).

### **The IFR requires railroads to analyze and assess alternate routes**

In addition to the routes normally and regularly used for hazardous materials movements, the IFR requires rail carriers to analyze and assess the safety and security of all available alternative routes over which they have authority to operate. Railroads would also have to consider the use of interchange agreements with other railroads when determining practicable alternative routes and the potential economic effect of using an alternative route.

### **The IFR requires railroads to select the route with the least overall safety/security risk**

Using the results of the route analyses and risk mitigation measures that will be implemented, a rail carrier is required to select the routes posing the least overall safety and security risk.

### **The IFR requires railroads to 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 a material is stored incidental to movement; (2) measures to limit access to the materials during storage and delays in transit; (3) measures to mitigate risk to population centers during storage incidental to transportation; (4) measures to be taken in the event of an escalating threat level during storage incidental to transportation; and (5) a procedure for notifying the consignee in the event of transportation delays.

### **Routing models to assist compliance**

The Department of Homeland Security provided funding to the Railroad Research Foundation, a not-for-profit foundation under the Association of American Railroads, to develop a routing model that a railroad can use in complying with the rule. Railroads are free to choose other routing models in preparing their analyses.

### **The IFR augments rail hazmat car security**

To guard against 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), the IFR requires the rail carriers' pre-trip inspections of

placarded rail cars to include 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.

### **The IFR requires railroads to complete initial risk and route assessment by September 1, 2009**

This IFR becomes effective on June 1, 2008. Railroads must begin compiling data and information concerning the commodities they transport and the routes utilized beginning July 1, 2008 and will have nine months from January 1, 2009 until September 1, 2009 to perform their initial risk and route assessments. During that time period, railroads must: gather the necessary information; consult with state, local and tribal officials regarding security risks to high-consequence targets; consider use of interchange agreements with other railroads for possible alternate routing; finalize the routing model it will use for its analysis; compare safety and security risks and identify any mitigation measures needed on both primary and alternate routes; and make a final routing selection.

### **The IFR gives FRA authority to require railroads to use an alternate route**

If in the course of a regular and routine review of a railroad's hazmat security plan, the FRA determines that the rail carrier's analysis did not satisfy the minimum criteria for performing a safety and security risk analysis, and that an alternative route poses the least safety and security risks based on the information available, the agency has authority to require the use of an alternate route until such time as the identified deficiencies in the routing analysis are corrected by the railroad. FRA will consult with the Transportation Security Administration and the Surface Transportation Board before ordering the use of an alternate route.

In a Notice of Proposed Rulemaking published concurrently with this IFR, the FRA is proposing procedures for rail carriers to appeal such a decision by the FRA to require the use of an alternative route.

### **COSTS AND BENEFITS**

Overall transportation costs should not increase substantially because of this rule. The reduction in potential risk afforded by the rule offers a significant economic advantage over the long run. The expected costs of mitigation actions attributed solely to this IFR will not be significant. FRA estimates total 20-year costs of compliance to be about \$20 million., including the cost of collecting and retaining data and performing the mandated route safety and security analysis.

In addition, carriers may incur costs associated with rerouting shipments or mitigating safety and security vulnerabilities identified as result of their route analyses. If incurred, these costs will likely be passed on in some part to shippers. Smaller carriers, including regional and short line railroads, are unlikely to have access to alternative routes, and where an alternative does exist, it is not likely to be safer and more secure than the route they are currently using.

Estimating the benefits of the new requirements is challenging. The fact that a catastrophic hazmat release is infrequent or has never occurred does not diminish the risk or possibility of such an event occurring. The major benefits expected relate to enhanced safety and security of rail shipments of hazardous materials.

## **Rail Risk Analysis Factors**

This sets forth the minimum criteria that must be considered by rail carriers when performing the safety and security risk analyses. Factors to be considered in the performance of this safety and security risk analysis include:

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**  
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