

# **Safety Coordination and Compliance Oversight Plan for Rail Transportation of High-Level Radioactive Waste and Spent-Nuclear Fuel**

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**Office of Railroad Safety**



U.S. Department of Transportation

**Federal Railroad Administration**

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## Introduction

One of the Federal Railroad Administration's (FRA) top priorities is overseeing the safety of rail shipments involving Spent-Nuclear Fuel (SNF) and High-Level Radioactive Waste (HLW or HLRW).<sup>1</sup> These materials have been transported safely by rail in the United States for more than 40 years.

FRA has been involved with rail shipments of SNF and HLW since the mid-1980s, partly because of the catastrophic accident at Three Mile Island Nuclear Power Plant. Because of the low frequency of SNF and HLW shipments and the high visibility they create, FRA created the Safety Compliance Oversight Plan for Rail Transportation of High-Level Radioactive Waste and Spent-Nuclear Fuel (SCOP). The SCOP is an informational document intended to guide FRA and FRA's state partners in prioritizing their field inspections of the movement of identified SNF and HLW routes.

FRA first created the SCOP in 1998 for FRA field personnel to use as an inspection guide. This update revises the original SCOP to reflect its true purpose, and with this revision, FRA is renaming the document the "Safety Coordination and Compliance Oversight Plan for Rail Transportation of High-Level Radioactive Waste and Spent Nuclear Fuel (SCCOP). The SCCOP does not take the place of routine inspections but rather is intended to help FRA and state rail inspectors participating with FRA to prioritize their time and focus on issues relating to the defined shipments, designed routes, and carriers that will transport these materials.

Historically, there has never been a rail accident or incident involving the transportation of SNF or HLW resulting in a release of material from the packaging. Furthermore, there has never been a single death or injury resulting from a rail shipment of radioactive material. Since the creation of the original SCOP and past rail shipping campaigns, there has been no policy change on funding a Federal Consolidated Fuel Storage Site, specifically, Yucca Mountain in Nevada.<sup>2</sup>

Considering the recent purchases of decommissioned nuclear plants by private entities, FRA expects SNF and HLW shipments to increase in the near and foreseeable future. Coincidentally, some of the private companies that have purchased decommissioned nuclear plants also own the proposed consolidated interim nuclear fuel storage facilities to which the SNF would be destined if the repositories are approved by the Nuclear Regulatory Commission (NRC).

Accordingly, FRA proactively recognizes the need to update the SCCOP to ensure that the railroad industry's unblemished safety record for nuclear material shipments will continue unabated, despite a sharp increase in the potential number of high-level nuclear waste shipments from both the Department of Energy (DOE) and private entities. To this end, FRA has committed to revising the SCCOP to address the safety of rail shipments of SNF and HLW by both DOE and private entities.

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<sup>1</sup> The NRC uses the acronym HLW, but several DOT agencies, private industry groups, and rail carriers use the acronym HLRW. *See Appendix.*

<sup>2</sup> Yucca Mountain was approved as a site, but never funded.

Development of this updated SCCOP involved a coordinated effort of both nuclear expertise and transportation knowledge among FRA, DOE, NRC, the Department of Homeland Security (DHS), the Association of American Railroads (AAR), the Nuclear Energy Institute (NEI), railroad labor organizations, representatives of affected states, and the Tribal Radioactive Materials Transportation Committee (TRMTC). FRA wishes to acknowledge the invaluable contributions of its safety partners, whose insights and wisdom were instrumental in creating this document.

## **FRA Headquarters Information**

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## **Purpose**

The primary purpose of the SCCOP is to ensure FRA has a methodology to prioritize its safety oversight activities prior to the movement of SNF or HLW by rail to help ensure that each carrier has the infrastructure and the required training to handle the movement of these trains in a safe and efficient manner without a rail incident or security concern.

A secondary purpose of this SCCOP is to establish a comprehensive coordination and inspection task plan that can be used as a planning document for the coordination of activities associated with rail shipments of SNF and HLW by stakeholders. The SCCOP universally applies to both national security shipments transported in accordance with Title 49 Code of Federal Regulations (CFR) Section 173.7(b) and private (or non-government) shipments of these materials.

This SCCOP describes the general duties of each FRA operating discipline involved and addresses the communication among FRA's operating disciplines, Safety Management Team staff, and Incident Management, Accident Reporting and Analysis Division related to accident data so FRA can focus efforts on locations that may present recurring safety issues.

This SCCOP also addresses FRA's general processes for communicating and coordinating actions between itself, other federal, state, local, and tribal organizations, rail carriers, shippers, and other stakeholders through FRA's attendance at their meetings, participation at various tabletop exercises, participation in the DOE site evaluations, and consultations with the Nuclear Naval Propulsion Program to promote the safe and secure rail transport of these shipments on the nation's railroads.

## **SCCOP Implementation**

Once FRA is notified of a proposed plan to move a shipment of SNF or HLW through inter-agency communications, FRA's Hazardous Materials Division will communicate with all applicable rail discipline Staff Directors for their insights and expertise about the proposed route. Specifically, the Hazardous Materials Division will solicit the assistance of other disciplines regarding noncomplying or other conditions along the proposed route that may impact the movement of the train and/or car(s) and along the proposed route, and to facilitate corrective action(s) by the railroad(s).

## **Shipment and Inspection Planning**

FRA will work with federal, state, rail, and TRMTC partners to help ensure smooth transitions for multi-modal changes along routes by allowing for, whenever possible, consistent communication and a quicker resolution of problems.

FRA will, through coordination of inspections, observations, and communication between carriers, shippers, contractors, freight forwarders, state and tribal groups, along with other federal and state agencies, work to prepare and plan for the safe, regulatorily compliant, and successful movements of both private and government shipments of SNF or HLW.

FRA's Radioactive Materials Specialist(s) will review the previous inspection data across all disciplines and any new inspections addressing rail infrastructure that focus on the primary and alternative routes selected for the movements. FRA field inspection personnel will inspect the alternative routes and safety compliance functions. Most of the SCCOP inspections are not "route dependent" and will accomplish the same degree of safety assurance regardless of the route used.

FRA reviews and inspects each Class I railroad's current Safety and Security Plans. These plans are required by 49 CFR Part 172, Subpart I. FRA policy is to review these Safety and Security Plans annually. FRA does, however, review each carrier's Safety and Security Plan more often when management structure changes, the railroad creates a realignment of divisions or territories, or any other circumstance occurs that FRA finds warrants a reinspection. A review of a short line railroad plan occurs on a district level, and a short line that will be involved in the movement of SNF or HLW materials will have its plan reviewed prior to the movement of SNF or HLW shipments.

## **SCCOP Inspection Overview**

FRA's Office of Railroad Safety promotes and regulates safety throughout the nation's railroad industry. The Office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts, including approximately 400 federal safety inspectors, chief inspectors, supervisory specialists, and grade crossing safety managers and inspectors focusing on compliance and enforcement.

FRA conducts routine, daily inspections of Class I, short line, and other railroads across FRA's disciplines. Each of the inspections listed in the inspection charts below will address some of the routine inspections and may require a second inspection to address noncompliance with a previous finding prior to the shipments. The inspections listed in the inspection charts will serve as an overview of how FRA conducts the inspections with as much detail and follow up as possible.

FRA will conduct a detailed inspection of the primary and secondary routes for rail size and track class for regulatory compliance. FRA will also review the affected carrier's height and weight restrictions track charts for excessive dimensions and gross weight restriction locations along the route that may affect train movement over bridges, overpasses, and any applicable curves and passenger rail interactions.

FRA will conduct both a pre- and post-inspection of the entity shipping the SNF and HLW and the contractors, and sub-contractors performing offeror functions in preparation for shipments. The inspections will include package preparation, marking and labeling, hazardous materials training, and car mechanical inspection requirements.

FRA will continue to inspect and confirm that all rail carrier employees, including contractor and sub-contractor employees, involved with these shipments have the proper hazardous materials training and basic security training. This also includes train service and rail management and dispatcher center personnel, where applicable. FRA will work with the carriers to help ensure that a seamless, inclusive shipping document transfer system is in place via the electronic data interchange (EDI) system to include all the required hazardous materials information, response information, and contacts with the SNF and HLW movements while shipments are in transportation.

FRA will inspect all locomotives used in the SNF and HLW shipment to determine if required safety and brake systems are in place before train departure. In addition, FRA personnel will observe the required brake tests for the trainset before a train is allowed to depart.

Prior to each shipment, FRA will inspect trains, and/or carrier train inspection records to ensure all applicable regulatory requirements are met.

Prior to the first shipment, through routine field and documentation inspections, FRA will confirm that all signal systems, wayside defect detectors, and cab signal systems (where applicable) are inspected within the prescribed regulatory limits, and any defective conditions discovered are addressed prior to each subsequent shipment. Prior to the first shipment, and for subsequent shipments, as appropriate, FRA will also focus on its outreach programs such as Operation Lifesaver training in communities along designated routes.

This SCCOP applies to both DOE and private shipments of SNF and HLW by rail.

## Inspection Charts

The three inspection charts listed below, Class I Railroads, Other Than Class I Railroads, and Tribal Lands That Include Shipments of SNF and HLW by Rail, serve as inspection guides for FRA’s disciplines. These charts include preferred inspection timelines (2 years, 1 year, 6 months, en-route) for projected shipments of SNF and/or HLW, taking into account the large-scale shipments with weight and clearance issues.

Several disciplines require initial and recommended follow-up inspections to ensure compliance is met prior to any SNF shipment. This applies specifically to *Other than Class I Railroads*, and is intended to address large-scale repairs such as track upgrades. Large-scale projects may require a carrier to acquire funds through grant programs or other monetary means to complete.

### Class I Railroads

	DISCIPLINE	2 YR	1 YR	6 MO	EN-ROUTE
1	Hazardous Materials Division		X		
2	Grade Crossing and Trespasser Outreach Division		X		
3	Motive Power and Equipment Division				X
4	Operating Practices Division			X	X
5	Incident Management, Accident Reporting and Analysis Division		X		
6	Signal, Train Control, and Crossings Division		X		
7	State Safety Participation Program		X		
8	Track Division		X		

**Notes:**

1. Inspect and review hazardous materials personnel training and identification of hazardous materials employees involved with the shipment: follow-up in 6 months to ensure there are no unidentified or untrained personnel changes.
2. Identify unprotected/passive crossings along the route, analyze data for focused inspections and provide educational outreach to the public for safety.
3. Conduct comprehensive inspections at destination facility and point of origin prior to loading, and at designated stopping points for inspections.
4. Conduct comprehensive review of relevant operational documents, certifications, and compliance at origin/crew acceptance and at crew change points along the route for both federal and carrier operational rule compliance.
5. Review accident, railway worker injuries and fatalities, and grade crossing incident data for causes and use the data for patterns of recurring causes specific to railroad operations, equipment, specific location, and track causes.

6. Conduct comprehensive inspection of signal and active grade crossings systems, records, and investigations of false activations and false proceed causes along the designated routes.
7. Work with district specialist, where applicable per disciplines covered by state for education, inspection assistance, and policy changes.
8. Inspect and/or review of all applicable track infrastructure standards identified within the designated route to maintain FRA Class II or higher Track Safety Standards.

**Any defects found during initial inspection require a follow-up by the FRA discipline inspector to ensure compliance in advance of shipments.**

### Other Than Class I Railroads

DISCIPLINE		2 YR	1 YR	6 MO	EN-ROUTE
1	Hazardous Materials Division	X		X	X
2	Grade Crossing and Trespasser Outreach Division		X		
3	Motive Power and Equipment Division				X
4	Operating Practices Division		X		X
5	Incident Management, Accident Reporting and Analysis Division		X		
6	Signal, Train Control, and Crossings Division		X		
7	State Safety Participation Program		X		
8	Track Division	X	X	X	X

**Notes:**

1. Inspect and review hazardous materials personnel training and identification of hazardous materials employees involved with the shipment: follow up in 6 months to ensure there are no unidentified or untrained personnel changes.
2. Identify unprotected/passive crossing along the route, analyze data for focused inspections, and provide educational outreach to the public for safety.
3. Conduct comprehensive inspection at destination facility and point of origin prior to loading, and at designated stopping points for inspections.
4. Conduct comprehensive review of relevant operational documents, certifications, and compliance at origin/crew acceptance and at crew change points along the route for both federal and carrier operational rule compliance.
5. Review accident, railway worker injuries and fatalities, and grade crossing incident data for causes and use the data for patterns of recurring causes specific to railroads operations, equipment, specific location, and track causes.



6. Conduct comprehensive inspection of signal and active grade crossings systems, records, and investigations of false activations and false proceed causes along the designated routes.
7. Work with district specialist where applicable per disciplines covered by state for education, inspection assistance, and policy changes.
8. Inspect and/or review of all applicable track infrastructure standards identified within the designated route to maintain better than FRA Class II Track Safety Standards.

**Any defects found during initial inspection require a follow up by the FRA discipline inspector to ensure compliance in advance of shipments.**

### Tribal Lands That Include Shipments of SNF and HLW by Rail

DISCIPLINE		2 YR	1 YR	6 MO	EN-ROUTE
1	Hazardous Materials Division	X		X	X
2	Grade Crossing and Trespasser Outreach Division		X		
3	Motive Power and Equipment Division				X
4	Operating Practices Division		X		X
5	Incident Management, Accident Reporting and Analysis Division		X		
6	Signal, Train Control, and Crossings Division		X		
7	State Safety Participation Program		X	X	
8	Track Division	X	X	X	X

**Notes:**

1. Inspect and review hazardous materials personnel training and identification of hazardous materials employees involved with the shipment: follow up in 6 months to ensure there are no unidentified or untrained personnel changes.
2. Identify unprotected/passive crossing along the route, analyze data for focused inspections, and provide educational outreach to the public for safety.
3. Conduct comprehensive inspection at destination facility and point of origin prior to loading, and at designated stopping points for inspections.
4. Conduct comprehensive review of relevant operational documents, certifications, and compliance at origin/crew acceptance and at crew change points along the route for both federal and carrier operational rule compliance.
5. Review accident, railway worker injuries & fatalities, and grade crossing incident data for causes and use the data for patterns of recurring causes specific to railroad operations, equipment, specific location, and track causes.

6. Conduct comprehensive inspection of signal and active grade crossings systems, records and investigations of false activations, and false proceed causes along the designated routes.
7. Work with district specialist where applicable per disciplines covered by state for education, inspection assistance, and policy changes.
8. Inspect and/or review of all applicable track infrastructure standards identified within the designated route to maintain better than FRA Class II Track Safety Standards.

**Any defects found during initial inspection require a follow up by the FRA discipline inspector to ensure compliance in advance of shipments.**

## **Inspection Safety Directives and Related Non-FRA Topics**

FRA and participating state-qualified discipline safety inspectors and specialists must adhere to the Radiation Safety Protocols of the NRC and the on-site state Radiation Safety Officer(s) to take radiation surveys of the cask. The results of these radiation surveys will help determine whether the train consist, and the cask are safe to approach for inspection.

En-route safety inspections of High Security SNF and HLW trains should only occur at:

- Crew change point(s);
- Refueling sites; and
- Extended haul inspection points, or where a train is held for an extended period of time, with the carriers' approval, coordinated security, and oversight.

## **NRC Safe Havens**

FRA does not enforce the NRC "safe haven" requirements.<sup>3</sup>

A safe haven is not a DOT-regulatory requirement for rail shipments, but it is a requirement for highway shipments of SNF and HLW. Since some rail shipments may involve multimodal movements (highway to rail, rail to highway), these movement locations may be considered safe havens. Such a location, specifically a rail location, is required to meet DOT-security requirements necessary for the protection of the shipment. Additionally, FRA will only inspect the specific track segment used for multimodal transfers for compliance with the Class 2 Track Standard or higher per FRA's Track Safety Standards in 49 CFR Part 213.

## **Emergency Response Information**

Emergency response information is required by regulation to be provided by the shipper and maintained by the train crews who are transporting each shipment, so that the information can be

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<sup>3</sup> A safe haven is a readily recognizable and readily accessible site at which security is present or from which, in the event of an emergency, the transport crew can notify and wait for the local law enforcement authorities. *See* 10 CFR 37.5.

provided to emergency response personnel in the event of an incident. FRA will confirm that the provided DOT-required training is completed for the employees involved and the information is sufficiently conveyed at the pre-trip hazardous materials inspection point prior to the shipment entering transportation.

Additionally, the emergency response information provided in the hazardous materials shipping documents, along with the hazardous materials and security training provided, must comply with all applicable regulatory requirements (e.g., cover the nature of the radioactive material being transported and the appropriate contact information in the event of an accident or incident). *See* 49 CFR Part 172, Subpart G.

## **Appendix 1 – FRA Organization and Safety Compliance Oversight Disciplines**

### **FRA Organization**

Effective June 1, 2020, FRA reorganized and realigned its Office of Railroad Safety, which is divided into eight geographic districts and several technical disciplines, including: Hazardous Materials; Track and Structures; Motive Power and Equipment; Operating Practices; Signal, Train Control and Crossings; and Grade Crossing and Trespasser Outreach. All inspectors report to District Specialists, who in turn report to their respective discipline Staff Directors and Deputy Staff Directors. The Safety Partnerships Division supports these operating disciplines by developing, planning, and implementing programs to promote effective partnerships with state rail safety programs. Incident Management, Accident Reporting and Analysis Division serves as the FRA lead point of contact and coordinator for national security; emergency preparedness; and accident investigation, reporting, and analysis. FRA’s former regions are now considered Safety Management Teams (SMTs). There are nine SMTs that focus on the compliance and safety measures of their specific railroads. The SMT railroad assignments are listed below.

<b>SMT-1</b>	<b>Amtrak, Commuter and Excursion Lines East</b>
<b>SMT-2</b>	<b>Short Line Railroads East</b>
<b>SMT-3</b>	<b>Norfolk Southern</b>
<b>SMT-4</b>	<b>Canadian National Railway, Canadian Pacific Railway, Chicago Commuter District</b>
<b>SMT-5</b>	<b>BNSF Railway</b>
<b>SMT-6</b>	<b>Union Pacific Railroad, Kansas City Southern</b>
<b>SMT-7</b>	<b>Commuter and Excursion Railroads West</b>
<b>SMT-8</b>	<b>Short Line Railroads West</b>
<b>SMT-9</b>	<b>CSX</b>

SMTs develop and manage senior-level relationships with their assigned railroads and labor organizations to improve safety on each of the railroads represented. The SMTs monitor railroad reportable and accountable data and accident trends on their railroads and work with railroad safety leadership, rail labor, and FRA Staff Directors as needed to address any safety concerns.

SMTs possess comprehensive and in-depth knowledge of their respective railroads’ management structure, safety culture, operations, infrastructure, and territory, and they use that knowledge to improve the safety of the railroad industry, specifically their railroads or assigned areas. They serve as FRA’s primary liaisons with railroad management, associations, and labor organizations for solving safety issues.

SMTs assigned to Short Line East and Short Line West coordinate with the American Short Line and Regional Railroad Association to participate in short line training seminars. They also communicate with the railroad industry, elected public officials, news media, other government agencies, unions, and civic and private groups on various DOT programs, functions, and policies.

## **Safety Compliance Oversight Disciplines**

### **Hazardous Materials Division**

The overall mission of FRA's Office of Railroad Safety's Hazardous Materials Division is to provide technical expertise and direction for safety programs to ensure the safe and secure transportation of hazardous materials by rail.

The division provides direction and guidance regarding hazardous materials safety by rail and security enforcement through several key programs. It coordinates its efforts and partners with the industry to eliminate non-accident releases of hazardous materials in rail transportation by providing direction and technical guidance for enforcement programs through regulations, inspections, investigations, and audits related to the safe and secure transportation of hazardous materials by rail for FRA and FRA's state safety program partners.

The division also participates in the work of industry and professional organizations engaged in establishing voluntary standards related to the reliability, safety, and serviceability of bulk packages used for the transportation of hazardous materials by rail.

FRA works in cooperation with other DOT and non-DOT operating administrations, state programs, tribal groups, local organizations, and industry stakeholders to identify new methods, materials, or technologies to improve the safe and secure transportation of hazardous materials by rail. The FRA Hazardous Materials Division provides personnel to staff the Pipeline and Hazardous Materials Safety Administration (PHMSA)/FRA teams developing regulations in this area.

The division develops and issues compliance manuals, hazardous materials guidance documents, and technical bulletins as guidance to FRA hazardous materials personnel. The division also reviews, analyzes, and provides recommendations to PHMSA regarding requests for special permits granting relief from certain hazardous materials regulations relating to rail transportation.

Through data analysis, the division advises of trends and developments and provides information to FRA hazardous materials personnel and PHMSA on issues related to the safe transportation of hazardous materials by rail, analyzes requests for regulatory relief and, in collaboration with FRA's Office of the Chief Counsel and PHMSA, provides interpretation of regulations. The division participates in accident investigations and damage assessments of hazardous materials packaging and supports responses from FRA's Office of Railroad Safety to National Transportation Safety Board (NTSB) recommendations.

The division administers a coordinated complaint response program and determines requirements and processes for the handling of related complaints. The division also works with FRA's Office of the Chief Counsel to address legal actions arising from inspection activity related to the transportation of hazardous materials by rail.

In addition, the division administers the Safety Compliance Oversight Program for transportation of SNF and HLW by rail.

### **Track and Structures Division**

The Track and Structures Division executes and administers the track and structures safety programs to ensure maximum safety in railroad operations relevant to railroad track, track configuration, track components, rail integrity, bridge and structures, and railroad workplace safety. The division provides direction and guidance to Office of Railroad Safety district staff regarding various aspects of railroad track and structures and railroad workplace safety.

The division provides oversight, evaluation, direction, and technical guidance for enforcement programs (including inspections and audits) related to railroad track, track configuration, track components, rail integrity, bridge and structures, and railroad workplace safety regulations for FRA and state safety programs.

The division cooperates with and assists FRA's Automated Track Inspection Program (ATIP). The division evaluates ATIP inspection reports, conducts follow-up inspections, and examines continuous welded rail (CWR) maintenance requirements, rail inspection technologies, programs, and processes used by the railroads. The division develops recommendations on CWR, rail flaw test programs, rail inspection cycles, rail flaw technological advancements, and operator qualifications and certifications.

The division assesses each railroad's compliance with track and structures inspection processes and programs, and conducts periodic safety assessments of railroad bridge inspections and bridge management programs to ensure or improve structural integrity and safety.

The division also provides fall protection guidance and training to FRA and state safety inspectors and performs railroad bridge worker safety audits.

### **Motive Power and Equipment Division**

The Motive Power and Equipment Division provides technical expertise of rail safety programs to ensure maximum safety in railroad operations relevant to motive power and freight, passenger, and commuter equipment. The division promotes an understanding of, and compliance with, federal standards to inspect locomotives, passenger and freight cars, and safety appliances, such as air brakes.

The division conducts safety inspections of the rail cars and locomotives to be used in transporting the material with the intent to reduce the risk of mechanical failure and ensure the operational readiness of the rail cars and locomotives for each shipment; it also ensures that corrective action is taken as necessary.

The division provides a mechanical device and inspection requirement to enhance the overall safety of the rail movement by allowing the train crew to initiate a rear-forward activation of the train's air brakes.

The division advises of trends and developments, provides information to, and coordinates activities with, SMTs and also provides technical expertise to FRA's Office of the Chief Counsel in legal actions arising from safety inspection or audit activity. The division uses a coordinated complaint control program and determines requirements and processes for the handling of related complaints.

The division evaluates and fosters the development of better braking technologies, analyzes requests for regulatory relief, and, in collaboration with the Office of the Chief Counsel, provides interpretation of regulations.

The division participates in accident investigations, reviews accident reports to verify technical accuracy and supported conclusions and supports responses to NTSB recommendations.

In addition, the division conducts compliance audits of railroad tank car facilities that engage in the maintenance and qualification of DOT specification tank cars, and it reviews tank car owner qualification and maintenance programs to ensure adequacy and level of effectiveness of the programs for their ability to maintain a tank car's design level of safety and reliability used in the transportation of hazardous materials.

### **Operating Practices Division**

The Operating Practices Division administers safety programs to ensure safety in railroad operations and provides direction and guidance for the Office of Railroad Safety district staff on operational issues. The division is responsible for the regulatory oversight of train operations, including railroad operating rules and practices, radio communications, rear-end marking devices, accident/incident reporting, hours of service requirements, passenger train emergency preparedness, blue flag protection, locomotive engineer and conductor certification, train dispatchers, human-machine interface, and advanced control system applications to railroad operations.

The division conducts periodic assessments of these programs, and it also analyzes requests for regulatory relief and, in collaboration with the Office of the Chief Counsel, provides interpretation of regulations.

### **Signal, Train Control, and Crossings Division**

The Signal, Train Control, and Crossings Division executes and administers signal, train control, and crossing safety programs, including Positive Train Control (PTC) to ensure safety in railroad operations. The division provides management, direction, and guidance to the Office of Railroad Safety district staff regarding signal, train control, and crossings. It is also responsible for the enforcement of all regulations relating to signal, train control, and crossings.

The division performs investigations and reports for activation failures and false proceeds, initiating appropriate actions to address underlying causes, and maintaining a data repository for trend analysis, and leads the PTC program, including technical support, oversight and reporting, and approval of safety plans, implementation plans, and development plans, as required by statute and regulation.

The division administers a coordinated complaint control program and determines requirements and processes for the handling of related complaints, and it participates in accident investigations, including gathering signal, train control, and crossing information, including the interpretation of signal rules and event recorder and other recordings. The division supports new technology testing programs of signal, train control, and crossing technology in the railroad operating environment, including the review and recommendation for approval of Product Safety Plans. The division provides expertise and interpretation support relating to the hours of service laws as they pertain to signal employees.

### **Grade Crossing and Trespasser Outreach Division**

The Grade Crossing and Trespasser Outreach Division administers the highway-rail grade crossing safety and trespass prevention programs and coordinates and disseminates these programs among the appropriate federal, state, and local governments, the railroad industry, and academia.

The division provides program leadership for, and active coordination of, FRA's grade crossing safety and trespasser prevention outreach staff activities. The division monitors and evaluates the development and use of national inventory, accident, casualty, and signal circuit databases used to assess associated problems in collaboration with industry, state, and local communities. The division conducts studies that identify and recommend solutions to highway-rail grade crossings and trespasser activities safety concerns.

The division collaborates and coordinates with appropriate staff of other federal agencies, such as the Federal Highway Administration, Federal Transit Administration, Federal Motor Carrier Safety Administration, National Highway Traffic Safety Administration, the Office of the Secretary of Transportation (OST), and other DOT components with responsibilities for highway-rail grade crossing safety. The division also liaises directly, and through the grade crossing and trespasser outreach district staff, with appropriate government and private-sector organizations, including state and national Operation Lifesaver groups.

The division conducts investigations to determine and track trends and to develop and modify prevention programs. It also participates in deliberations regarding short- and long-term policies affecting highway-rail grade crossing safety and trespass prevention by producing hard data and recommendations in support of the development or promulgation of crossing safety and trespass prevention policy.



## **Safety Partnerships Division**

The Safety Partnerships Division develops, plans, and implements programs to promote effective partnerships with state rail safety programs. It coordinates programs to ensure that federal rail safety rules, regulations, orders, and standards are uniformly interpreted and consistently applied by state rail safety programs. FRA trains each of the participating states in FRA's State Safety Participation Program jointly with the federal inspectors each year in recurrent training to keep pace with regulatory, procedural, and policy changes.

FRA participates in meetings with state or local government organizations and advocates, fosters the State Safety Participation Program and assesses the effectiveness of the partnership program, and develops or improves the partnership models related to effective communications and functional integration to ensure optimum participation by rail safety stakeholders.

This FRA program coordinates with individual state managers and the Association of State Rail Safety Managers to increase the rail safety expertise and professionalism of state managers and to strengthen FRA/state safety partnerships by managing communications and collecting and disseminating information.

## **Incident Management, Accident Reporting and Analysis Division**

The Incident Management, Accident Reporting and Analysis Division serves as FRA's lead point of contact and coordination for national security, emergency preparedness, and accident investigation, reporting, and analysis.

The division interacts with railroads, FRA staff, DOT offices and operating administrations, and other federal, state, and local agencies to enhance security, emergency preparedness, and incident response.

The division works with the FRA information systems security officer to ensure FRA compliance with applicable cyber security requirements, and it works with the Hazardous Materials Division to review railroad compliance with applicable security-sensitive hazardous materials routing requirements.

The division also reviews national security personnel clearance requests, processing, renewals, and terminations. It coordinates with the DOT Office of Security on such matters and oversees the handling and storage of any FRA materials that contain national security or security-sensitive information. With the FRA training officer, the Incident Management, Accident Reporting and Analysis Division ensures that FRA staff complete initial and recurring training on related requirements.

The division provides industry guidance to Railroad Reporting Officers concerning the proper procedures for compliance with the various provisions of Part 225 and the FRA Guide for Preparing Accident/Incident Reports to ensure industry accidents/incidents are properly reported. The division also analyzes and evaluates information obtained through railroad reporting requirements, inspections, and investigation procedures to gather the data necessary to identify

root cause(s) and contributing factors, and it determines trends of railroad safety that is shared with the railroads to inform their Risk Reduction Programs that focus on preventing railroad injuries and accidents.

## Appendix 2 – Definitions and Applicable Industry Standards

### Definitions

**Class I Railroads**—Freight railroads defined by the Surface Transportation Board (STB) as having an annual operating revenue of more than \$504 million.

**Class 2 Track Standard**—Railroad track that has a minimum of 8 effectively spaced crossties per a 39-foot segment and 9 effective crossties in turnouts and curved track greater than 2 degrees and has a maximum speed of 25 mph for freight and 30 mph for passenger rail in accordance with 49 CFR Part 213.

**Crew Change Point**—Location where incoming train crews de-board and oncoming train crews assume the duties of the train movement to its destination.

**En-Route Inspection**—Inspection conducted at locations deemed safe while the package is in transportation.

**Extended Haul Inspection Points**—A point where a railroad may be permitted to move a train up to, but not exceed a distance of, 1,500 miles of travel from its original departure point to the next Class I brake test and car and train reinspection, if the railroad designates a train as an extended haul train in accordance with 49 CFR Part 232.

**High Level Radioactive Waste (HLW or HLRW)**—Highly radioactive materials produced as a byproduct of the reactions that occur inside nuclear reactors. The NRC uses the acronym HLW, but several DOT agencies, private industry groups, and rail carriers use the acronym HLRW. Universally they mean the same thing but, for the purposes of this document, HLW represents High Level Radioactive Waste.

**Other than Class I Railroads (Regional Railroads)**—Freight railroads defined by the STB as having an operating revenue greater than \$36.6 million and less than \$40 million.

**Pre-Inspection**—Inspection conducted prior to the package being offered into transportation.

**Post Inspection**—Inspection conducted after the package has completed its transportation movement.

**Tribal Lands**—Tribal lands that have the potential for HLW and SNF shipments passing through in route to its destination.

**Refueling Sites**—Locations where the locomotives and/or train consist are safely secured and refueled.

**Safe Haven**—As defined by NRC regulations, this is a readily recognizable and accessible site/location at which security is present or from which, in the event of an emergency, the transport crew can notify and wait for the local law enforcement authorities.

**Spent Nuclear Fuel (SNF)**—Also referred to as used nuclear fuel, SNF is nuclear fuel that has been irradiated in a nuclear reactor (usually at a nuclear power plant).

### **Applicable Industry Standards (Non-regulatory)**

Association of American Railroads S-2043, Rail Car Construction and Technology Standards.

Association of American Railroads Circular No. OT-55, Recommended Railroad Operating Practices for Transportation of Hazardous Materials.