OREGON
OFFICE OF STATE FIRE MARSHAL

2017 Annual Report on HB 3225

Prepared for the 2018
Oregon State Legislative Assembly
February 1, 2018

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Executive Summary

Legislative Overview

Governor Kate Brown signed HB 3225 into law on July 20, 2015, making it part of Oregon Revised Statute 453.307 to 453.414 relating to the safe transport of hazardous materials. The law provides for the Office of State Fire Marshal (OSFM) to coordinate training, preparedness, and response planning activities with a specific focus on oil or hazardous materials spills or releases that occur during rail transport. In part, this law mandates the OSFM to adopt by rule, a plan for the coordinated response to oil or hazardous material spills or releases that occur during rail transport, identify response resources (existing and needed), and to coordinate training for emergency responders.

2017 Accomplishments

Rule Making

- HB 3225 rules became effective as Division 120 OAR 837-120-0501 through -0540 on February 1st, 2017.

Emergency Planning

- OSFM's Hazmat Rail Program provided funding opportunities to eight Local Emergency Planning Committees (LEPCs) across the state to develop comprehensive Hazmat by Rail Emergency Response Plans.
- OSFM staff traveled on the BNSF railroad alongside the Deschutes River from Bend, Oregon to Wishram, Washington to strategize on emergency response planning, access, and equipment cache options.
- As mandated by the U.S. DOT Emergency Order Docket No. DOT-OST-2014-0067, rail carriers transporting in excess of 1,000,000 gallons of Bakken crude oil continue to be required to notify the Oregon State Emergency Response Commission (SERC). This information is disseminated and made available to appropriate emergency management and response agencies for planning purposes.
- The OSFM continues to promote the use of the AskRail mobile application to Oregon's network of emergency officials, responders, and planners to increase its use.

Training and Community Outreach

- In 2017, the OSFM facilitated the delivery of numerous Hazmat Rail Awareness, Hazmat Rail Emergency Operations, Hazmat Incident Command, Incident Command System, and Hazmat Technician Tank Car Specialist courses.

  - 4,568 personnel training hours were delivered to 149 public service agencies, with 334 total personnel attending.
  - Multiple disciplines attended these trainings, including firefighters, hazmat technicians, emergency planners, executive level managers, and public officials along with other hazmat by rail first responders.
  - Due to this diverse group's attendance, they will collectively have a better understanding in preparing for, and responding to, hazmat by rail incidents as a unified front.

- The OSFM took delivery of two retired railroad tank cars, donated by Union Pacific and BNSF railroads, in 2017. These tank cars were positioned on their sides to simulate a derailment scenario at both the Department of Public Safety Standards and Training in Salem and the Eugene Springfield Fire Department Training Center.
- Throughout 2017, OSFM staff participated in and facilitated a number of tabletop exercises and community forums to discuss planning and response strategies. These exercises and discussions revolved around hazmat by rail incidents, often in a "round table" format with representatives from all forms of public and private agencies.

Resource Coordination and Information Sharing

- Hazmat Rail Program funds purchased 13 photoionization detectors (PIDs) with benzene detection capability for all 13 OSFM hazmat teams.
- The OSFM developed a laminated Railroad Hazmat Incident quick reference guide that is now placed in every Oregon State Police trooper vehicle.
- The OSFM continues to maintain the deployment of eight foam firefighting trailers that have been strategically deployed throughout Oregon along mainline tracks where crude oil or other High Hazard Flammable Trains (HHFT) predominately travel.
- As HB 3225 seeks an inventory of all emergency response resources available, the OSFM continues to upload many of these assets into the Western Regional Resource List (WRRL).
- The OSFM continues to partner with ODOT Rail and Public Transit Division to give first responders and emergency planners access to a secure web-based information sharing platform – known as GovSpace – that details types and quantities of hazardous materials transported by rail on a quarterly basis through a specific geographic areas.

Emergency Planning

Local HAZMAT by Rail Emergency Plans

A key component of HB 3225 is for the OSFM to coordinate emergency response planning activities with a specific focus on oil or hazardous material spills or releases that occur during rail transport. In 2017, the OSFM Hazmat Rail Program funded the development of eight Hazmat by Rail Emergency Response Plans for Local Emergency Planning Committees (LEPCs) and local emergency planning districts across the state. These plans will focus on the top, most common hazardous commodities transported by rail through their respective areas and plan for a potential incident. These plans will contain many elements including, but not limited to: modeling of potential toxic gas releases, shelter-in-place strategies and evacuation routes, initial first responder checklists, equipment cache locations, and many more. These plans are being developed with input from local, state, federal, tribal, and railroad industry stakeholder agencies and are intended to integrate with existing plans to provide for a more fluid and coordinated response.

County	Rail line(s) Traversing Region	Estimated Plan Completion Date
Clackamas	UPRR, BNSF, P&W	July 2018
Klamath	UPRR, BNSF	May 2018
Linn-Benton	UPRR, PW, Albany Eastern	May 2018
Marion	UPRR, P&W	July 2018
Morrow	UPRR	May 2018
Multnomah	UPRR, BNSF, P&W	July 2018
Polk	P&W	May 2018
Umatilla	UPRR	May 2018

"Over-the-Rail" Planning Efforts

The OSFM participated in an opportunity to travel by rail in what's known as a "geometry car" with BNSF railroad to evaluate emergency response options to hazmat by rail incidents along the Deschutes River. A geometry car is a train car outfitted with high tech monitoring equipment and cameras to evaluate the track for a host of detectable issues. This car traveled north from Bend, Oregon along the Deschutes River to Wishram, Washington. The BNSF Hazmat Director, BNSF Manager of Hazmat Planning, and OSFM's Hazmat Rail Program Coordinator all rode on the geometry car to discuss emergency response coordination, existing response assets, resource allocation, access challenges, and other aspects of an incident response to this geographic area. Coordination on planning efforts such as this greatly improve the coordination of a safe and effective response to a hazmat by rail incident by all agencies involved, both public and private.

Railroad Reporting Mandates

As mandated by the U.S. DOT Emergency Order Docket No. DOT-OST-2014-0067, rail carriers transporting in excess of 1,000,000 gallons of Bakken crude oil are required to provide the State Emergency Response Commission (SERC) a reasonable estimate of the number of trains transporting Bakken crude oil that are expected to travel through each county; identify and describe the petroleum crude oil expected to be transported, and, provide all applicable emergency response information, and identify the routes over which the material will be transported. If no changes are expected from the Previously submitted report, no new reports are required. The last update was provided by BNSF Railroad on October 31st, 2016. The OSFM continues to make these notices available to the public and emergency responders on its website.

Access to Railcar Information

The OSFM continues to promote the use of the AskRail mobile application to Oregon's network of emergency officials, responders, and planners. This resource gives first responders immediate access to timely data regarding whether a rail car is loaded or empty, the type of hazmat a rail car contains, the appropriate reference page in the Emergency Response Guidebook, and an ability to view the rest of the train's contents.

Training

2017 Training Accomplishments

In 2017, OSFM's Hazmat Rail Program continued its partnerships with the Oregon fire service training community, regional hazmat emergency response teams, and Union Pacific and BNSF Railroads, coordinating the delivery of both hazmat emergency response and Incident Command System (ICS) training courses. Identified in the improvement plan resulting from the 2016 Mosier Crude Oil Train Derailment After-Action-Report, these courses have been offered free to local, state, federal, and tribal agency personnel and provide the basic framework for a safe, effective, and efficient response to a hazmat by rail incident.

In 2017, the OSFM facilitated the delivery of 4,568 personnel training hours to firefighters, hazmat teams, emergency planners, elected officials, and other hazmat rail responders.

In response to best practices developed from after-action reviews of similar rail incidents, training programs have been identified that would further prepare emergency officials, responders, and planners for a future incident. Leveraging the specialized knowledge and training of OSFM staff, regional hazmat response teams, incident management teams, and other qualified personnel, the OSFM was able to coordinate and host several courses. These courses adapt core response and incident command principles to the transportation by rail environment for first responders. In addition, our partner agencies get the opportunity to train their staff in core ICS principles, preparing them to integrate their agency's mission and objectives into an active hazmat transportation by rail incident.

Number of Agencies Participating in Training	**149**
Personnel Trained	**334**
Total Personnel Hours	**4,568**

OSFM Facilitated Training Courses 2017

Hazmat Rail Emergency Response Awareness (3 hrs.)

This 3-hour course is designed to provide emergency responders the basic knowledge and awareness level training in response to a hazmat by rail incident.

Hazmat Rail Emergency Response Operations (8 hrs.)

This 8-hour course is designed to provide emergency responders the basic knowledge and operations level training in response to a hazmat by rail incident utilizing a "hands-on" approach with actual railcars, locomotives, and a visit to a local rail facility.

Hazmat Tank Car Specialist (40 hrs.)

This 40-hour course provides technical knowledge pertaining to tank cars, including damage assessment, oversight for product removal, and movement of damaged tank and other rail cars. Trainings cover site assessments of incidents, damage assessments of the containers, and product removal using transfer techniques on the various DOT containers used in rail transportation.

Hazmat Incident Commander (16 hrs.)

This 16-hour course meets OSHA and NFPA standards to qualify incident commanders to manage hazardous materials incidents. The intent of these standards is to provide an incident command system that is led by a single person who does not necessarily have extensive knowledge about the classification and verification of hazardous materials, but rather, who is able to manage emergencies of differing severity, as well as oversee the rest of the hazmat team.

Incident Command System 300 & 400

This 24-hour course provides local, state, federal, and tribal emergency response/management personnel who may assume a supervisory position in expanding incidents utilizing the ICS framework. Individuals develop the ability to describe how the National Incident Management System Command and Management component supports the management of expanding incidents. In addition, individuals learn to implement the incident management process on a simulated Type 3 incident, develop an Incident Action Plan for a simulated incident, describe the circumstances in which an Area Command is established, and describe the circumstances in which Multi-Agency Coordination Systems are established.

Liaison Officer, All Hazards (16 hrs.)

This 16-hour course provides students who have the potential to represent their agency as a Liaison Officer (LOFR) on "All-Hazards" incidents at the local, state, federal, and tribal level. Students develop a robust understanding of the duties, responsibilities, and capabilities of an effective LOFR on an All-Hazards Incident Management Team (AHIMT) or All-Hazards incident. They will also have a better understanding of their specific functions on emergency incidents, or as part of a Unified Command, or integrating with an Incident Management Team.

Incident Command System 402:
ICS Overview for Senior or Elected Officials and Hazmat Awareness (8 hrs.)

The purpose of this 8-hour course is to provide an orientation of the Incident Command System (ICS) for executives and senior officials (including elected officials, city/county managers, agency administrators, etc.) along with understanding Incident Command System (ICS) principles and the executive/senior official role in supporting incident management. Additional content is provided to orient executives and senior officials on the risks and hazards of hazmat incidents involving railroad transportation, highway transportation, and fixed facility locations. In addition, attendees gain a better understanding of hazardous materials incidents and the complexities these types of incidents create for responders.

Retired Railcars Installed for Training

Donated by Union Pacific and BNSF railroads, the OSFM took delivery of two retired railroad tank cars in 2017. These tank cars were positioned on their sides to simulate a derailment scenario at both the Department of Public Safety Standards and Training in Salem and the Eugene Springfield Fire Department Training Center. These training props provide a hands-on tool for firefighters and hazmat responders to practice firefighting and spill release techniques. The OSFM is expecting to receive additional retired tank cars in 2018 to be placed at training facilities throughout Oregon.

Tabletops and Community Forums

OSFM staff participated in and facilitated tabletop (TTX) exercises and community forums to discuss planning and response strategies throughout 2017. These exercises and discussions revolved around hazmat by rail incidents, often in a "round table" format with representatives from all forms of public and private agencies. TTXs in particular, are designed to test emergency response plans, reveal operational gaps, identify training needs, and recommend updates to plans. Notable tabletop exercises or discussions in 2017 included:

2016 Mosier Crude Oil Train Derailment Case Reviews:

Oregon LEPC Conference: Statewide attendance by emergency managers, LEPC members, private industry, emergency responders.

Oregon Emergency Preparedness Workshop: Statewide emergency managers, government executives and senior officials, non-governmental planning and response organizations.

Pacific Northwest Economic Region (PNWER) Disaster Resilience Symposium: Attended by Pacific Northwest regional emergency managers, government executives and senior officials, non-governmental planning and response organizations.

Western States Petroleum Association Conference: Western U.S. regional petroleum industry stakeholders, elected officials, railroad emergency responders.

Derailment Scenarios Involving a Hazardous Material Release:

Tabletop Exercise: Hood River-focused for emergency managers, public safety, community leaders, hospital administrators.

Tabletop Exercise: Portland-focused for emergency managers, public safety, community leaders, hospital administrators.

Rail Safety & Emergency Response Readiness

Bend City Club Meeting: Attended by Central Oregon area civic leaders, private industry, emerency responders.

Hazmat Rail Awareness

Portland Neighborhood Emergency Team (NET) Meetings: Linnton Neighborhood Emergency Team (NET) members, Portland metro area.

Demonstration of Spill Response Plan Strategies

Spill Response Exercise (BNSF/Tesoro): Hermiston area attended by Washington and Oregon state legislative representatives, government executives and senior officials, non-governmental planning and response organizations.

Resource Coordination

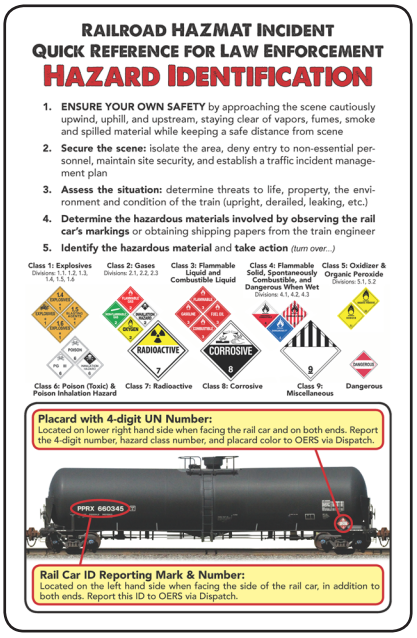
Benzene-Specific Air Monitors

In 2017, the Hazmat Rail Program purchased and deployed Photoionization Detectors (PIDs) with benzene detection capability for all 13 OSFM regional hazmat teams. These toxic gas detection devices obtain accurate measurements in areas where benzene – a crude oil byproduct – or other volatile organic compounds (VOCs) could be present. This allows hazmat technicians to determine safe areas, evaluate the level of PPE needed for all responders at a scene, and conduct community air monitoring near the incident to verify public safety.

OSP Trooper Quick Reference Response Guides

At the time of the crude oil train derailment in Mosier, Oregon in 2016, Oregon State Police (OSP) troopers were some of the first responders to arrive at the scene. Subsequently, OSP identified an opportunity for the development of a tool that summarized initial actions troopers might take at the scene of a train derailment involving hazardous materials.

To meet this need, the OSFM created a quick reference guide that is now in every trooper vehicle across Oregon. These laminated cards provide guidelines for identifying hazards, ensuring trooper safety, securing the scene, assessing the situation, requesting additional resources, and directing evacuations.



RAILROAD HAZMAT INCIDENT
QUICK REFERENCE FOR LAW ENFORCEMENT

HAZARD IDENTIFICATION

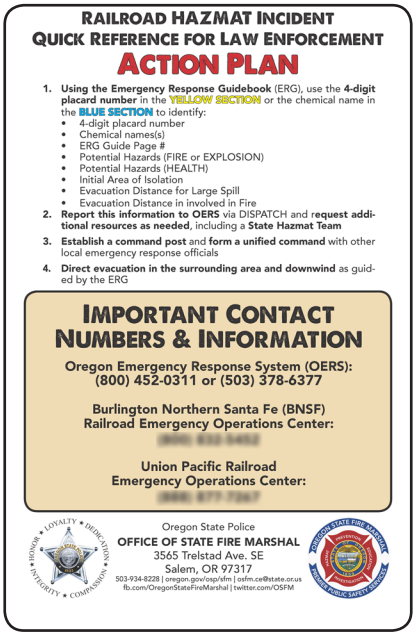
1. **ENSURE YOUR OWN SAFETY** by approaching the scene cautiously upwind, uphill, and upstream, staying clear of vapors, fumes, smoke and spilled material while keeping a safe distance from scene
2. **Secure the scene:** isolate the area, deny entry to non-essential personnel, maintain site security, and establish a traffic incident management plan
3. **Assess the situation:** determine threats to life, property, the environment and condition of the train (upright, derailed, leaking, etc.)
4. **Determine the hazardous materials involved by observing the rail car's markings** or obtaining shipping papers from the train engineer
5. **Identify the hazardous material** and **take action** *(turn over...)*

Class 1: Explosives (Divisions: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6)
Class 2: Gases (Divisions: 2.1, 2.2, 2.3)
Class 3: Flammable Liquid and Combustible Liquid
Class 4: Flammable Solid, Spontaneously Combustible, and Dangerous When Wet (Divisions: 4.1, 4.2, 4.3)
Class 5: Oxidizer & Organic Peroxide (Divisions: 5.1, 5.2)
Class 6: Poison (Toxic) & Poison Inhalation Hazard
Class 7: Radioactive
Class 8: Corrosive
Class 9: Miscellaneous
Dangerous

Placard with 4-digit UN Number:
Located on lower right hand side when facing the rail car and on both ends. Report the 4-digit number, hazard class number, and placard color to OERS via Dispatch.

PPRX 660345

Rail Car ID Reporting Mark & Number:
Located on the left hand side when facing the side of the rail car, in addition to both ends. Report this ID to OERS via Dispatch.



RAILROAD HAZMAT INCIDENT
QUICK REFERENCE FOR LAW ENFORCEMENT

ACTION PLAN

1. **Using the Emergency Response Guidebook** (ERG), use the **4-digit placard number** in the **YELLOW SECTION** or the chemical name in the **BLUE SECTION** to identify:
   - 4-digit placard number
   - Chemical names(s)
   - ERG Guide Page #
   - Potential Hazards (FIRE or EXPLOSION)
   - Potential Hazards (HEALTH)
   - Initial Area of Isolation
   - Evacuation Distance for Large Spill
   - Evacuation Distance in involved in Fire
2. **Report this information to OERS** via DISPATCH and **request additional resources as needed**, including a **State Hazmat Team**
3. **Establish a command post** and **form a unified command** with other local emergency response officials
4. **Direct evacuation in the surrounding area and downwind** as guided by the ERG

IMPORTANT CONTACT NUMBERS & INFORMATION

Oregon Emergency Response System (OERS):
(800) 452-0311 or (503) 378-6377

Burlington Northern Santa Fe (BNSF)
Railroad Emergency Operations Center:
[redacted]

Union Pacific Railroad
Emergency Operations Center:
[redacted]

Oregon State Police
OFFICE OF STATE FIRE MARSHAL
3565 Trelstad Ave. SE
Salem, OR 97317
503-934-8228 | oregon.gov/osp/sfm | osfm.ce@state.or.us
fb.com/OregonStateFireMarshal | twitter.com/OSFM

Oregon Firefighting Foam Trailers

The OSFM continues to maintain eight foam firefighting trailers complete with a cache of foam, pumps, and spray nozzles supplied by BNSF and Union Pacific railroads. These trailers have been strategically deployed throughout Oregon along mainline track where crude oil by rail is predominately shipped. In addition, these trailers are available not only for a crude oil by rail incident, but for any type of fire requiring large quantities of foam application for suppression purposes. They are available to respond at a moment's notice and housed with the following fire agencies:

- **Eugene/Springfield Fire Department** (co-located with OSFM Hazmat Team #2)
- **Gresham Fire and Emergency Services** (co-located with OSFM Hazmat Team #3)
- **Klamath County Fire District #1** (co-located with OSFM Hazmat Team #4)
- **Ontario Fire Department** (co-located with OSFM Hazmat Team #14)
- **Portland Fire and Rescue Bureau** (co-located with OSFM Hazmat Team #7)
- **Salem Fire Department** (co-located with OSFM Hazmat Team #13)
- **Pendleton Fire Department and Ambulance Service**
- **Redmond Fire and Rescue**

Information Sharing

The OSFM continues to upload available hazmat by rail response assets into the Western Regional Resource List (WRRL). Federal, state, local, and private oil spill response organizations in the Pacific Northwest all participate in this web-based database which allows oil spill preparedness planners and responders to catalog, order, and track oil

spill response equipment, develop and review oil spill contingency plans, evaluate spill readiness drills and improve responses, describe a uniform method for ordering equipment from multiple sources during spills, keep accurate cost accounting information during responses, and plan effective equipment demobilization after spill incidents.

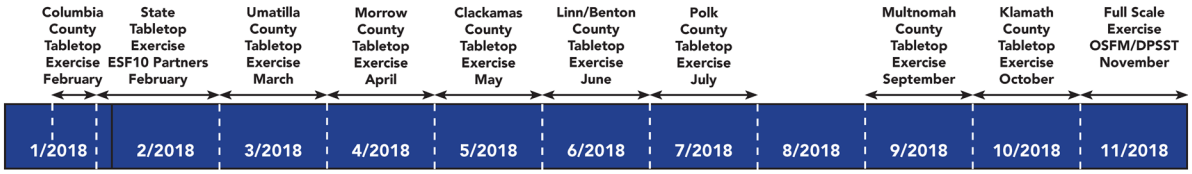
The OSFM continues to partner with ODOT Rail and Public Transit Division to give first responders and emergency planners access to a secure web-based information sharing platform – known as GovSpace – that details types and quantities of hazardous materials transported by rail on a quarterly basis through a specific geographic areas. Emergency responders including fire chiefs, hazardous materials team leaders, and local emergency planners use this secured information sharing tool to drive decisions on planning, staffing, training, and equipment needs. The OSFM continues to work closely with the Oregon fire service to promote this source of critical information.

Moving Forward

Additional Tabletop Exercises

In 2018, OSFM plans to facilitate several TTXs, each designed to test existing hazmat by rail emergency response plans or those funded by HB3225 in 2017.

HazMat Rail Planning and Exercise Timeline



1. **ESF 10 State Tabletop Exercise** – Test the state emergency operations plan function ESF 10 and coordinate the initial OERS Council Call.
2. **Columbia County LEPC Tabletop Exercise** – In February, the HazMat Rail Emergency Response Plan, developed and completed in 2016, will be tested.
3. **Umatilla County LEPC Tabletop Exercise** – In March, the HazMat Rail Emergency Response Plan, currently in development, will be tested.
4. **The remainder of the LEPC's listed above** (Morrow, Clackamas, Linn/Benton, Polk, Multnomah, and Klamath Counties) tabletop exercises will be scheduled upon completion of their HazMat Rail Emergency Response Plans.
5. **Full Scale Exercise** is contingent on receipt of grant funds in 2018. This will incorporate local, state, tribal, and federal partners and railroad industry on a response to a large scale HazMat by rail incident.

Revised 12/5/2017

State Coordination Plan

Another mandate of HB 3225 is for the State Fire Marshal to adopt a plan for the coordinated response to oil or hazardous material spills or releases that occur during rail transport. As guided by HB 3225, the OSFM has coordinated the development of this plan along with its Emergency Support Function #10 (Oil and Hazardous Materials) partner – the Oregon Department of Environmental Quality – and additional supporting agencies, including the Department of Human Services, Department of State Lands, Oregon Department of Forestry, Oregon Department of Transportation, Oregon Fish and Wildlife, Oregon Health Authority, Office of Emergency Management, and Oregon State Police. The plan is expected to be completed in early 2018 and is proposed as Incident Annex to the state's emergency operations plan.

This annex provides information specific to emergencies involving the transportation of hazardous materials by rail and is intended to supplement and correspond local, state, and federal plans, including ESFs #4 and #10, Geographic Response Plans (GRP), as well as the EPA Region #10 Northwest Area Contingency Plan. Specifically, the plan:

- Defines the roles and responsibilities of state agencies in responding to the unique characteristics of different hazardous materials emergencies
- Discusses the specific authorities, capabilities, and assets that state government has for responding to hazmat by rail incidents
- Discusses the integration of the concept of operations with other elements of the Oregon Emergency Operations Plan (EOP), including the unique organization, notification, and activation processes and specialized incident-related reactions, and
- Defines guidelines for notification, coordination, and public information dissemination by Oregon agencies during emergency response and subsequent recovery operations.

Full-Scale Exercise

In 2018, the OSFM is seeking grant funds to conduct a large, full-scale exercise involving local, state, federal, and tribal stakeholders in the spring of 2019. The proposed project will be a two-day exercise that tests existing plans using a simulated scenario involving a train derailment that releases hazardous materials. The focus during the exercise will be to test strategies for notifying and protecting the public, establishing incident command, implementing an incident management team, and controlling fires and chemical spills and releases. The OSFM will exercise the state coordination plan in conjunction with other existing local, state, federal, and tribal plans. The overall goal will be to execute the successful coordinated multi-agency response to a large scale hazmat by rail incident with an effective transition from the emergency response phase to the consequence management phase.

This report was prepared by:

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