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OREGON STATE EMERGENCY RESPONSE COMMISSION

MALHEUR COUNTY

LOCAL EMERGENCY PLANNING COMMITTEE

HAZMAT TRANSPORTATION BY RAIL

INCIDENT RESPONSE PLAN

JUNE 2021



Malheur County

Local Resources For Local Issues

Oregon Local Emergency Planning Committees

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Hazardous Material Transportation by Rail Incident Response Plan

Malheur County, Oregon

Local Emergency Planning Committee

June 2021

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This publication was funded by the Oregon State Police - Office of State Fire Marshal, and supported by the Malheur County Sheriff's Office, Emergency Management, and the Malheur County Local Emergency Planning Committee.

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A redacted plan is available to the public that does not carry confidential information.

Author: Patrick Hart, Hermiston Fire & Emergency Services, Chief, Retired.

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Malheur County HazMat Transportation by Rail Incident Response Plan

Approval and Implementation

The Malheur County Local Emergency Planning Committee (LEPC) has developed this HazMat Transportation by Rail Incident Response Plan (HMTRIRP) to identify and implement hazardous material emergency preparedness and response activities and responsibilities in accordance with applicable authorities. This HMTRIRP details the purpose, policy, concept of operation, direction and control, actions and responsibilities of primary and support agencies to ensure a mutual understanding and a coordinated plan of action is implemented with appropriate agencies within the jurisdiction of Malheur County.

The Malheur County LEPC reviews the HMTRIRP, at a minimum, annually or more frequently as changed circumstances in the planning district may require.

The Malheur County LEPC directs each office, department and agency to study the HMTRIRP and prepare or update, as needed, the supporting plans and operating procedures necessary to implement the HMTRIRP for a hazardous material event involving railroad transportation.

If any section, clause or provision of this plan is held to be invalid, the invalidity thereof shall not affect any other section, clause or provision of this plan.

This HazMat Transportation by Rail Incident Response Plan shall be in full force and in effect beginning on the day of its approval.

Approved this _____ day of June, _____, 2021

Richard Harriman, Lt
Malheur County Sheriff's Department
Malheur County LEPC Chair,
Malheur County Emergency Manager

Date

Authority

This plan has been developed in accordance with applicable federal, state and local provisions:

- ✓ (P.L. 99-499) The Emergency Planning and Community Right-to-Know Act (EPCRA) (SARA Title III) of 1986, Title 42 Chapter 116 Subchapter 1 – Emergency Planning and Notification §11003 (a-g)
- ✓ Title Code of Federal Regulations (CFR), 40 CFR Part 355 Emergency Planning and Notification
- ✓ Title 40 CFR Part 370 Hazardous Chemical Reporting Regulations
- ✓ Oregon Revised Statutes (ORS) 401.032, 035, 305, and 309, 453.307 to 505 and 465.101 to 127
- ✓ Oregon Administrative Rules (OAR) Chapter 837 Division 85

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While this plan is titled a Response Plan, it is actually a planning document for use by the Local Emergency Planning Committee (LEPC) to help prepare local responders to deal effectively with the complexities of a large release of a hazardous chemical from a railcar. It is not intended to be used by individual response agencies to determine best response strategy for a hazardous material (hazmat) incident. It is the responsibility of each responding agency (fire, law enforcement, public works, etc.) to be well versed on the hazards within their response area and plan their response according to their own capabilities. All responders must work together with appropriate partners before an incident to assure a coordinated, well-planned response that will lessen the impact of a hazardous material release in their community. All emergency responses, whether involving one or multiple agencies, will follow National Incident Management System (NIMS) and Incident Command System (ICS) standards. This document assumes all responders are well versed in both NIMS and ICS.

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Executive Summary

Union Pacific Railroad transports █████ carloads of hazardous material through Malheur County every year, including nearly █████ railcars carrying chemicals considered a toxic inhalation hazard. An incident releasing some of these hazardous materials could have a devastating and far-reaching impact on the county.

While the railroad presence in Malheur County is relatively small, just 12 miles of UPRR mainline, the commodities carried on that line potentially exposes nearly 50% of the county's 30,000 residents to the devastating effects of a hazardous materials transportation by rail incident. One scenario of an LPG railcar rupture with fire involved in Ontario could prompt the evacuation of over 6,000 residents.

First responders (firefighters, emergency medical technicians, law enforcement officers, hazardous material technicians, etc.) train continually. They train for what experience tells them is to be expected on a frequent basis. These first responders are very dedicated and well trained to deal with those frequent occurrences. However, a railcar releasing hazardous material (whether by derailment or another factor) is one of those events that Gordon Graham¹ would call a "high hazard – low frequency event". High hazard-low frequency events are those that we know can happen in our communities and would potentially cause significant injury and damage but are thought to be so remote that we seldom train on them or spend precious resources on purchasing or updating equipment for their response.

If we were to look at the destruction and damage caused by some of history's hazardous-materials releases from derailments, we might call it an unthinkable event. Graham also says, "You will run into the unthinkable event someday, and you will have to make instantaneous decisions. Whether you are prepared to do so is up to you."

This plan, funded by the Office of the Oregon State Fire Marshal and supported by the Malheur County LEPC and Malheur County Emergency Management, is designed to help prepare our first responders to face that unthinkable event.

¹ Gordon Graham is a 33-year veteran of California law enforcement and currently an attorney and leading speaker and consultant in first responder safety issues and is an acknowledged risk-management expert.

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Introduction

Malheur County addresses the potential impact of a hazardous material release in their April 2017 Emergency Operations Plan:

“2.1.2.4 Hazardous Materials Incidents This hazard results from the ever-increasing use of materials which pose a serious threat to life, property and the environment. These products, which are used in agricultural, industrial, and other modern technologies, are becoming increasingly more complex with many new products developed and introduced annually. Incidents involving the release of hazardous materials may occur during handling at industrial or commercial facilities using such materials or during the transportation of such materials by rail or highway. The Union Pacific Railroad’s mainline carries thousands of rail cars of hazardous materials through the County each year, including a significant number of shipments of high-level radioactive waste to both INEL in Idaho, and Hanford in Washington State. Interstate 84 is a major route of hazardous materials with major radioactive waste shippers and destinations again being INEL, Hanford, and New Mexico.”²

Railroads have played a vital role in the evolution of the United States, from the industrial revolution to the settlement of the West. Today, railroads are a critical component to the successful transportation of goods within and outside our country. According to Aberdeen Carolina and Western Railway Company³, one rail car can carry as much as four over-the-road trucks. In 2015 alone, there were over 28 million carloads of product transported by rail throughout the country with a large percentage of those carrying many different types of hazardous commodities. According to the US Department of Transportation, there were 299 rail incidents involving hazardous material release between 2008 and 2017. By comparison, there were 2,977 highway incidents reported. Some of these rail incidents were as simple as a single car derailment in a switching yard with a single gallon of hazardous material leaking from a damaged valve.

No state is immune to the recent increase in rail traffic; and some states, such as those whose borders provide pathways to international trade, are experiencing the greatest impact. The influx of rail commerce brings the increased possibility of a train derailment involving hazardous material, causing negative impacts to surrounding communities and the environment.

While every train derailment can cause negative impacts to the local area, it is those trains transporting hazardous material that have the greatest potential to produce catastrophic results

²Malheur County, Oregon Emergency Operations Plan, April 2017. Available at: <https://www.malheurco.org/emergency-management/>

³ <http://www.acwr.com/economic-development/railroads-101/rail-truck-advantage>

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due to the large volumes carried in rail cars and the threat that hazardous materials pose to life, property and the environment. While the rail industry works proactively to develop prevention and safety measures, there are simply too many miles of rail line for the industry to prevent every incident. In their October 2020 Hazmat Fact Sheet, the Association of American Railroads reports that investments in safety by the railroads have helped drive rail hazmat accident rates down 64% since 2000.

Recent derailments resulting in casualties and millions of dollars in damages have heightened the public's awareness of this potential for devastating events occurring in and around communities where rail commerce is present. The citizens of these communities want to be assured that, not only is the rail industry ready for such an event, but also that their local first responders are up to the task and able to help protect them and their community. As a result, training and emergency response planning for rail incidents has become the new normal for many first responder agencies.

Purpose

This plan is designed to assist the Malheur County LEPC and the County's political subdivisions to prepare first responders and industry in Malheur County to be better respond to and mitigate the effects of a catastrophic rail incident with release of hazardous materials. This document outlines the roles, responsibilities, and organizational relationships of first responders, other governmental agencies and private entities when planning for response to and recovery from a hazardous material by rail event.

The Malheur County LEPC's role in a hazardous material by rail incident response is in planning and assisting local political and emergency response agencies to prepare for an incident, not to be a first responder to an incident except in a support role.

It is essential that this plan be reviewed on an annual basis.

With a few exceptions (additional sections), this plan will follow the planning elements as listed in the HazMat (hazardous material) Transportation by Rail Incident Response Plan Development Project Scope of Work (SoW) produced by the Oregon State Fire Marshal's Office. For reference, those 12 elements are listed here:

1. Identification of the volume, type, and frequency of the top three (minimum) HazMat commodities transported by rail through designated response area. May include additional hazardous commodities if deemed necessary.
2. Identification of rail transportation routes, rail facilities, trans-loading facilities, and other supporting infrastructure.
3. Identification of emergency response procedures by rail industry and local responders, including response times.
4. Designation of key response agencies along the rail line including but not limited to; the railroad company, state partners (OSFM, OSP, DEQ, OEM, ODOT, OHA), federal partners (EPA, Coast Guard, FRA), OSFM Regional Hazardous Materials Team(s), local fire/EMS/law enforcement, and private response contractors.
5. Outline of emergency notification and public information procedures from the initial phase of the incident to its termination.

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6. Description of how to determine the probable affected area(s) and population along the rail lines, critical and/or at-risk facilities, to include historically and environmentally sensitive areas.
7. Inventory of local emergency response equipment, responder training, and capabilities/limitations.
8. Outline of evacuation plans, route identification, and plume modeling for critical areas.
9. Training programs and resources for first responders.
10. First responder incident action plan template and initial response checklist to accompany the plan.
11. Methods and potential scheduled timeframes for exercising the plan.
12. Identification of existing emergency response plans and mutual aid agreements within the specific response area and implementation of those plans.

Community Profile

With a population of 30,571 (2019) Malheur County is the 2nd largest county in the State of Oregon and is located in the southeast corner of the State. The County covers 9,930 square miles giving it a population density of 3.1 people per square mile. Malheur County is bordered by Baker County on the north, the State of Idaho on the east, the State of Nevada on the south, and Harney and Grant Counties on the west. The principal industries are agriculture, livestock, food processing and tourism.

There are five incorporated cities, four census designated places and 21 other populated areas⁴. Vale is the county seat. Over half of the county's population is in the cities of Ontario, Vale and Nyssa in the Western Treasure Valley. The population of Ontario alone is 10,972 (2020) making it the 42nd largest city in the State of Oregon. Many the county's rural residents live in unincorporated areas on farms and ranches in the same valley. The County observes two time zones, Mountain and Pacific, but all of the cities and unincorporated communities in Malheur County are in the Mountain Time Zone. The Bureau of Land Management controls 72% of the County and 94% of the land is rangeland.

I-84 runs for a short distance through Ontario. Other major highways include 20, 26, 201, and 95. All of the cities and unincorporated communities are on or near the major highways, but large areas of the County are sparsely populated and served by secondary access roads.

Situation, Assumptions & Limitations

Situation

Malheur County's main transportation routes are rail and highway. Except as noted below, highway transportation and local hazardous material facilities are addressed in the 2019

⁴ OR HomeTownLocator, Malheur County OR - Cities, Towns, Neighborhoods, & Subdivisions (hometownlocator.com)

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Malheur County LEPC Emergency Response Plan. This HMTRIRP plan will deal with hazardous materials transported in and through Malheur County by rail.

The railroad in Malheur County consists of the Union Pacific (UP) mainline entering the State/County from the north, running approximately 12 miles south through Ontario then to Nyssa where it crosses the Snake River into Idaho. There is a rail line belonging to the Wyoming & Colorado Railroad (WYCO) off of the UPRR line in Ontario and a short spur line in Nyssa. Neither of these lines carry hazardous materials except, according to the Oregon Department of Transportation, an occasional carload of propane on the WYCO to the Farmer's Coop at Alameda and Railroad Avenues in Ontario.

In addition to the hazardous material cars moved through Malheur County, there is a potential for a railcar related incident at several locations within the City of Ontario. There can be one or more railcars of propane at the Farmer's Co-op (near Alameda and Railroad Ave.) and of ammonia at the Americold Logistics facility (near NE 2nd Street) at any time. At Campo & Poole (near SE 5th Street in Ontario) there is a transfer station where they routinely transfer diesel fuel from railcars to large tanks, then from the tanks to trucks for local distribution. Also, at Campo & Poole, they receive truck shipments of LPG from a local distributor and transfer those loads into railcars for shipment out of the area.

In Ontario, there is a number of switching tracks along the main line between SW 2nd Avenue and SE 25th Avenue/W Island Road. These tracks are used to cut cars out for local use and make up trains to take cars either filled or emptied in Ontario back to the main line.

There are places where the Snake River runs very close to the railway. A release of hazardous material on the railroad near the river could cause significant pollution and have a huge impact on river traffic, recreation and wildlife welfare.

There are five major highways in Malheur County; I-84 in Ontario, Hwy 20 serving Juntura, Harper, Vale, Ontario and Nyssa; Hwy 26 serving Brogan, Vale and Nyssa; Hwy 201 serving Annex, Ontario, Nyssa and Adrian; Hwy 78 connecting Harney County (Burns) with Hwy 95 and Hwy 95 serving Jordan Valley. Two or more of these major highways sometimes run concurrently. These would be the primary evacuation routes in case of a hazardous material emergency. Some major highways could be blocked in the event of a rail emergency.

Malheur County has a single 911 answering point/dispatch center located at the Malheur County Sheriff's Office in Vale. That dispatch center handles calls for 18 different agencies; three law enforcement, five fire agencies, five EMS agencies, four public works agencies and the Malheur Juvenile Department. Malheur County emergency responders include law enforcement, emergency medical and fire agencies throughout the county. While law enforcement personnel will be critical in effective response to a hazardous material release and may be the first to arrive on scene, it will generally be fire personnel who act as the incident commander and fill the primary branch positions. As noted in the Malheur County Emergency Operations Plan, EFS 1⁵: "4.6 Fire Services – For hazardous materials and fire incidents, responsible for on scene control and for advising the Emergency Services Lt. for

⁵ Malheur County, Oregon Emergency Operations Plan, April 2017, ESF 1, page 1-6. Available online at: <https://www.malheurco.org/emergency-management/>

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evacuation decision.” The County plan additionally notes on page 4-1, “The City Fire Departments will be responsible for control of hazardous materials.”

Malheur County has three law enforcement agencies: Malheur County Sheriff, Ontario Police Department and Nyssa Police Department (Oregon State Police also have a presence in the County). According to the Oregon State Fire Marshal’s office, there are seven fire agencies listed for the County: Adrian RFPD, Nyssa FD, Ontario F&R, Ontario RFPD, Payette RFPD-Oregon, Vale FD and Weiser RFPD Annex-Oregon. Most of the fire responders are volunteers. Weiser RFPD and Payette RFPD will respond into small areas of Malheur County as needed, but neither have stations or equipment in Malheur County.

Every Oregon fire department/district has access to training at the Hazardous Materials Awareness and Operations level using Oregon’s Department of Public Safety Standards and Training (DPSST) guidelines and in fact is required to have their personnel trained at that level. This training prepares first responders for necessary actions in the first 20 minutes of arriving at or of receiving knowledge of a hazardous material incident. Those actions would include a quick analysis of the situation, isolate and deny entry to the scene, identifying the material if possible, and notifying others as needed.

Ontario Fire & Rescue is home to the Oregon State Regional Hazardous Materials Emergency Response Team (HMRT) #14. This team is made up of responders who receive training at a technician level to respond to and help identify and mitigate hazardous material releases. See Concept of Operations section below for further information on the HMRT.

Other than the technician-level training for the HMRT #14 at Ontario Fire & Rescue, no personnel are trained past the operations level. Unless they are part of the HMRT, none of the law enforcement personnel are routinely trained in hazardous material response other than what is required at the basic training academy. Many law enforcement personnel do take advantage of special training opportunities when available.

Malheur County has one medical center, Saint Alphonsus Medical Center, located in Ontario, one nursing home in Vale and numerous assisted living facilities throughout the county. In addition to Saint Alphonsus in Ontario, there are other major medical centers within reasonable ground transport distance for Malheur County ambulances. They include St. Luke’s in Fruitland, Idaho; Weiser Memorial Hospital in Weiser, Idaho; Saint Alphonsus Regional Medical Center and St. Luke’s Medical Center in Nampa, Idaho; and Saint Alphonsus Regional Medical Center and St. Luke’s Medical Center in Boise, Idaho. Although not a major medical center, West Valley Medical Center in Caldwell, Idaho is within a 30-minute transport time from Ontario and is the most common destination for transports by Jordan Valley Ambulance.

Malheur County is served by emergency medical providers as defined in the County Ambulance Service Area Plan (ASA), 2020. Outside of the Ontario area, the County is served by mostly volunteer fire and ambulance services. Agencies listed in the ASA are Treasure Valley Paramedics which has four ambulances in Ontario and two in Nyssa, and Vale Ambulance with two ambulances (not part of Treasure Valley Paramedics). Jordan Valley Ambulance (out of Jordan Valley, Oregon), approximately 85 miles south of Ontario, has two ambulances available as well albeit with an extended response time. It is important to note that, while an ambulance service may have a number of ambulances, there may not be crews

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available to staff that number at any given time. On-scene air ambulance is provided by Life Flight out of La Grande, Ontario or Boise.

Malheur County has approximately 12 miles of main-line track running through the county north to south along the Snake River. In a 12-month period UPRR will haul [REDACTED] carloads of hazardous materials in addition to nearly [REDACTED] cars with residual amounts of hazardous material⁶ on those main lines⁷. While this plan deals with loaded rail cars, those ‘empty’ cars may carry residual amounts of chemicals that are not without hazard. These cars, specifically those used to carry flammable, combustible or explosive materials, can build up a vapor pressure in the head space and can cause problems other than spilling their contents.

The hazardous materials carried by UPRR may be contained in individual cars or groups of cars in a train (called unit trains) where the entire train may be carrying a single hazardous material. These trains run through the community day and night. While UPRR does what it can to maintain its tracks, cars and equipment, it is possible that one or more of these cars could be involved in a crash at any time. According to an Occupational Health & Safety document on best practices for response to crude oil emergencies⁸ (emphasis by author):

“The document [Commodity Preparedness and Incident Management Reference Sheet⁹] was produced with an eye toward the increased production from shale reserves in states such as North Dakota and Texas. ‘Unit trains of crude oil are single-commodity trains that generally consist of over 100 tank cars, each carrying approximately 30,000 gallons of crude oil,’ according to PHMSA.

“These trains usually are more than a mile long, so ‘derailments can cause road closures, create significant detours, and require response from more than one direction to access the scene of the incident,’ according to the agency. Thousands of gallons of crude may spill, and tank cars may ignite; and **‘most emergency response organizations will not have the available resources, capabilities or trained personnel to safely and effectively extinguish a fire or contain a spill of this magnitude,’** according to the agencies, including their apparatus, equipment, and water supplies.

“Such responses ‘will likely require mutual aid and a more robust on-scene Incident Management System than responders may normally use. Therefore, pre-incident planning, preparedness and coordination of response strategies should be considered and made part of response plans, drills and exercises that include the shippers and rail carriers of this commodity,’ the document states.”

While the above-quoted document refers specifically to response to crude oil emergencies (Malheur County as only [REDACTED] cars of crude oil a year per UPRR information) much of what is said applies to any hazardous-materials-by-rail (HMBR) incident that might occur in this rural part of Oregon. A train derailment could block crossings for a mile or more causing a significant impact on response and evacuation routes. A release of any of the material noted

⁶ Referred to as Residue Shipment Containers: a tank car containing a residue of a hazardous material after it is emptied as much as practical

⁷ Union Pacific Railroad Hazardous Materials Commodity Flow, Malheur County, 2019

⁸ <https://ohsonline.com/Articles/2014/10/09/Crude-Oil-Emergencies.aspx?p=1>

⁹ Pipeline Hazardous Materials Safety Administration; Petroleum_Crude_Oil_Reference_Sheet.pdf

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in this plan will require much more response than would normally be expected from the first responders in Malheur County. A train derailment with the release of hazardous material, especially those we are discussing in this plan, is more than just a fire or hazardous material spill; it is a political bomb and will trigger a much larger management response than the “normal” incident. Pre-planning on the part of response organizations (not just fire and law enforcement), where all potentially involved parties participate, is critical to the successful response and mitigation of a significant HMBR incident.

Assumptions

The accuracy of this plan assumes complete and accurate reporting and interpretation of data contained in the UPRR commodities survey.

An accidental release of hazardous material could pose a threat to responders, workers, the surrounding population, visitors/travelers, and the environment.

A hazardous material incident may be caused by or occur during another emergency, such as flooding, major fire, earthquake, windstorm, snowstorm, tsunami, etc. Such coincidental occurrences will magnify response, public protection and mitigation issues.

A major HMBR incident might require protective action for citizens from any location in Malheur County along the UPRR mainline running from north of Ontario to where it exits the County near Nyssa.

The length of time to determine the scope and magnitude of a hazardous material incident will influence protective action recommendations. First responders will initially consult the Department of Transportation Emergency Response Guide (ERG) for immediate actions during a chemical release.

Plans for response to a hazardous material release in the county must remain flexible. Wind speed and direction and time of day will have a significant impact on initial isolation and protection plans as the wind carries the substance off site. The humidity and topography of the area around the release can also affect the spread of hazardous materials and must be considered when making considerations for public safety. Wind shifts and other weather condition changes during the course of an incident may necessitate changes in protective action and mitigation recommendations.

If an evacuation is recommended because of a hazardous material incident, 80% of the population in an affected area will typically relocate voluntarily when advised to do so by the local authorities. Some residents will not evacuate regardless of the imminent danger presented by a hazardous material release. Some residents in unaffected areas may also evacuate spontaneously even when not ordered to do so by response personnel. Local medical providers, e.g., hospitals and medical centers, should be aware that some citizens will self-report (that is, outside of the emergency response system, not by ambulance) for care even though they were not in an effected zone and have not been exposed to hazardous materials.

During evacuation, some residents will leave by routes other than those designated by emergency personnel as evacuation routes.

People who evacuate may require shelter in predesignated facilities where they can receive shelter, food and medical care.

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Residents with access and functional limitations may require assistance to evacuate. Typical locations that house these residents must be considered and identified when forming evacuation/shelter-in-place plans. These would include nursing homes, assisted living facilities, schools, group homes for the disabled and hospitals.

Evacuation plans must include care and housing of animals and pets including farm animals such as horses and cows and domestic pets such as dogs and cats. Many citizens will not evacuate until they can assure their animals/pets are cared for.

A large hazardous material release will potentially affect water and sewer systems, roads and streets, fire, EMS and law enforcement response, hospital capacity and function and other aspects of daily life in Malheur County. Therefore, planning for response to a hazardous material release (or for any emergency incident) must include not only fire, emergency medical services (EMS) and hazardous materials responders but law enforcement, city and county public works and highway departments, medical receiving facilities such as hospitals, and Red Cross or other agencies equipped to handle shelter and other care for evacuees.

A major assumption of this plan is that first responders, through training and on-site reconnaissance, will become familiar with the chemicals carried on the railroad and pre-plan response to several locations throughout the County. In addition, first responders, specifically transport agencies and potential transport officers (see ICS structure) must be familiar with the local medical centers/hospitals and their capabilities in order to make appropriate transport decisions.

Limitations

With a few exceptions, Malheur County is protected by volunteer first responders. Even at Ontario Fire & Rescue the career staff are supported by volunteers. Many of the departments/districts surrounding Ontario are also volunteer and will have limited personnel to respond. Today's first responders are expected to become well versed in multiple disciplines. For example, fire responders must be able to handle structure, wildland and vehicle fires, commercial fires, basic first aid, traffic control, motor vehicle crash site containment and hazardous material incidents. The very nature of a volunteer organization is that not all personnel will be available at any given time. It can, therefore, be assumed that in most cases additional resources from other agencies, possibly from other counties or states, will be required to successfully mitigate a hazardous material release. Agreements for mutual aid must be in place before an emergency occurs.

Interviews with fire chiefs from departments or districts that would have direct first response or immediate mutual aid responsibility to an HMBR in Malheur County reveal that, while their personnel are trained at least to the NFPA operations level of hazardous materials response, they would rely heavily on the Oregon State Hazardous Materials Response Team (HMRT) #14 out of Ontario Fire & Rescue. Malheur County fire departments, with the exception of the HMRT at Ontario Fire & Rescue, would be limited to activities allowed within the awareness- and operations-level competencies. Those competencies are listed later in this document.

What this means in terms of response is that, while the initial actions of the first responders may help to reduce the ultimate level of damage done by the release, actual steps to mitigate

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the spill will be delayed until the arrival of the HMRT and additional resources from outside agencies.

In addition, most of the first responder agencies in the county have limited staff (both career and volunteer) and even fewer might actually be available to respond at any given time. The departments rely on mutual aid agreements to supplement their personnel on large incidents. These departments (both initial and mutual aid) must also reserve some personnel to continue providing service to their communities for everyday calls outside of the hazardous material incident. The largest department in terms of available personnel, Ontario Fire & Rescue, staffs the Oregon State HMRT. In the event of a large hazardous material incident in their district, they would most likely have to call on the services of a neighboring HMRT (Hermiston or Klamath Falls) as their personnel would be committed to the initial response and providing staffing to protect their own district for response to “normal” emergencies.

Having enough personnel on scene in the first two to three hours to mitigate the release or carry out protection duties will be a significant issue in Malheur County as it would be in other rural counties. Once the call goes out and other departments (maybe from as far away as Portland) begin to respond, the problem will go from one of not enough personnel and equipment to one of managing the personnel and resources that are on scene.

This plan does not imply a perfect response will be practical or possible. No plan can prepare individuals or jurisdictions for response to all events.

Population estimates noted in the plan are from Marplot census data and may not be accurate or current. It is critical that first responders be familiar with the population of their response areas and who could be affected by a release of hazardous material. Specific attention should be paid to vulnerable populations such as those at nursing homes, schools, etc.

Responders will attempt to coordinate their response according to established standards. Because of the infrequency of hazardous material incidents, there may be a delay in first responders recognizing the significance of an incident and making appropriate notifications.

Successful implementation of this plan depends on the capabilities and training of the initial responders and available resources at the time of the incident. Thorough on-going information exchange between responding organizations and transportation personnel is crucial to successful resolution of any emergency incident. As noted elsewhere in this document, it is critical that the railroad, government organizations and responders work together well ahead of any incident to anticipate issues that may arise.

Concept of Operations

General

The Malheur County LEPC will assist Malheur County emergency response agencies in preparing and reviewing hazardous material response plans and procedures.

Emergency response agencies will generally be notified of a hazardous material incident involving the railroad by either one of the train crew, their dispatch center or a member of the public via 911.

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Agencies responding to the release will do so only to the extent of their personnel's training and qualifications and the available resources. The Incident Commander (IC) will request the assistance of mutual aid partners and the State's Regional Hazardous Material Emergency Response Teams (HMRT) when the size and scope of the release exceeds the response capabilities of local emergency responders. The request for the HMRT can be made through the Oregon Emergency Response System (OERS) or directly by phone to the team.

The first priority for the IC will be to determine the appropriate immediate actions to protect first responders and the public and implement those effectively. The initial IC on scene will use available information about the materials involved and consult the most current Department of Transportation Emergency Response Guide (ERG) to determine initial protective actions which will include responder involvement and actions, isolation and evacuation needs and distances. If the material released cannot be identified, the ERG recommends an evacuation distance of at least 330 feet in all directions (one-half mile if the material is involved in fire). The initial action decisions will be evaluated periodically and adjusted depending on new information received and the evolving status of the incident.

When developing protective action plans for a specific incident, the IC must consult with local emergency responders and government leaders, e.g., city managers and county commissioners. Those community leaders have the authority to order evacuations, street/road closures, and school and business closures. At some point in larger incidents, the IC must request and receive a Memorandum of Authority (MOA) from those leaders to carry on with incident mitigation. When the incident escalates to the point of needing a MOA from government leaders the Emergency Operations Center (EOC) must be in place. The Malheur County Emergency Manager can be of great assistance in pulling these leaders together, keeping them current on the incident and providing a place for them to gather.

All responders will assist with the identification of the party responsible for the hazardous material incident through the collection and reporting of relevant information related to their response activities. Incident-related information should be reported to the IC and the hazardous material response team supervisor.

Someone must track all resources used or available at the scene and ultimately make an accounting of their use. The county emergency manager may assign a dedicated resource officer on larger incidents.

Direction and Control

Hazardous material incidents within Malheur County will be managed based on National Incident Management System (NIMS) criteria and follow the Incident Command System (ICS). Under this system the command structure will expand and contract as needed based on the size and potential of the incident. Positions mentioned and described in this section of the plan may or may not be activated. However, it is assumed that the responsibilities of each of these positions may be required during or after the incident; if a position is not filled by another responder, the IC is responsible for the activities of that position. The IC will determine when additional positions will be filled and when those positions can be terminated. More information on NIMS can be found on-line at <https://www.fema.gov/emergency-managers/nims>. More information about ICS can be found at <https://training.fema.gov/emiweb/is/icsresource>. A number of NIMS training courses can be taken on-line through

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independent study courses. See a list of available training at <https://training.fema.gov/nims/>. Because response to a chemical incident involves the whole community, not just emergency responders, it is recommended that basic NIMS/ICS training be completed by any individual that may be part of the response to a hazardous material release including industry and government representatives.

The initial IC will be the senior responder first on scene of an incident. IC responsibility may be transferred during the incident according to NIMS/ICS protocol. Because of the nature of first-response agencies within Malheur County it is not possible to list specific individuals who may fill the IC position on any given incident. In general, the IC will be the highest-ranking fire officer on scene but could be a member of law enforcement or an emergency medical responder. It is not the intent of the responding HMRT to assume the position of IC unless the incident is within their primary district/department boundaries. The HMRT will be part of the hazardous material group within the incident command structure with a member of the team acting as the hazardous material group supervisor. While unified command may be established based on the complexity of the incident, there will be only one IC.

The IC will direct the activities of deployed emergency response elements through an established Incident Command Post (ICP). The initial actions will concentrate on the immediate needs at the incident. Immediate needs include identifying the material being released, isolating and denying entry into the area, implementing traffic controls, notifying OERS of the need to dispatch an HMRT to contain the spill, and formulating and implementing protective actions for emergency responders and the public at risk.

The Public Information Officer (PIO) will disseminate information about the incident to the press and the public. Information sent to the public may be distributed through the press, through social media, or other means as may be deemed appropriate to the incident and the community. No incident information will be released to the public without the approval of the IC. On larger incidents the PIO should be assigned by the County Emergency Manager and may function at the incident or from the EOC. While the jurisdiction may have their own PIO in place, having one available from the County can relieve the smaller jurisdictions of having to train and assign their own PIO. Press meetings should be held somewhere other than at the incident or EOC to minimize exposure of the press to hazardous conditions and disruption of the functioning EOC.

The Malheur County EOC will be activated according to local policies and procedures or when requested by the IC to support incident actions. The Malheur County Emergency Manager will be notified of the incident through the 911 center and will then determine to what extent the EOC will operate. Effective exchange of critical information between the EOC and ICP is essential for overall response efforts to be successful. Information may be exchanged by radio, cellular phones, computer terminals or other means as might be available.

All responders will be versed in NIMS and will operate within ICS as assigned. It is imperative that there are no freelance operations and that all operations are approved by the IC staff through the chain of command.

Notification

Hazardous-material-release notification can come from multiple sources. The most reliable notifications come from the transportation employees or emergency responders on scene.

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The County Emergency Manager will be notified by phone or other means as directed by Malheur County dispatch procedures.

Response agencies and responders will be notified of a hazardous material release through the normal means of emergency notification. Every agency has contact with their dispatch agency and is notified by pager, radio or phone. If it is necessary to notify an agency from another county the initial dispatcher will notify the appropriate dispatch center.

Daytime contact information for Malheur County emergency responders and other organizations that may be part of a large incident is maintained by the Malheur County dispatch center. All responders, including emergency responders, city and county personnel, and elected officials will be contacted through the appropriate 911 dispatch center that will have current contact information.

The public will be notified of a hazardous material release as is appropriate depending on the material being released and the nature of the incident. Notification of the public may be done through radio and television news and bulletins, NOAA Weather Radio, by print media, or through social media. If deemed appropriate by the IC, public in the immediate area maybe notified through door-to-door or public address systems. The Malheur County Emergency Management may, and if requested should be able to, provide a PIO for the incident. Public notifications should utilize the PIO with all releases of information being approved by the IC. If evacuation is called for, Emergency Management must have a plan for evacuation and a place where displaced citizens may go. This could include schools, fair grounds, churches or public buildings. The American Red Cross is a valuable resource in planning evacuations and sheltering locations.

In the event of an emergency, weather information can be found at the National Weather Service website, at <http://www.wrh.noaa.gov/boi/>. If evacuation is anticipated, the IPAWS (Integrated Public Alert & Warning System) and Alert Sense will also be activated, and information will be provided on KSRV radio and Boise television stations. See Scope of Work Element 5 below.

Release Identification

In the case of a rail incident with release of hazardous material, initial notification may be from railroad employees (either on the train or through their dispatch) or from members of the public who witness the incident.

Once on scene, first responders will use means at their disposal to verify what material is being released. Those means might include examination of shipping papers, placards, signs, and type of containers and through further dialog with responsible parties.

Responders trained to the technician level (part of the HMRT) will confer with the IC and transportation personnel to confirm the material being released and may verify by using specialized equipment. Communication with on-scene responders and responsible parties may well begin while technician-level personnel are en route to the scene. The HMRT may request more information or that additional action be taken in preparation for their arrival.

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Emergency Response Levels and Considerations

Initial Response Considerations

The following site safety and control plan considerations are from the NIMS Site Safety and Control Plan (see Scope of Work 3 and Form ICS 208HM in Scope of Work 10) and will be considered when responding to any hazardous material release:

- Site description
- Entry objectives
- On-site organization
- On-site control
- Hazard evaluation
- Personal protective equipment
- On-site work plans
- Communication procedures
- Decontamination procedures
- Site safety and health plan

NFPA Hazardous Materials Response Level Job Performance Requirements

The methods and procedures used to respond to the release of hazardous materials conform to the standards set in the National Fire Protection Association (NFPA) 472 – Standard for Professional Competence of Responders to Hazardous Materials Incidents and only vary by training and competency. First responder training and competencies for hazardous material incidents are defined at the awareness, operations and technician levels. The full list of competencies for each level are defined in NFPA 472 in chapters 4, 5 and 7, and in this plan in Scope of Work 7, Local Emergency Response Training and Capabilities. Listed below are specific job performance requirements for each level.

First responder's initial actions are based on protocols specified for the hazardous materials response qualification level to which they are trained and currently certified. These actions will generally be limited to 1) attempting to identify the material being released, 2) isolating the area of the release, and 3) denying entry to the area. After these have been done, the IC will attempt to determine what other resources will be needed and request those resources through the communications center or through OERS. Further actions may be taken by technician-level responders.

Awareness-level personnel shall be able to perform the following tasks when on scene of a hazardous materials event.

- Recognize the presence of hazardous materials.
- Analyze the incident to determine both the hazardous material present and the basic hazard and response information for each hazardous material agent by completing the following tasks:
 - Detect the presence of hazardous materials;
 - Survey the hazardous materials incident from a safe location to identify the name, United Nations/North America (UN/NA) identification number, type

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- of placard or other distinctive marking applied to the hazardous material involved; and
- Collect hazard information from the Department of Transportation (DOT) Emergency Response Guidebook (ERG).
- Implement actions consistent with the emergency response plan, standard operating procedures and the DOT ERG to complete the following tasks:
 - Initiate protective actions; and
 - Initiate the notification process.
- Awareness-level personnel may assist as needed in evacuation and public notifications efforts and decontamination processes as long as they remain in a safe area relative to the release.

Operations-level personnel shall, in addition to the awareness-level actions noted above, be able to perform the following tasks when responding to a hazardous materials incident.

- Analyze the hazardous materials incident to determine the scope of the release and potential outcomes by completing the following tasks:
 - Survey the hazardous materials incident to identify the containers and materials involved;
 - Determine whether hazardous materials have been released and evaluate the surrounding conditions;
 - Collect hazard and response information from the materials safety data sheet (MSDS) more currently known as the safety data sheet (SDS), Chemical Transportation Emergency Center (CHEMTREC), local, state, and federal authorities and shipper/manufacturer contacts;
 - Predict the likely behavior of a hazardous material in its container; and
 - Estimate the potential harm from a hazardous material incident.
- Plan the initial response to a hazardous materials incident within the capabilities and competencies of available personnel and personal protective equipment to complete the following tasks:
 - Describe the response objectives for the hazardous materials incident;
 - Describe the response options for each objective;
 - Determine whether the personal protective equipment provided is appropriate for implementing each option;
 - Describe emergency decontamination procedures; and
 - Develop a plan of action, including safety considerations.
- Implement the planned response for a hazardous materials incident to favorably change the outcome, consistent with the emergency response plan and/or standard operating procedures by completing the following tasks:
 - Establish and enforce scene control procedures, including control zones, emergency decontamination and communications;
 - Where criminal or terrorist acts are suspected, establish means of evidence preservation;
 - Initiate ICS for hazardous materials incidents;
 - Perform tasks assigned as identified in the incident action plan; and
 - Demonstrate emergency decontamination.

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- Evaluate the progress of the actions taken at a hazardous materials incident to ensure the response objectives are being met safely, effectively and efficiently by completing the following tasks:
 - Evaluate the status of the actions taken in accomplishing the response objectives and
 - Communicate the status of the planned response.
- Perform limited protective actions or assist hazardous materials response teams within the limitations of operations-level competencies:
 - Assist in evacuations;
 - Spill containment of antifreezes, motor fuels and oils utilizing dikes and dams, or other substance containment methods; and
 - Assist with decontamination.

Technician-level personnel shall, in addition to the operations-level actions noted above, be able to perform the following tasks when responding to a hazardous materials incident:

- Analyze a hazardous materials incident to determine the magnitude of the problem in terms of outcomes by:
 - Surveying the hazardous materials incident to identify special containers involved, to identify or classify unknown materials, and to verify the presence and concentrations of hazardous materials through the use of monitoring equipment;
 - Collecting and interpreting hazard and response information from printed resources, technical resources, computer databases, and monitoring equipment;
 - Determining the extent of damage to containers;
 - Predicting the likely behavior of released materials and their containers when multiple materials are involved; and
 - Estimating the size of an endangered area using computer modeling, monitoring equipment, or specialists in this field.
- Plan a response within the capabilities of available personnel, personal protective equipment, and control equipment by:
 - Identifying the response objectives for hazardous materials incidents;
 - Identifying the potential response options available by response objective;
 - Selecting the personal protective equipment required for a given action option;
 - Selecting the appropriate decontamination procedures; and
 - Developing a plan of action, which includes safety considerations, is consistent with the local emergency response plan and the organization's standard operating procedures, and is within the capability of the available personnel, personal protective equipment, and control equipment.
- Implement the planned response to favorably change the outcomes consistent with standard operating procedures and site safety and control plan by completing the following tasks:
 - Perform the duties of an assigned hazardous materials branch position within the local incident command system (ICS);

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- Don, work in, and doff personal protective clothing, including, but not limited to, both liquid splash- and vapor-protective clothing with appropriate respiratory protection;
 - Perform the control functions identified in the Incident Action Plan; and
 - Perform the decontamination function identified in the Incident Action Plan.
- Evaluate the progress of the planned response by evaluating the effectiveness of the control functions and decontamination process.
- Terminate the incident by:
 - Assisting in the incident debriefing;
 - Assisting in the incident critique; and
 - Providing reports and documentation of the incident.

Regional Hazardous Materials Emergency Response Teams

The State of Oregon has developed Regional Hazardous Materials Emergency Response Teams (RHMERT or HMRT) to respond to hazardous material incidents in the State. The 13 Regional Hazardous Material Emergency Response Teams (HMRT) are strategically located throughout the state to provide emergency response to hazardous material incidents that exceed the resources of local jurisdictions. They are a technical resource for local incident commanders. Team members consist primarily of volunteer and career firefighters (some teams are composed of only full-time, career firefighters), with the inclusion in some teams of law enforcement and public works employees. All team members are trained to the technician level and are equipped to provide assistance ranging from phone consultation to Level-A response and substance identification or categorization. All 13 teams have specialized training through the Department of Homeland Security for response to a Chemical, Biological, Radiological, Nuclear, Explosive (CBRNE). The teams provide outreach training to local responders and industry as requested to help ensure responders and industry personnel are better prepared to respond to a hazardous materials incident and create safer communities.

Ontario Fire & Rescue is home to the Oregon State Regional Hazardous Materials Emergency Response Team (HMRT) #14. HMRT #14 consists of 15 members, both career and volunteer firefighters, with mutual aid available from surrounding HMRTs. HMRTs are capable of a full response with primary responsibility to mitigate the release of the materials into the environment but are not responsible for cleanup. Their response priorities are 1) Life Safety, 2) Environmental Protection and 3) Property Protection. Because the Ontario HMRT is not a dedicated hazardous materials response team, meaning they all have other response duties, it is likely that not all 15 members will respond on any given call. Additionally, if the incident is within Ontario Fire & Rescue's initial response area, some or all members of the team may be occupied by other duties necessitating response from a neighboring HMRT to deal with the hazardous material release. Any HMRT can request assistance from any neighboring HMRT as needed.

The area covered by HMRT #14 is large (25,500 sq. mi.) and includes all of Malheur County and parts of Baker and Union Counties.

A map of the Regional Hazardous material Emergency Response Team boundaries is available in **Appendix C**. Narrative descriptions of the Eugene, Klamath-Lake Counties, Hermiston, Salem and Ontario, teams' boundaries are included. Narrative descriptions for the remaining response teams can be found on the Oregon State Fire Marshal's website.

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HMRT #14 will be the lead agency for hazardous materials incident response within Malheur County. It should be noted, however, that, unless the release is in their primary fire-department response area, the HMRT will not take over command of the incident. They will act as a branch of command and may, if invited, participate in a Unified Command. Local responders will be expected to participate in hazardous materials incident mitigation to the level of their training and certification as requested. HMRT #14 is willing to assist any agency in their response district with training in their roles during a hazardous materials release.

Hazardous Material Response Team Activation

The local first responder (fire or police) will arrive on scene, assume the role of incident commander (IC) and size up the incident. If it is determined the incident is beyond their level of training and resources, the IC will request a hazardous materials response team through the Oregon Emergency Response System (OERS) at 1-800-452-0311. OERS will make the notification to the Oregon State Fire Marshal (OSFM) duty officer and other appropriate agencies. Many fire departments have developed close working relationships with their regional teams and may contact them directly to request a response. All teams are authorized to respond to incidents meeting state response criteria without authorization from the OSFM Duty Officer. Even if they contact the team directly, the local responder will still need to contact OERS so that other appropriate notifications are made.

Response can vary depending on weather conditions, but in the far reaches of the district response can be lengthy. Continual training of first responders in Malheur County relative to hazardous material incidents is critical to the safety of first responders and the public and to provide appropriate mitigation and notification in those first minutes of a release.

To enter an Immediately-Dangerous-to-Life-and-Health (IDLH) atmosphere, as is the case in many releases of hazardous material, it takes a minimum of six technician-level responders. Additional requirements include advance life support medical personnel on scene and the establishment of a decontamination corridor before entry. If the incident warrants, additional hazardous materials response may be requested from surrounding teams including Hermiston #10, Klamath/Lake #4, Salem #13, and Eugene #2.

To support the HMRT, first responders are expected to help with medical care (if advanced life support is available) and specifically to set up and operate the decontamination site and corridor. Other duties may be required depending on the incident but will never exceed the level of certification of the first responders. HMRTs are available to help with necessary decontamination training to supplement and build upon what first responders will have learned in their hazardous materials operations-level classes. If the first responders from the jurisdiction of the incident are not sufficient in number or training to handle the duties assigned, mutual aid is available from neighboring fire departments through well-established mutual aid agreements. In addition, HMRTs will rely on industry experts at the site of the release if available.

Public Safety

The primary objective of response to a hazardous material release is to protect the people at risk. This includes all first responders, the employees of the transportation company as well as citizens and visitors in the immediate area of the release and in other potentially impacted areas. Protection of the public during a hazardous material release is complex. Evacuation is

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a recognized standard for population protection; however, instances arise where instructing the public to “shelter-in-place” may be the preferred alternative.

Each strategy has inherent advantages and disadvantages.

Evacuation

- The advantage of evacuation is it removes employees and the public from present and future risks in the affected area.
- Evacuations are, however, highly disruptive events which create challenges such as traffic control and sheltering. An effective evacuation can take hours to complete, during which time evacuees may be exposed to unsafe concentrations of the toxic substance they are attempting to avoid.
- In addition, when implementing an evacuation, the emergency responders and planners must consider the varied needs of the public affected. Some will not be able to evacuate unassisted, while some will not evacuate without consideration for their animals and pets. It can also be difficult to notify all potential evacuees of the need to leave the area, especially in a rural area.
- Evacuating citizens would necessitate having shelters available for those displaced by the evacuation to gather and possibly live for several days.
- A major evacuation would utilize primary and secondary highways and roads in Malheur County. Those routes may well be affected in a major release of hazardous material and be impassable.

Shelter-in-place

- Shelter-in-place can be accomplished in a relatively short period of time. The public does not have to travel and they are for the most part familiar with their surroundings. The speed with which a shelter-in-place effort can be implemented may make it the only viable protective option for hospitals, nursing homes, corrections facilities, or other locations where the population is not immediately mobile. However, unless extensive efforts to educate citizens on shelter-in-place have been conducted, it is a foreign concept to many who may simply self-evacuate or ignore warnings altogether. Training and exercising shelter-in-place plans for those facilities where it might prove useful will facilitate its use when needed. Shelter-in-place should be considered only for incidents expected to last for a short duration. Training for the public on shelter-in-place should include the following:
 - Pre-selection of an appropriate room within the home or business with few or no windows, with an attached bathroom while avoiding basements;
 - Preassembly of emergency supplies such as bottles of water, a phone, a battery-operated radio, towels, first aid supplies and medications. There are multiple sources available which recommend supplies for emergencies and shelter-in-place preparations.
- When the public is instructed to shelter-in-place they should do the following:
 - Bring children and pets indoors;
 - Close and lock all windows and doors;
 - Turn off fans, air conditioning and heating systems;

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- Use duct tape and plastic to seal windows and doors of the rooms in which they will shelter; and
- Listen to the radio or TV for emergency instructions.

No single protective strategy can be applicable to all situations. Evacuation and shelter-in-place are not mutually exclusive and a combination of the two may be used to produce the best overall protection and outcome for some situations. For example, a shelter-in-place order for the area immediately bordering a release and an evacuation for downwind populations may result in the best overall protection for the greatest number of people.

The decision to evacuate or shelter-in-place should be based on known data or on perceived risk when sufficient data is not immediately available. Reference materials and resources, which will aid in the decision-making process include:

- Emergency Response Guidebook (ERG);
- Material Safety Data Sheets (MSDS);
- Chemical Transportation Emergency Center (CHEMTREC);
- American Industrial Hygiene Association (AIHA) Emergency Response Planning Guidelines;
- National Institute of Safety and Health (NIOSH) Pocket Guide to Chemical Hazards;
- Computer Aided Management of Emergency Operations (CAMEO);
- Aerial Locations of Hazardous Materials (ALOHA);
- Mapping Applications for Response, Planning and Local Operational Tasks (MARPLOT);
- Wireless Information System for Emergency Responders (WISER); and
- National Weather Service (NOAA)

Incident command is authorized to order the protective measures appropriate to the incident threat, current weather conditions, status of the population at risk, response capabilities, time of day, available transportation resources and the ability to communicate with the population at risk. See **Appendix E** for a shelter-in-place pamphlet from the Oregon State Fire Marshal's office.

Responder Safety

On-scene response personnel must be protected from the adverse effects of hazardous material contamination to safely perform their role in protecting the public and mitigating the incident. The safety of response personnel is a priority of the Incident Commander (IC). A Safety Officer (SO) must be part of the Command Staff to assist the IC with responder safety. If the IC does not appoint a SO, the IC assumes the responsibilities of that position.

The SO monitors operations, identifies potential safety hazards, corrects unsafe situations and develops additional methods and procedures to ensure responder safety. The SO has authority to alter, suspend or terminate any activity he/she deems is unsafe. Safety Officers shall be trained to the level of the incident, i.e., an operations-level incident such as a small diesel spill requires a SO trained to the operations level.

All responders to a hazardous materials incident will:

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- Adhere to applicable local, state and federal laws, statutes, ordinances, rules, regulations, guidelines and established standards pertaining to responder safety, and;
- Not exceed individual response certification level in accordance with CFR 1910.120 (Hazardous Waste Operations and Emergency Response Standard or HAZWOPER).

All responders in Malheur County operate under NIMS/ICS and are so trained.

Resource Management

The response and recovery resources available to the Malheur County LEPC come from federal, state and local partners, public and private stakeholders and non-governmental organizations. During response operations, acquisition of resources will be by preexisting memorandums of understanding (MOUs), memorandums of agreement (MOAs), intergovernmental agreements (IGAs) and interagency agreements (IAAs). Malheur County has a well-established mutual aid agreement in place allowing fire and EMS agencies to request help from numerous surrounding agencies, both in Oregon and neighboring Idaho. Additionally, in the presence of an overwhelming event, the State of Oregon has a conflagration act through which any department can request that the governor, through the State Fire Marshal's Office, send help from departments and districts throughout the State. It is interesting to note that when a crude oil train derailed in Mosier, Oregon, in June of 2016 spilling 42,000 gallons of crude oil, the EPA reports¹⁰ that, "28 local and regional fire departments and hazmat teams responded from OR and WA to support firefighting efforts." While very little crude oil is transported through Malheur County (35 railcars per year), a significant spill of diesel or propane with fire could produce similar resource needs.

Other than UPRR, there are currently no contracts in place with non-emergency response organizations to provide resources for mitigation or cleanup of hazardous material spills.

Recovery/Clean-up

As the initial response phase concludes and life safety has been addressed, the community will enter the recovery and clean-up phases. During this time, the primary focus will be on detecting the presence of residual hazardous material that is harmful to the environment, determining its intensity, recommending protective actions, and overseeing clean up and disposal of contaminated materials. Other considerations include inspection and monitoring of water supplies, sewer systems, wastewater treatment systems and waterways.

The IC will work with local, state and federal authorities to assure that cleanup activities are on-going after the initial responders have left the scene. Departments and organizations that might be part of this activity include the Department of Environmental Quality (DEQ), Environmental Protection Agency (EPA), the state and county health departments, private cleanup contractors, and responsible party representatives.

Coordination of transportation spill containment and clean-up is the responsibility of the carrier. The HMRT will assure the proper government authorities are notified of a spill to enforce appropriate clean up. DEQ maintains a list of qualified clean-up contractors that can be dispatched by DEQ if the responsible party does not make clean-up arrangements in a

¹⁰ Site Profile - Mosier Oil Train Derailment - EPA OSC Response

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timely manner on their own. It is extremely important that initial response organizations help to determine the responsible parties and obtain accurate contact information.

Responding organizations responsible for and involved in clean-up activities will:

- Identify, recover and properly treat and/or remove hazardous materials and dispose of contaminated material at a state-permitted site;
- Limit incident site entry to trained personnel with appropriate personal protective equipment;
- Follow decontamination procedures to limit the area of contamination and restrict further spread of the hazardous material; and
- Plan for restoration and mitigation of damage to the environment.

A list of hazardous-material-spill contractors is maintained by the DEQ. At the scene of a hazardous materials release, the responsible party has the option of contacting a clean-up contractor of their choice, but the DEQ will call a contractor on their list if the responsible party does not act within an appropriate amount of time. UPRR maintains agreements with its own cleanup contractors.

Documentation and Investigation

During and following a hazardous material release all responders will assist in gathering information relative to the party responsible for the spill. The HMRT completes a series of reports after every response and each of the other responding agencies will complete response reports as is appropriate. Except as dictated by privacy laws, the information gathered by each responding agency should be freely shared between responding agencies so that reports will be accurate and consistent.

The HMRT will report all costs associated with response to the incident (including the costs of other fire responders and outside resources) to the State and request reimbursement. The State will attempt to collect those costs from the responsible party. If the State cannot collect from the responsible party, they will pay reimbursement from a fund set aside for those expenses.

First responders routinely conduct after action reviews (AAR) with a debriefing that includes all the responders. The HMRT is specifically charged with conducting debriefings for their team after all incidents. During this debriefing, the response is evaluated with the goal to improve future responses, not to find fault or place blame. On large incidents there may be a more formal AAR conducted by the Malheur County Emergency Management team.

If the investigation of a hazardous materials release indicates evidence of a criminal act, the appropriate law enforcement agency will be notified immediately by the IC. If a crime is suspected, responders will carry out their duties while attempting to preserve evidence as far as possible.

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Scope of Work Element 1: HazMat Commodities

Identification of the volume, type, and frequency of the top three (minimum) HazMat commodities transported by rail through the designated response area. May include additional hazardous commodities if deemed necessary.

There are approximately [REDACTED] carloads of hazardous materials traveling through Malheur County by rail each year based on a 2019 Commodity Flow Survey provided by Union Pacific Railroad.¹¹ The survey lists [REDACTED] products with individual hazardous materials response codes (HMRC) with at least one carload or intermodal load traveling through Malheur County. However, [REDACTED] of these [REDACTED] individual products are present in less than 10 carloads per year.

The greatest number of carloads listed for Malheur County is “Loaded Hazwaste Container on Flat Car” at [REDACTED]. This is not in a category requiring a UN/NA number and will not be considered in this plan. Other materials that will not be considered in this plan include Molten Sulfur, Environmentally Hazardous Substances and Elevated Temperature Liquids. Even though there are over [REDACTED] carloads of each transported through Malheur County annually, they pose little threat as compared to the chemicals listed below.

Chemicals included in this plan were chosen based on the total loads and relative hazards in the event of a significant release. All those included have over [REDACTED] carloads annually except chlorine and sulfur dioxide that are included because they are considered Toxic Inhalation Hazards (TIH) and therefore pose a significant threat/hazard to responders and the public if released due to a rail incident. For example, a single tank car of chlorine overturned and leaking would require an initial isolation distance in all directions of 3,000 feet and then a downwind protection zone of 7+ miles if the spill occurred at night with a low wind speed (worst case scenario).¹²

A worst-case scenario for this plan would be a railcar of propane or one of the toxic inhalation hazards like ammonia, sulfur dioxide or chlorine derailed and leaking in a populated area with fire involved. It is reasonable to assume that a derailment would involve more than one car which could result in a much more significant incident and larger isolation, protection and/or evacuation distances.

Much of the UPRR main line parallels I-84 and the Snake River. A release of one of these chemicals impacting the interstate or the river could have far-reaching and long-lasting effects.

¹¹ Union Pacific Railroad Hazardous Materials Commodity Flow, Malheur County, 2019.

¹² <https://webwiser.nlm.nih.gov>

Malheur County HazMat Transportation by Rail Incident Response Plan

Except as noted above, the commodity flow survey for Malheur County lists the following six hazardous material as the largest quantities (over 1,000 carloads) or TIH chemicals transported by rail through the County.

HazMat Description	Total Loads	UN/NA Number	ERG Guide	TIH Flag
DIESEL FUEL	■	UN1202/1993	128	N
AMMONIA	■	UN1005	125	Y
PROPANE	■	UN1075	115	N
ALCOHOLS, N.O.S.	■	UN1987	127	N
CHLORINE	■	UN1017	124	Y
SULFUR DIOXIDE	■	UN1079	125	Y

Chemical Information by Product

Worst-Case Scenario (WCS*) noted below involves a single rail tank car spill, at night, with a low wind. Isolation and evacuation information is from WebWISER.com. ERG refers to the Department of Transportation Emergency Response Guidebook. For toxic inhalation hazards (Ammonia, Chlorine, Sulfur Dioxide) isolation and evacuation information is taken from the 'Green' pages in the ERG, the Table of Initial Isolation and Protective Action Distances. See **Appendix H** for additional information on the Table of Initial Isolation and Protective Action Distances.

Diesel Fuel

UN/NA 1202 or 1993

ERG Guide 128

NFPA 704: Health 2, Flammability 2, Reactivity 0

DOT Hazard Class: Class 3, Flammable liquids (and Combustible liquids)

WCS*: Initial isolation zone: 150 feet in all directions, then consider evacuation for 1,000 feet downwind; **if fire is involved**, isolate 0.5 miles in all directions, consider initial evacuation 0.5 miles in all directions

Ammonia

UN/NA 1005 (Green Label)

ERG Guide 125

NFPA 704: Health 3, Flammability 1, Reactivity 0, Special N/A

DOT Hazard Class: Class 2.2, Non-Flammable Gas

WCS*: Initial isolation zone: 1,000 feet in all directions; Protective action zone: 2.7 miles downwind

Malheur County HazMat Transportation by Rail Incident Response Plan

Propane/LPG

UN/NA 1075

ERG Guide 115

NFPA 704: Health 2, Flammability 4, Reactivity 0, Special N/A

DOT Hazard Class: Class 2.1 Flammable Gas

WCS*: Initial isolation zone: at least 330 feet in all directions; then consider initial downwind evacuation for at least 0.5 miles; **if fire is involved**, isolate for 1 mile in all directions then consider evacuation for 1 mile in all directions.

Alcohols, N.O.S.

UN/NA 1987

ERG Guide 127

NFPA 704: Health 3, Flammability 3, Reactivity 0, Special N/A

DOT Hazard Class: Class 3, Flammable liquids (and Combustible liquids)

ERG Caution: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient, alcohol-resistant foam should be used.

WCS*: Initial isolation zone: 150 feet in all directions; then for large spill consider evacuation 1,000 feet downwind; **if fire is involved**, isolate for 0.5 miles in all directions and consider evacuation 0.5 miles in all directions.

Chlorine

UN/NA 1017 (Green Label)

ERG Guide 124

NFPA 704: Health 4, Flammability 0, Reactivity 0, Special Ox

DOT Hazard Class: 2.3 Toxic Gas

Gas, toxic and/or corrosive-oxidizing; May be fatal if inhaled or absorbed through the skin

Shipped in pressure vessels

Tank car carries about 90 tons of chlorine under pressure in liquid form

Greenish or yellowish gas when released

Inhalation causes irritation and agitation, death at low doses >15 parts per million (ppm)

WCS*: Initial isolation zone: 3,000 feet in all directions; protect 7+ miles downwind

Sulfur Dioxide

UN/NA 1079 (Green Label)

ERG Guide 125

NFPA 704: Health 3, Flammability 0, Reactivity 0, Special N/A

DOT Hazard Class: Class 2.3, Toxic Gas

WCS*: Initial isolation zone: 3,000 feet in all directions; Protective action zone: 7+ miles downwind

Malheur County HazMat Transportation by Rail Incident Response Plan

Scope of Work Element 2: Rail Transportation Routes

Identification of rail transportation routes, rail facilities, trans-loading facilities, and other supporting infrastructure.

For purposes of this report the term “spur line” will refer to a siding or a sidetrack that diverges from main or other tracks and provides access to industrial or commercial areas.

Like highways, the railroad lines are marked with mileposts which, if the incident is reported by UPRR, may be the location given to first responders. It is important to note that the UPRR milepost system does not attempt to correlate to any highway system. The two sets of mileposts do not line up anywhere in Malheur County.

There are approximately 12 miles of UPRR mainline tracks in Malheur County. The mainline enters Malheur County as it crosses over the Snake River north of Ontario at UPRR milepost 500 and near I-84 milepost 376. The line then runs under I-84 and through the eastern portion of Ontario. It continues in a southerly direction through Nyssa where it again crosses the Snake River and passes into Idaho near UPRR milepost 488. While it is not in Malheur County and not specifically addressed in this plan, the UPRR mainline in Idaho runs very close to the Snake River and less than one-half mile from I-84 just north of Ontario and south of Huntington.

Approximately one-half mile south of SE 25th Avenue/W Island Road in Ontario there is a line of the Wyoming-Colorado Railroad that runs for approximately 13 miles west into Vale, mostly paralleling Hwy 26. The line continues to the west past Vale for six miles where it turns northeast for another three miles to reach the US Silica plant at Graham Rd. The track runs past the plant where cars can be switched from that line to the US Silica spur line. These cars do not carry hazardous materials. According to the Oregon Department of Transportation, the only hazardous materials on this line are a limited number of cars of liquid propane gas moved to the Farmer’s Co-op at Alameda and Railroad Avenues in Ontario.

In Ontario, there are a number of switching tracks along the main line between SW 2nd Avenue and SE 25th Avenue/W Island Road. These tracks are used to cut cars out for local use and make up trains to take cars either filled or emptied in Ontario back to the main line.

At Nyssa there is a Union Pacific Railroad (UPRR) spur line that runs south for approximately 0.6 miles along the Snake River to service a produce facility. There are no hazardous materials transported on this spur. The line past this point is unused.

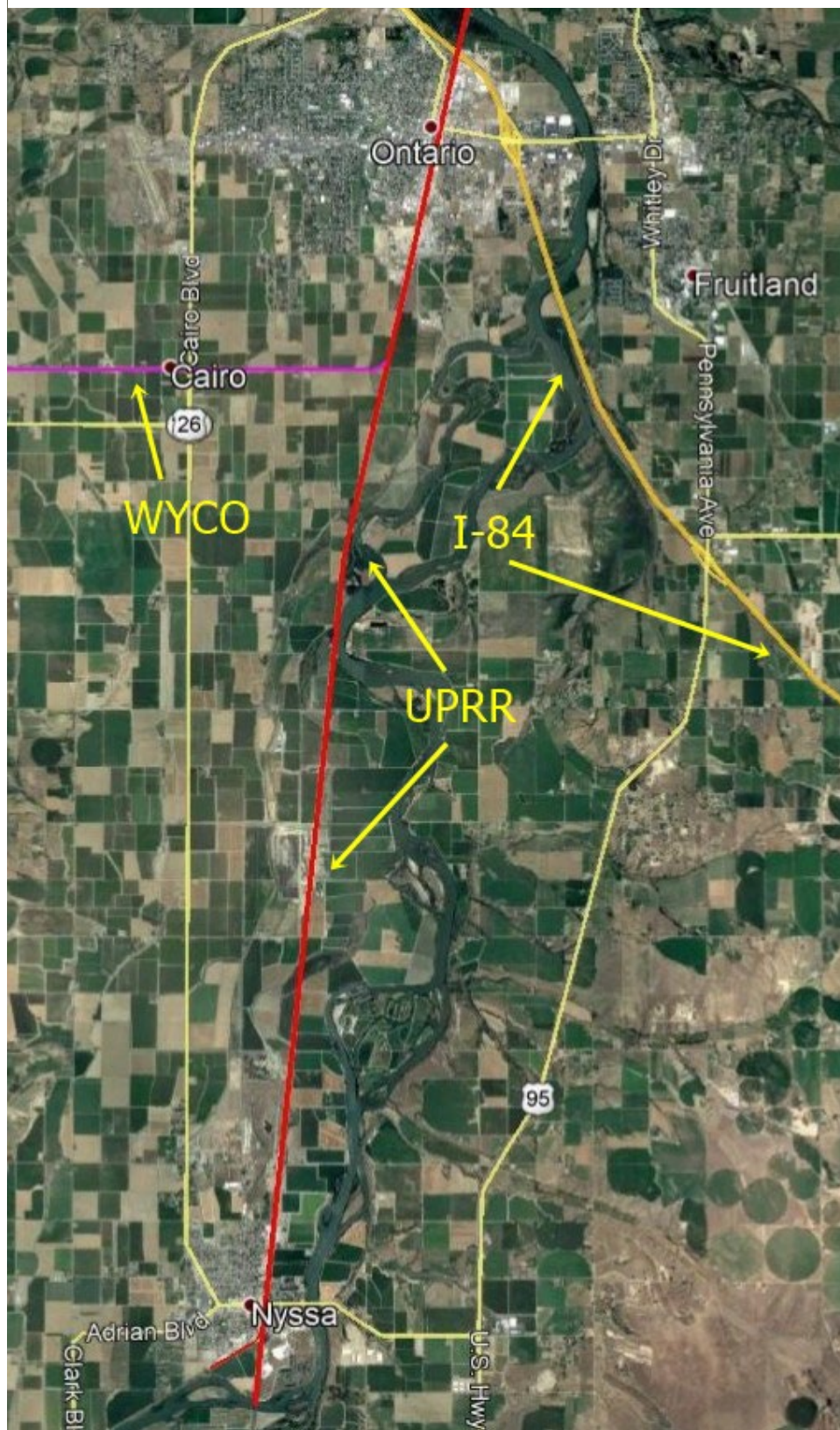
An overview of the railroad routes in Malheur County is shown below. Further, more-detailed maps can be found in **Appendix B**.

The terrain of Malheur County along the UP main track is very flat with Ontario at 2150 and Nyssa at 2192 feet above sea level. A cloud of toxic gas released in an incident would have few terrain features to slow its spread.

Malheur County HazMat Transportation by Rail Incident Response Plan

Malheur County Rail, Overview

Map 1 – Rail, Malheur County, Overview



Malheur County HazMat Transportation by Rail Incident Response Plan

Scope of Work Element 3: Emergency Response Procedures

Identification of emergency response procedures by rail industry and local responders, including response times.

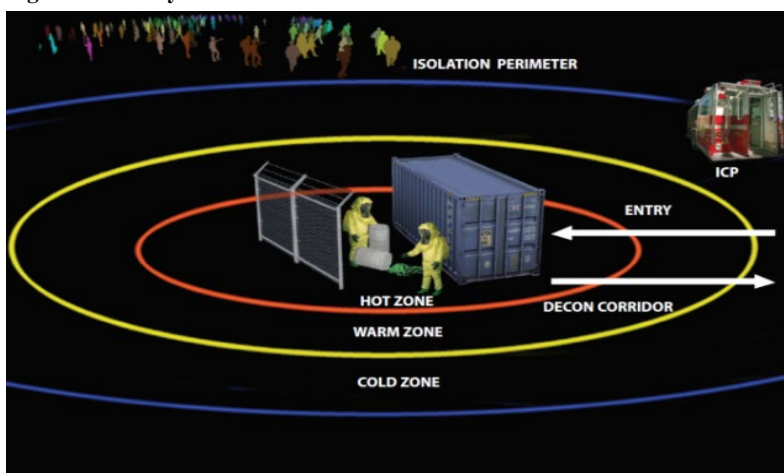
In its introduction, Section 1.1, the Malheur County Emergency Operations Plan (EOP) states that response to incidents in the County will support implementation of the National Incident Management System (NIMS) and adherence to the concepts and principles of the Incident Command System (ICS). It is assumed that all responders (including those outside the fire and law enforcement communities) will be well versed in both NIMS and their role in ICS. The Malheur County EOP further states,

“NIMS, including ICS, enhances the management of emergency incidents by establishing a single comprehensive system and coordinated command structure to help facilitate a more efficient response among departments and agencies at all levels of government and, if necessary, spanning across jurisdictions.”¹³

In every emergency response, the responder priorities will always be life safety, scene stabilization, and consequence management (environmental concerns). While the strategy and tactics taken to achieve these priorities may vary throughout the incident, the priorities will never change.

When responding to a hazardous material incident, initial responders will establish a series of safety or hazard control zones as shown here¹⁴. These zones will define the relative danger and the actions/operations that can take place within the zone. While the zones have different names in different locales and systems, the three most frequently identified zones

Figure 1 – Safety Zones in Haz Mat



are: a) the exclusion zone (or hot zone) is the area with actual or potential contamination and the highest potential for exposure to hazardous substance, b) the contamination reduction zone (or warm zone) is the transition area between the exclusion and support zones, and c) the support zone (or cold zone) is the area around the site that is free from contamination and that may be safely used as a planning and staging area. Anyone not directly involved in the response would not be allowed to cross the outer isolation perimeter (outside the cold zone). Responders enter and exit the exclusion (hot) zone using specific corridors and decontamination activities take place in the warm zone.

¹³ Malheur County Emergency Operations Plan, 2017, Section 1.3, page 1.3

¹⁴ Noll, Gregory, Hildebrand, Michael; Rudner, Glen; Rob Schnepp. Hazardous Materials: Managing the Incident, 4th Edition, 2012. Print. (NFPA/DPSST approved Hazmat Incident Commander curriculum).

Malheur County HazMat Transportation by Rail Incident Response Plan

The NIMS Site Safety and Control Plan (form ICS 208HM, see Scope of Work 10 below) gives the following initial considerations for any hazardous material response:

- Site description
- Entry objectives
- On-site organization
- On-site control
- Hazard evaluation
- Personal protective equipment
- On-site work plans
- Communication procedures
- Decontamination procedures
- Site safety and health plan

At any given incident, it may be that law enforcement arrives first on scene. Law enforcement personnel would be charged with first isolating and denying entry into the scene by establishing that initial isolation perimeter and calling for additional resources. Once they have requested additional resources, the officer would attempt, if it can be done safely, to identify the materials involved in the incident. **Appendix G** shows a law enforcement action plan on a quick reference card. This card is available from the Oregon State Fire Marshal.

In the case of an HMBR incident, the first arriving department will respond according to National Fire Protection Association (NFPA) Hazardous Materials Awareness guidelines and should arrive within minutes of initial notification. Most fire departments/districts will provide initial response by NFPA operations-level personnel. However, the actions taken by these responders are limited to attempting identification of the chemicals involved, establishing an initial exclusion zone and notifying other agencies. They are trained and certified to begin mitigation or call for help, but to never come into contact with the product. There may be some attempts to mitigate the extent of the spill with damming and diking, but that will be done where they are far away from any threat of contamination.

Fire and other personnel who are not trained to the technician level will be called upon to assist the HMRT in various areas at the scene. These may include damming and diking, decontamination, medical evaluation, etc.

If requested, HMRT #14 out of Ontario Fire & Rescue will respond with technician-level personnel within the first 30 minutes of initial notification. From that point, travel time will depend on the incident location and weather conditions. Travel time to Nyssa, the southernmost point where the UPRR exits the County and State is about 20 minutes. In the cities of Ontario and Nyssa, first responders should be on scene within 5-8 minutes with allowances for time of day and weather conditions.

On arrival, HMRT #14 will meet with the on-scene incident commander to discuss what has been done and assist in determining the next appropriate steps. HMRT team supervisor will act as part of a unified command or as a branch manager under the incident commander (IC). Except when the incident is within the OF&R initial response area, it is not the intention of the HMRT to assume the role of IC. As noted elsewhere in this plan, if the incident is within the first response boundaries of the OF&R, personnel from other districts will be needed to perform other, non-technician level tasks.

Malheur County HazMat Transportation by Rail Incident Response Plan

Union Pacific Railroad (UPRR) will respond to a hazardous-materials-by-rail incident as soon as possible and may have a clean-up contractor on scene within two hours of the incident notification (UPRR emergency number is 888-877-7267). They will also respond the UPRR district's Hazardous Materials Manager and others as needed to help resolve the incident and mitigate potential damage. UPRR will act as part of unified command as required by law. UPRR has access to a significant number of resources including foam, booms and heavy equipment. While UPRR will not take over the scene as IC, they are ultimately responsible for damage caused by an HMBR incident and will be a very important part of mitigation decisions.

As noted above, a train derailment with hazardous materials will result in a much larger management issue than a routine incident. Very early in the process, the IC should be thinking about calling for a State Incident Management Team. This can be done by contacting the local fire defense board chief or by calling OERS directly. OERS can help determine if a state-level team is needed.

Malheur County HazMat Transportation by Rail Incident Response Plan

Scope of Work Element 4: Key Response Agencies

Designation of key response agencies along the rail line including, but not limited to; the railroad company, state partners (OSFM, OSP, DEQ, OEM, ODOT, OHA), federal partners (EPA, FRA), tribal resources, OSFM Regional Hazard Materials Team(s), local fire/EMS/law enforcement, and private response contractors.

Most of the key response agencies listed below can be reached through the Malheur County 911 Dispatch Center. Although some may be reached and requested directly, a significant advantage of using the dispatch center for at least initial contact is the permanent record in the dispatch logs. OERS can contact and request state and federal resources. The list here is not exhaustive and, in any given incident, not all of the agencies listed may be required. Agencies are listed in alphabetical order.

In the event of an HMBR incident with significant release of chemicals, the board of commissioners of the county will be notified and become involved as needed. If the incident is within or threatens the city limits of any city, that city's officials (mayor, city administrator, etc.) will also be notified and become involved at some level. Key response agencies might include all those listed below as well as Malheur County Emergency Management, and Malheur County Commissioners. Certainly, any rail incident would involve UPRR incident management.

At the time of writing, other than the UPRR and its private contractor, the author is unaware of any in-place agreements with private resources for assistance in the case of a significant HMBR incident.

Malheur County HazMat Transportation by Rail Incident Response Plan

Public Officials	<ul style="list-style-type: none"> • Malheur County Commissioners • Nyssa City Manager or Mayor • Ontario City Managers or Mayors • Vale City Manager or Mayor • County and City officials from neighboring Idaho
Local and County Fire	<ul style="list-style-type: none"> • Nyssa Fire Department • Ontario Fire & Rescue • Vale Fire and Ambulance • Other fire departments in the county for mutual aid
EMS Agencies	<ul style="list-style-type: none"> • Jordan Valley Ambulance • Life Flight Network • Treasure Valley Paramedics • Vale Fire and Ambulance • Other EMS agencies in and surrounding Malheur County
Local Law Enforcement	<ul style="list-style-type: none"> • Malheur County Sheriff • Nyssa Police Department • Ontario PD • Vale Police Department
Public Works	<ul style="list-style-type: none"> • Malheur County Public Works/Roads Department • Nyssa, City of • Ontario, City of • Vale, City of • Idaho cities bordering Malheur County
State Agencies	<ul style="list-style-type: none"> • Department of Environmental Quality (DEQ) • HMRT #14 (Ontario Fire & Rescue) • Oregon Department of Transportation (ODOT) • Oregon Emergency Management (OEM) • Oregon Emergency Response Agency (OERS) • Oregon Health Authority • Oregon National Guard • Oregon State Fire Marshal (OSFM) • Oregon State Police (OSP)
Federal Agencies	<ul style="list-style-type: none"> • Environment Protection Agency (EPA) • Federal Railroad Administration (FRA) • US Army Corps of Engineers
Other Agencies	<ul style="list-style-type: none"> • Amateur Radio Emergency Services (ARES/RACES) • American Red Cross • Cascade Natural Gas • Malheur County Health Department • St. Alphonsus Medical Centers • St. Luke's Medical Centers • UPRR and their clean-up contractor (888-877-7267) • Weiser Memorial Hospital

Malheur County HazMat Transportation by Rail Incident Response Plan

Responsibilities of these agencies in the event of an HMBR incident could include but may not be limited to those actions listed below as appropriate to the incident. Participation in unified command (UC) will be determined by the nature and location of the incident but will generally include the incident commander (generally from the initial responding fire agency), HMRT group supervisor, UPRR representative, law enforcement, representatives from the government having jurisdiction at the location of the incident and others. In larger and long-lasting incidents, it will be necessary for the incident commander to obtain a delegation of authority from the government entities (maybe more than one entity or delegation of authority) having jurisdiction over the incident site.

County and Local Agencies

County Emergency Management

- Activate the Emergency Operations Center (EOC) when appropriate.
- Provide a Public Information Officer (PIO) during larger incidents (specifically when the EOC is activated) and when requested by the IC.
- Initiate and assist with obtaining a delegation of authority as needed and requested by the incident commander.
- Provide on-scene liaison when requested by incident/unified command.
- Script and transmit emergency alert system (EAS) messages when requested and appropriate.
- Attempt other methods of notification to the public as necessary during an incident.
- Support first-response agencies and incident command with information and resource coordination as required.
- Assist with federal, state and other notifications.
- Provide guidance to the public as to areas to avoid, alternate routes of travel, shelter-in-place or evacuation and other information as required.
- Assist incident command in determining need for evacuation or shelter-in-place.

Fire Departments/Districts

- Provide a limited initial response to hazardous materials incidents based on responder training and expertise.
- Provide an individual to act as initial incident commander.
- Notify the appropriate dispatch agency when the magnitude of the incident exceeds the expertise and abilities of the initial responders.
- Attempt to identify hazardous materials without compromising safety (placard number, shipping documents, driver comments, etc.).
- Provide for the safety of the public by whatever means necessary (evacuation, shelter-in-place).
- Isolate the affected area in accordance with the Emergency Response Guidebook or other appropriate resource information.
- Effectively deploy all necessary and available fire jurisdiction equipment and personnel.
- Request and effectively deploy mutual aid resources as needed.

Malheur County HazMat Transportation by Rail Incident Response Plan

- Notify the Oregon Emergency Response System (OERS) and request a Regional Hazardous Materials Response Team as appropriate.
- Support Oregon State Regional HMRT #14 (Ontario Fire & Rescue) with personnel, equipment, and other assistance, as required.
- Provide coordination and control of staffing and equipment through the incident command post (ICP).
- Provide staffing and equipment for decontamination and emergency medical aid.
- Provide staffing and equipment for control and containment of a hazardous material release or fire involving hazardous materials, whenever possible within defined response guidelines.
- Provide emergency medical care and transportation for those injured, using mutual aid if local responders cannot provide the necessary aid and transportation.
- Perform other operations which may be appropriate in accordance with training and certification.

Emergency Medical Services

- Provide advanced and basic life support services to hazardous materials responders and exposure victims as needed. These services may include wellness care of responders.

Local Law Enforcement (City and County)

- Coordinate law enforcement resources during a hazardous material emergency by staffing the law enforcement branch of the Incident Command System (ICS).
- Provide for traffic control and maintenance of evacuation routes during a hazardous materials emergency.
- Ensure law enforcement personnel are familiar with procedures for the identification and movement of essential personnel during a hazardous material emergency.
- Perform evacuation within parameters established for specific incident action plans
- Assist where necessary in the rapid dissemination of warning and evacuation information to the public.
- Assist with investigation of possible criminal acts involving hazardous substances and/or intentional releases.
- Provide security for ICP, EOC and the incident site as necessary throughout incident course

Health Department (County)

- Take measures the county health officer deems necessary to promote and protect the public's health.
- Assess the public health implications of a hazardous material incident and take appropriate actions.
- Assist water and sewer utilities in the investigation and mitigation of impacts from the effects of a hazardous materials incident.
- Direct the closure of contaminated sites, as necessary.
- Provide information to the public on the health effects of, and how to avoid contamination from, a hazardous material release as appropriate.

Malheur County HazMat Transportation by Rail Incident Response Plan

- Decide whether to compile an exposure roster.
- Make a final determination on when contamination no longer poses a public health risk.
- Initiate actions to reopen once contaminated sites when the threat is mitigated.

Hospitals/Medical Centers

- Provide appropriate assessment, decontamination, triage and emergency medical care for responders and public that may be transported to the facility by EMS or self-transport from the site of a hazardous-materials release.
- Assure that personnel are adequately trained to assess and treat potentially contaminated patients.
- Communicate with on-scene personnel (as specifically assigned by IC) relative to numbers and conditions of potential patients and materials involved.
- As necessary, communicate with on-scene personnel relative to appropriate medical care and transportation of exposed or injured persons.
- Arrange, as needed, appropriate inter-facility transport of patients needing further or advanced care.

Public Works (Roads) Department

- Provide equipment and personnel to assist in the containment of a hazardous material release.
- Provide equipment and personnel to repair essential jurisdictional facilities damaged as a result of a hazardous material release.
- Assist law enforcement with regard to traffic control on evacuation routes and at the incident scene.
- Ensure personnel are familiar with procedures for the identification and movement of essential personnel during a hazardous material emergency.
- Assist in performing evacuation within parameters established for specific incident action plans.
- Assist where necessary in the rapid dissemination of warning and evacuation information to the public.
- Implement protection/mitigation measures to ensure safety and integrity of drinking water and wastewater systems.

State Agencies

Oregon Emergency Management (OEM)

OEM is statutorily responsible for coordination of the State's emergency management program. OEM also houses the State's Hazmat Rail Plan which is memorialized as an Appendix to ESF #10 in Oregon's Emergency Operations Plan (EOP). Responsibilities for OEM include:

- Develop a statewide plan for response to oil or hazardous material spills or releases that occur during rail transport.
- Plan for the coordinated response to oil or hazardous material spills or releases that occur during rail transport and to coordinate training for emergency responders.

Malheur County HazMat Transportation by Rail Incident Response Plan

- Coordination with local jurisdictions to develop and maintain city and county emergency operations plans.
- Coordination and assignment of requests from county-level EOCs to assist local jurisdictions when additional resources are requested related to an oil or hazardous material incident.

Oregon Health Authority (OHA)

OHA is responsible for protecting the public health of all Oregonians and is responsible for the State's public health emergency preparedness programs. To fulfill its responsibilities OHA will:

- Support local assessment and identification of public health and medical needs in impacted jurisdictions and implement plans to address those needs.
- Coordinate and support stabilization of the public health and medical system in impacted jurisdictions.
- Support sheltering of persons with medical needs.
- Monitor and coordinate resources to support care and movement of persons with medical needs in impacted areas.
- Support monitoring, investigating, and controlling potential or known threats and impacts to human health through surveillance, delivery of medical countermeasures and non-medical interventions.
- Support monitoring, investigating, and controlling potential or known threats to human health of environmental origin.
- Develop, disseminate, and coordinate accurate and timely public health and medical information.
- Monitor need for and coordinate resources to support fatality management services.
- Monitor need for and coordinate resources to support disaster behavioral health services.
- Support responder safety and health needs.
- Provide public health and medical technical assistance and support.

Oregon State Regional Hazardous Materials Response Team 14 (Ontario Fire & Rescue)

In the event of an HMBR incident, the regional hazardous materials response team will:

- Respond in support of first response agencies when requested.
- Assess actions taken by first-in units.
- Provide a technical-level response to hazardous material incidents.
- Provide scene management expertise and equipment.
- Evaluate and/or reconstruct exclusionary zones.
- Perform substance identification testing via established procedures and methodologies.
- Determine the proper level of personal protective equipment, emergency medical treatment, decontamination techniques.
- Determine additional authorities requiring notification.
- Perform duties as directed by incident command.

Malheur County HazMat Transportation by Rail Incident Response Plan

- Request additional hazardous materials team response if needed.

Oregon State Fire Marshal's Office (OSFM)

Relative to an HMBR incident, the OSFM shall:

- Adopt by rule a plan for the coordinated response to oil or hazardous material spills or releases that occur during rail transport.
- Annually coordinate with local governments and other state agencies involved in hazardous materials emergency response, as well as other responders and representatives of the railroad industry, to prepare a report on the coordinated response plan adopted under this section.

Oregon Incident Management Teams (IMT)

If activated in the event of an HMBR incident, the IMT will:

- Provide comprehensive incident command to manage ongoing emergency operations.
- Develop a plan of action to aggressively and safely mitigate the incident to which it has been assigned, either through unified command or a single incident command structure.

Oregon State Police

- Coordinate with law enforcement resources during a hazardous material emergency
- Provide for traffic control and maintenance of evacuation routes during a hazardous material emergency.
- Ensure law enforcement personnel are familiar with procedures for the identification and movement of essential personnel during a hazardous material emergency.
- Assist in performing evacuation within parameters established for specific incident action plans.
- Assist where necessary in the rapid dissemination of warning and evacuation information to the public.
- Assist with investigation of possible criminal acts involving hazardous substances and/or intentional releases.
- Assist with providing security for ICP, EOC and others as necessary throughout incident course.

Oregon Department of Environmental Quality (DEQ)

The DEQ is a regulatory agency whose job is to protect the quality of Oregon's environment. Responsibilities indicate DEQ will:

- Provide expertise on environmental effects of oil discharges or releases of hazardous materials and environmental pollution control techniques.
- Provide investigative support and expertise on environmental and public health issues related to oil and hazardous material incidents.
- Assist as needed with hazardous material clean up.
- Develop comprehensive plans and programs for air and water pollution control and solid and hazardous waste disposal.

Malheur County HazMat Transportation by Rail Incident Response Plan

- Coordinate with special teams (OSFM Hazardous Materials Teams, ODOT Incident Response Teams, US Coast Guard, EPA, local emergency responders and others).
- Provide 24-hour emergency response to reported spill incidents.
- Represent state laws and interests in oil and hazardous substance incidents by acting as the State on-scene coordinator in the Unified Command System.
- Coordinate response efforts with other local, tribal, state and federal agencies.
- Maintain a resource list of cleanup contractors, equipment and technical/scientific personnel for hazardous material incidents.
- Assist in determining the release source, cause and responsible party.
- Coordinate incident cleanup if the responsible party is non-responsive or unknown.
- Provide on-scene coordination and technical assistance on containment, cleanup, disposal, recovery, natural resource damage assessment, laboratory analysis and evidence collection for enforcement actions.
- Coordinate Natural Resource Damage Assessment activities.
- Establish cleanup standards for the incident in accordance with federal and state law.
- Ensure source control, containment, cleanup and disposal are accomplished.

Oregon Department of Transportation (ODOT)

- Assist law enforcement with regard to traffic control on evacuation routes and at the incident scene.
- Provide equipment and personnel to assist in the containment of a hazardous material release.
- Provide equipment and personnel to repair essential jurisdictional facilities damaged resulting from a hazardous material release.
- Ensure personnel are familiar with procedures for the identification and movement of essential personnel during a hazardous material emergency.
- Assist in performing evacuation within parameters established for specific incident action plans.

Oregon National Guard

- Assist in evacuation and/or shelter-in-place.
- Provide or assist with traffic and/or crowd control.
- Assist with security as needed in evacuated areas and around the ICP and/or EOC.

Federal Agencies

US Army Corps of Engineers

- Provide equipment and personnel to assist in the containment of a hazardous material release on or near the Snake River.
- Assist law enforcement with regard to traffic control and evacuation of incident sites on or adjacent to the Snake River.
- Ensure personnel are familiar with procedures for the identification and movement of essential personnel during a hazardous material emergency.
- Assist in performing evacuation within parameters established for specific incident action plans.

Malheur County HazMat Transportation by Rail Incident Response Plan

National Weather Service (NOAA)

- Provide current and forecasted weather for the area surrounding a hazardous materials incident. On request NOAA can provide a hazardous material plume model forecast based on current weather (temperature, wind speed and direction, humidity, etc.).

National Forest Service and Oregon Department of Forestry

- Assist as necessary when a release impacts property under their jurisdiction.

Environmental Protection Agency

- Ensure that contaminated lands and toxic sites are cleaned up by responsible parties and revitalized.
- Help ensure the safety of rivers and streams in the event of an emergency.

Other Agencies

American Red Cross

- Help disaster victims by providing safe shelter, hot meals, essential relief supplies, emotional support and basic health services.
- Assist families to develop individual plans and identify available resources to help aid recovery.
- Focus on relieving immediate disaster-caused needs.
- Support emergency workers.
- Link victims with family members outside the disaster area.
- Provide blood and blood products as needed.
- Provide registry services allowing family members to check on family and friends within the disaster zone.

Radio Stations

- Provide incident-command-approved announcements to the public regarding status of the incident including evacuation and/or shelter-in-place instructions throughout the extent of the incident.

Amateur Radio Emergency Services/Radio Amateur Civil Emergency Service

(ARES/RACES) The Radio Amateur Civil Emergency Service (RACES) is a standby radio service provided for in Part 97.407 of the Federal Communications Commission (FCC) rules and regulations governing amateur radio in the United States. In the United States and Canada, the Amateur Radio Emergency Service (ARES) is a corps of trained amateur radio operator volunteers organized to assist in public service and emergency communications.

- Supplement emergency communications by relay through systems not normally available to emergency and other responders during a hazardous material incident.
- Supplement non-emergency communications from staging and shelter areas as needed and directed by the IC.

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Oregon Poison Control (800-222-1222)

- Provide emergency treatment recommendation for poisoning and toxic exposure.

Emergency Response Information Agencies

CHEMTREC¹⁵ (1-800-424-9300); CHEMTEL, INC (188-255-3924); InfoTrac (800-535-5053); 3E Company (800-451-8346).

- Provide chemical information from their emergency service specialists.
- Provide interpreter services in case of a hazardous materials spill (CHEMTREC and CHEMTEL only).
- Connect on-scene emergency responders with chemical, medical, toxicological, and hazardous materials experts around the world.

¹⁵ These emergency response agencies, CHEMTREC, ChemTel, Infotrac and 3E Company, all provide similar services to responders in the event of an emergency. They are in business to provide hazardous materials transporters with a 24-hour emergency response number as required by US DOT under CFR 49 Transportation 172.604. They will all provide emergency information to any first responder. Their numbers are listed on the inside back cover of the DOT Emergency Response Guidebook.

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Scope of Work Element 5: Emergency Notification

Outline of emergency notification and public information procedures from the initial phase through incident termination.

Initial notification of an HMBR incident would most likely be from a passer-by to the 911 dispatch center. Certainly, initial notification could come from UPRR personnel either at the scene or from a central monitoring center. Dispatch would then notify responders from the local jurisdiction through their normal alerting system. As an alternate, IPAWS could be used for this notification if the County chooses to set it up. It is important to note that, if the incident is in a populated area or there is a plume or a smoke cloud as a result of the incident, the dispatch center could easily be overwhelmed with 911 calls from the public in a very short time. However, it is critical to responder safety that pertinent information and updates are relayed to responders in a timely manner even if it means delayed answering of 911 calls. 911 centers must have contingency plans to handle the additional call load that will be generated in case of an HMBR incident. These plans must also include alternate routes for employees to travel to the 911 center as normal routes may be blocked or overwhelmed with traffic.

Once first responders are on scene and have made an initial evaluation, they will relay information to dispatch and request additional resources. Some of those resources will be contacted directly by dispatch and some may be requested through Oregon Emergency Response System (OERS). OERS notification could be by the dispatch center or by the initial IC directly. Either way, the IC must have a direct conversation with OERS as soon as practical. As part of the IC initial duties, the local medical centers should be notified as early as possible with a brief description of the incident and what they might expect in the way of casualties, either real or perceived.

Responders and other volunteers could drive through neighborhoods using public address systems to give instructions to citizens. Advantages to this method include those doing the notification will generally be familiar with the area (if they are local responders) and can be given specific streets or neighborhoods to notify. Disadvantages to this method of notification include: a) they would be limited to where they could go as they would most likely not be equipped with personal protective equipment to allow them to work inside any of the danger zones of the incident, and b) this method of alerting the public is very time consuming and demands a high use of personnel and other resources that may be needed elsewhere.

Malheur County has mass notification systems that can be used to notify the public of an emergency and can give appropriate instructions such as evacuate, shelter-in-place, etc. Alerts are based on the nature of the incident and can be localized to specific areas within the county.

One of these systems is Alert Sense. For best results, the public must sign up through their cellular phone application (available free on either Google or Apple Play Store), the Malheur County website and on the Malheur County Emergency Management Facebook page. This gives them the opportunity to determine ahead of time what notifications they wish to receive. Even if the citizen is not signed up for Alert Sense, they will get notifications if they are in an area served by a target tower and have their emergency notification turned on. The system can also send notifications to land-based phones within specific geographical areas.

Advantages of this system include: a) if properly programed Alert Sense can issue notification to persons living in fairly specific geographical areas based on information entered by the

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citizens when signing up, b) no one has to enter a potentially dangerous area to make notification, and c) all citizens in the affected area are notified at the same time so notification can be more timely.

Drawbacks to this system of notification include: a) many citizens that may be affected by an incident will not have signed up for alerts or will have their phones set to NOT receive emergency notifications, b) the system can be complicated to use when sending out notifications, especially when the notifications are not universal but specific to only a few regions in the county, and c) when notifications are received by someone who is visiting the area away from home, there may be some confusion as to what to do.

Malheur County's second mass notification system is the FEMA's Integrated Public Alert & Warning System. The Integrated Public Alert & Warning System (IPAWS) is FEMA's national system for local alerting that provides authenticated emergency and life-saving information to the public through mobile phones using Wireless Emergency Alerts (WEA), to radio and television via the Emergency Alert System (EAS), and on the National Oceanic and Atmospheric Administration's Weather Radio. Wireless Emergency Alerts (WEAs) are short emergency messages from authorized federal, state, local, tribal and territorial public alerting authorities that can be broadcast from cell towers to any WEA-enabled mobile device in a locally targeted area. The mobile device's owner does not need to download an app or subscribe to a service.

As time passes during the incident, further information and notification must be sent to the public. The IC must approve all information given to the public regardless of the method of distribution. Once it is suspected that the incident is significant and possibly long lasting, the emergency operations center (EOC) must be established and will include a public information officer (PIO). All information should be sent through the PIO once that position is assigned.

This information can be sent through various media but could include: Alert Sense or IPAWS messages, newspapers (both in print and on their respective websites); radio public service announcements and updates; social media such as Facebook, Twitter, Instagram, Snapchat, etc.; handouts distributed at gathering places and shopping centers; and business and responder web sites or reader boards. The PIO should schedule regular briefings for the public and press until the incident is fully terminated.

Regardless of how the information is sent out, it must be accurate and consistent. All press releases must be approved by the IC and issued through the PIO. The PIO should be part of the EOC, but press briefings involving reporters and others outside of the emergency responders should be held in a place away from the ICP and the EOC so that the function of neither of those are disrupted.

When the incident is terminated (operations are ended and the public can return to their homes and businesses even though there may be an area that is still restricted to entry by the public), a final message must be delivered by all available means. This message should give full parameters of where the public may go and when. If there are to be more briefings, that information should be included.

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Scope of Work Element 6: Affected Areas and Population

Description of how to determine the probable affected area(s) and population along the rail lines, critical and/or at-risk facilities, to include historically and environmentally sensitive areas.

While determining affected areas and populations may be and should be done as part of essential operational planning, preparations for this element must begin long before an incident occurs. Determining probable affected areas and population along the rail line as well as critical and/or at-risk facilities is not something that is done only at the time of an incident. Each first response agency as well as planning groups (such as the LEPC) preplan for an incident along the rail lines and map out those critical facilities and sensitive historical, cultural and environmental areas far in advance. This HMTRIRP is only a start.

It is critical in this advanced planning to involve any agency or group that might have an interest in the damage caused by a hazardous material release from a rail car. Besides first responders, those groups might include, but are certainly not limited to, city and county officials, hazardous materials response personnel, medical personnel/facilities, EPA and DEQ. All of these can help to identify areas of particular concern should a release occur. Although not part of this project, planners might also consider areas of Idaho that might be affected by a spill in Oregon. The Cities of Fruitland and Payette are well within a seven-mile protective action zone.

First responders should be familiar with critical facilities in their communities, such as water and waste-water systems, irrigation lines, as well as their own facilities, etc. They can help to identify at-risk facilities where there are populations that may not be able to self-evacuate or shelter-in-place without help. These might include schools, daycares, nursing or assisted living facilities and hospitals. Although response area familiarization by first responders is the best way to identify these facilities, programs like the CAMEO suite and Google Earth can help pinpoint critical and at-risk facilities.

There are various on-line or computer-aided sources to help gather information in advance or at the time of a spill to help estimate the potential damage of a hazardous materials leak. Once again, it is critical that first responders be aware of the availability of these programs and know their capabilities and limitations. Someone must also be familiar with their operation.

Some valuable sources of information that can be used before and/or during an incident include:

WISER (also called WebWISER): Wireless Information System for Emergency Responders. It is available on-line at <https://webwiser.nlm.nih.gov> free of charge without a login and password and as an app for cellular phones and tablets or on laptop or desktop computers. WISER has several tools for planning as well as filling the other needs of Element 6.

CAMEO: Computer-Aided Management of Emergency Operations (CAMEO) is a software suite that is also available free of charge at <https://www.epa.gov/cameo/what-cameo-software-suite>. This suite is downloaded on a computer ahead of time and is therefore available without having Internet access for pre-planning or at an incident. It includes four core programs that can be used together or separately: CAMEO Chemicals, MARPLOT, and ALOHA. MARPLOT also has a layer map that shows American Indian areas that could be culturally sensitive and can provide population estimates in specific, user-defined areas.

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DOT ERG: The Department of Transportation Emergency Response Guidebook is free for first responders from the Oregon State Fire Marshal's Office and is (or at least should be) carried in every first response vehicle, including by law enforcement. This guidebook is, "intended for use by first responders during the initial phase of a transportation incident involving dangerous goods/hazardous materials."¹⁶ There are several versions of the guidebook available as an app on phones and tablets as well. Keep in mind that there are 30 response guide pages to cover millions of hazardous chemicals. For example, ethanol and crude oil have the same guide page. Every first responder in the county should have access to the ERG and have training in its use, but this guide is only good for actions in the first few minutes of an incident.

Google Earth: A tool that is useful for pre-planning but requires Internet access so may be less useful at an incident. It gives fairly up-to-date map data showing waterways, roads/street, geo-political boundaries and details of landscape. Street view is a Google Earth (also available on Google Maps) tool that can help visualize a street or road that is otherwise inaccessible. Street view is not available for all areas, however.

Industry Experts: Railroad officials and other chemical experts can be of great help at an incident. As noted above, it is critical that first responders gather contact information before the incident. The HMRT personnel are not the subject matter experts. Depend on those people who deal with the chemicals on a daily basis.

To gather chemical information at the time of an incident, the DOT ERG lists several 24-hour contact numbers for on the inside back cover. These self-described "emergency chemical emergency response communication services" include: CHEMTEC, CHEMTEL, INC., INFOTRAC, and 3E Company. Also listed is the Nationwide Poison Control Center number.

WISER, the CAMEO suite and the DOT ERG are valuable tools for pre-planning an incident. WISER and CAMEO are also useful if computers are available at the scene. From them you can gather isolation and evacuation or protection areas, populations within those areas and other valuable response information.

¹⁶ 2016 Emergency Response Guidebook

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Scope of Work Element 7: Local Emergency Response Training and Capabilities

Inventory of local emergency response equipment, responder training, and capabilities/limitations.

The fire responders in Malheur County are trained to the NFPA awareness and operations level of hazardous materials response. These levels of certification have existed for some time and are required for certification as a firefighter in Oregon. In addition to the training and certification levels listed in this element, NFPA 472, 2018 edition and NFPA 1072, 2017 edition list an additional certification level, Operations Level Responders Assigned Mission-Specific Responsibilities. Kayla Ballrot with Oregon's Department of Public Safety and Training states that the State of Oregon does not currently certify responders at this level.

While all fire responders have some level of hazardous materials response training, the actions taken by these initial responders will be limited to attempting identification of the chemicals involved, establishing an initial isolation zone and notifying other agencies. There may be some attempts by operations-level personnel to mitigate the extent of the spill with damming and diking, but that will be done far outside of the contamination reduction zone and most likely will not occur within the first moments of response.

The State's HMRT will respond from Ontario Fire & Rescue to any significant hazardous material spill in Malheur County. As noted below, technician-level response may include actions far beyond the awareness- or operations-level trained responders. Once notified, the HMRT will arrive in the first 30-60 minutes of initial notification. On arrival, HMRT will meet with the on-scene incident commander (IC) (from the department/district having initial response jurisdiction at the incident) to discuss what has been done and assist in determining the next appropriate steps. The HMRT will depend on personnel and equipment from other responding agencies to assist (to their level of certification and training) with some hazardous material operations, such as decontamination and emergency medical support.

The HMRT team supervisor will act as part of a unified command or as a branch manager under the IC. **Except when the incident is within the Ontario Fire & Rescue's initial response area, the HMRT will not assume the role of IC.**

It must be understood that all the County's fire response organizations when responding for mutual aid must reserve some personnel to continue providing service to their communities for everyday calls outside of the hazardous material incident. The largest department in terms of available personnel, Ontario Fire & Rescue (OF&R), staffs the Oregon State HMRT. In the event of a large hazardous material incident in their own district, the services of a neighboring hazardous materials response team (at least 3.5 hours away) would be required to provide HMRT functions as local personnel would be committed to the initial response and providing staffing to protect their own district for response to day-to-day emergencies. Additionally, in the case of a hazardous material call outside the OF&R district, they would respond the HMRT but would then have limited personnel to provide any additional mutual aid as they would be responding to the HMRT using many of their firefighting and EMS personnel.

There are various types of hazardous material response equipment available to Malheur County if needed. A list of equipment available outside of the fire departments can be found on the Worldwide Response Resource List (WRRL) at ([Worldwide Response Resource List](#) -

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Washington State Department of Ecology). The WRRL is a list of resources available equipment to respond to specifically an oil spill, but some of the equipment might be useful for other types of hazardous materials. Any of this equipment can be requested through OERS by calling 800-452-0311.

The HMRT at Ontario Fire & Rescue (OF&R) has a complement of equipment dedicated to response to hazardous material incidents. The Oregon State Fire Marshal's office has placed a foam trailer at Ontario Fire & Rescue for use mitigating in hazardous material releases.

To summarize the training of local personnel and their capabilities and limitations:

- All fire personnel are trained to the NFPA awareness/operations level for hazardous materials response. Therefore, they have limited operational capabilities (see competencies listed below).
- Law enforcement officers receive hazardous materials initial and on-going training within their departments but are generally not certified to a specific response level as are firefighters.
- OF&R hosts the Oregon State HMRT with 15 personnel trained to the technician level for hazardous materials response. As part of the Oregon State hazardous materials response program, they have state-provided equipment and materials for that level of response.
- Initial response by fire personnel to a hazardous materials incident might be with as few as four to five responders due to the volunteer nature of the fire agencies in rural Oregon.
- Mutual aid, although agreements are in place and long-standing, would provide no additional hazardous materials response personnel trained past the operations level.
- OF&R, while the largest department in terms of personnel, will be able to provide limited personnel; they can respond to hazardous materials incidents within their HMRT boundaries but will have few additional personnel for other duties.
- If there is an incident within the OF&R initial response district, they may not be able to respond the HMRT as their personnel will be performing first response duties; an out-of-the-area HMRT from Hermiston or Klamath Falls, with a response time of several hours, may have to be called to perform technician-level duties.
- Because of the relative low number of responders available for any hazardous material incident in the county, any incident of this type will have a significant impact on response to everyday calls.

NFPA Hazardous Materials Response Level Competencies

Specific competencies for each level are listed here. Professional qualifications for each position can be found at NFPA 1072, 2017 edition, Chapters 4-7, Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications.

Awareness Level¹⁷

Awareness-level responders shall be persons who, in the course of their normal duties, could encounter an emergency involving hazardous materials/weapons of mass destruct-

¹⁷ NFPA 472, 2018 ed., Chapter 4

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tion (WMD) and who are expected to recognize the presence of the hazardous materials/WMD, protect themselves, call for trained personnel, and secure the area.

First responders at the awareness level must demonstrate the competency and ability to:

- Understand what hazardous substances are and their associated risks.
- Recognize the presence of hazardous substances in an emergency.
- Identify the hazardous substances, when possible.
- Understand the potential consequences of hazardous substances in an emergency.
- Understand the role of a first responder at the awareness level as described in:
 - The employer's emergency response plan, including site security and control, and
 - The United States Department of Transportation's Emergency Response Guidebook (ERG).
- Use the ERG.
- Recognize the need for additional resources.

Operations Level¹⁸

The operations-level responder shall be that person who responds to hazardous materials/WMD incidents for the purpose of protecting nearby persons, the environment, or property from the effects of the release.

First responders at the operations level must receive at least eight hours of training and demonstrate awareness-level competencies as well as the competency and ability to:

- Know basic hazard and risk assessment techniques.
- Select and use personal protective equipment (PPE) appropriate for first responder operations level.
- Understand basic hazardous materials terms.
- Perform basic control, containment, and/or confinement operations within the capabilities of the resources and PPE available.
- Implement decontamination procedures to their level of training.
- Understand relevant standard operating and termination procedures.
- Perform any of the duties at the awareness level.

Technician Level¹⁹

Technician-level responder shall be that person who responds to hazardous material incidents using a risk-based response process to analyze a problem involving hazardous materials, plan a response to the problem, implement the planned response, evaluate progress of the planned response and adjust as needed, and assist in termination of the incident.

First responders at the technician level receive at least 160 hours of training and demonstrate operations-level competencies as well as the competency and ability to:

¹⁸ NFPA 472, 2018 ed., Chapter 5

¹⁹ NFPA 472, 2018 ed., Chapter 7

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- Function within their assigned role in the incident command system.
- Understand hazard and risk assessment techniques.
- Understand basic chemical and toxicological terminology and behavior.
- Use field survey instruments and equipment to classify, identify, and verify materials at the incident.
- Select and use personal protective equipment (PPE) appropriate for hazardous materials technicians.
- Perform advance control, containment, and/or confinement operations within the capabilities of the resources and PPE available.
- Implement decontamination procedures to their level of training.
- Understand termination procedures.
- Perform any of the awareness or operations level competencies.

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Scope of Work Element 8: Evacuation Routes and Plume Modeling

Outline of evacuation plans, route identification, and plume modeling for critical areas.

Evacuation

Malheur County has an emergency operations plan written in 2017 with an update scheduled to start in 2021. The plan defines evacuation as: “Organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas.” While the plan is comprehensive and complete and has an evacuation component, it does not list specific evacuation routes from any municipalities in the county. Neither does it specifically identify critical infrastructure or at-risk populations other than by group except for naming the Snake River Correctional Institution and the Malheur County Jail. The EOP does state that health care facilities are required to have an evacuation plan.

The EOP further states that “County Sheriff’s Office/Police Departments will designate evacuation routes,” and “Police Chiefs will develop specific written evacuation plans for their jurisdictions,” but does not pre-designate evacuation routes as part of the hazardous materials checklist. While pre-designation of evacuation routes is part of planning for natural disasters in the EOP, these plans may not be appropriate for a hazardous material incident. Incidents such as flooding and landslides may be predicted based on rivers and terrain, while a hazardous materials incident may occur not only at facilities holding or using hazardous materials (see Malheur County LEPC Hazardous Materials Response Plan), but along any transportation route and so must be flexible.

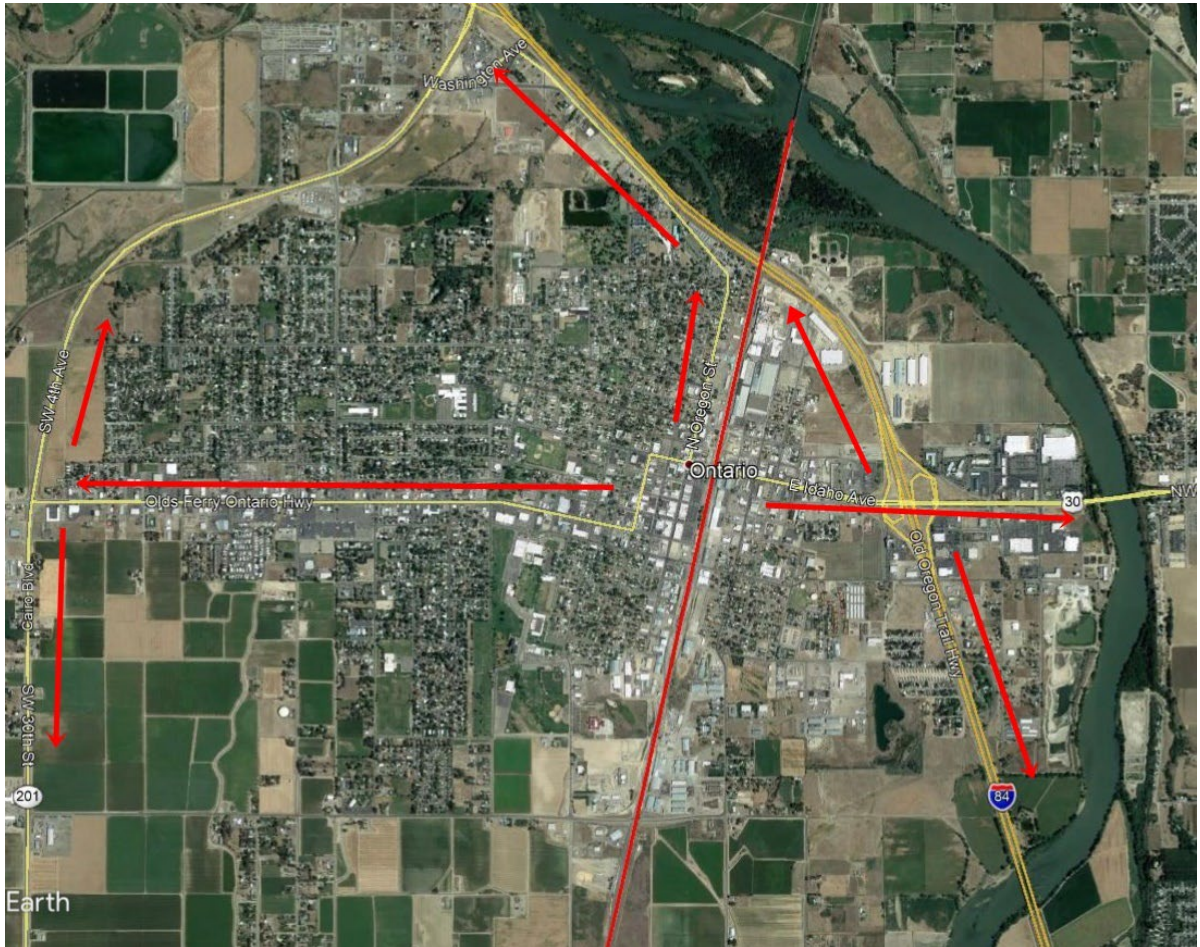
Shown below are major evacuation routes from Ontario and Nyssa in case of a hazardous materials by rail incident. In an evacuation, citizens being asked to evacuate will naturally take the route that they feel is safest for them and their family.

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Evacuation routes for Ontario

The majority of Ontario residents (84%) are west of the UPRR mainline. While evacuation routes used may vary depending on where the hazardous material release is on the rail line, it is assumed that residents would move in a direction away from the tracks. Major evacuation routes from Ontario include: 1) SW 4th Ave. west to Hwy 201/Cairo Blvd then north or south, 2) North Oregon St. north, and 3) E Idaho Ave (Hwy 30) east into Idaho. Once evacuees reach I-84, they can turn north or south depending on incident location and conditions.

Map 2 – Evacuation, Ontario



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Evacuation routes for Nyssa

As is the case in Ontario, most residents in Nyssa (94%) are west of the UPRR mainline. Major evacuation routes include, 1) Main Street (Hwy 20) east into Idaho (primarily for those residents east of the mainline.), 2) Main Street west then north on Hwy 26 (Thunderegg Blvd) or south on Hwy 201 (Adrian Blvd).

Map 3 – Evacuation, Nyssa



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Plume Modeling

This section will provide some examples of potential plumes and/or protective action zones for selected chemicals. It is not exhaustive in scope and it should not be assumed that these are the only potential locations for an incident. While the plumes shown estimate the residents impacted in the isolation and protection zones, adding a one-half-mile buffer to account for sidewinds and wind shifts, could increase the number of impacted residents significantly.

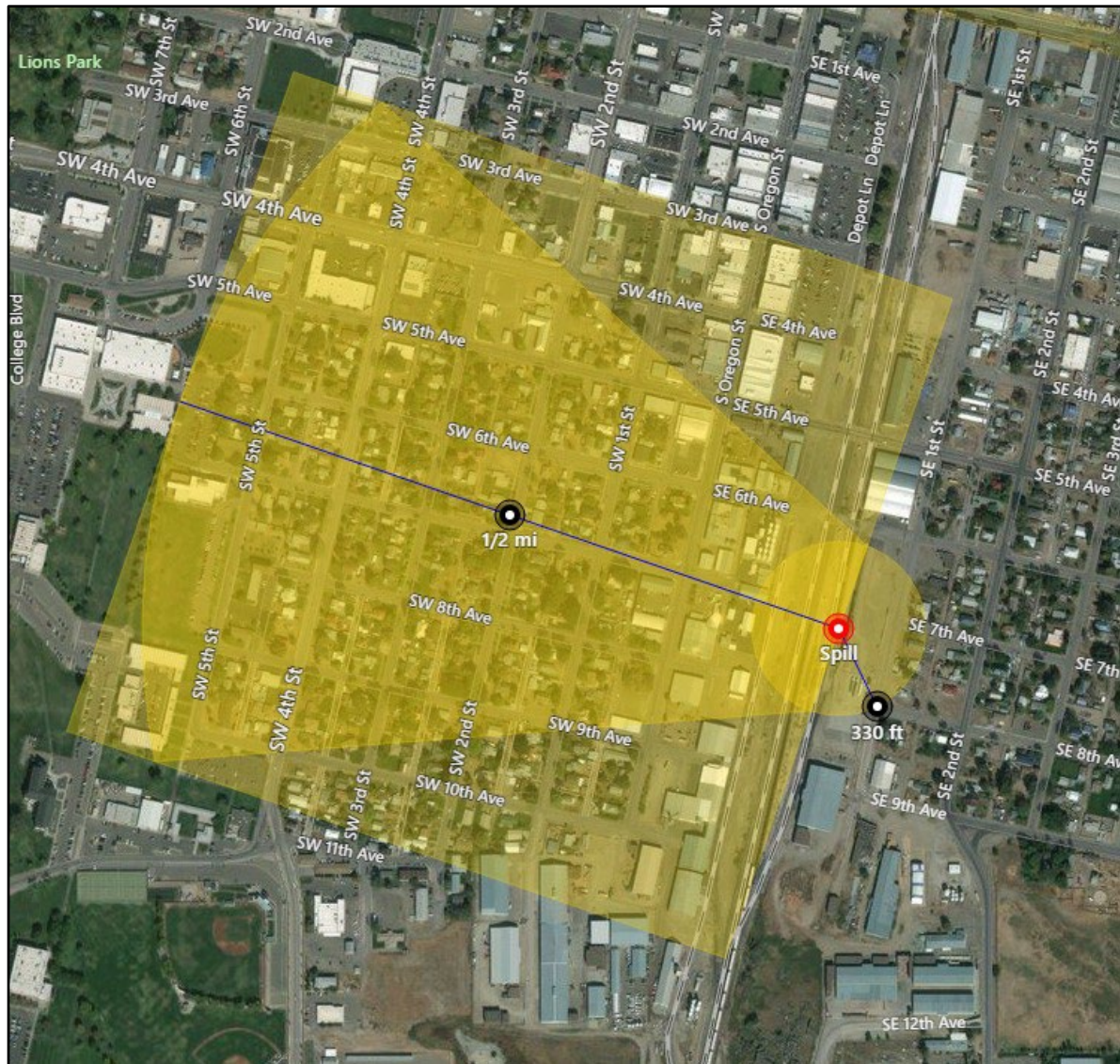
Prevailing winds in the Ontario area come from the northwest, but at any given time the winds can come from any direction and vary significantly in strength and direction in short time periods. For plume modeling in this plan, the winds will come from a direction that would cause the greatest concern for public safety. All plume modeling in this section is taken from WebWISER; <https://webwiser.nlm.nih.gov>. Circular modeling and population estimates are from Marplot, part of the CAMEO software suite available free from <https://www.epa.gov/cameo/marplot-software>. Populations estimates are based on residents, and do not include any transient populations such as visitors, business employees or tourists.

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Example 1: Ruptured railcar of propane/LPG at the Campo & Poole transfer plant near SE 7th Avenue.

The half-mile downwind protective zone would be the case where no fire was involved. If fire were involved, the downwind protective zone would be extended to one mile in all directions. See Map 5 below. Marplot indicates that this one-half mile protection zone would impact 510 residents and 200 housing units.

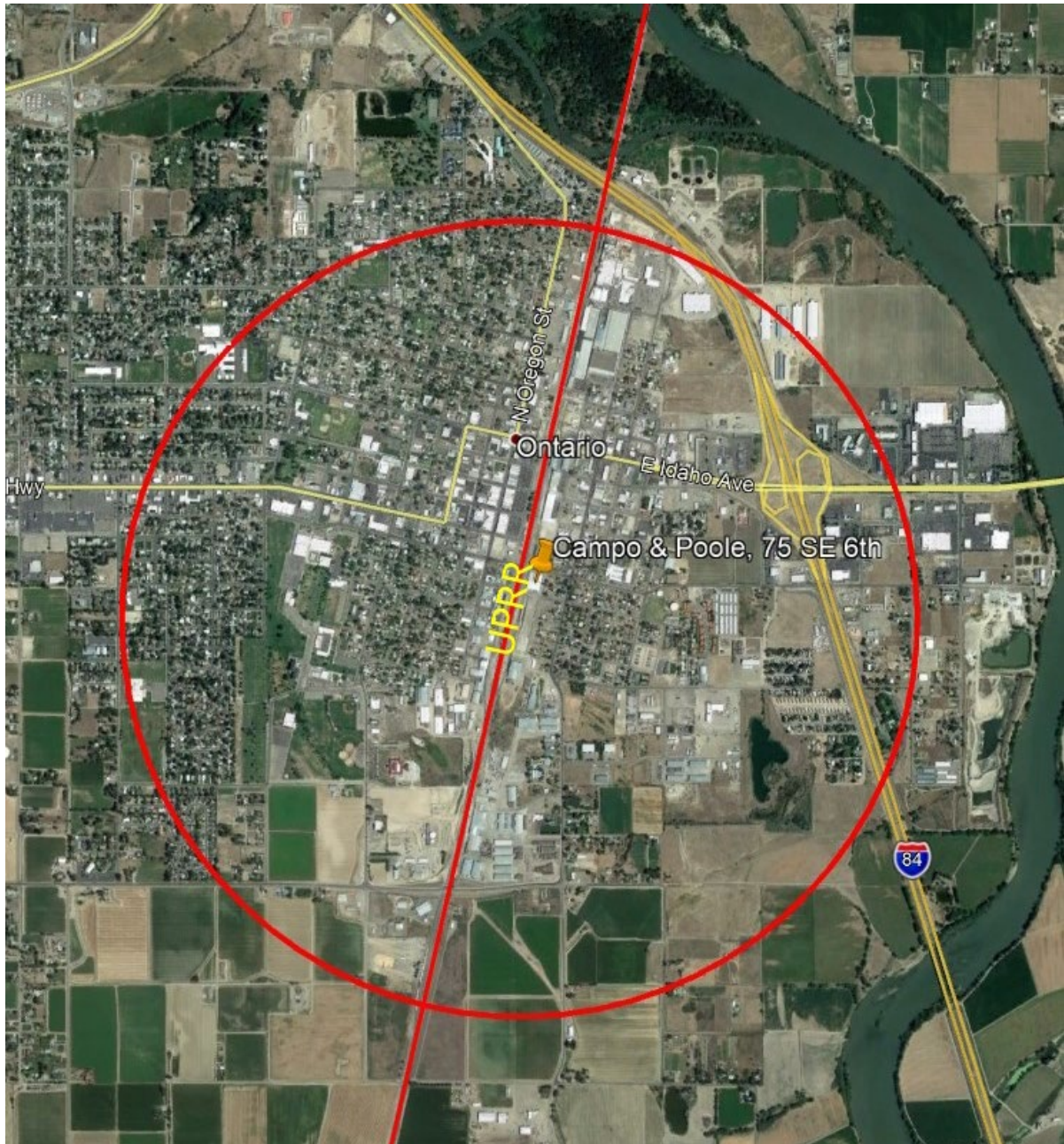
Map 4 – Plume, Ontario, LPG



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This map shows a one-mile perimeter around the Campo & Poole LPG transfer facility that would be evacuated in case of a large LPG spill with fire involved. Marplot estimates this one-mile circle would impact 6,000 residents and 2300 housing units. The impact on Interstate 84 traffic and difficulties of getting mutual aid units from neighboring Idaho must also be considered.

Map 5 – Plume, Ontario, One Mile

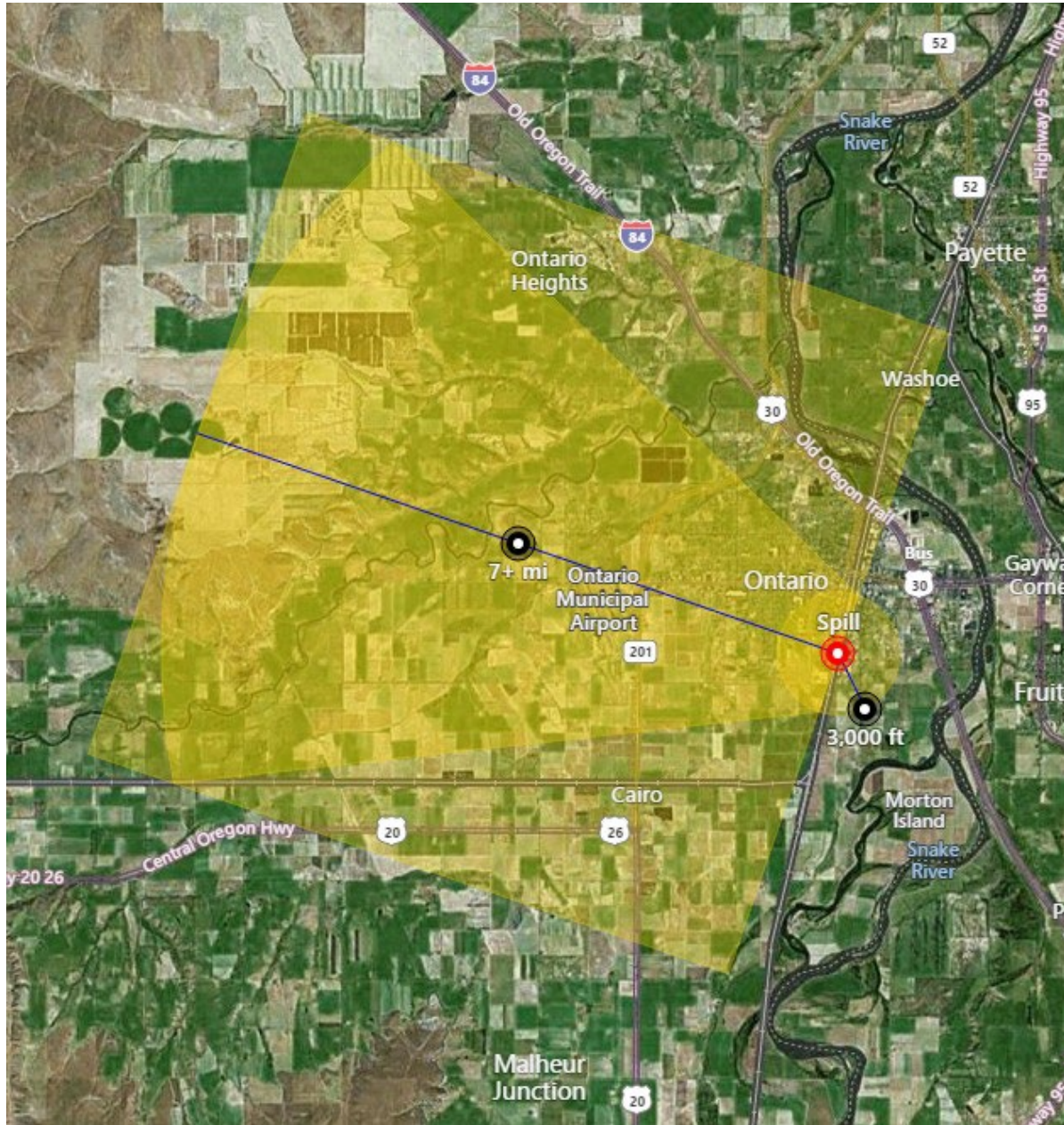


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Example 2: Assume a collision on the switching tracks near SE 1st Street and SE 12 Avenue in Ontario with rupture of a chlorine railcar.

The protective action in this case would be to first isolate 3,000 feet in all directions then protect downwind 7+ miles. Marplot estimates 1,400 residents and 500 housing units within the 3,000-foot isolation distance. A 7+ mile protection zone would impact 8,400 residents (76% of Ontario's population) and 2,400 housing units. As noted above, these estimates do not include I-84 traffic or visitors in the area.

Map 6 – Plume, Ontario, Chlorine

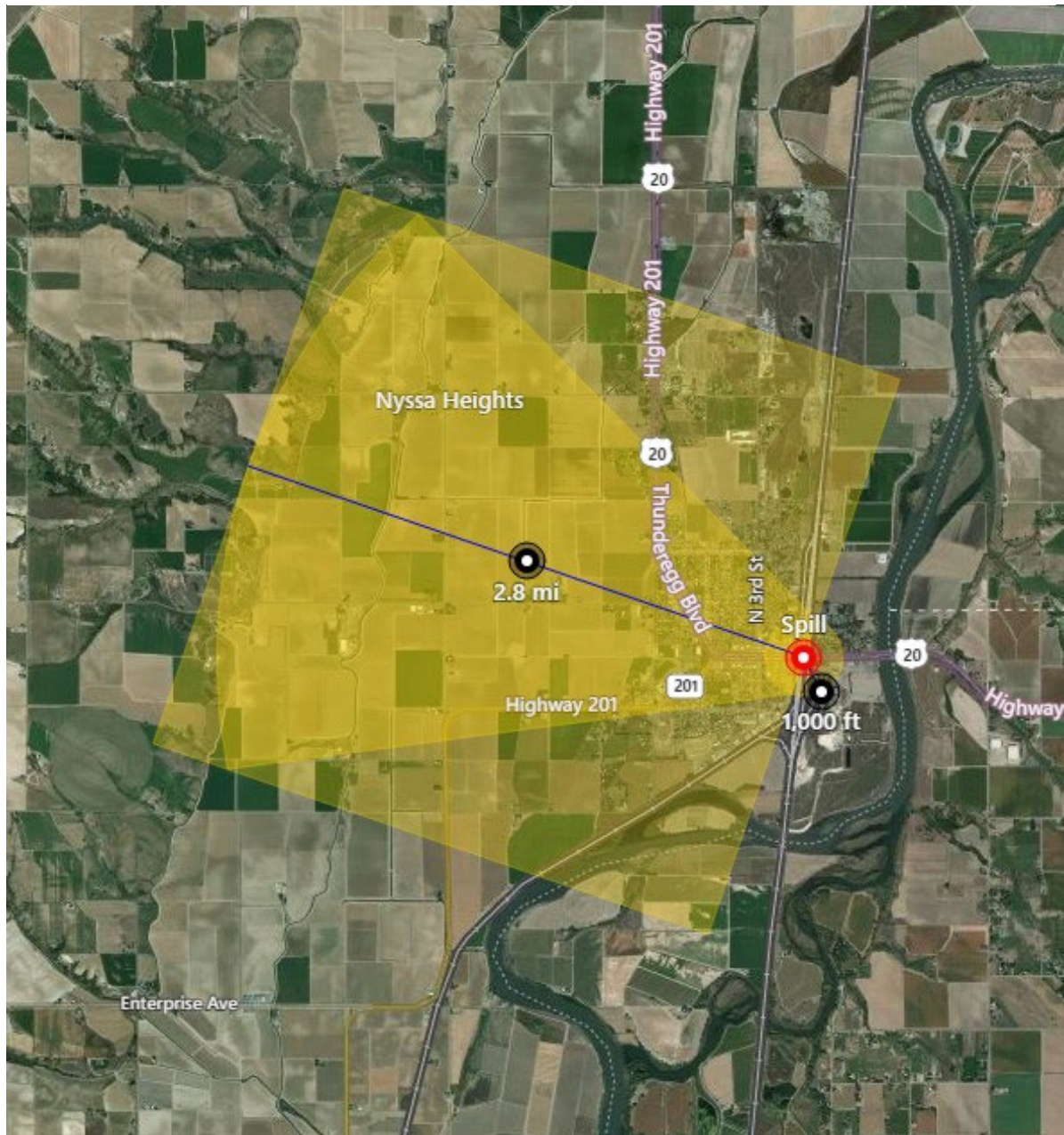


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Example 3: This example shows the potential impact of a large spill of ammonia from a railcar in Nyssa where Hwy 20 intersects the UPRR mainline.

The protective action for ammonia indicates an initial isolation zone of 1,000 feet in all directions then protection 2.8 miles downwind. According to Marplot, the initial isolation zone would impact 160 residents and 64 housing units, not including visitors or employees in the area. The 2.8 mile-downwind protection zone holds 1,800 residents and 630 housing units.

Map 7 – Plume, Nyssa, Ammonia



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Scope of Work Element 9: Training Programs for First Responders

Training programs and resources for first responders

Training programs for first responders are available in Malheur County at various times throughout the year. Firefighters certified to the Firefighter 1 level are required to have initial hazardous materials response training to the NFPA awareness and operations levels. All firefighters are required to have additional training annually to maintain certification levels in the State of Oregon. Because of this, fire departments throughout the county offer some sort of initial and on-going training in the basics of hazardous materials incident response.

Incident command training (ICS) is also required for all certified firefighters along with periodic refresher training. As with basic hazardous materials response training, ICS classes can be arranged by contacting a local fire department/district or the County Emergency Manager. Additional training for hazardous materials response and ICS is available periodically through the LEPC, the county emergency management office or the OSFM office. Contact the County's emergency manager for more details and dates of upcoming classes.

Basic ICS training is available on-line through independent study and can be found at the Federal Emergency Management Association's Emergency Management Institute site at <https://training.fema.gov/>. These classes are available to anyone and free of charge.

Hands-on training can be arranged, sometimes at no cost, through the County emergency manager or the local fire department.

Most law enforcement officers in the county have had some hazardous materials training. Some may have had this training at the Oregon Fire Academy; but, according to Sara Stewart with the Public Safety Standards and Training (DPSST) in Oregon, there is no hazardous materials response piece to the law enforcement basic police academy at this time. However, law enforcement officers are welcome to attend any of the fire department/district training.

In addition to awareness and operations courses, the following rail-emergency classes are available from the Oregon State Fire Marshal's Office.

See <https://www.oregon.gov/osp/programs/sfm/Pages/Hazmat-by-rail.aspx> for details.

- **HazMat Rail Emergency Response Awareness** *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:** *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.*
- **HazMat Tank Car Specialist:** *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 present. Training will cover site assessments of incidents, damage assessments of the containers, and product removal using different transfer techniques on the various DOT containers used in rail transportation.*
- **HazMat Incident Commander:** *This 16-hour program meets OSHA and NFPA standards to qualify incident commanders to manage hazardous materials incidents.*

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The intent of these standards is to provide an incident command system that is headed up 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.

FEMA Independent Study: <https://training.fema.gov/is/crslist.aspx>

IS- 5.a - This Independent Study course is intended to provide a general introduction to hazardous materials that can serve as a foundation for more specific studies in the future. No prior knowledge of the subject is required or assumed.

IS-100.b - Introduction to the Incident Command System, introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

There are IS-100 courses that are essentially the same as IS-100.b but use examples specific to the audience. .HCb is specific to Healthcare/Hospitals; .LEb is specific to Law Enforcement; .PWb is specific to Public Works Employees. These are all available through the FEMA training site noted above.

IS-200.HCa - Designed to provide training on the Incident Command System (ICS) to healthcare professionals whose primary responsibility is emergency management, to include middle management within a hospital or healthcare system. Such professionals may include physicians, department managers, unit leaders, charge nurses, and hospital administrators that would have a leadership role during an incident.

IS-230.b - ICS 200 is designed to enable personnel to operate efficiently during an incident or event within the Incident Command System (ICS). ICS-200 provides training on and resources for personnel who are likely to assume a supervisory position within the ICS.

IS-200.d - The goal of this course is to introduce you to the fundamentals of emergency management. This course presents emergency management as an integrated system with resources and capabilities networked together to address all hazards.

IS-700.a - This course introduces and overviews the National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents.

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Scope of Work Element 10: Incident Action Plan Template

First responder incident action plan template and initial response checklist to accompany the plan.

The first page of the Railroad Incident Tactical Worksheet is shown below; the second page is a blank page to allow a scene sketch. A full-sized copy in .pdf format can be viewed and downloaded at:

<https://www.oregon.gov/osp/Docs/Railroad-Incident-Tactical-%20Worksheet.pdf>.

Railroad Incident Tactical Worksheet	
Oregon Emergency Response System (OERS) 800-452-0311 or 503-378-6377	
LOCATION: _____	
DATE: _____	TIME OF ALARM: _____ Alarm#: _____
TIME CONTAINED: _____ TIME CONTROLLED: _____	
RAIL COMPANY: _____	
RAIL CONTACT INFO (Name, Title and number): _____	
Weather:	
Time: _____ Wind Direction: _____ Speed: _____ Temp: _____ Relative Humidity: _____	
Railcar and Hazardous Material Information:	
Reporting Mark Number: _____ Pressure <input type="checkbox"/> Non-Pressure <input type="checkbox"/> Loaded <input type="checkbox"/> Residue <input type="checkbox"/> Empty <input type="checkbox"/>	
ID #: _____ Guide#: _____ Material Name: _____	
Material Type: Flammable <input type="checkbox"/> Corrosive <input type="checkbox"/> Toxic <input type="checkbox"/> Reactive <input type="checkbox"/>	
Evacuation Distance: _____	
Notes: _____	
General Assignments:	Units Responding:
Operations: _____	Identifier: _____ Assignment: _____
Hazmat Branch: _____	Identifier: _____ Assignment: _____
Division/Group: _____	Identifier: _____ Assignment: _____
Division/Group: _____	Identifier: _____ Assignment: _____
Safety: _____	Identifier: _____ Assignment: _____
Medical: _____	Identifier: _____ Assignment: _____
Liaison: _____	Identifier: _____ Assignment: _____
RIC: _____	Identifier: _____ Assignment: _____
Notes: _____	
Rail Incident Checklist	
APPROACH CAUTIOUSLY FROM UPWIND, UPHILL OR UPSTREAM Stay clear of Vapor, Fumes, Smoke and Spills. Keep vehicles safe distance from scene.	
SECURE THE SCENE Isolate the area, maintain personnel safety and deny entry to non-essential personnel or citizens.	
OBTAIN HELP Contact the train's railroad crew and obtain the consist/shipping documents. Contact OERS and notify of the situation ASAP. Activate/Notify Regional Hazardous Materials Team. Contact your dispatch and request additional units as needed.	
IDENTIFY THE HAZARDS USING ANY OF THE FOLLOWING Utilize the ERG in reference to Placard Labels Consist/Shipping documents and Rail Car and Road Trailer Identification Chart Safety Data Sheets (SDS) ASK Rail app	
ASSESS THE SITUATION Is there a fire, a spill or a leak? What are the weather conditions? What is the terrain like? Where is the product flowing to and what can you be doing? What exposures could the fire spread to and what can you be doing? Who/what is at risk: people, property or the environment? What actions should be taken – evacuation, shelter in-place or dike? What resources (human and equipment) are required? Long term needs such as water supply, rehab, incident duration? Establish a command post and lines of communication. Request an All-Hazards Incident Management Team? Rescue attempts and protecting property must be weighed against you becoming part of the problem, remember Risk vs Gain. Continually reassess the situation and modify response accordingly. Throughout the incident, consider safety of people in the immediate area first, including your own safety.	
ABOVE ALL: Do not assume that gases or vapors are harmless because of lack of a smell – odorless gases or vapors may be harmful – USE METERS	

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This is page one of the Site Safety and Control Plan from the ICS 208HM. The full 3-page form and other ICS forms is available from FEMA online at [Emergency Management Institute ICS Fillable Forms \(fema.gov\)](https://www.fema.gov/emergency-managment-institute/ics-fillable-forms).

SITE SAFETY AND CONTROL PLAN ICS 208 HM	1. Incident Name:	2. Date Prepared:	3. Operational Period: Time:
Section I. Site Information			
4. Incident Location:			
Section II. Organization			
5. Incident Commander:	6. HM Group Supervisor:	7. Tech. Specialist - HM Reference:	
8. Safety Officer:	9. Entry Leader:	10. Site Access Control Leader:	
11. Asst. Safety Officer - HM:	12. Decontamination Leader:	13. Safe Refuge Area Mgr:	
14. Environmental Health:	15.	16.	
17. Entry Team: (Buddy System) Name: PPE Level		18. Decontamination Element: Name: PPE Level	
Entry 1		Decon 1	
Entry 2		Decon 2	
Entry 3		Decon 3	
Entry 4		Decon 4	
Section III. Hazard/Risk Analysis			
19. Material:	Container type	Qty.	Phys. State
Comment:			
Section IV. Hazard Monitoring			
20. LEL Instrument(s):		21. O ₂ Instrument(s):	
22. Toxicity/PPM Instrument(s):		23. Radiological Instrument(s):	
Comment:			
Section V. Decontamination Procedures			
24. Standard Decontamination Procedures:			YES: <input type="checkbox"/> NO: <input type="checkbox"/>
Comment:			
Section VI. Site Communications			
25. Command Frequency:	26. Tactical Frequency:	27. Entry Frequency:	
Section VII. Medical Assistance			
28. Medical Monitoring:	YES: <input type="checkbox"/> NO: <input type="checkbox"/>	29. Medical Treatment and Transport In-place:	YES: <input type="checkbox"/> NO: <input type="checkbox"/>
Comment:			

Malheur County HazMat Transportation by Rail Incident Response Plan

Scope of Work Element 11: Exercising the Plan

Methods and potential scheduled timeframes for exercising the plan.

Malheur County has no dates planned to exercise this plan but desires to do so in the future. They may apply for an HMEP grant to cover that expense.

Malheur County HazMat Transportation by Rail Incident Response Plan

Scope of Work Element 12: Existing Response Plans

Identification of existing emergency response plans and mutual aid agreements within the specific response area and implementation of those plans.

Malheur County fire agencies participate in a mutual aid agreement involving 26 fire agencies in Oregon and Idaho. As part of the State's Hazardous Materials Response Team system, HMRT 14 can request assistance, through OERS, from any other HMRT in the state. The nearest teams are in Hermiston and Klamath Falls.

There are two hazardous materials response teams in neighboring Idaho, Caldwell and Boise. There have been mutual aid agreements with these two teams in the past, but those agreements have expired without renewal. To the author's knowledge, there are no other formal emergency response or mutual aid plans/agreements in place at this time.

In the case of a very large incident, one that exhausts or threatens to exhaust local and mutual aid resources, activation of the State of Oregon conflagration act may be requested. This does take a declaration from the State of Oregon Governor. On a local level, a fire chief may request activation of the conflagration act through OERS. The conflagration act allows the State to request assistance from any Oregon public fire agency.

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Conclusions and Recommendations

In the event of a HazMat by Rail (HMBR) incident, a large number of individuals would be called on to fill roles in its mitigation including firefighters, emergency medical responders, hospital personnel, law enforcement, road and highway crews and administrators from the jurisdiction involved. However, without adequate preplanning and training, response to an HMBR will put many of these responders' health and safety in jeopardy as well as lessening their ability to effectively control the disaster and limit its impact on the community.

At an HMBR, the frontline responders are most likely to be firefighters, most of whom in Malheur County are volunteers. Even though the firefighters in the county are dedicated and well trained, it is clear from discussions with the fire chiefs in Malheur County regarding their ability to respond to a HazMat by Rail (HMBR) incident, the number of responders available (no matter their dedication and enthusiasm) for a significant HMBR incident is inadequate to provide a sufficient response without help from outside agencies. Even the larger departments in the two counties admit that it would be difficult to provide appropriate numbers of staff to both respond to an HMBR incident and still adequately cover the everyday demands of a busy department.

The answer to an adequate and safe response to an HMBR incident lies in adequate pre-planning and establishing appropriate contacts in advance. When the unthinkable happens, a well-thought-out and practiced pre-plan will enable the available responders to concentrate on actions that will provide a more effective response, better utilize resources available, and get more resources on the scene in a more timely manner.

It is critical that those who will respond to an HMBR incident be aware of the passage of hazardous materials through their county. It is also critical that these responders, from the frontline firefighter and law enforcement officer to the county executives, be given the opportunity to participate in exercises intended to better prepare them for these incidents. These exercises may include hands-on training with local hazardous materials teams, tabletop exercises and more in-depth training up to and including full-scale exercises involving all of the entities that would be involved in a real incident.

Based on knowledge gained while this plan was being developed and from interviews with key response personnel, here are recommendations to help provide a more coordinated, effective and safe response to an HMBR incident.

1. Start now to plan the first exercise for an HMBR response. Include all persons/groups that would be involved in mitigation of a hazardous material release. The first exercise should be a simple tabletop exercise in a no-stress environment.
2. Commit to hazardous material exercises on a regular basis progressing from tabletops to full-scale, on-site exercises. There are several resources in the State that can help with that planning.
3. Exercises should, at some point, include scenarios where the closest trained hazardous materials responders are delayed due to their response routes being impacted by the release. It is easy in an exercise for the small, first-response department to simply turn the scene over to the larger department or the HMRT, but this is not going to happen at a real-world incident. The smaller department must have a plan (pre-plan) to handle an incident

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for a more prolonged time as the help they need may be delayed in getting to the scene. They must know who to call and where help may be found.

4. Assure in the new EOP that the key facilities list is completed and that each of those key facilities completes and maintains an evacuation/shelter-in-place plan, not just for flood, but for any emergency that might require public protection.
5. Commission the creation of an evacuation plan from every community along or near the rail line. This plan should include a number of alternative routes as the major roads may be impassable. This plan must also include locations where large numbers of people might be sheltered on at least a temporary basis and those vulnerable populations that may not be able to self-evacuate or shelter. Outside agencies that are involved in these decisions e.g., churches, schools and Red Cross, must be part of the pre-planning process. For an evacuation plan to be viable, the community leaders (county commissioners, city mayors/managers and councilors, and ODOT, for example) must be involved to the point of being signatory on the final plan.
6. Encourage every responding agency to create a simple but written plan for response to an HMBR incident. Assist with or provide training for writing this plan.
7. Continue to sponsor training, specifically at the first responder level, on response to hazardous materials spills for all groups that might respond: fire and EMS, law enforcement, public works, hospital workers as well as city, and county. These trainings should include ICS-type classes.
8. Encourage anyone who might be involved in an HMBR incident response to take and refresh periodically on ICS classes that are available on-line, specifically IS 100.b (followed by the appropriate IS-100.HCb or IS-100.LEb as applicable), 200 and 700.a. See Scope of Work Element 9: Training Programs above for a partial list of free, on-line courses available through the Federal Emergency Management Agency (FEMA) at <https://training.fema.gov/is/>.

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Appendices Index

- Appendix A: Definitions and Acronyms
- Appendix B: Malheur County Rail Line
- Appendix C: Oregon Regional Hazardous Materials Teams Boundaries
- Appendix D: Sources for Additional Reference Information
- Appendix E: Shelter-in-Place Pamphlet from Oregon State Fire Marshal
- Appendix F: Tank Car Identification
- Appendix G: Quick Reference for Law Enforcement
- Appendix H: ERG Table of Initial Isolation and Protective Action Distances
Information

Malheur County HazMat Transportation by Rail Incident Response Plan

Appendix A: Definitions and Acronyms

DEQ: Department of Environmental Quality

DOT: See United States Department of Transportation, versus the Oregon Department of Transportation or ODOT

EPA: Environmental Protection Agency

ERG: US Department of Transportation Emergency Response Guidebook

FD: Fire Department or Fire District

FRA: Federal Railroad Administration

HazMat: Hazardous materials

HMBR: HazMat by Rail

HMTRIRP: HazMat Transportation by Rail Incident Response Plan

HMRC: HazMat Response Code – synonymous with Standard Transportation Commodity Code (STCC) below

HMRT: Oregon State Hazardous Materials Response Team. One of 13 teams throughout the State of Oregon that are part of the system organized through the Oregon State Fire Marshal's Office.

Initial Isolation Zone: The area surrounding the incident where persons may be exposed to dangerous and life-threatening concentrations of materials.

Intermodal: A flexible way of transporting freight over water, highway and rail without being removed from the original transportation equipment, namely a container or trailer.

LE: Law enforcement

Manifest: The papers that accompany every rail shipment that lists each car and what is carried in that car. The manifest will always be with the train conductor.

Mitigation: The act of making a situation less severe, serious, or painful.

NFPA: National Fire Protection Association

ODOT: Oregon Department of Transportation

OEM: Oregon Emergency Management

OHA: Oregon Health Authority

OSFM: Oregon State Fire Marshal

OSHA: Occupational Safety and Health Administration

OSP: Oregon State Police

Oxidizer/Oxidizing Materials: Oxidizing materials are liquids or solids that readily give off oxygen or other oxidizing substances (such as bromine, chlorine, or fluorine). They also include materials that react chemically to oxidize combustible (burnable) materials; this means that oxygen combines chemically with the other material in a way that increases the chance of a fire or explosion. This reaction may be spontaneous at either room temperature

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or may occur under slight heating. Oxidizing liquids and solids can be severe fire and explosion hazards.

PD: Police Department

PPM: Parts per million, used to designate the concentration of a chemical in the air or other mixture.

Protective Action Zone: Defines an area downwind from the incident in which persons may become incapacitated and unable to take protection and/or incur serious or irreversible health effects. Protective action distances are found in the green-bordered pages of the ERG.

Residue Shipment Container: A container that has been unloaded but not yet cleaned and purged. It may contain a small amount of material that may present a hazard and, if it carried hazardous materials, will carry a placard for the last material carried in the car. The shipping papers will include: "RESIDUE: LAST CONTAINED...".

RFPD: Rural Fire Protection District

Sidetrack: A track adjacent to the main track for purposes other than for meeting and passing trains.

Siding: An auxiliary track for meeting or passing trains.

Spur Track (or Spur): A stub track that diverges from main or other tracks and provides access to industrial or commercial areas. It usually dead ends within an industry area.

Standard Transportation Commodity Code: A publication containing specific product information used on waybills and other shipping documents. A STCC code is a seven-digit numeric code representing 38 commodity groupings.

STCC: Standard Transportation Commodity Code (see definition above).

TIH: Toxic Inhalation Hazard

UCEM: Malheur County Emergency Management

UN/NA Numbers - United Nations (UN)/North American (NA) (NA numbers in the Emergency Response Guide are called simply ID numbers): Four-digit numbers used world-wide in international commerce and transportation to identify hazardous chemicals or classes of hazardous materials. These numbers generally range between 0000 and 3500 and are ideally preceded by the letters "UN" (for example, "UN1005") to avoid confusion with other number codes. UN/NA numbers are required for the shipment of hazardous materials.



Unit Train: Multiple cars of the same commodity with an end destination.

UPRR: Union Pacific Railroad

USDOT: United States Department of Transportation

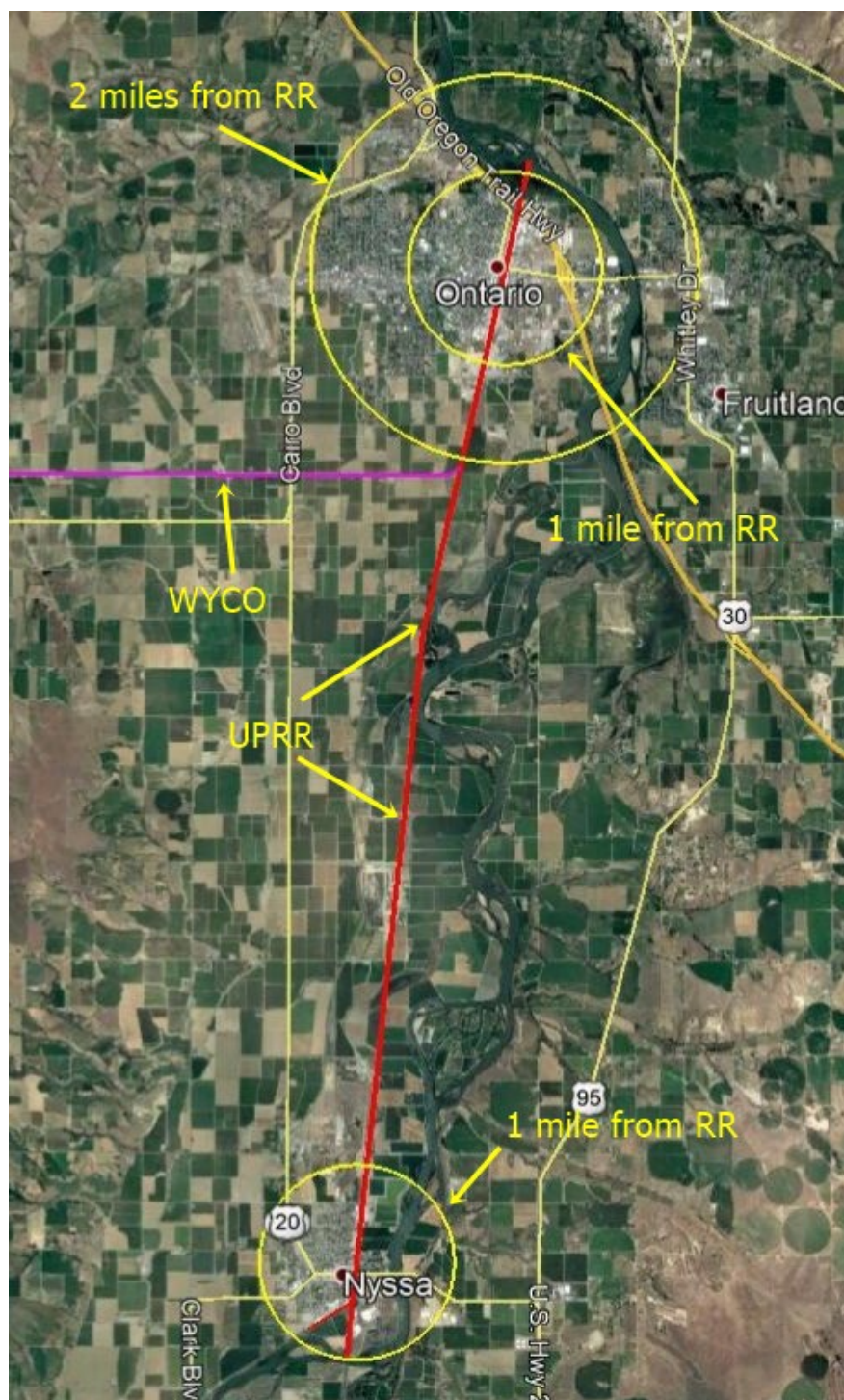
WCS: Worst-Case Scenario

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Appendix B: Malheur County Rail Line

The following maps (8 and 9) show the path of UPRR and WYCO through Ontario and Nyssa, the two larger cities impacted by the UPRR mainline. The circles show a potential impact area at one and two miles from an arbitrary point on the UPRR near the center of each city.

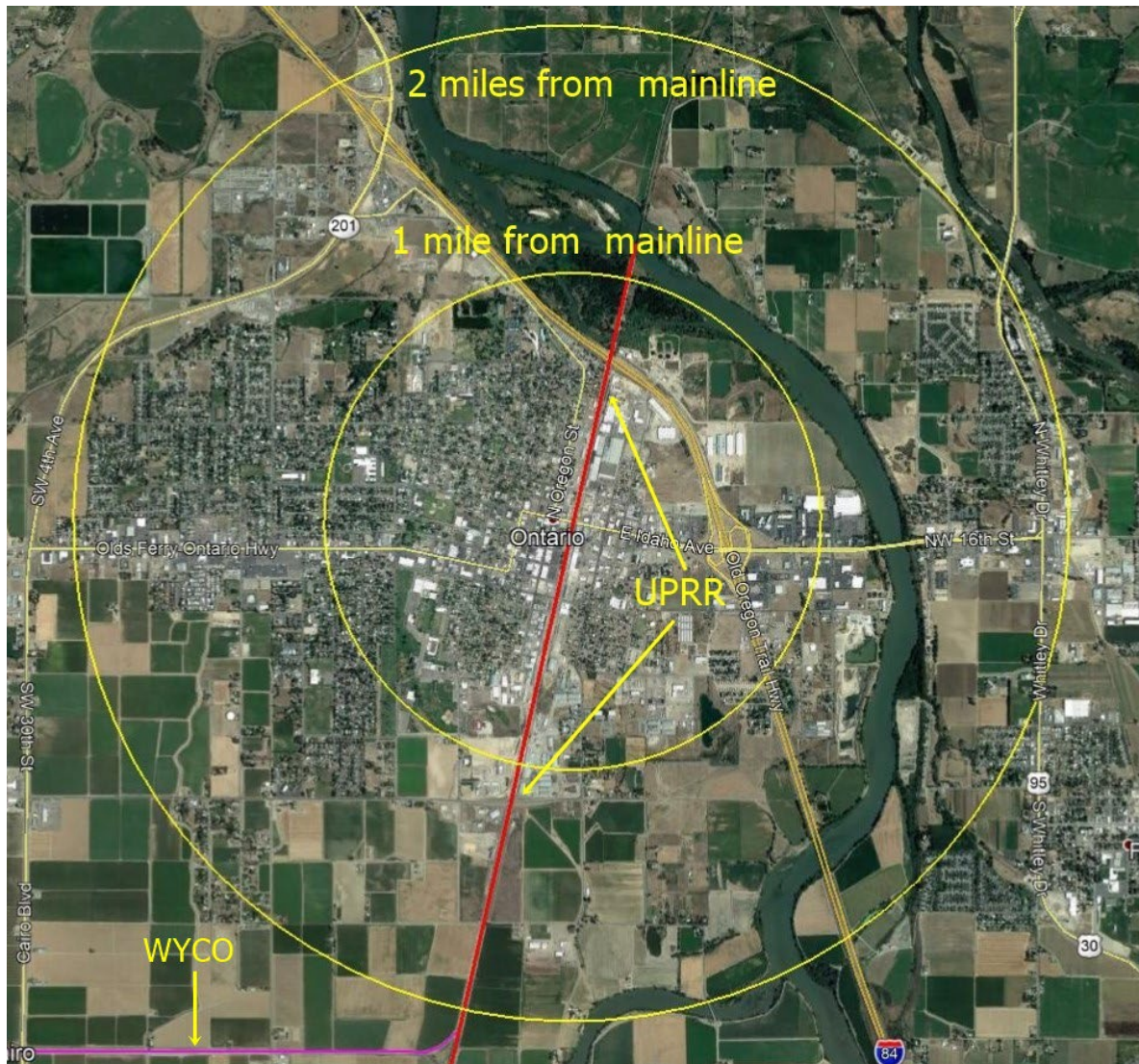
Map 8 – Rail, Malheur County



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This map shows potential impact areas one mile and two miles from a point along the UPRR near the center of Ontario.

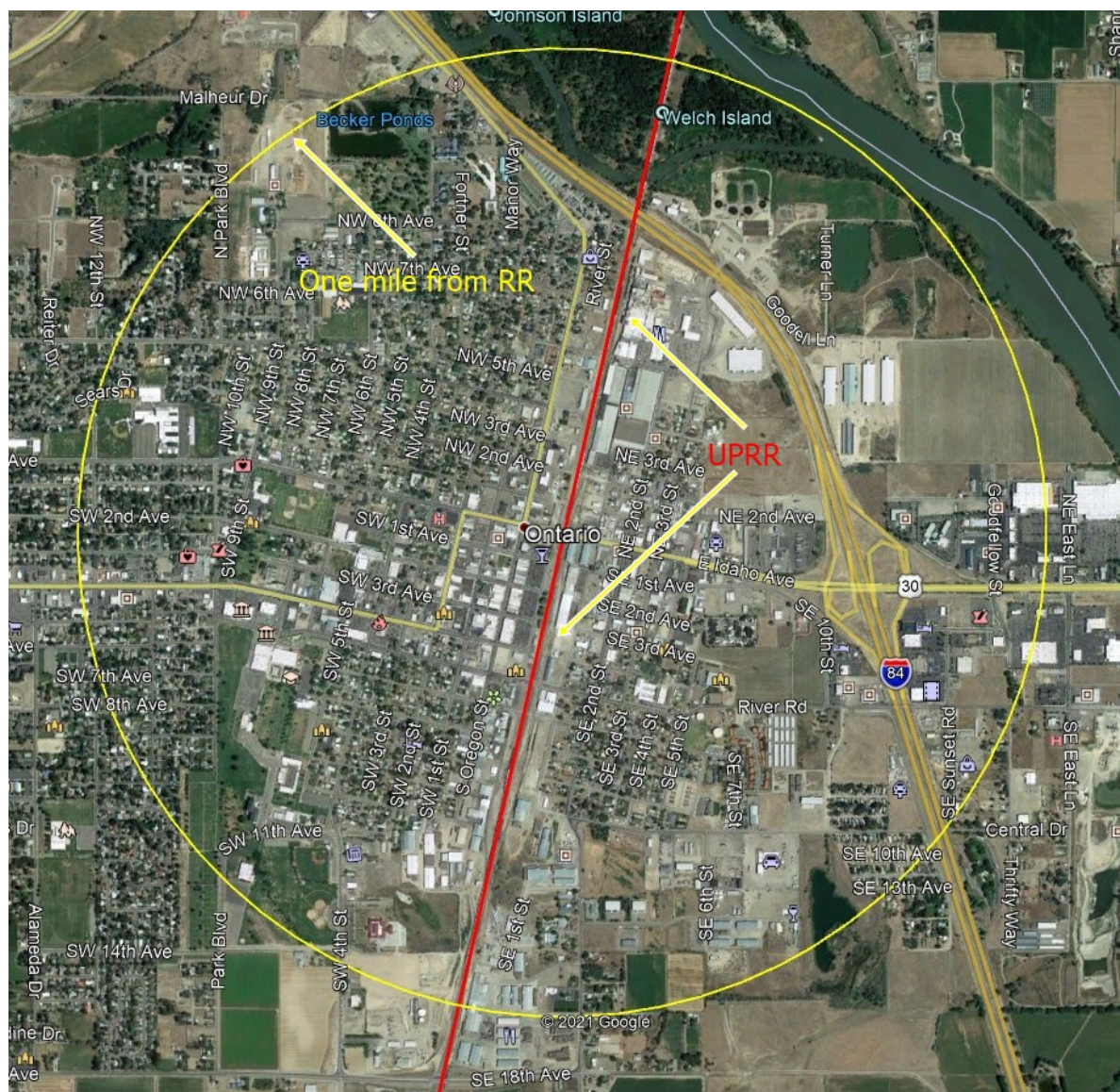
Map 9 – Rail, Ontario, One- and Two-Mile Circles



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This map shows a more detailed area one mile from a point along the UPRR near the center of Ontario.

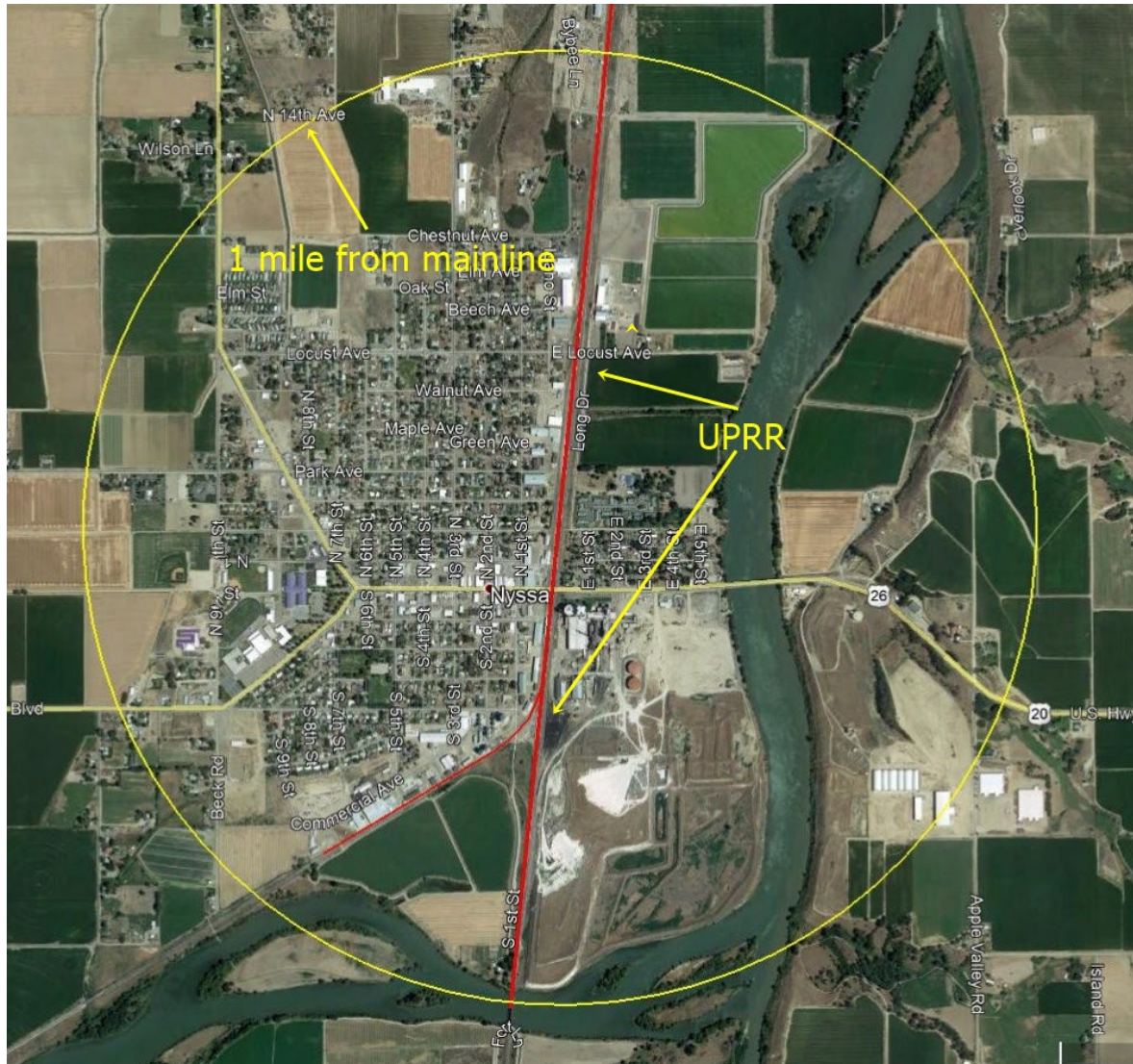
Map 10 – Rail, Ontario, One-Mile Circle



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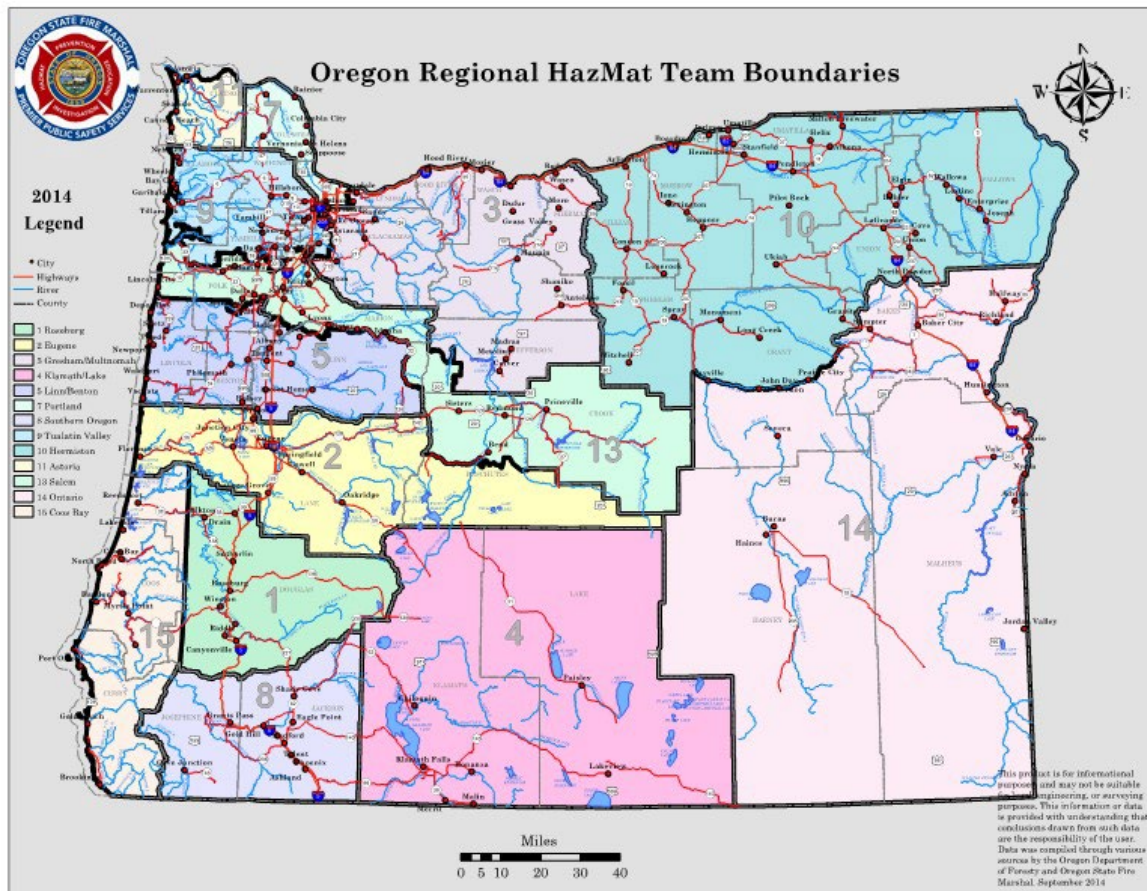
This map shows the potential impact area one mile from a point along the UPRR near the center of Nyssa.

Map 11 – Rail, Nyssa, One Mile Circle



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Appendix C: Oregon Regional Hazardous Materials Response Teams Boundaries



Boundary Descriptions

HazMat 02/Eugene – Eugene Fire and EMS

The HM02 response area is the area within the following boundary: Starting at the northwest corner of Lane County follow the north county line due east to the Deschutes county line, continue south along Lane county line to the Horse Lake trail -FT3515. Travel east to the intersection of Cascade Lakes Highway (Hwy 372) and Foot Trail 12. Follow Cascade Lakes Highway to Bend rural fire district limits. Follow the Bend Rural FD line south, then east until it intersects Hwy 20. Follow Hwy 20 south to Forest Rd 6521 (MP 17.4). East on FR6521 to the Crook/Deschutes County line. Continue east to the Harney County boundary line. At the Harney county line continue south along the Harney county line to the Lake/Deschutes county line. Follow the Lake/Deschutes county line west to the Lane county line. Follow the Lane county line west to the Pacific Ocean.

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HazMat 04/Klamath- Lake – Klamath Co. Fire District #1

The HM04 boundaries are identical to the Klamath County/Lake County boundaries.

HazMat 10/Hermiston – Umatilla County Fire District #1

The HM10 response area is the area within the following boundary: Beginning at the Columbia River at the mouth of the John Day River continue south following the John Day River to the point where the river heads east at the Wheeler-Jefferson County line. Continue south on the Wheeler County line to the Crook County line. East along the Wheeler County line to the Grant County line. North along the Grant County line to Highway 26, east on Hwy 26 to the Grant & Baker County line. Dayville and Mt. Vernon are included in the area covered by HM10; John Day and Prairie City are not included and are covered by HM14. From the intersection of Highway 26 and the western Baker County line, continue north to where the Grant, Baker, and Union County line meet. East on the Northern Baker County line to the Oregon-Idaho state line. North on the Oregon-Idaho state line to where Oregon, Washington, and Idaho state lines meet. Continue west on the Oregon-Washington state line to the point of beginning.

HazMat 13/Salem - Salem Fire Department

The HM13 response area is the area within the following boundary: The Western boundary of the response area begins at the Northwest corner of the Nestucca Rural Fire Protection District in Tillamook County and includes the Nestucca RFPD in its entirety. The western boundary moves south along the Lincoln County coastline to the southern boundary of the North Lincoln County Fire Department at the Kernville Bridge. The southern boundary continues due east through Lincoln County across the Polk County line to the Eastern boundary of Southwest Polk Fire District. Continue southeast following the boundary of Southwest Polk County FD to the northwest boundary of Polk County Fire District #1, continue along the Northwest boundary of PCFD #1 west to the Willamette River. On the east side of the Willamette River continue south along the Western boundary of Salem Suburban Fire Protection District to the northwest corner of the Jefferson RFPD. Continue east along the northern boundary of Jefferson RFPD to its intersection with the Stayton Fire District western boundary. Follow the Stayton FD boundary south then east. Continue along the southern boundaries of Mill City RFPD and Gates RFPD to its intersection with Highway 22. Continue south on Highway 22 to the Hwy 20 junction. Follow Hwy 20 east to the Linn/Jefferson county line. Follow the Jefferson county line south to the Jefferson and Deschutes county line. Follow the Western border of Deschutes county south to Horse Lake trail -FT3515 (Latitude 44.038 longitude 121.834.) Continue due east to the intersection of Cascade Lakes Highway (Highway 372) and Foot Trail 12. Follow Cascade Lakes Hwy to Bend city limits/ Bend rural fire district limits. Follow the Bend Rural FD line south, then east until it intersects Hwy 20. Follow Hwy 20 south to Forest Rd 6521. (MP 17.4) East on FR6521 to the Crook/Deschutes County line. Continue east along the Crook/Deschutes County line to the Harney County line. At the Harney county line continue north and east on the Harney/Crook county line; continue North on the Crook/Grant county line to the Wheeler county line. Follow the Southern edge of the Crook/Wheeler county line west to the Jefferson

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county line. Follow the Crook/Jefferson county line west, continuing west along the Jefferson/Deschutes county line to the eastern boundary of the Sisters-Camp Sherman Rural Fire Protection District. Follow the Sisters-Camp Sherman RFPD boundary north to the southern boundary of the Warm Springs Indian Reservation. Follow the Southern edge of the Warm Springs Indian Reservation boundary east to the Marion/ Jefferson county line. Follow the Marion/Jefferson county line north to the Marion/Wasco county line and continue north to the Marion/Clackamas county line. Follow the northern border of Marion County to Hwy 211, to the Eastern border of the Woodburn Rural Fire Protection District. Follow the Eastern and Northern Woodburn RFPD to Highway 219. Follow Highway 219 to the eastern boundary of St. Paul RFPD. Continue south along the eastern boundaries of St. Paul RFPD and Woodburn Fire District Boundary continues west following the Southern boundaries of Dayton FD, west along the northern boundaries of Amity Fire District, Sheridan Fire District and Willamina Fire District to the eastern boundary of Nestucca RFPD. Follow the Northern edge of the Nestucca RFPD to the Pacific coastline.

HazMat 14/Ontario – Ontario Fire and Rescue



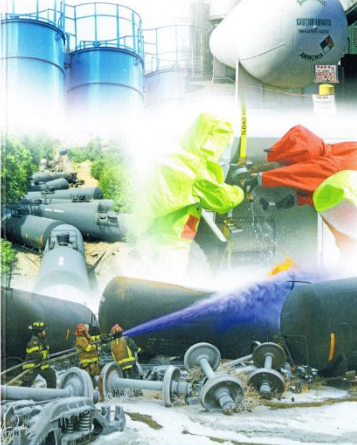
The HM14 response area is the area within the following boundary: Starting at the southeast corner of Malheur County at the intersection of the Oregon, Idaho, and Nevada state lines, follows the Idaho-Oregon state line north to the Northern Baker county line. Proceed west on the northern Baker county line to Highway 7. Continue on Highway 7 southwest to the intersection of State Highway 26, and then follow Highway 26 to John Day. From John Day, travel west on state Highway 26 to the Grant-Wheeler County line. John Day and Prairie City are included in HM14 response area. Dayville and Mt Vernon are not included in the HM14 response area and are covered by HM10. Follow the western Grant County line, south to the Harney County line. Following the Harney County line continue south to the Nevada State line. Follow the Nevada State line to the starting point. This includes all the land in Harney and Malheur Counties.

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Appendix D: Sources for Additional Reference Information

- ASK RAIL is an app, available from Google Play Store or the Apple App Store. With this app, a first responder can find out what is in any rail car by entering the car number. This application requires a registration process for access. Download the application and complete the registration process. It may take several weeks for approval by email.
- CAMEO (Computer-Aided Management of Emergency Operations) Software: (CAMEO, ALOHA, MARPLOT): www.epa.gov/cameo/cameo-data-manager-software
- Commodity Preparedness and Incident Management Reference Sheet; Petroleum Crude Oil. <http://dothazmat.vividlms.com/docs/Reference-Sheet-for-Crude-Oil/Petroleum-Crude-Oil-CERG.pdf>.
- Community Right to Know Hazardous Substance Manager (CHS Manager): <https://oregon.hazconnect.com/Account/Login.aspx>
- Federal Emergency Management Agency: <https://training.fema.gov/is/>
- Google Earth Pro: <https://earth.google.com>
- GovSpace (<https://govspace.oregon.gov/>) is a collaborative website that provides an update of current hazardous materials by rail list. This is a restricted site and a user must apply for access.
- Incident Command System Training Courses and Materials, FEMA: <https://training.fema.gov/>
- Marplot: www.epa.gov/cameo/marplot-software
- National Incident Management System (NIMS), information: <http://www.fema.gov/national-incident-management-system>
- National Incident Management System (NIMS), training: <https://training.fema.gov/nims/>
- OH&S Best Practices Document for Crude Oil Emergencies: <https://ohsonline.com/Articles/2014/10/09/Crude-Oil-Emergencies.aspx?p=1>
- Oregon Emergency Management Training: <https://www.oregon.gov/OEM/emresources/Pages/Training.aspx>
- Oregon State Fire Marshal's Office: Hazardous Materials Response Teams: <https://www.oregon.gov/osp/programs/sfm/Pages/Regional-Response-Teams.aspx>
- WebWISER (Wireless Information System for Emergency Responders): available online at WebWISER - Home (nih.gov)

Appendix E: Shelter-in-Place Pamphlet from Oregon State Fire Marshal

<h3>Make an Emergency Kit</h3> <p>Here are some things to include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> "Special Needs" items for family, formula and supplies for infants, items for older people or those with disabilities. <input type="checkbox"/> First aid supplies <input type="checkbox"/> Prescription medications <input type="checkbox"/> Flashlight, battery-powered radio, and spare batteries <input type="checkbox"/> Water and food. A gallon of water per person per day. Canned and dried foods are easy to store. <input type="checkbox"/> Plastic sheeting, duct tape, and towels <input type="checkbox"/> Tools (hammer, screwdrivers, manual can opener, scissors, garbage bags) <input type="checkbox"/> Cell phone and charger <input type="checkbox"/> Sleeping bag and extra shoes <input type="checkbox"/> Cash <input type="checkbox"/> Pet supplies <input type="checkbox"/> Reading materials (games if kids are present) 	 <p>OREGON OFFICE OF STATE FIRE MARSHAL State Emergency Response Commission 3565 Trelstad Ave SE Salem, OR 97317-9614 Phone: (503) 378-3473 Fax: (503) 373-1825 oregon.gov/OSP/SFM</p>	 <h3>Shelter in Place</h3> 
<p>A guide to seeking shelter in case of a hazardous materials emergency</p>		

<h3>Airborne Chemical Release</h3> <p>Should an airborne chemical release occur in your community, outside air quality may be affected. It may be unsafe to be outside, or to attempt evacuation. Generally, it is safer to Shelter in Place until the wind disperses and moves the chemical away.</p> <h3>What is Shelter in Place?</h3> <p>One of the instructions you may be given in an emergency where hazardous chemicals have been released into the atmosphere is to Shelter in Place. This is a precaution to keep you safe by remaining indoors. Shelter in Place means selecting an interior room, with no or few windows, and taking refuge there. It does not mean sealing off your entire home.</p> <h3>When Should I Seek Shelter?</h3> <p>Instructions on when to Shelter in Place will come from your local authorities.</p> <p>Information on what to do to protect yourself and your family will be available on the television, radio, or internet.</p> <p>Knowing how to Shelter in Place and following the instructions of local authorities are important in case of an emergency.</p>	 <h3>How Do I Shelter in Place?</h3> <ul style="list-style-type: none"> • Stay calm and bring children and pets indoors immediately. • Close and lock all doors, windows, and fireplace dampers. • Turn off all fans, heating, and air conditioning systems. • Gather disaster supplies and a battery-powered radio. • Go to an interior room without windows if possible. Avoid seeking shelter in basement areas, as some chemicals are heavier than air and may seep into the basement. <ul style="list-style-type: none"> • Use duct tape and plastic sheeting or wet towels to seal doors, windows, vents, and exhaust fans. • Listen to the radio or TV for emergency instructions until you are told all is safe. • Use the phone for emergencies ONLY. • If you have symptoms of exposure or another emergency call 9-1-1 immediately. DO NOT call 9-1-1 for information. 	
<h3>LEPC Purpose</h3> <p>LEPC's address risk from hazardous chemical releases at fixed sites or in transit. They use a variety of methods and strategies to ensure emergency planning and preparedness is accomplished within their districts.</p>		

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Appendix F: Tank Car Identification

Non-Pressure Tank Cars; <100 psi and carry Crude Oil, Acids, Ethanol, etc.

Non-Pressure Tank Cars

- MULTIPLE OBJECTS ON TOP (PROTECTIVE HOUSING, MANWAY, PRD, ETC.)
- BOTTOM OUTLET VALVE



Pressure Tank Cars; >100-600 psi and carry LPG, Chlorine, Anhydrous Ammonia, etc.

Pressure Tank Cars

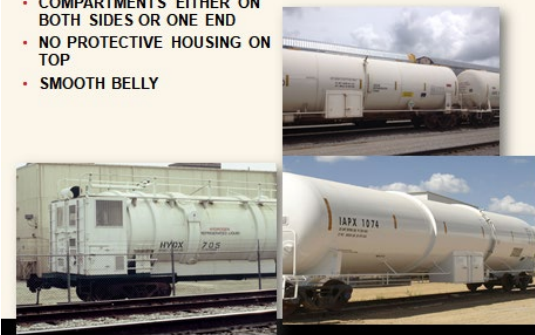
- SMOOTH BELLY
- ONLY 1 OBJECT ON TOP, THE PROTECTIVE HOUSING



Cryogenic Liquid Tank Cars; 25 psi and carry Argon, etc.

Cryogenic Liquid Tank Cars

- COMPARTMENTS EITHER ON BOTH SIDES OR ONE END
- NO PROTECTIVE HOUSING ON TOP
- SMOOTH BELLY



Appendix G: Quick Reference for Law Enforcement

RAILROAD HAZMAT INCIDENT QUICK REFERENCE FOR LAW ENFORCEMENT HAZARD IDENTIFICATION

- 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
- Secure the scene:** isolate the area, deny entry to non-essential personnel, maintain site security, and establish a traffic incident management plan
- Assess the situation:** determine threats to life, property, the environment and condition of the train (upright, derailed, leaking, etc.)
- Determine the hazardous materials involved by observing the rail car's markings or obtaining shipping papers from the train engineer**
- 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 Divisions: 3.1, 3.2	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 Divisions: 6.1, 6.2	Class 7: Radioactive Division: 7.1	Class 8: Corrosive Divisions: 8.1, 8.2	Class 9: Miscellaneous Division: 9.1

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.

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

- 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
- Report this information to OERS** via DISPATCH and **request additional resources as needed**, including a **State Hazmat Team**
- Establish a command post** and **form a unified command** with other local emergency response officials
- 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:**
(800) 832-5452

**Union Pacific Railroad
Emergency Operations Center:**
(888) 877-7267

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

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Appendix H: ERG Table of Initial Isolation and Protective Action Distances

The following is taken from the Department of Transportation Emergency Response Guidebook.

INTRODUCTION TO THE TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

The Table of Initial Isolation and Protective Action Distances suggests distances useful to protect people from vapors resulting from spills involving dangerous goods which are considered toxic by inhalation (TIH), including certain chemical warfare agents, or which produce toxic gases upon contact with water. The Table provides first responders with initial guidance until technically qualified emergency response personnel are available. Distances show areas likely to be affected during the first 30 minutes after materials are spilled and could increase with time.

The Initial Isolation Zone defines an area SURROUNDING the incident in which persons may be exposed to dangerous (upwind) and life threatening (downwind) concentrations of material. The Protective Action Zone defines an area DOWNWIND from the incident in which persons may become incapacitated and unable to take protective action and / or incur serious or irreversible health effects. The Table provides specific guidance for small and large spills occurring day or night.

Adjusting distances for a specific incident involves many interdependent variables and should be made only by personnel technically qualified to make such adjustments. For this reason, no precise guidance can be provided in this document to aid in adjusting the table distances; however, general guidance follows.

Factors That May Change the Protective Action Distances

The guide for a material clearly indicates the evacuation distance required to protect against fragmentation hazard. If the material becomes involved in a FIRE, the toxic hazard may become less important than the fire or explosion hazard.

If more than one tank car, cargo tank, portable tank, or large cylinder involved in the incident is leaking, LARGE SPILL distances may need to be increased.

For material with a protective action distance of 11.0+ km (7.0+ miles), the actual distance can be larger in certain atmospheric conditions. If the dangerous goods vapor plume is channeled in a valley or between many tall buildings, distances may be larger than shown in the Table due to less mixing of the plume with the atmosphere. Daytime spills in regions with known strong inversions or snow cover, or occurring near sunset, accompanied by a steady wind, may require an increase in protective action distance. When these conditions are present, airborne contaminants mix and disperse more slowly and may travel much farther downwind. In addition, protective action distances may be larger for liquid spills when either the material or outdoor temperature exceeds 30° C (86° F).

Materials which react with water to produce significant toxic gases are included in the Table of Initial Isolation and Protective Action Distances. Note that some materials which are TIH, e.g., bromine trifluoride and thionylchloride, produce additional TIH materials when spilled in water. For these materials, two entries are provided in the Table of Initial Isolation and

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Protective Action Distances. If it is not clear whether the spill is on land or in water, or in cases where the spill occurs both on land and in water, choose the larger Protective Action Distance. Following the Table of Initial Isolation and Protective Action Distances is a table that lists the materials which, when spilled in water, produce toxic gases and the toxic gases that these water reactive materials produce.

When a water reactive TIH producing material is spilled into a river or stream, the source of the toxic gas may move with the current or stretch from the spill point downstream for a substantial distance.

Certain chemical warfare agents have been added to the Table of Initial Isolation and Protective Action Distances. The distances shown were calculated using worst case scenarios for these agents when used as a weapon.

PROTECTIVE ACTION DECISION FACTORS TO CONSIDER

The choice of protective options for a given situation depends on a number of factors. For some cases, evacuation may be the best option; in others, sheltering-in-place may be the best course. Sometimes, these two actions may be used in combination. In any emergency, officials need to quickly give the public instructions. The public will need continuing information and instructions while being evacuated or sheltered-in-place.

Proper evaluation of the factors listed below will determine the effectiveness of evacuation or shelter-in-place protection. The importance of these factors can vary with emergency conditions. In specific emergencies, other factors may need to be identified and considered as well. This list indicates what kind of information may be needed to make the initial decision.

The Dangerous Goods

- Degree of health hazard
- Amount involved
- Containment/control of release
- Rate of vapor movement

The Population Threatened

- Location
- Number of people.
- Time available to evacuate or shelter in -place
- Ability to control evacuation or shelter in -place
- Building types and availability
- Special institutions or populations, e.g., nursing homes, hospitals and prisons

Weather Conditions

- Effect on vapor and cloud movement
- Potential for change
- Effect on evacuation or protection in -place

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PROTECTIVE ACTIONS

Protective Actions are those steps taken to preserve the health and safety of emergency responders and the public during an incident involving releases of dangerous goods. The Table of Initial Isolation and Protective Action Distances (green-bordered pages) predicts the size of downwind areas which could be affected by a cloud of toxic gas. People in this area should be evacuated and/or sheltered in-place inside buildings.

Isolate Hazard Area and Deny Entry means keep everybody away from the area if they are not directly involved in emergency response operations. Unprotected emergency responders should not be allowed to enter the isolation zone. This "isolation" task is done first to establish control over the area of operations. This is the first step for any protective actions that may follow. See the Table of Isolation and Protective Action Distances (green bordered pages) for more detailed information on specific materials.

Evacuate means move all people from a threatened area to a safer place. To perform an evacuation, there must be enough time for people to be warned, to get ready, and to leave an area. If there is enough time, evacuation is the best protective action. Begin evacuating people nearby and those outdoors in direct view of the scene. When additional help arrives, expand the area to be evacuated downwind and crosswind to at least the extent recommended in this guidebook. Even after people move to the distances recommended, they may not be completely safe from harm. They should not be permitted to congregate at such distances. Send evacuees to a definite place, by a specific route, far enough away so they will not have to be moved again if the wind shifts.

Shelter In -Place means people should seek shelter inside a building and remain inside until the danger passes. Sheltering in - place is used when evacuating the public would cause greater risk than staying where they are, or when an evacuation cannot be performed. Direct the people inside to close all doors and windows and to shut off all ventilating, heating and cooling systems. In -place protection may not be the best option if: a) the vapors are flammable; b) if it will take a long time for the gas to clear the area; or c) if buildings cannot be closed tightly. Vehicles can offer some protection for a short period if the windows are closed and the ventilating systems are shut off. Vehicles are not as effective as buildings for in-place protection.

It is vital to maintain communications with competent persons inside the building so that they are advised about changing conditions. Persons protected-in-place should be warned to stay far from windows because of the danger from glass and projected metal fragments in a fire and/ or explosion.

Every dangerous goods incident is different. Each will have special problems and concerns. Action to protect the public must be selected carefully. These pages can help with initial decisions on how to protect the public. Officials must continue to gather information and monitor the situation until the threat is removed.