



Railroad Emergency Response: Back to the Basics

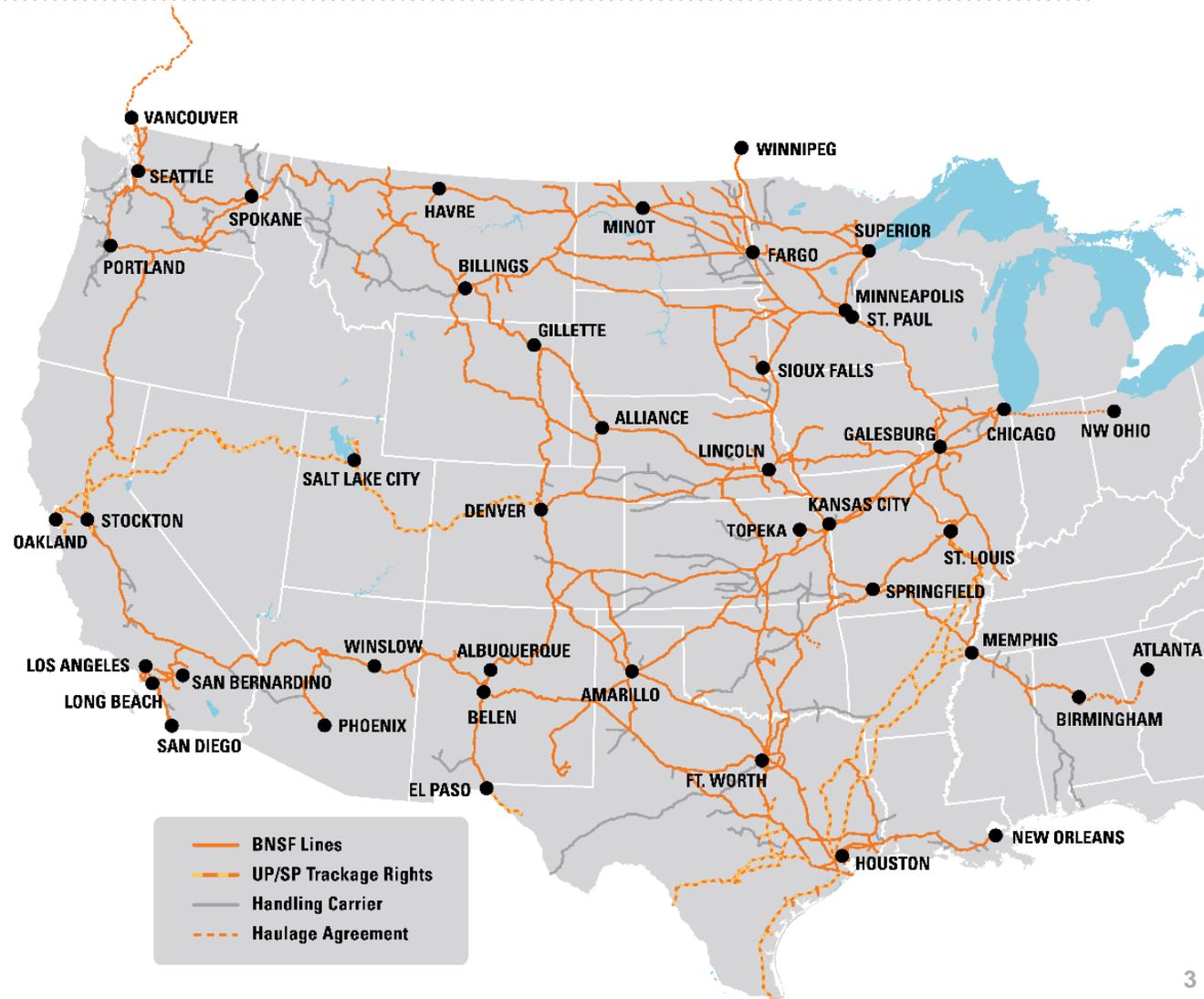
Patrick Brady CIH, CSP
General Director Hazmat Safety
Fort Worth, TX



- Sign-in via link in the chat
- Webinar is being recorded and will be posted on www.BNSFHAZMAT.com
- Evaluation Surveys and Certificates
- Chat your questions

About BNSF

- **Berkshire Hathaway** company
- Approximately **32,000 employees**
- **33,400 route miles** in 28 states and three Canadian provinces
- Approximately **7,500 locomotives**
- Moves **one-fourth** of nation's rail freight
- **13,000+** bridges and **89** tunnels
- Serves **40+ ports**
- **26** intermodal facilities





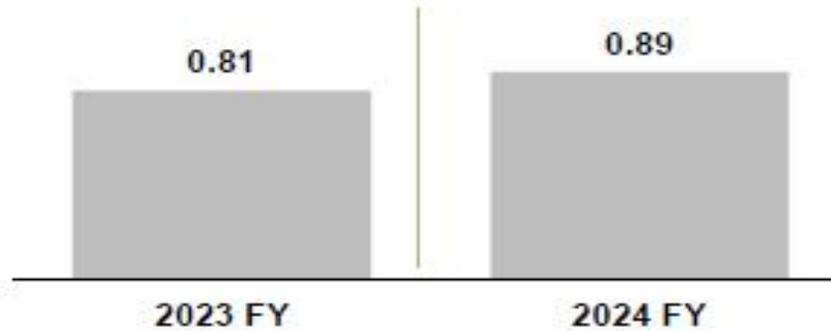
BNSF Safety Vision



**Our safety vision is to
operate free of accidents
and
injuries – preventing them
through
training, technology and
safety programs.**

2024 Employee Safety Performance

Reportable frequency, injuries per 200,000 workhours



BNSF SAFETY IMPROVEMENTS 2010-2024

-49%
Reportable
Frequency Ratio

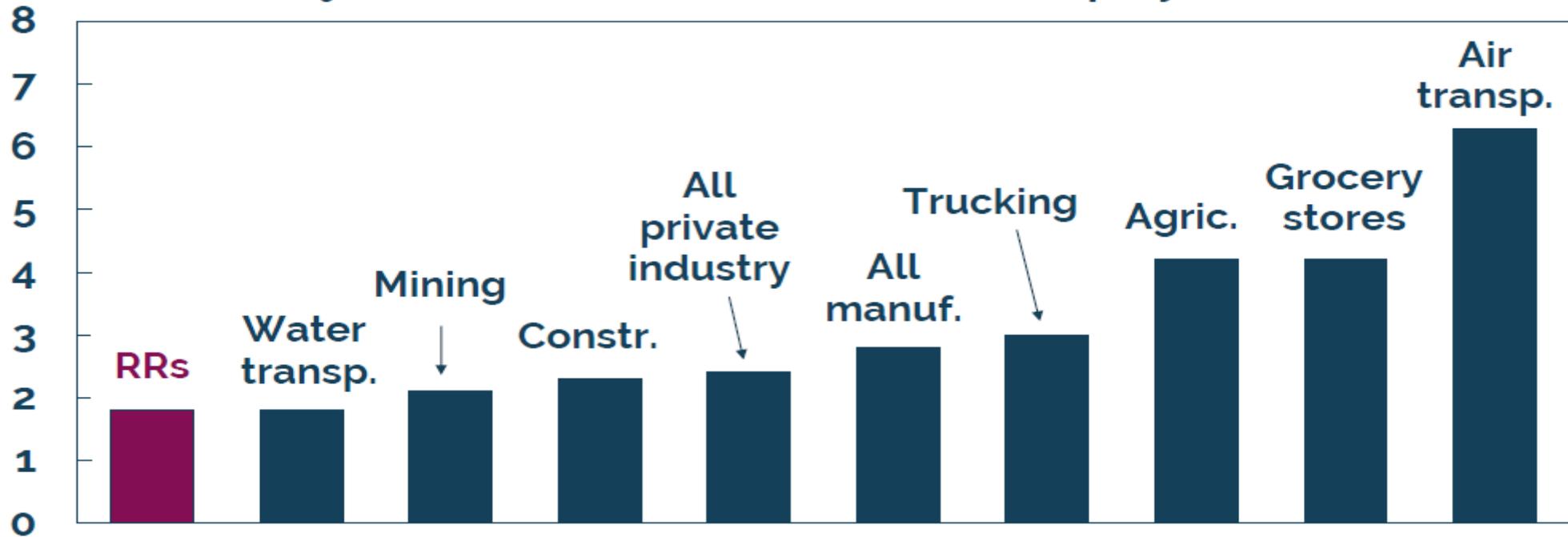
-58%
Reportable
Severity Ratio

Railroads vs. “Other Industries”

Railroads Are Safer Than Most Other Industries

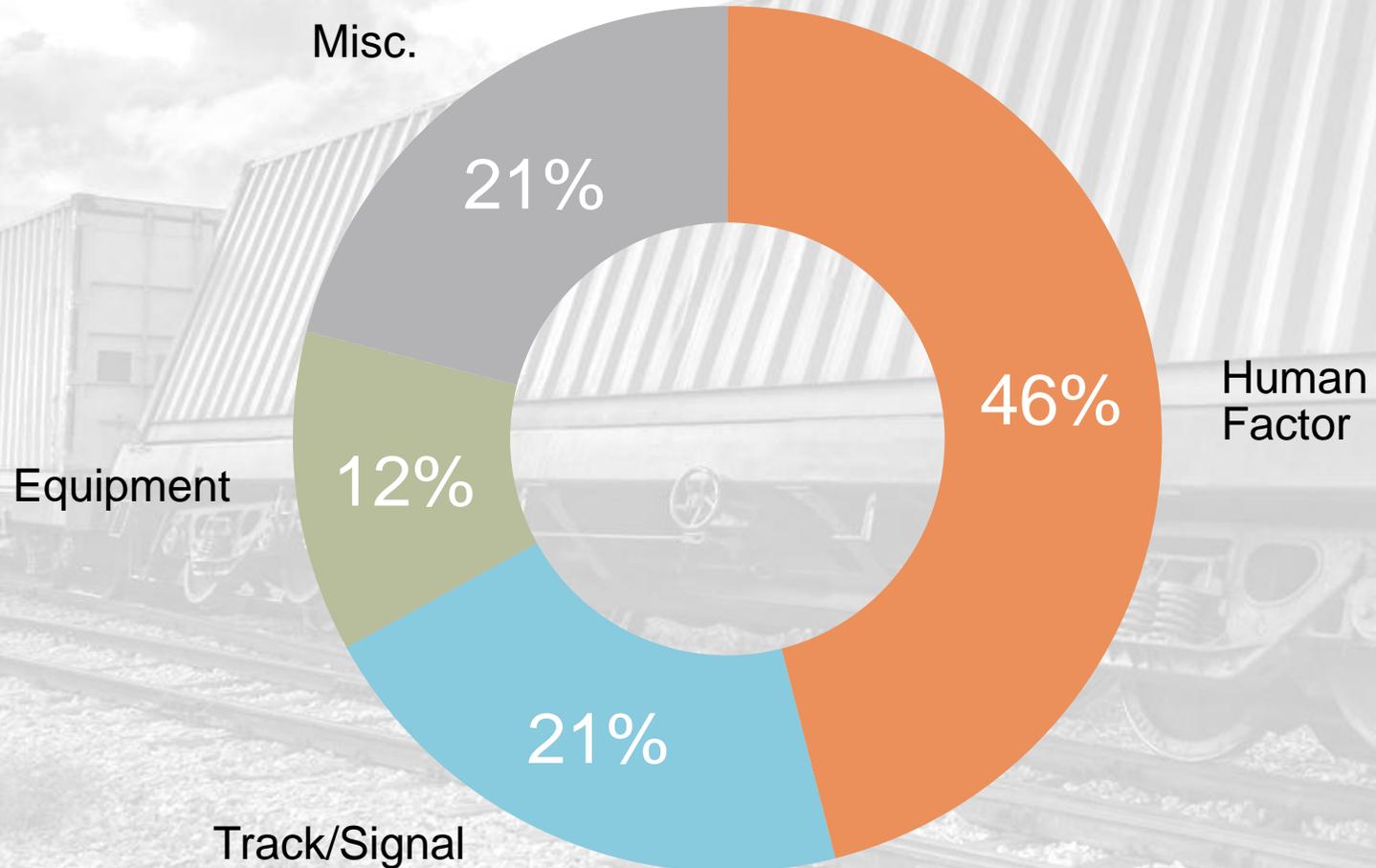


Injuries and Illnesses Per 200,000 Employee Hours



Prevention: Causes for Derailments

BNSF Reportable Train Accident Causes



Technology Enhances Safety and Efficiency



More than **4 million** revenue service trips using Positive Train Control (PTC)



Wayside Detectors take **+35 million** readings daily



Autonomous Track Geometry Cars increase the number of miles inspected “THOR and ODIN”



Utilizing **Big Data Analytics** for a comprehensive view

Leveraging Advanced Technology *(4,000 Sensors: 35M Daily Measures)*

- Cold Wheel Detectors
- Track Health Optical Recognition
- Virtual Block

Sensors

 Thermal	 Acoustic
 Visual	 Force

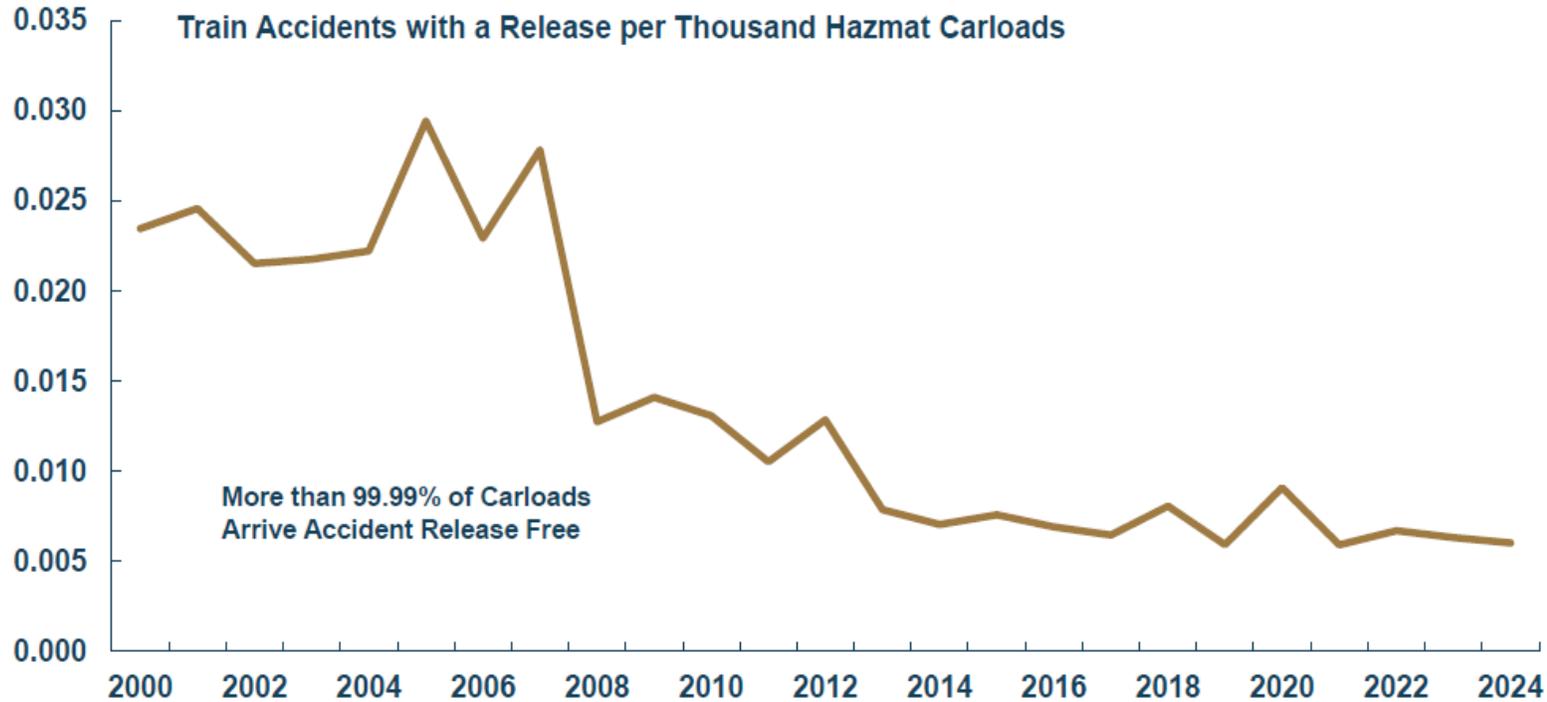
Components

 Bearing	 Wheel
 Trucks	 Brakes



Hazmat Accidents - What Is The Trend?

Hazmat accident rates have declined 80% since 2005 and 21% since 2015. Recent years have had the lowest rates.

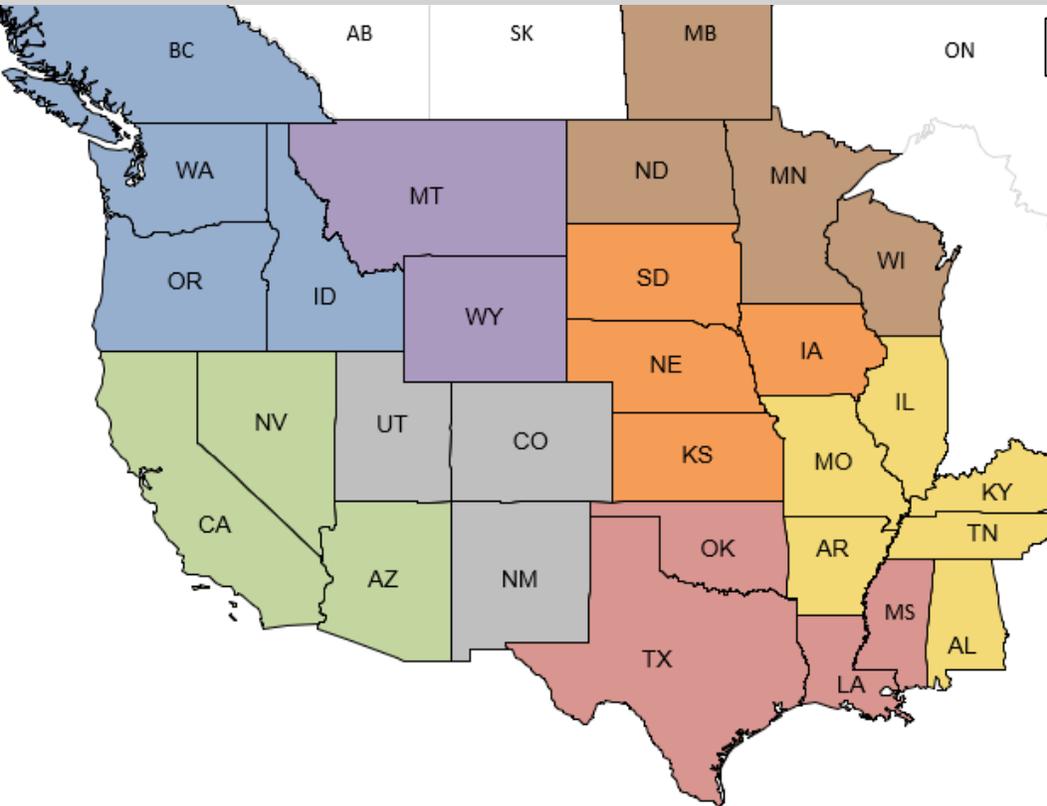




Introduction to the BNSF Railway

Preparation and Response to
Railroad Hazmat Emergencies

HAZMAT Region Map



HazMat - System Wide

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BNSF HAZMAT REGION MAP

BNSF HazMat Shipments

Intermodal or Non-Bulk



14%

86%

~1.26M

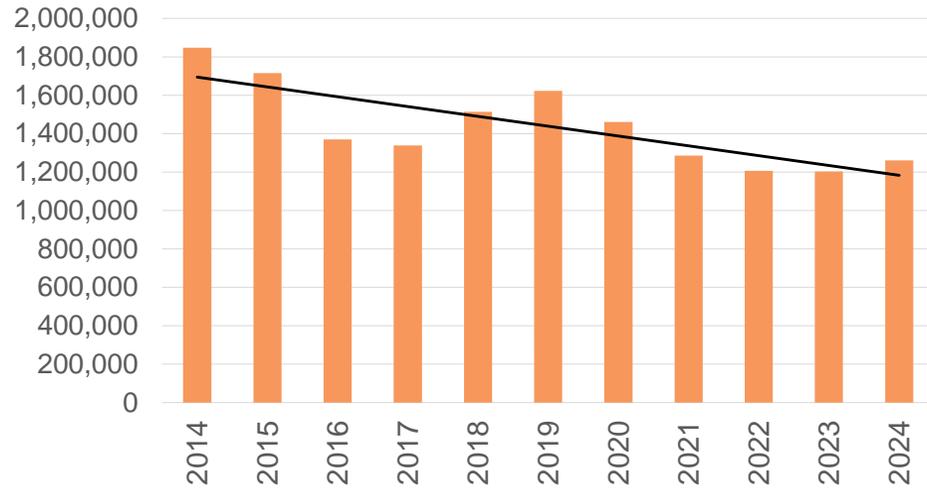
Total HazMat
shipments in 2024
up 58k from 23

Manifest / Bulk

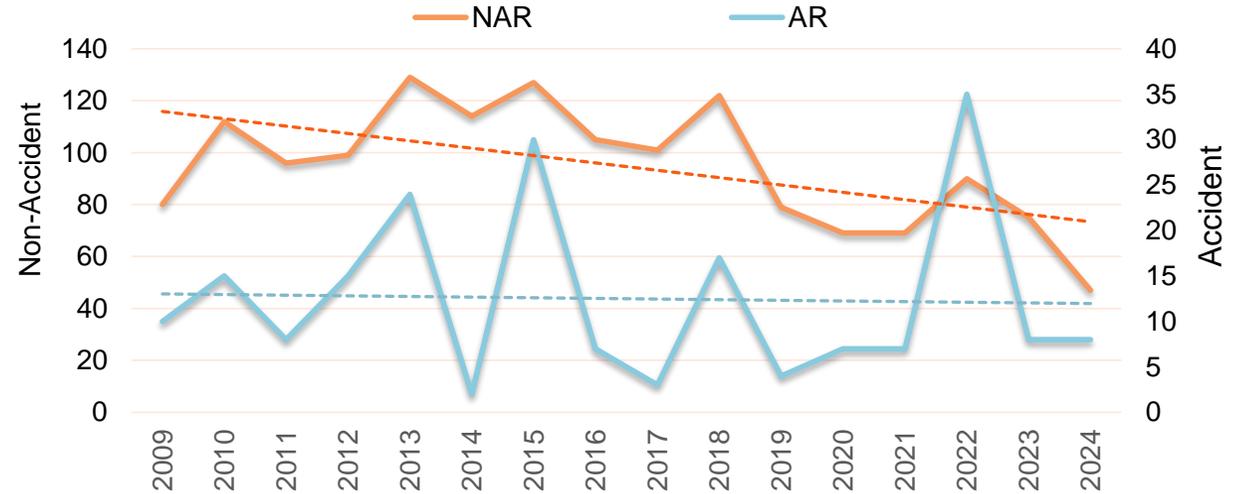


BNSF Hazardous Material Stats

BNSF Number of HazMat Shipments



BNSF Total HazMat Releases

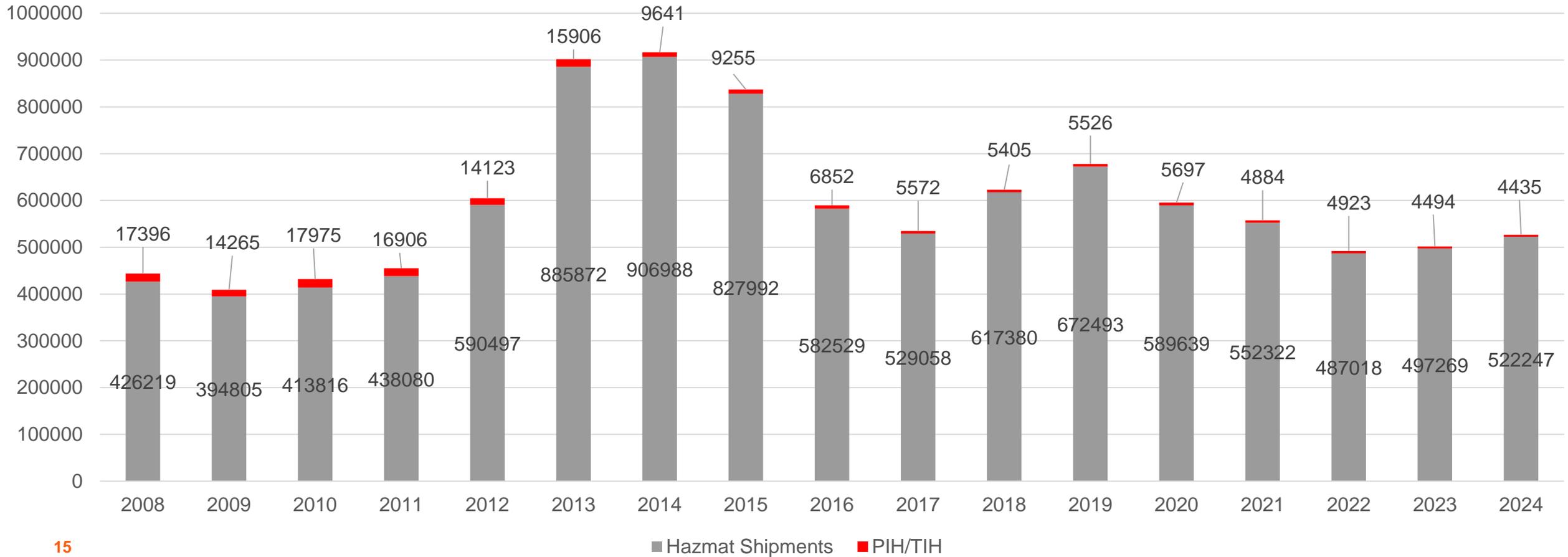


HAZMAT TRENDS

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Accident Release (AR) Yearly Totals	2	30	7	3	14	4	7	7	35	8	8
Number of Derailments with an AR	2	7	6	3	4	2	5	2	4	4	2
AR per 100K HM Shipments	0.11	1.75	0.51	0.22	0.92	0.25	0.82	0.46	2.9	0.66	0.63
Non-Accident Release (NAR) Yearly Totals	114	127	105	101	122	79	69	69	90	75	47
NAR per 100K HM Shipments	6.2	7.4	7.7	7.5	8.1	4.9	4.7	4.2	7.5	6.2	3.7

BNSF TIH/PIH vs All HazMat Loads

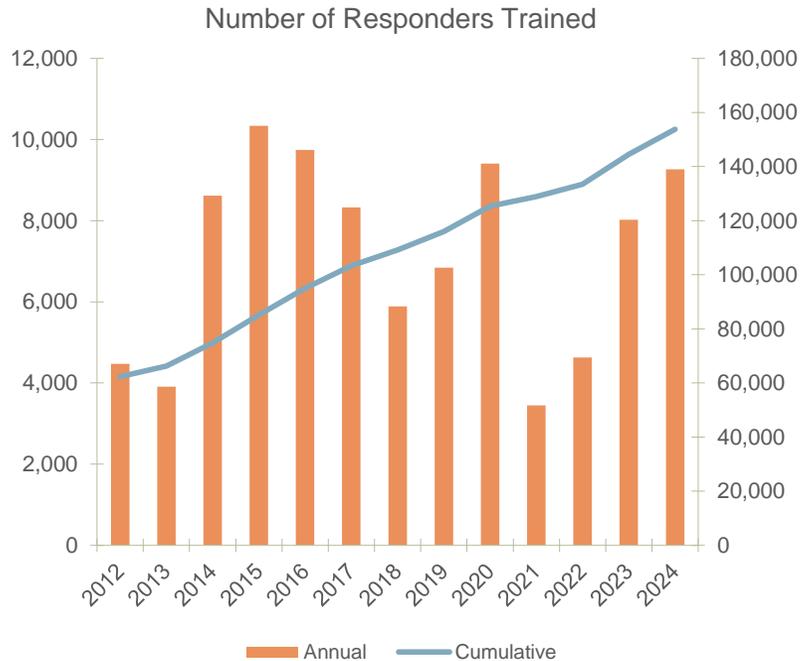
Loaded HazMat Cars (Non-Intermodal)



Community focus is on training responders and providing interpretative information for a safe response

Training - Community

- Over 160,000 First Responders Trained since 1996
- In person training with or w/out Training Rail cars
- Web Based Training via BNSFHAZMAT.com
- Webinars





2024 Top 20 HazMat's Transported by BNSF in Tank Cars

90% of total bulk shipments

UN Code	CFR Haz Class	Proper Shipping Name	ERG	Residue Car	Loaded Car
1170/1987/					
3065/3475	3	ALCOHOLS, N.O.S./ETHANOL/ALCOHOLIC BEVERAGES/ETHANOL AND GASOLINE MIXTURES	127	112945	109486
1267	3	PETROLEUM CRUDE OIL	128	96824	94498
1075	2.1	LIQUEFIED PETROLEUM GAS	115	94772	89914
1202/1993	3/CL	DIESEL FUEL/FUEL OIL	128	48293	42315
3257	9	ELEVATED TEMPERATURE LIQUID, N.O.S.	128	48126	41844
1203	3	GASOLINE	128	21302	17497
1830	8	SULFURIC ACID	137	9956	10337
1824	8	SODIUM HYDROXIDE SOLUTION	154	10415	8656
3082	9	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	171	6649	7190
1993	CL	COMBUSTIBLE LIQUID, N.O.S.	128	7676	6926
3077	9	ENVIRONMENTALLY HAZARDOUS SUBSTANCES,SOLID,N.O.S.	171	6707	6893
1789	8	HYDROCHLORIC ACID	157	7753	6390
2448	9	SULFUR, MOLTEN	133	5680	5643
1230	3	METHANOL	131	5355	5136
1268	3/CL	PETROLEUM DISTILLATES, N.O.S.	128	2879	2751
3256	3	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S.	128	2811	2509
1262	3	OCTANES	128	2489	2487
2055	3	STYRENE MONOMER, STABILIZED	128	2502	2334
1017	2.3	CHLORINE	124	2402	2208
2426	5.1	AMMONIUM NITRATE, LIQUID	140	2468	2132

Working Around Railroads and Equipment

Preparation and Response to
Railroad Hazmat Emergencies

Safety Challenges

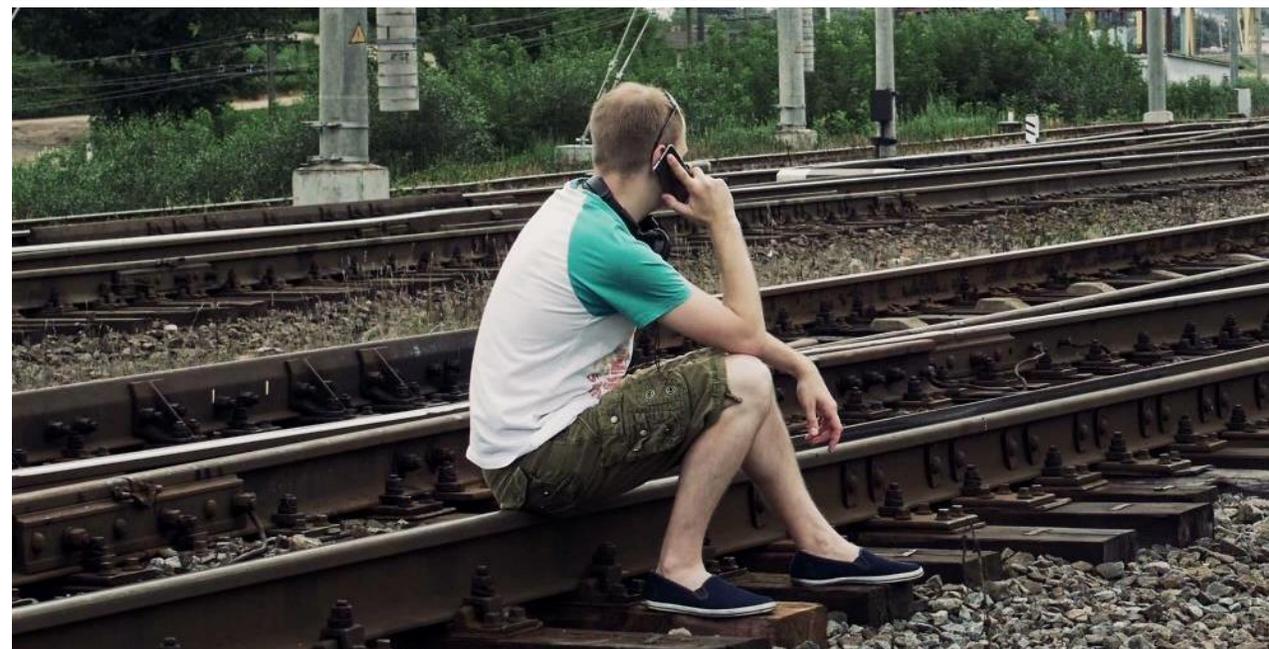
- Railroading is a safe but very unforgiving environment
- Newton's Second Law of Motion (Force = Mass x Acceleration)
 - Locomotives = 430,000 pounds (215 tons)
 - Freight cars = 286,000 pounds (143 tons)
 - Total weight typical freight train = 28.6 million pounds (14,300 Tons)
 - Stopping distance of a train (55 MPH) is 1 mile
- Laws of physics are not nullified by stupidity, mistakes or even emergencies
- Tragic outcomes in the US (all railroads)
 - > 600 trespassers deaths per year
 - > 250 deaths per year at grade crossing



Working Around Railroads and Equipment

PERSONAL SAFETY –

- **Keep your head on a swivel!!!!**
- **NEVER** step **ON** a rail. Step **OVER** a rail. This is a major slip, trip, and fall hazard.
- **NEVER** stand **BETWEEN** the rails.
- If it is necessary to climb on rail equipment, always face the equipment.
- Some locomotives in rail yards may be operated via remote control. **NO** crew to see you!



Working Around Railroads and Equipment

If working within 25 feet of our track, call the emergency number and advise BNSF of your activities.

For Example:

- Brush Fire
- Vehicle Accident
- Structure Fire

Always park your vehicles **AT LEAST 25 FEET** away from the edge of any track.

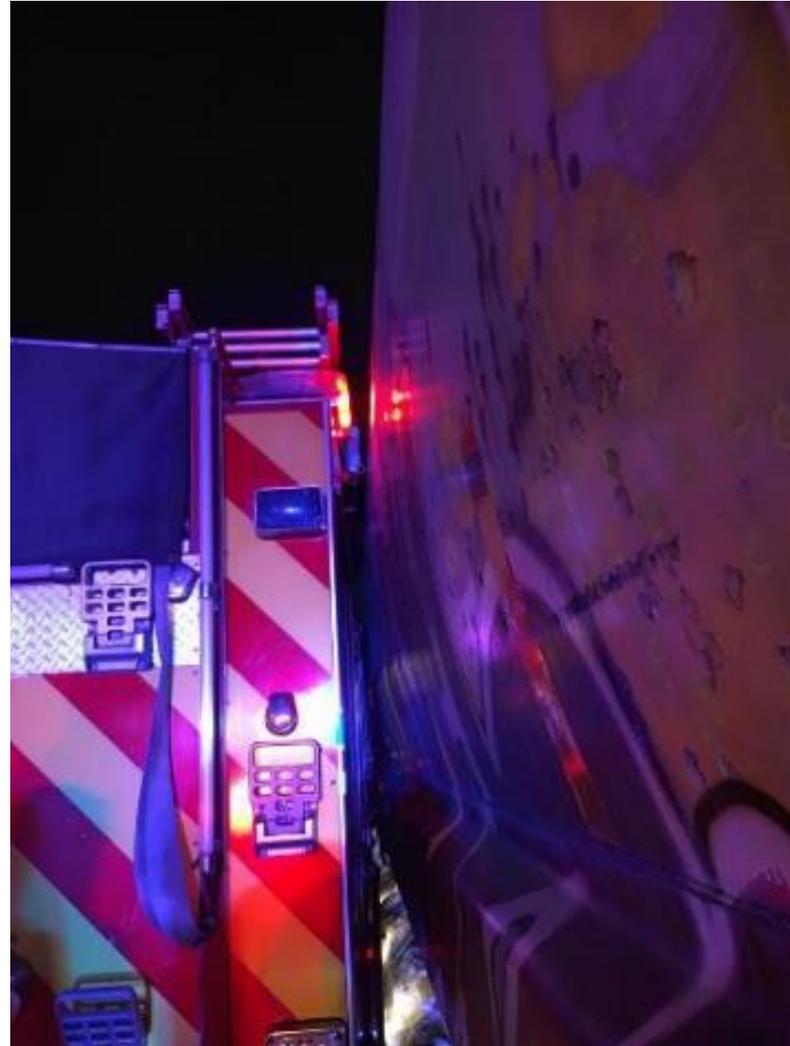


Train Strikes Sheriff's Department Vehicle – Empire, CA

- September 4, an H train struck an unoccupied Stanislaus County Sheriff's Department patrol vehicle in Empire, Stockton Sub MP1089.4
- Sheriff's Department vehicle was parked fouling the tracks, not at a crossing
- No injuries to the train crew or Sheriff's Department personnel
- Deputy was investigating a local domestic violence incident and was not near the vehicle during the collision
- BNSF Police is following up with the Sheriff's office to provide the Railroad Investigation and Safety Course (RISC)



Why You Don't Foul our Track.....



The Aftermath.....





Preplan
Preplan
Preplan
Preplan

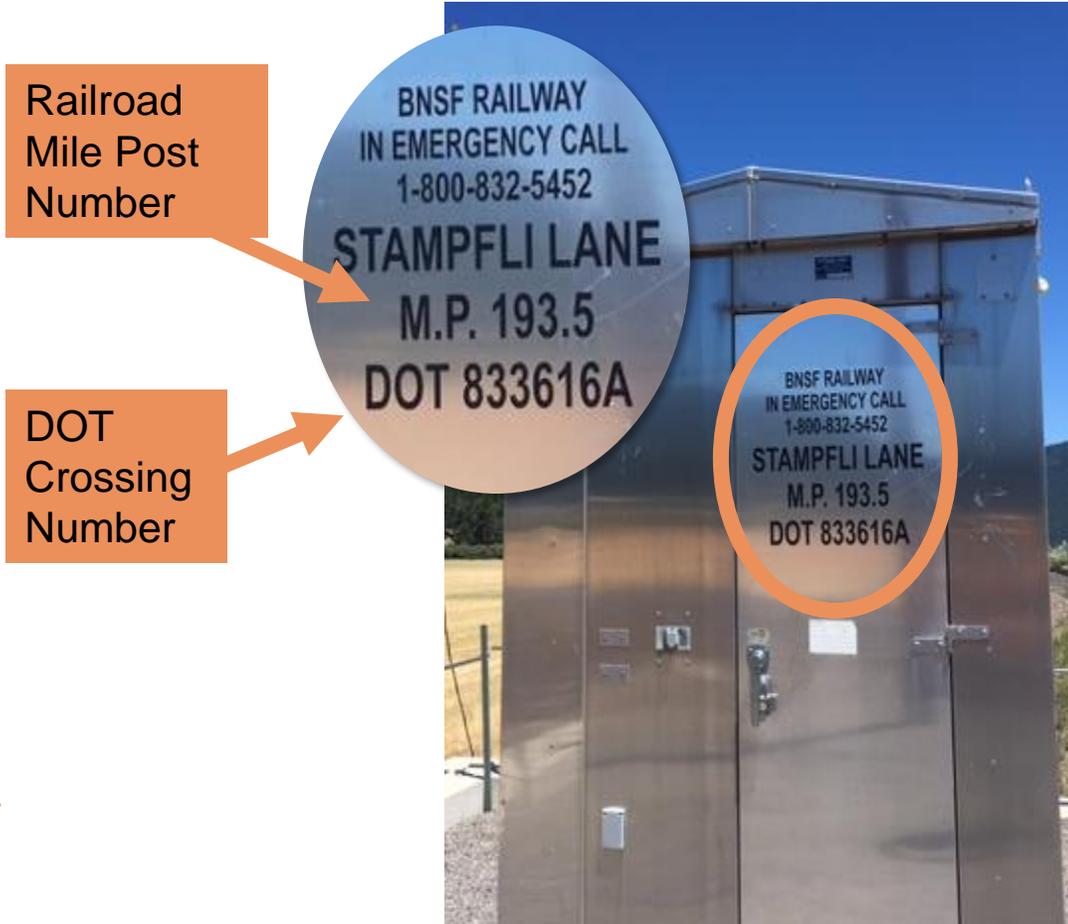
Preparation and Response to
Railroad Hazmat Emergencies

Do You Know Your Railroad?



Rail Crossing Information

Call the railroad and report your location and situation



Information at Your Fingertips



Rail Crossing Locator (FRA)

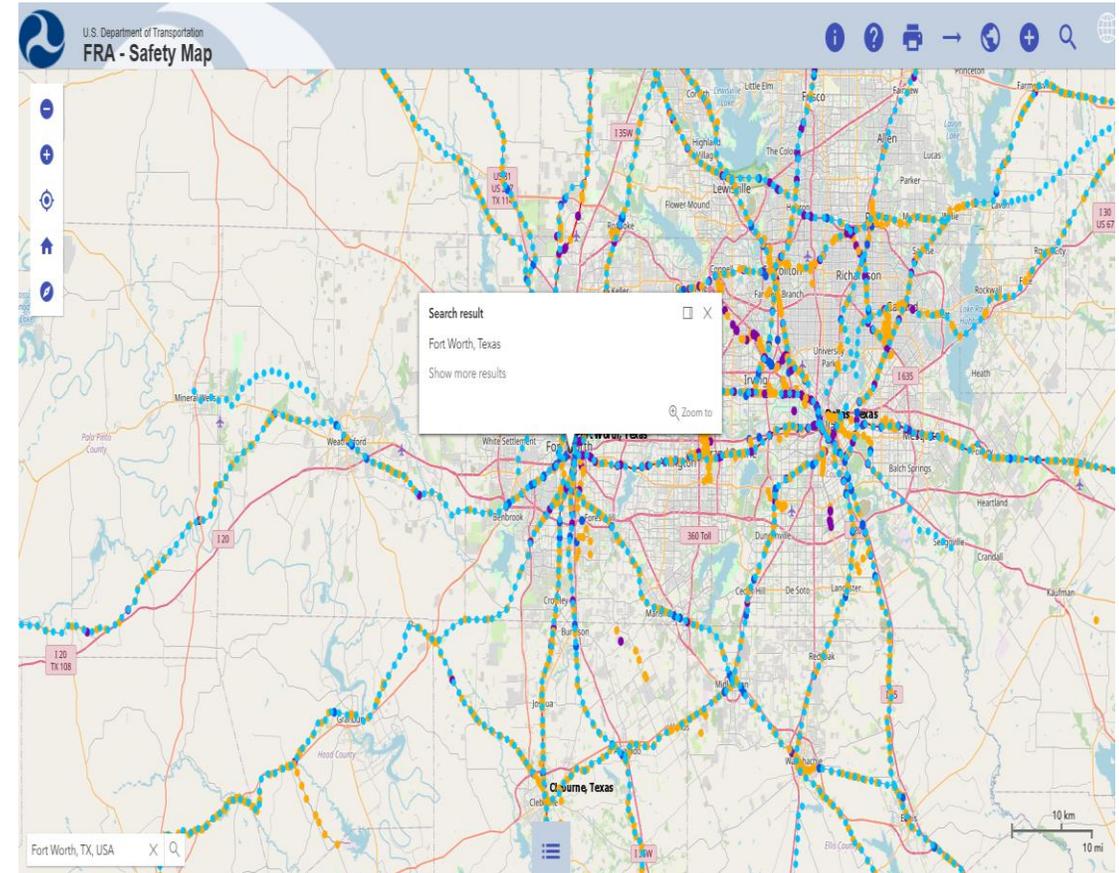
(iOS and Android Devices)

- Emergency Notification
- Railroad Owner
- Crossing ID
- Milepost
- Speed Limits
- Collision Reports



FRA – Safety Map

[Fragis.fra.dot.gov/gisfrasafety](https://fragis.fra.dot.gov/gisfrasafety)



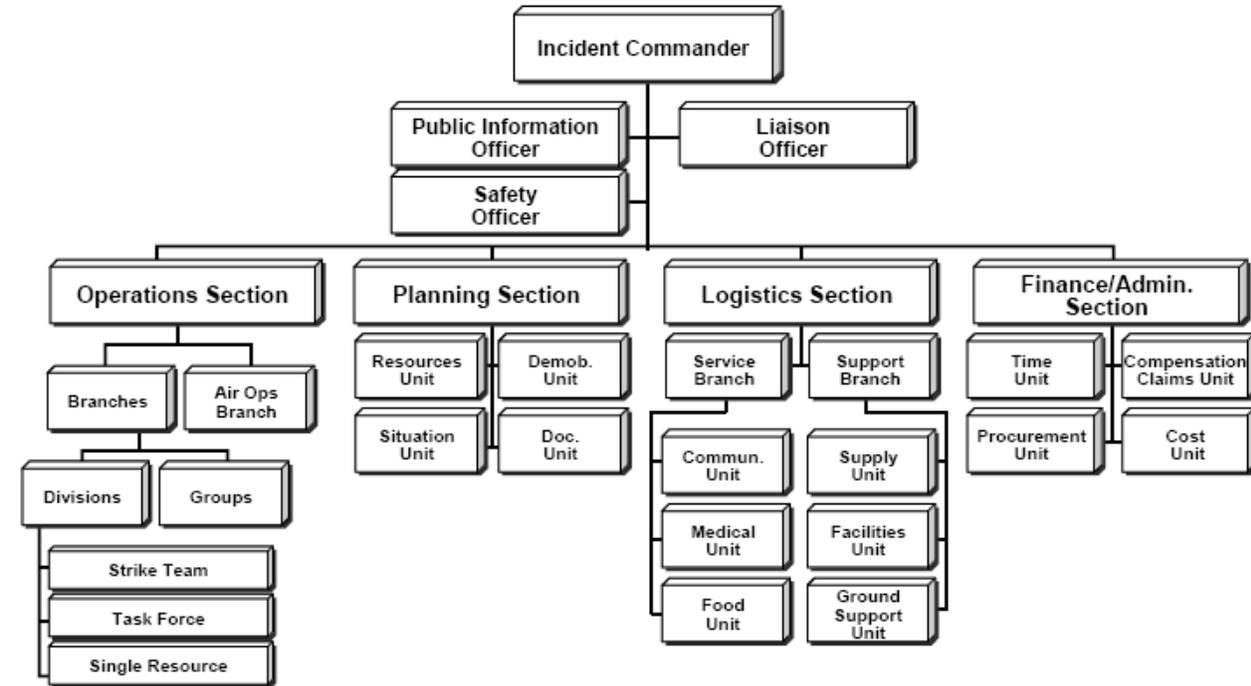
Who Are The Local AHJ/LE/OEM/Health?

When is the last time you had everyone in the same room for training? ICS/NIMS

You **must** train AND practice. You will be tested.

Failing to prepare is preparing to fail (5Ps)

Panic vs. Precision

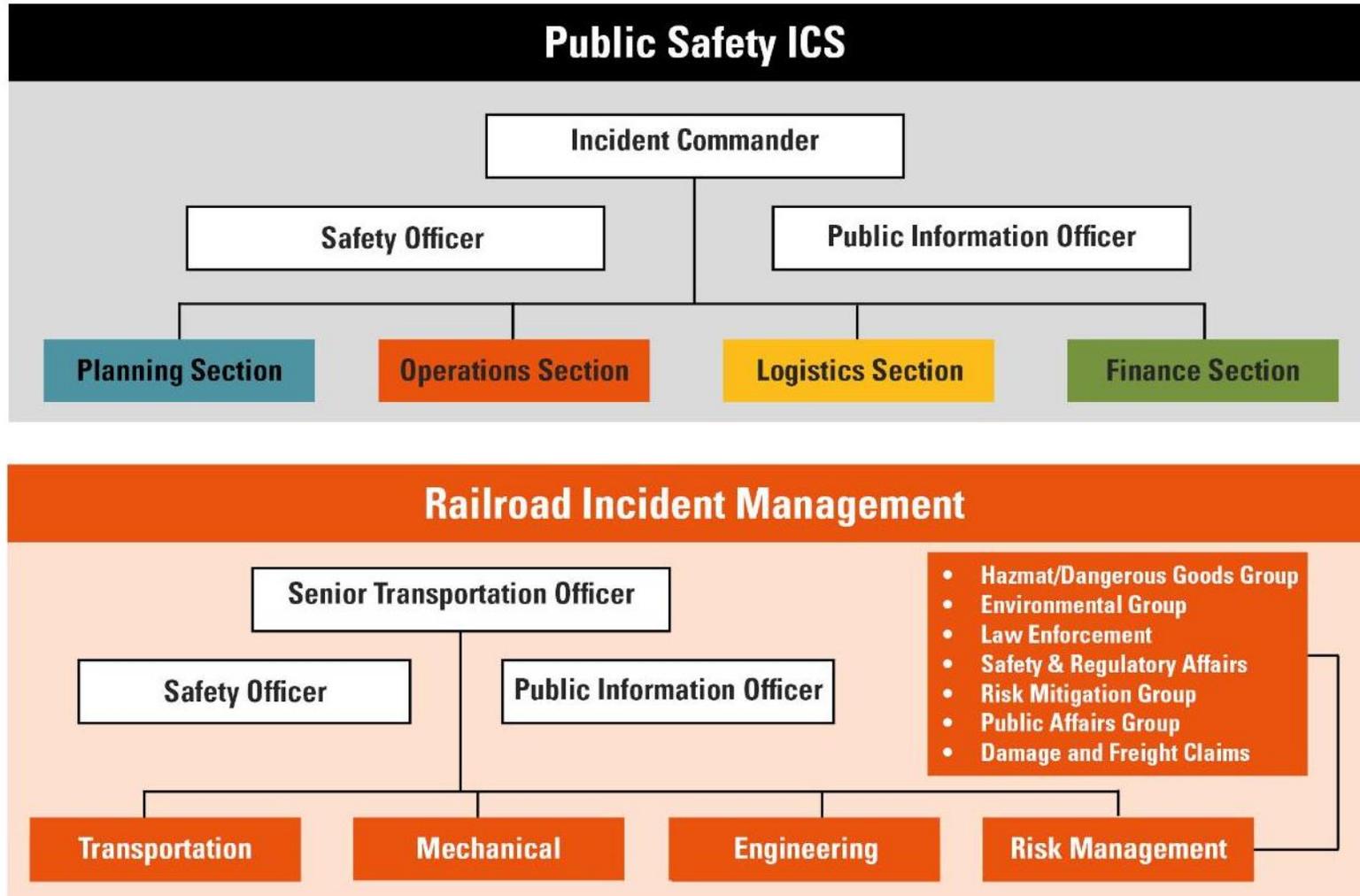


ICS and NIMS

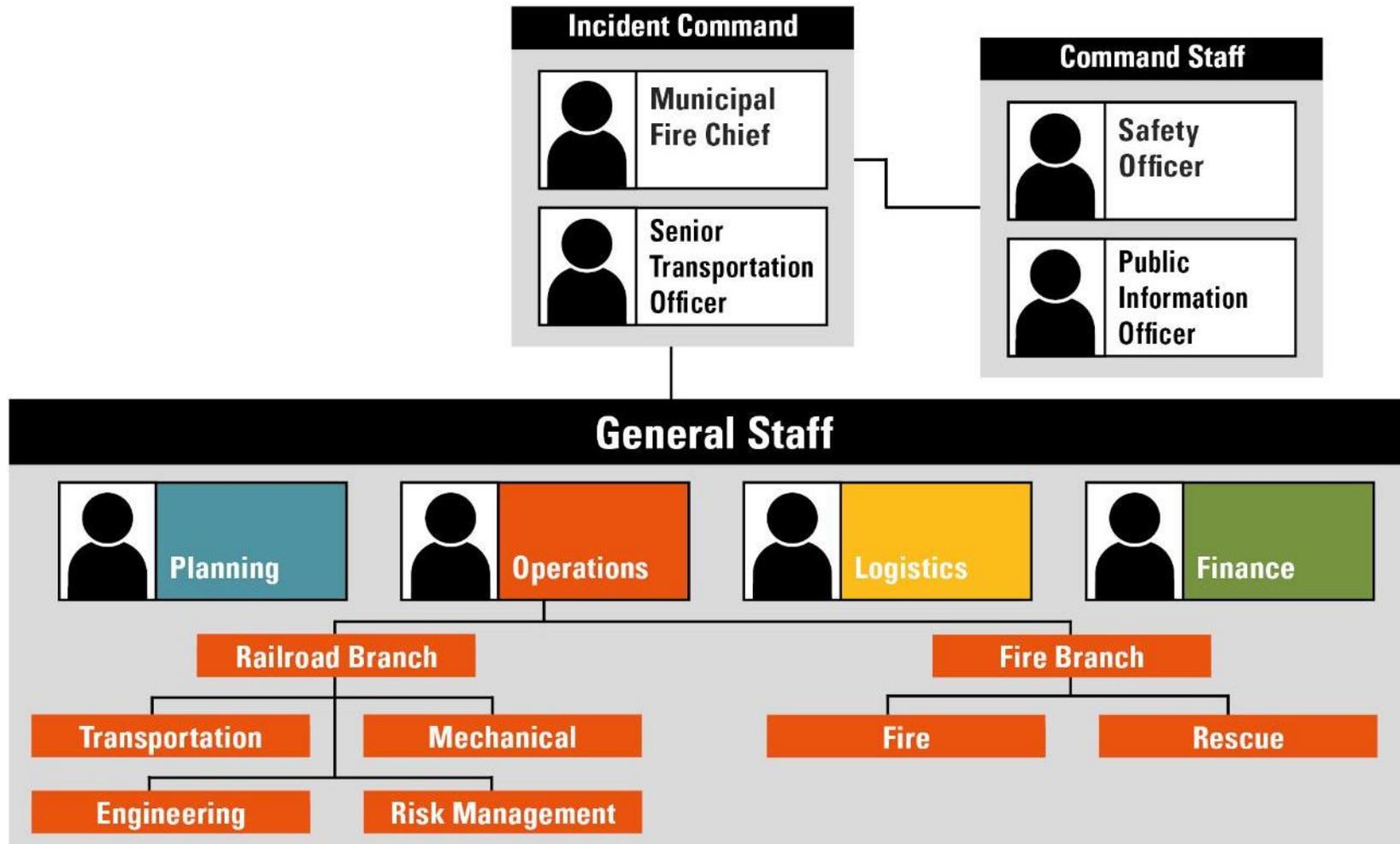
BNSF hazardous material responders, operations supervisors and train crews will work within the Unified Incident Command



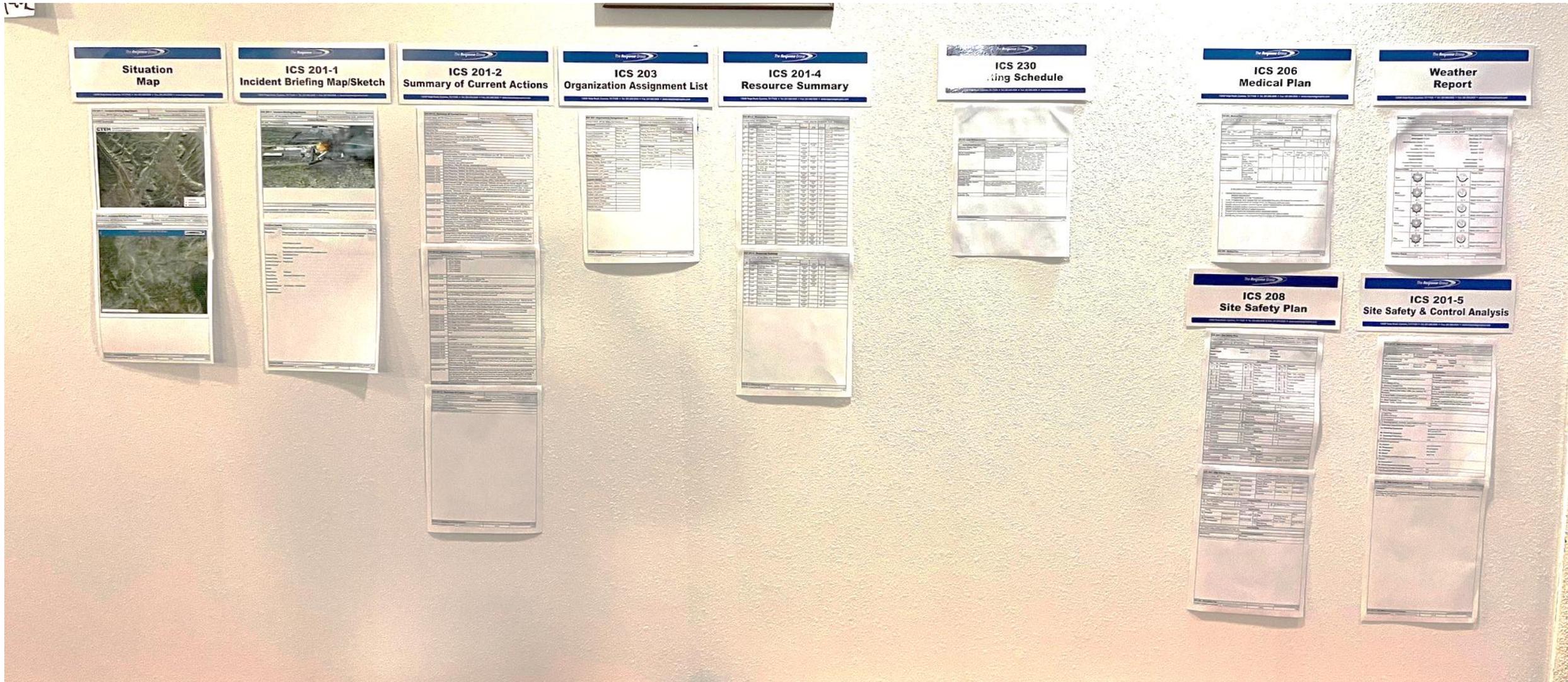
Typical ICS Structure



Unified Command Model



ICS Forms – “Sit/Stat board”



Free on-line Training and Information

www.bnsfhazmat.com

BNSF HAZMAT COMMITTED TO SAFETY

This site is designed to be used by community first responders, our BNSF customers, contractors and internal hazmat team who work together to ensure hazmat safety at BNSF.

We value your dedication and support.

NEW TRAINING
OPPORTUNITIES ADDED
FOR FIRST RESPONDERS

ONLINE LEARNING CENTER

COMMUNITY TRAINING

JOIN OUR LIST TO
RECEIVE UPDATES FROM
BNSF HAZMAT

JOIN TODAY



Online Learning Center

BNSF Hazmat's online learning center is a comprehensive and user-friendly platform that offers a wide range of educational resources for first responders, emergency management personnel, and stakeholders. The online learning center provides virtual reality courses, videos, and pre-recorded webinars on topics such as initial scene size up, how to read a train consist, guidance for responding to locomotives, and various types of railcars along with several other topics. The platform offers engaging and interactive content that is accessible anytime, anywhere.

www.BNSFHAZMAT.com

TRAINING VIDEOS:



CRUDE OIL BY RAIL – FIRST RESPONDERS SAFETY TRAINING



ETHANOL EMERGENCY RESPONSE CONSIDERATIONS



PASSENGER TRAIN EMERGENCY RESPONSE TRAINING

The U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) in partnership with the International Association of Fire Chiefs presents

Description: For BNSF and Amtrak, nothing is more important than the safety of our passengers and employees. This 30-minute training video shows how to respond safely and effectively to emergency

VIRTUAL REALITY MODULES:



MODULE 1: INITIAL INCIDENT SIZE UP

Description: This virtual reality training module is designed for community first responders and emergency management personnel with a focus on "Sizing-Up a Railroad Hazmat Incident – First Safe Steps."

30 Minutes

[ACCESS TRAINING](#)



MODULE 2: HOW TO READ A TRAIN CONSIST

Description: This virtual reality training module is designed for community first responders and emergency management personnel with a focus on how to read and utilize a train consist in the event of a railroad emergency.

30 Minutes

[ACCESS TRAINING](#)

RECORDED WEBINARS:



WEBINAR: RAILROAD EMERGENCY RESPONSE AND HAZARDOUS MATERIALS AWARENESS

Description: The purpose of this webinar is to assist First Responders in gaining a clear understanding of the hazardous materials regulations relevant to the railroad industry. Additionally, it will provide an overview of BNSF Hazmat and strategies for responding to emergencies involving hazardous materials on the rail.

90 Minutes

[ACCESS WEBINAR](#)



WEBINAR: RAILCAR KNOWLEDGE FOR FIRST RESPONDERS

Description: This webinar aims to assist First Responders in enhancing their knowledge of Railcars and response tactics. The session will delve into topics such as car construction, varieties, safety features, and terminology. The discussion will focus on tanks cars since they are the primary means of transportation for hazardous materials on the rail.

60 Minutes

[ACCESS WEBINAR](#)



WEBINAR: LOCOMOTIVE AWARENESS AND RESPONSE

Description: The purpose of this webinar is to educate First Responders on effectively managing a locomotive emergency situation. Topics to be discussed include locomotive components, strategies for dealing with a locomotive fire, and potential hazards and obstacles faced when responding to such emergencies.

60 Minutes

[ACCESS WEBINAR](#)



WEBINAR: FIRST RESPONDER PREPAREDNESS AND RESPONSE TO A RAILROAD EMERGENCY

Description: This webinar will focus on preparing community first responders and emergency management professionals on how to effectively respond to a railroad hazardous materials emergency. We will cover essential elements of emergency response, such as initial response tools for assessing the scene, BNSF's response capabilities, communication protocols, and crucial coordination with the railroad.

60 Minutes

[ACCESS WEBINAR](#)

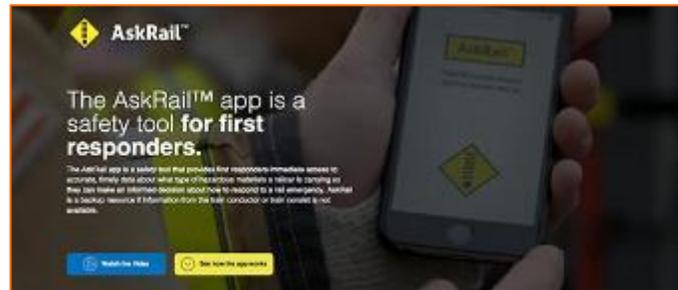
FIRST RESPONDER RESOURCES



COMMODITY FLOW REQUEST

If you are a local emergency responder, elected or emergency management official and need BNSF hazmat commodity flow reports for your emergency response planning, click below to request information about shipment in your community. These are available on a confidential basis and for security reasons are not offered to the general public.

[SUBMIT A REQUEST](#)



ASKRAIL: IF YOU ARE FIRST AT THE SCENE

Community Responders who arrive first to the scene of a rail emergency and need critical information about the contents of a railcar can rely on the AskRail mobile application.

This invitation-only mobile app provides immediate access to accurate, real-time data about each railcar on a train. This information can help emergency responders make informed decisions about how to respond to a rail emergency.

[MORE ABOUT ASKRAIL](#)

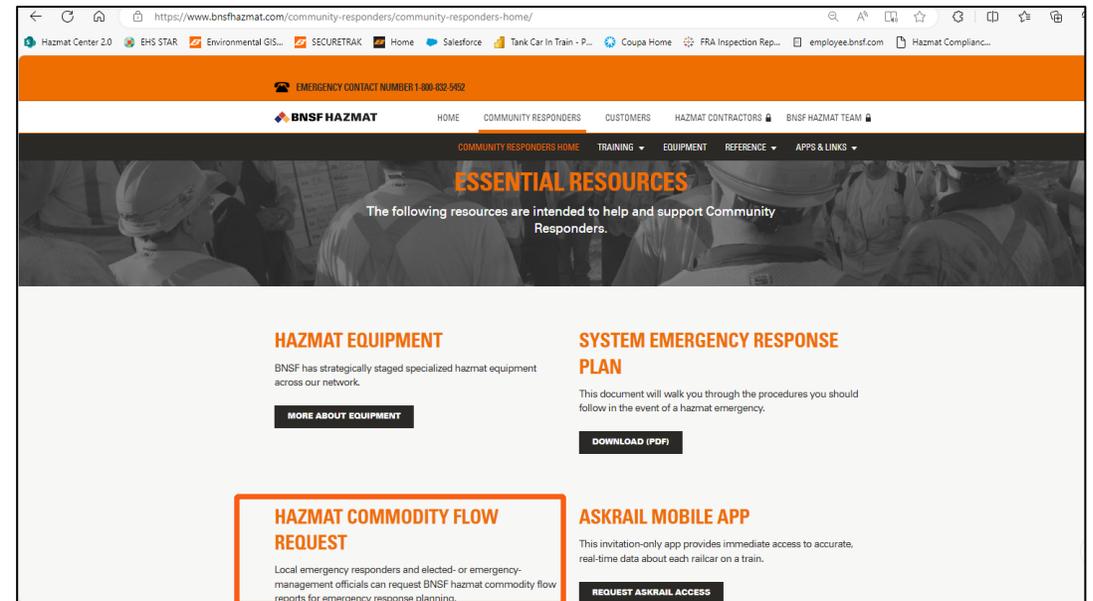
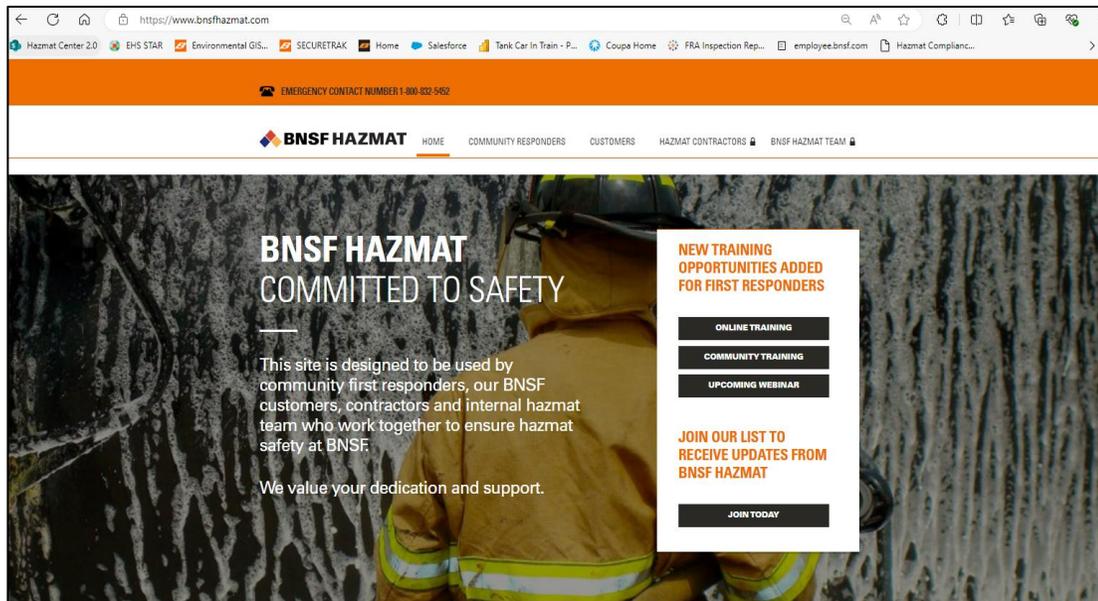
ADDITIONAL RESOURCES

-  [System Emergency Response Plan](#)
-  [Operations Lifesaver](#)
-  [Railroad Crossing Locator](#)

What are the Hazardous Materials that are being Transported via Rail?

Step 1 - Request a Hazmat Traffic Flow Report

BNSF = www.BNSFHazmat.com



Hazmat Traffic Flow Reports

- Security Sensitive Information (SSI)
Only provided to Emergency planning and response organizations for the expressed purpose of emergency and contingency planning
- Type of Reports
 - Specific Track
 - City
 - County
 - State
- Time Component
 - Quarter
 - Last 12 Months
- Format – Excel Spreadsheet



Hazmat Traffic Flow Reports

Step 2 - Analyze the data

SENSITIVE SECURITY INFORMATION (SSI) AND TRADE SECRET/BUSINESS CONFIDENTIAL INFORMATION – DO NOT DISCLOSE

STCC	UN/NA ID	Proper Shipping Name	ERG	DOT Haz Class	Residue Car	Loaded Car	Residue Intermodal	Loaded Intermodal	Total Loaded
4909152	1987	ALCOHOLS, N.O.S.	127	3	13117	12682	0	0	12682
4950130	0	FAK-HAZARDOUS MATERIALS	0		0	0	1	2795	2795
4910165	1267	PETROLEUM CRUDE OIL	128	3	2447	2546	0	0	2546
4961605	3257	ELEVATED TEMPERATURE LIQUID, N.O.S.	128	9	1637	2082	0	0	2082
4909159	1170	ETHANOL	127	3	1743	1718	0	0	1718
4909230	1230	METHANOL	131	3	135	1491	0	0	1491
4905431	1075	PETROLEUM GASES, LIQUEFIED	115	2.1	13	1465	0	0	1465
4910240	1170	ETHANOL	127	3	1413	1232	0	0	1232
4907270	1301	VINYL ACETATE, STABILIZED	129	3	873	864	0	0	864
4905421	1075	PROPANE	115	2.1	780	772	0	0	772
4906333	1202	DIESEL FUEL	128	3	630	675	0	0	675
4935240	1824	SODIUM HYDROXIDE SOLUTION	154	8	631	650	0	0	650
4960189	3082	ENVIRONMENTALLY HAZARDOUS SUBSTAN	171	9	938	643	0	0	643
4930040	1830	SULFURIC ACID	137	8	314	490	0	0	490
4908255	1265	PENTANES	128	3	355	430	0	3	433
4905430	1075	ISOBUTANE	115	2.1	21	396	0	0	396
4860130	3077	HAZARDOUS WASTE, SOLID, N.O.S.	171	9	0	363	0	0	363
4907265	2055	STYRENE MONOMER, STABILIZED	128	3	337	308	0	0	308
4910102	3065	ALCOHOLIC BEVERAGES	127	3	220	299	0	0	299
4932348	2693	BISULFITES, AQUEOUS SOLUTIONS, N.O.S.	154	8	267	297	0	0	297
4931303	2789	ACETIC ACID, GLACIAL	132	8	168	288	0	0	288
4930042	1832	SULFURIC ACID, SPENT	137	8	254	274	0	0	274



Hazmat Traffic Flow Reports

Sorted by Total Loaded Shipments

STCC	UN/NA ID	Proper Shipping Name	ERG	DOT Haz Class	Residue Car	Loaded Car	Residue Intermodal	Loaded Intermodal	Total Loaded
4909152	1987	ALCOHOLS, N.O.S.	127	3	13117	12682	0	0	12682
4950130	0	FAK-HAZARDOUS MATERIALS	0		0	0	1	2795	2795
4910165	1267	PETROLEUM CRUDE OIL	128	3	2447	2546	0	0	2546
4961605	3257	ELEVATED TEMPERATURE LIQUID, N.O.S.	128	9	1637	2082	0	0	2082
4909159	1170	ETHANOL	127	3	1743	1718	0	0	1718
4909230	1230	METHANOL	131	3	135	1491	0	0	1491
4905431	1075	PETROLEUM GASES, LIQUEFIED	115	2.1	13	1465	0	0	1465
4910240	1170	ETHANOL	127	3	1413	1232	0	0	1232
4907270	1301	VINYL ACETATE, STABILIZED	129	3	873	864	0	0	864
4905421	1075	PROPANE	115	2.1	780	772	0	0	772
4906333	1202	DIESEL FUEL	128	3	630	675	0	0	675
4935240	1824	SODIUM HYDROXIDE SOLUTION	154	8	631	650	0	0	650
4960189	3082	ENVIRONMENTALLY HAZARDOUS SUBSTAN	171	9	938	643	0	0	643
4930040	1830	SULFURIC ACID	137	8	314	490	0	0	490
4908255	1265	PENTANES	128	3	355	430	0	3	433
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4907265	2055	STYRENE MONOMER, STABILIZED	128	3	337	308	0	0	308
4910102	3065	ALCOHOLIC BEVERAGES	127	3	220	299	0	0	299
4932348	2693	BISULFITES, AQUEOUS SOLUTIONS, N.O.S.	154	8	267	297	0	0	297
4931303	2789	ACETIC ACID, GLACIAL	132	8	168	288	0	0	288
4930042	1832	SULFURIC ACID, SPENT	137	8	254	274	0	0	274
4905423	1075	BUTANE	115	2.1	35	268	0	0	268

Hazmat Traffic Flow Reports –What is Freight All Kinds (FAK)

UN/NA ID Number	Proper Shipping Name
UN1956	COMPRESSED GAS, N.O.S.
UN1057	LIGHTERS
UN3268	AIR BAG MODULES
UN1219	ISOPROPNOL
UN0044	P PRIMERS, CAP TYPE
UN0509	POWDER, SMOKELESS
UN1263	PAINT RELATED MATERIAL
UN1950	AEROSOLS
UN2794	BATTERIES, WET, FILLED WITH ACID
UN1170	ETHANOL
UN1993	FLAMMABLE LIQUIDS, N.O.S.
UN1090	ACETONE
UN1263	PAINT
UN3149	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED
UN1197	EXTRACTS, FLAVORING, LIQUID
UN3164	ARTICLES, PRESSURIZED PNEUMATIC
UN1760	CORROSIVE LIQUIDS, N.O.S.
UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
UN1648	ACETONITRILE
UN1133	ADHESIVES

Top 20 FAK



Hazmat Traffic Flow Reports

Sorted by Hazard Class – Poison Gases (DOT Division 2.3)

4905748	1055	ISOBUTYLENE	115	2.1	2	23	0	0	23
4905424	1075	BUTANE	115	2.1	3	7	0	0	7
4905761	1063	METHYL CHLORIDE	115	2.1	5	7	0	0	7
4905753	1075	ISOBUTANE	115	2.1	3	3	0	0	3
4905704	1010	BUTADIENES, STABILIZED	116	2.1	0	1	0	0	1
4905540	1083	TRIMETHYLAMINE, ANHYDROUS	118	2.1	0	1	0	0	1
4905716	1030	1,1-DIFLUOROETHANE	115	2.1	3	0	0	0	0
4905439	1075	LIQUEFIED PETROLEUM GAS	115	2.1	9	0	0	0	0
4905414	1061	METHYLAMINE, ANHYDROUS	118	2.1	1	0	0	0	0
4905417	1075	PETROLEUM GASES, LIQUEFIED	115	2.1	9	0	0	0	0
4905781	1978	PROPANE	115	2.1	57	0	0	0	0
4905782	1077	PROPYLENE	115	2.1	5	0	0	0	0
4905784	1075	PROPYLENE	115	2.1	176	0	0	0	0
4905792	1086	VINYL CHLORIDE, STABILIZED	116	2.1	16	0	0	0	0
4904503	1951	ARGON, REFRIGERATED LIQUID	120	2.2	136	213	0	0	213
4904304	3159	1,1,1,2-TETRAFLUOROETHANE	126	2.2	15	18	0	0	18
4904210	1005	AMMONIA, ANHYDROUS	125	2.2	24	1	0	0	1
4904509	2187	CARBON DIOXIDE, REFRIGERATED LIQUID	120	2.2	26	1	0	0	1
4920353	1040	ETHYLENE OXIDE	119	2.3	62	64	0	0	64
4920523	1017	CHLORINE	124	2.3	93	53	0	0	53
4920355	1064	METHYL MERCAPTAN	117	2.3	20	47	0	0	47
4920508	1079	SULFUR DIOXIDE	125	2.3	0	1	0	0	1
4920359	1005	AMMONIA, ANHYDROUS	125	2.3	1	0	0	0	0
									165



Hazmat Traffic Flow Reports

Sorted by Hazard Class – Flammable Liquid (DOT Class 3)

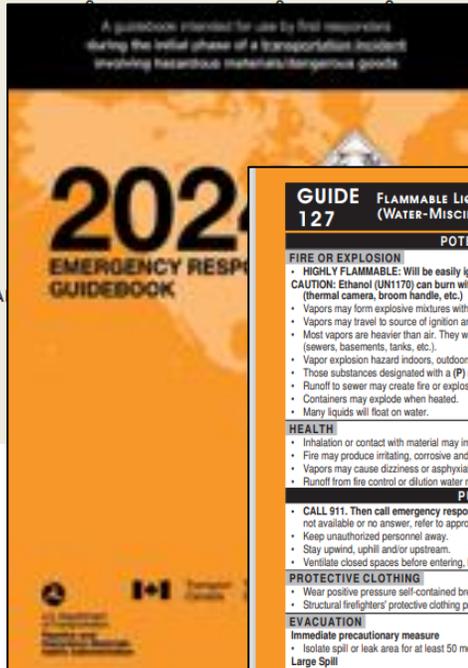
Page 1 of 12

STCC	UN/NA ID	Proper Shipping Name	ERG	DOT Haz Class	Residue Car	Loaded Car	Residue Intermodal	Loaded Intermodal	Total Loaded
4920355	1064	METHYL MERCAPTAN	117	2.3	20	47	0	0	47
4920508	1079	SULFUR DIOXIDE	125	2.3	0	1	0	0	1
4920359	1005	AMMONIA, ANHYDROUS	125	2.3	1	0	0	0	0
4909152	1987	ALCOHOLS, N.O.S.	127	3	13117	12682	0	0	12682
4910165	1267	PETROLEUM CRUDE OIL	128	3	2447	2546	0	0	2546
4909159	1170	ETHANOL	127	3	1743	1718	0	0	1718
4909230	1230	METHANOL	131	3	135	1491	0	0	1491
4910240	1170	ETHANOL	127	3	1413	1232	0	0	1232
4907270	1301	VINYL ACETATE, STABILIZED	129	3	873	864	0	0	864
4906333	1202	DIESEL FUEL	128	3	630	675	0	0	675
4908255	1265	PENTANES	128	3	355	430	0	3	433
4907265	2055	STYRENE MONOMER, STABILIZED	128	3	337	308	0	0	308
4910102	3065	ALCOHOLIC BEVERAGES	127	3	220	299	0	0	299
4910191	1267	PETROLEUM CRUDE OIL	128	3	65	264	0	0	264
4908182	2370	1-HEXENE	128	3	92	256	0	0	256
4912280	3295	HYDROCARBONS, LIQUID, N.O.S.	128	3	3	192	0	0	192
4910256	1268	PETROLEUM DISTILLATES, N.O.S.	128	3	47	176	0	0	176
4909267	1274	N-PROPANOL	129	3	138	167	0	0	167
4908105	1090	ACETONE	127	3	92	150	0	0	150
4907230	1218	ISOPRENE, STABILIZED	130	3	121	131	0	0	131
4909348	1307	XYLENES	130	3	5	116	0	0	116
4908180	3475	ETHANOL AND GASOLINE MIXTURE	127	3	114	108	0	0	108
4909130	1120	BUTANOLS	129	3	90	91	0	0	91
4908119	1129	BUTYRALDEHYDE	129	3	82	91	0	0	91
4909268	1276	N-PROPYL ACETATE	129	3	79	91	0	0	91

25,303/40,589 X 100 = 62%

What are the Hazardous Materials that are being Transported via Rail?

STCC	UN/NA ID	Proper Shipping Name	ERG	DOT Haz Class	Residue Car	Loaded Car	Residue Intermodal	Loaded Intermodal	Total Loaded
4909152	1987	ALCOHOLS, N.O.S.		127 3	13117	12682	0	0	12682
4950130	0	FAK-HAZARDOUS MATERIALS					1	2795	2795
4910165	1267	PETROLEUM CRUDE OIL					0	0	2546
4961605	3257	ELEVATED TEMPERATURE LIQUID, N.O.S.					0	0	2082
4909159	1170	ETHANOL					0	0	1718
4909230	1230	METHANOL					0	0	1491
4905431	1075	PETROLEUM GASES, LIQUEFIED					0	0	1465
4910240	1170	ETHANOL					0	0	1232
4907270	1301	VINYL ACETATE, STABILIZED							
4905421	1075	PROPANE							
4906333	1202	DIESEL FUEL							
4935240	1824	SODIUM HYDROXIDE SOLUTION							
4960189	3082	ENVIRONMENTALLY HAZARDOUS SUBSTA							
4930040	1830	SULFURIC ACID							
4908255	1265	PENTANES							
4905430	1075	ISOBUTANE							
4860130	3077	HAZARDOUS WASTE, SOLID, N.O.S.							
4907265	2055	STYRENE MONOMER, STABILIZED							



GUIDE 127 FLAMMABLE LIQUIDS (WATER-MISCIBLE)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- CAUTION:** Ethanol (UN1170) can burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Ruflow to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids will float on water.

HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation, especially when in closed or confined areas.
- Ruflow from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Page 184 ERG 2024

PUBLIC SAFETY

- CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

What are the Hazardous Materials that are being Transported via Rail?

Deeper Dives Could be used for 1st Responders Monthly Meetings

Alcohols, NOS/Denatured Alcohol/Ethanol

- Flammability is the primary hazard
 - Flash Point = 55°F
 - Flammable Range = 3.3% to 19%
- Vapors are heavier than air (Vapor Density = 1.59)
- Toxicity low (ingestion and inhalation)
- Air monitoring – LEL meter and Photoionization Detector (PID)
- PPE – Bunker Gear
- Fire fighting foam must be “Alcohol Resistant” (AR-AFFF)
- Miscible in water and still flammable at 50:50 water to ethanol





Incident Response

Shipping Papers

The shipping papers (train list) are your #1 source for specific information concerning what is on the train

Train Consist Details 2020-05-13 01:32:53

BNSF Railway Co.

Train ID H-KCKBARI-12L
 Work Order Number 5561
 User ID B742557
 Number of Cars Selected 110
 Last Station Reported at 1350 BELEN, NM

Selected Equipment

FTC Loco	HP	HP	HP	HP	GRK	LXA	Coml.	Tons	Dir	C	Isa	In	Isa	Out
YES BNSF 5216	4400	4400	8	EP+	Y	N	6	210	West	0	RUN		RUN	
YES BNSF 3877	4400	4400	8	EP+	Y	N	12	214	East	0	RUN		RUN	
YES BNSF 8259	4400	4400	8	EP+	Y	Y	18	210	East	0	RUN		RUN	

Seq	Car	L	Code	Online	J	Gr	Final	Dist	Coml.
Num	Init	Kind	E	Destin	T	RAJP	City	St	Axis
1	CRDX 250167	T97	L	FATACD STOCKTONCA	OCT	127	SEABOENEMAR STOCKTON	CA	22
		TN		HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.					
2	TILX 253590	T97	L	FATACD STOCKTONCA	OCT	127	SEABOENEMAR STOCKTON	CA	26
		TN		HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.					
3	TILX 253588	T97	L	FATACD STOCKTONCA	OCT	127	SEABOENEMAR STOCKTON	CA	30
		TN		HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.					
4	TILX 253377	T97	L	FATACD FONTANACA		127	SEABOENEMAR FONTANA	CA	34
		TN		HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.					
5	TILX 253299	T97	L	FATACD CONEJOCA		127	SEABOENEMAR CONEJO	CA	38
		TN		HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.					

Hazardous Materials Shipping Papers

Find the train crew!

- The conductor will have the most complete train list immediately available to you.
- Never trust paperwork found lying around on the floor of the locomotive or in an unoccupied caboose.
- All responding railroad officials should have copies of the train list or paperwork.
- If the train crew is disabled and unable to provide paperwork call the railroad 800 number!

Use all the resources you have!



Railcar Markings

Markings on railcars are made up of three categories:

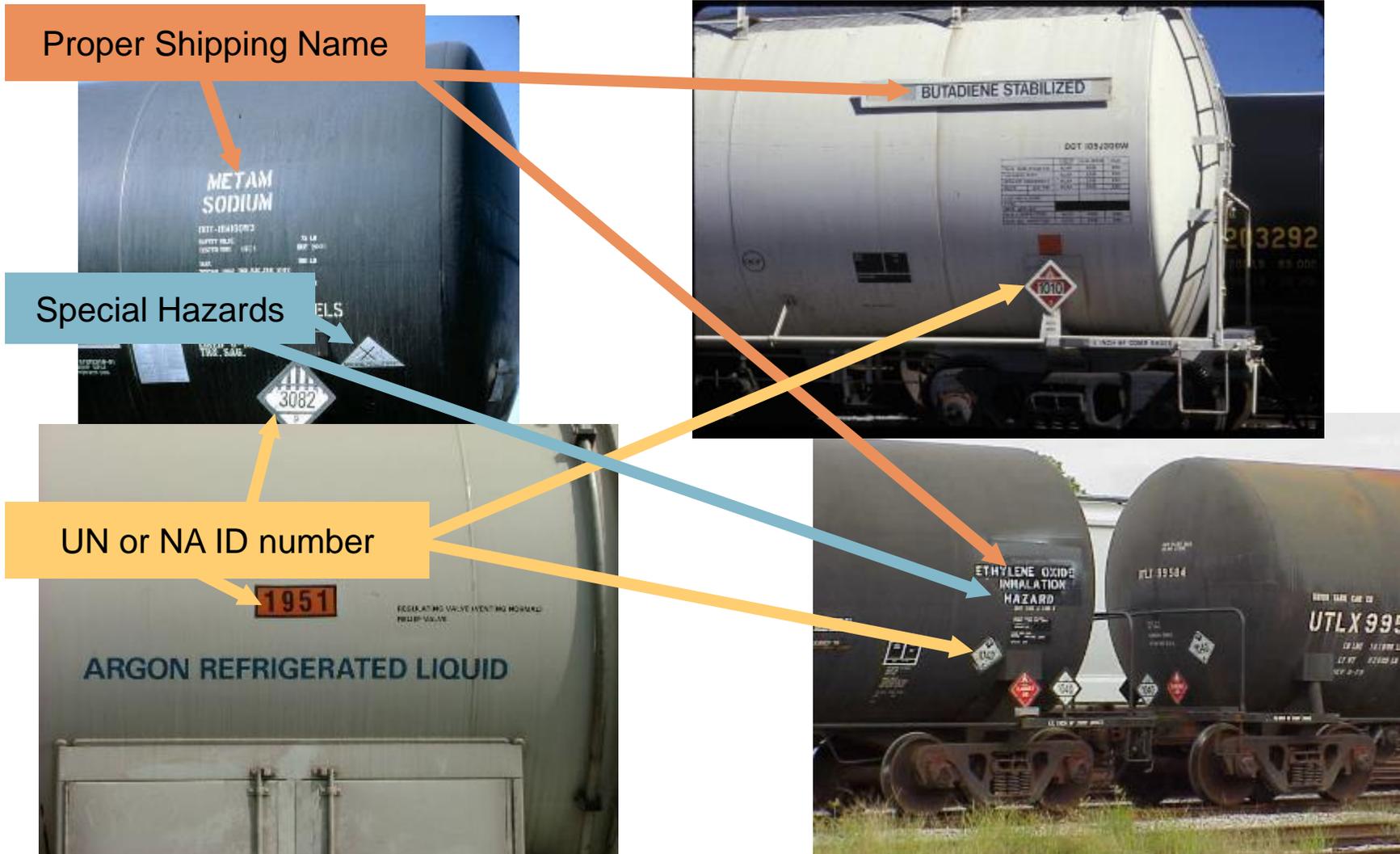
- Identification numbers
- Commodity names
- Hazard warnings



Reporting Marks (aka - License Plate)



Tank Cars May Have Additional Markings



Not Official Markings



Mobile Train List (MTR) / Consist

Train Consist Details

2020-05-13 01:32:53

Train ID: H-KCKBARI-12L
 Work Order Number: 5561
 User ID: B742557
 Number of Cars Selected: 110
 Last Station Reported at: 1350 BELEN, NM

BNSF Railway Co.

Selected Equipment

PTC Loco	HP	HR	Dom	SRK	Dom	LXA	Comp.	Loco D	Dir	C	Iso	In	Out
YES BNSF 5216	4400	4400	8	EF+	Y	N	6	210	West	0	0	RUN	RUN
YES BNSF 3877	4400	4400	8	EF+	Y	N	12	214	East	0	0	RUN	RUN
YES BNSF 8259	4400	4400	8	EF+	Y	Y	18	210	East	0	0	RUN	RUN

Seq Num	Init Num	Car Kind	L	COB	Online	J	Grn	Final City	Dest	Cur
1	CRDX 250167	T97	L	FATA	CD	STOCKTON	CA	22		
2	TILX 253590	T97	L	FATA	CD	STOCKTON	CA	26		
3	TILX 253588	T97	L	FATA	CD	STOCKTON	CA	30		
4	TILX 253377	T97	L	FATA	CD	FONTANA	CA	34		
5	TILX 253299	T97	L	FATA	CD	COMEJO	CA	38		



Power Header
(Locomotives)

Train List
Starts Here

*****Asterisks***** Mean HazMat Shipment!

HazMat Shipment



	TC	COMPLIES WITH CURRENT TANKCAR BUILD SPECIFICATI			
57	STX 3189	T4F	L CRNSYR WCOLTONCA	UP	141 TATELYLINGRE LOSANGELE CA 246
		IN	HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.		
58	STX 61014	T4F	L CRNSYR WCOLTONCA	UP	141 TATELYLINGRE LOSANGELE CA 250
		TN	HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.		
59	ADMX 15809	T97	L GLYCOL SANFESPRICA	106 BRENTIPACIFI	SANFESPRI CA 254
		TN	HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.		
60	ADMX 17374	T97	L GLYCOL VALVERDECA	101 AOCLLC	PERRIS CA 258
		TN	HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.		
61	TILX 197298	TDI	L HAZMAT STOCKTONCA	OCT 155 KINERGY	STOCKTON CA 262
		FL	FLAMMABLE		
		TN	HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.		
			>>> KEY SHIPMENT (TWENTY) <<<		

			* HAZMAT *	1 TK //	28727 GA
			*****	UN1987 //	ALCOHOLS
			EMERGENCY CONTACT: 1-800-424-9300	3	
			SHIPPER CONTACT: CHEMTREC/COH10914	PG II	
				HAZMAT STCC	4909152
			RAIL CONSIGNEE	RAIL SHIPPER	
			KINERGY	HUSKER AG MARKETING INC	
			400 CAPITAL MALL		
			SUITE 2060		
			STOCKTON CA 95206	BRESLAU NE	
62	SHPX 222958	T51	L HAZMAT STOCKTONCA	OCT 136 KINERGY	STOCKTON CA 266
		FL	FLAMMABLE		
		TC	COMPLIES WITH CURRENT TANKCAR BUILD SPECIFICATI		
			>>> KEY SHIPMENT (TWENTY) <<<		

			* HAZMAT *	1 TK //	29525 GA
			*****	UN1987 //	ALCOHOLS
			EMERGENCY CONTACT: 1-800-424-9300	3	
			SHIPPER CONTACT: CHEMTREC/COH10914	PG II	
				HAZMAT STCC	4909152
			RAIL CONSIGNEE	RAIL SHIPPER	
			KINERGY	HUSKER AG MARKETING INC	
			400 CAPITAL MALL		
			SUITE 2060		
			STOCKTON CA 95206	BRESLAU NE	

HazMat, HazMat, HazMat.....

HazMat

```
61 TILX 197298 TDI L HAZMAT STOCKTONCA OCT 135 KINERGY STOCKTON CA 262
FL FLAMMABLE
TN HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.
>>> KEY SHIPMENT (TWENTY) <<<

*****
* HAZMAT *
*****
EMERGENCY CONTACT: 1-800-424-9300
SHIPPER CONTACT: CHEMTREC/CCN10914

RAIL CONSIGNEE
KINERGY
400 CAPITAL MALL
SUITE 2060
STOCKTON CA 95206

RAIL SHIPPER
HUSKER AG MARKETING INC
BRESLAU NE

1 TK // 28727 GA
UN1987 // ALCOHOLS
3
PG II
HAZMAT STOC 4909152

62 SHFX 222958 TSI L HAZMAT STOCKTONCA OCT 136 KINERGY STOCKTON CA 266
FL FLAMMABLE
TC COMPLIES WITH CURRENT TANKCAR BUILD SPECIFICATI
>>> KEY SHIPMENT (TWENTY) <<<

*****
* HAZMAT *
*****
EMERGENCY CONTACT: 1-800-424-9300
SHIPPER CONTACT: CHEMTREC/CCN10914

RAIL CONSIGNEE
KINERGY
400 CAPITAL MALL
SUITE 2060
STOCKTON CA 95206

RAIL SHIPPER
HUSKER AG MARKETING INC
BRESLAU NE

1 TK // 29525 GA
UN1987 // ALCOHOLS
3
PG II
HAZMAT STOC 4909152

63 TILX 191629 T97 L HAZMAT STOCKTONCA OCT 128 KINERGY STOCKTON CA 270
FL FLAMMABLE
TN HTUA SPEED RESTRICTION MAY APPLY. SEE SSI.
&gt;&gt;&gt; KEY SHIPMENT (TWENTY) &lt;&lt;&lt;

*****
* HAZMAT *
*****
EMERGENCY CONTACT: 1-800-424-9300
SHIPPER CONTACT: CHEMTREC/CCN10914

RAIL CONSIGNEE
KINERGY
400 CAPITAL MALL
SUITE 2060
STOCKTON CA 95206

RAIL SHIPPER
HUSKER AG MARKETING INC
BRESLAU NE

1 TK // 28719 GA
UN1987 // ALCOHOLS
3
```

Example: Special Hazards

16 ACFX 86225 T6H E HAZMAT WATSON 32 SHELL WATSON CA 88
IH INHALATION HAZARD
PO POISON GAS

* HAZMAT *

EMERGENCY CONTACT: 800-424-9300
SHIPPER CONTACT: CHEMTREC

1 TNK //
RESIDUE: LAST CONTAINED //
UN1017 // CHLORINE
2.3 (8)
RQ (CHLORINE)
MARINE POLLUTANT (CHLORINE)
(POISON INHALATION HAZARD) ZONE B
HAZMAT STCC: 4920523

RAIL CONSIGNEE
SHELL CO
22473 INDUSTRIAL
WATSON CA 90744

RAIL SHIPPER
OXYCHEM
127 BLUEBONNET
PASADENA TX 77502

Special
Hazards



Crude Oil Train List



Head End Locomotives

"Buffer" Car

First Crude Oil Car

```

K K EEEEE Y Y TTTT RRRR AAA IIII N N
K X E Y Y T R R A A T NN N
KKK EEE Y T RRRR AAAAA T N N N
K K E Y T R R A A T N N N
K K EEEEE Y T R R A A ILLL N N

TRNNB001 ***** Train Documents ***** 01/31/14
J PIPER 08:40:04PT

Train U EPPFT30 16T Arrived SPOKANE WA 01/31/14 0813 0 hr 22 min Ahead
U EPPFT30 16

Head End Dyn Opr
Locos HP AvLHP Brk Brk Rec Axl Tons Loco Online D T ----Isolated ---
-----
BNSF 6879 4400 4400 8 EF+ Y Y 6 210 WEST FIDALG N
BNSF 4530 4400 0 8 EF+ N Y 12 210 WEST FIDALG N IC HAUYAR FIDAL
Total 8800 4400 12 420
Incl EPUs 17500 13200 Actual HpT = 1.0 (13200 HP/12640 tons)
Scheduled HpT = 1.0

Seg Car L Contents Online C Grs Final Dest Cum
Num Init Number Knd E Want Dy Destin T RAJP Ton Consignee City ST Axl
-----
Block Setout FIDALGO WA
1 BNSF 808051 YHP L EPPING 122 CRESTWIDPAR EPPING ND 16
BU BUFFER CAR
Block Totals 1 Cars 1 Loads 0 Empties 122 Tons 54 Feet

Block FIDU Setout FIDALGO WA
2 CBTK 735479 251 L HAZMAT FIDALG 135 TESORONW FIDALGO WA 20
FL FLAMMABLE

>>> KEY SHIPMENT (TWENTY) <<<

*****
* HAZMAT * 1 TK // 196000 LB
***** UN1267 // PETROLEUM CRUDE OIL
***** 3
EMERGENCY CONTACT: 800-424-9300 PG I
SHIPPER CONTACT: CHEMREC CCN22013 HAZMAT STCC 4910165

RAIL CONSIGNEE RAIL SHIPPER
TESORO NORTHWEST CO TESORO REFINING & MARKETING CO
N MARCHES POINT RD
FIDALGO WA EPPING ND

```

Example: Intermodal Train List

Typically, there are multiple shipments in each trailer or container

18	BNSF 270768 QY0	L WHEAT	LONBEATPICA	275	AGENT	LONBEATPI CA	198
	KOCU 413357 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	B1
	MSDU 757241 K15	E MIYTLR	LONBTP	40C	MEDITESHICOU	LONBEATPI CA	BT
	DFSU 618495 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	C1
	MSDU 742887 K15	E MIYTLR	LONBTP	40C	MEDITESHICOU	LONBEATPI CA	CT
	DFSU 662052 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	D1
	MSDU 739978 K15	E MIYTLR	LONBTP	40C	MEDITESHICOU	LONBEATPI CA	DT
	TCNU 504331 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	E1
	MSDU 717968 K15	E MIYTLR	LONBTP	40C	MEDITESHICOU	LONBEATPI CA	ET
	SEGU 604670 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	A1
	MSCU 508990 K15	E MIYTLR	LONBTP	40C	MEDITESHICOU	LONBEATPI CA	AT
19	BNSF 238125 QY0	L HAZMAT	LONBEATPICA	326	AGENT	LONBEATPI CA	210
		CM	CORROSIVE				
	CAIU 734826 K15	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	B1
	KOCU 423977 K15	L HAZMAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	BT
		CM	CORROSIVE				

		*	HAZMAT	*			

	EMERGENCY CONTACT: 17035273887						
	SHIPPER CONTACT: CCN 16160						
	Adi Desc: (ERG GUIDE 154)						
	ACTUAL CONSIGNEE						
	SUNGHONG S AND W CO						
	138 TEHERAN-RO GANGNAM-GU						
	SEOUL						
	RAIL CONSIGNEE						
	HYUNDAI INTERMODAL						
	LONG BEACH T PIER CA						
	HDMU 476670 KGS	L WHEAT	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	C1
	HMMU 608724 K15	L FAK	LONBTP	40C	HYUNDAWBRAID	LONBEATPI CA	CT

14 TE // 17468 KG
 UN1760 // CORROSIVE LIQUID
 (DIHYDROGENHEXAFLUOROZIRCONATE2-)
 8
 PG II
 HAZMAT STCC 4936540

ACTUAL SHIPPER
 CHEMETALL US INC
 1100 TECHNOLOGY DR
 JACKSON MI 49201

RAIL SHIPPER
 HYUNDAI INTERMODAL
 LOGISTICS PARK CHIC IL

“One” Car = BNSF 240825



“One” Car with 10 Trailers or Containers

Y	SFTZ	220566	V1R	E		PHOENI	48T	AGENT	PHOENIX	AZ
Block Totals			3 Cars			3 Loads	0	Empties	362 Tons	564 Feet
4	BNSF	240825	OYB	L	FAK	RICHCA	226	AGENT	RICHMOND CA	60
R	OOCL	406738	K15	L	FAK	RICHCA	40C	INTRMW	RICHMOND CA	B1
R	FSCU	485141	K1L	L	FAK	RICHCA48C	KCPRS	SDT	RICHMOND CA	BT
R	OOCL	417649	K	L	LUBOIL	RICHCA	40C	INCHSCSH	RICHMOND CA	C1
R	OOCL	281724	K1L	L	FAK	RICHCA	48C	ESCTRSR	RICHMOND CA	CT
R	OOCL	282556	K1L	L	FAK	RICHCA	48C	MBMCARERS	RICHMOND CA	D1
R	OOCL	285287	K1L	L	FAK	RICHCA	48C	SCLMTDLV	RICHMOND CA	DT
R	OOCL	408628	KG5	L	FAK	RICHCA	40C	MARKVII	RICHMOND CA	E1
R	OOCL	478551	K1L	L	FAK	RICHCA	40C	OOCL	RICHMOND CA	ET
R	OOCL	485527	K1L	L	FAK	RICHCA40C	OOCL		RICHMOND CA	A1
R	OOCL	425667	K1L	L	FAK	RICHCA40C	OOCL		RICHMOND CA	AT

Placards and Hazard Classes

Nine Classes of Hazardous Materials

Class 1: Explosives
Divisions: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6



Class 6: Poison (Toxic) and Poison Inhalation Hazard

Class 2: Gases
Divisions: 2.1, 2.2, 2.3



Class 7: Radioactive

Class 3: Flammable Liquid and Combustible Liquid



Class 8: Corrosive

Class 4: Flammable Solid, Spontaneously Combustible, and Dangerous When Wet
Divisions 4.1, 4.2, 4.3



Class 9: Miscellaneous

Class 5: Oxidizer and Organic Peroxide
Divisions 5.1, 5.2



Dangerous

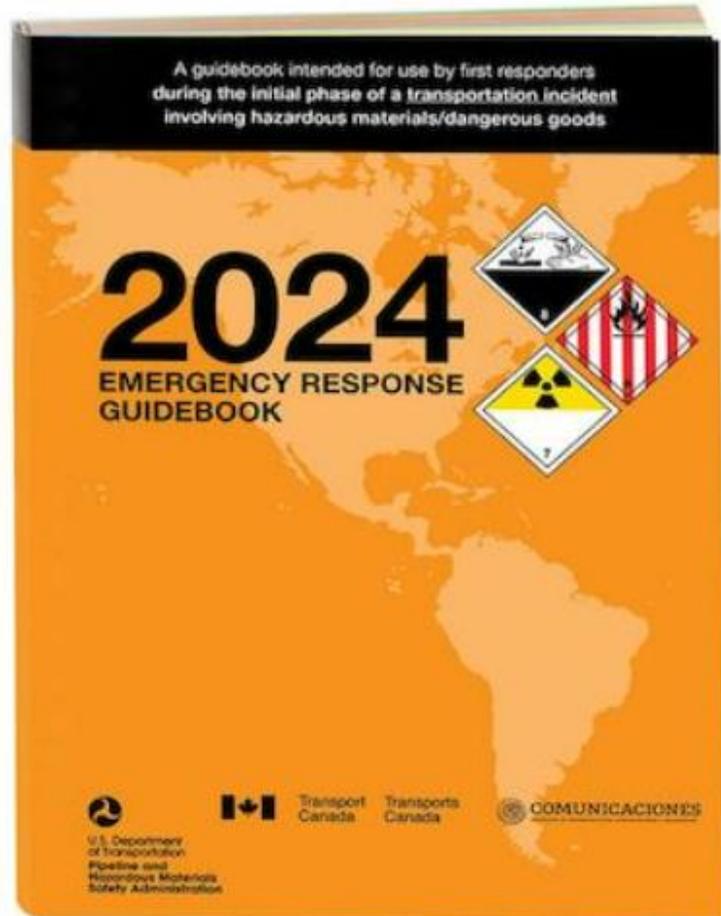
Revised 06/05

Dangerous

For mixed HazMat shipments of 1001 lbs or more total weight



HazMat Emergency Info



17 CARS FROM HEAD END BADX 1007

CLASSIFICATION: (NONFLAMMABLE GAS) EFFECTIVE 01 01 1983 EXPIRES 12 31 2050

COMMODITY NUMBER IS: 4904210

UNNA IS: UN1005

AMMONIA, ANHYDROUS <OR> AMMONIA SOLUTIONS
(NONFLAMMABLE GAS)

DIVISION 2.2 (NONFLAMMABLE GAS) <OR> DIV

DIVISION 2.4 (CORROSIVE GAS) UN1005

(NONFLAMMABLE GAS)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE
(RQ-100/45.4)

(NONFLAMMABLE GAS)

ANHYDROUS AMMONIA IS A CLEAR COLORLESS GAS WITH A CHARACTERISTIC ODOR.

ALTHOUGH IT IS A NONFLAMMABLE GAS, IT WILL BURN WITHIN CERTAIN VAPOR CONCENTRATION LIMITS, AND THE FIRE HAZARD WILL INCREASE IN THE PRESENCE OF OIL

OR OTHER COMBUSTIBLE MATERIALS. IT IS SHIPPED AS A LIQUID UNDER PRESSURE. CONTACT WITH THE LIQUID CAN CAUSE FROSTBITE. IT IS SOLUBLE IN

WATER FORMING A CORROSIVE LIQUID. ALTHOUGH AMMONIA IS LIGHTER THAN AIR, THE

VAPORS FROM A LEAK INITIALLY HUG THE GROUND. IT WEIGHS 6 LBS./GALLON. PROLONGED EXPOSURE OF THE CONTAINERS TO FIRE OR HEAT MAY RESULT

IN THEIR VIOLENT RUPTURING AND ROCKETING. LONG TERM EXPOSURE TO LOW

CONCENTRATIONS OR SHORT -TERM EXPOSURE TO HIGH CONCENTRATIONS CAN RESULT IN

ADVERSE HEALTH EFFECTS FROM INHALATION. IT IS USED AS A FERTILIZER, AS A

REFRIGERANT, AND IN THE MANUFACTURE OF OTHER CHEMICALS.

IF MATERIAL INVOLVED IN FIRE

EXTINGUISH FIRE USING AGENT SUITABLE FOR TYPE OF SURROUNDING FIRE
(MATERIAL ITSELF DOES NOT BURN OR BURNS WITH DIFFICULTY.)

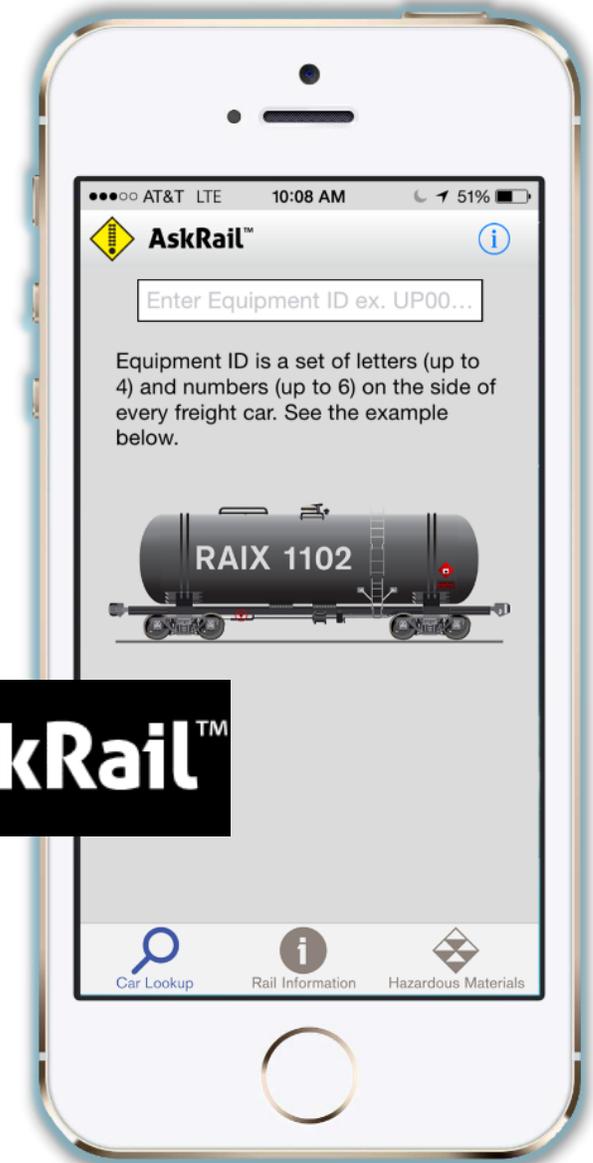
COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER

APPLY WATER FROM AS FAR A DISTANCE AS POSSIBLE

Still Don't Know? Then AskRail!

The AskRail mobile application serves emergency responders who arrive first to the scene of a rail emergency and need critical information about the contents of a railcar.

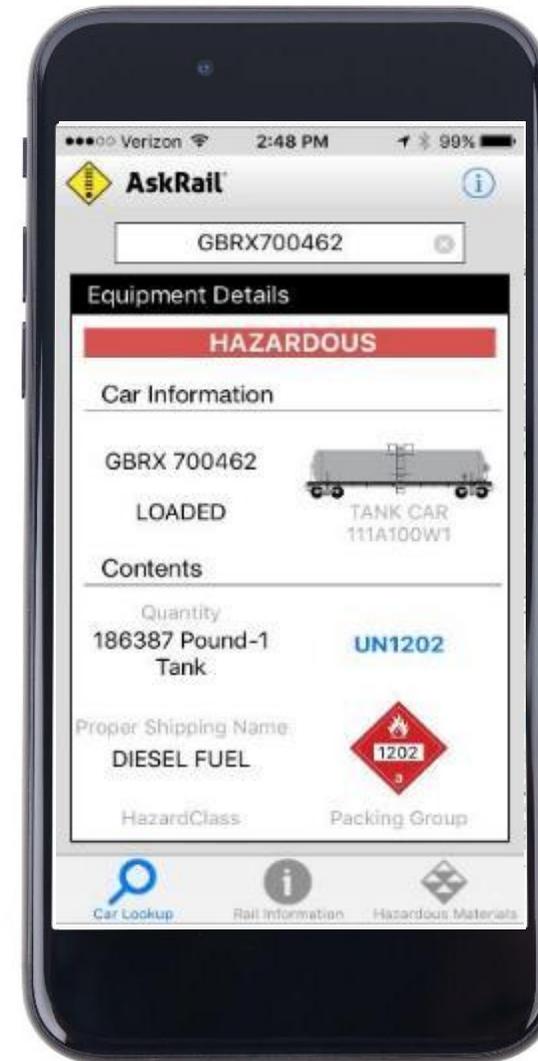
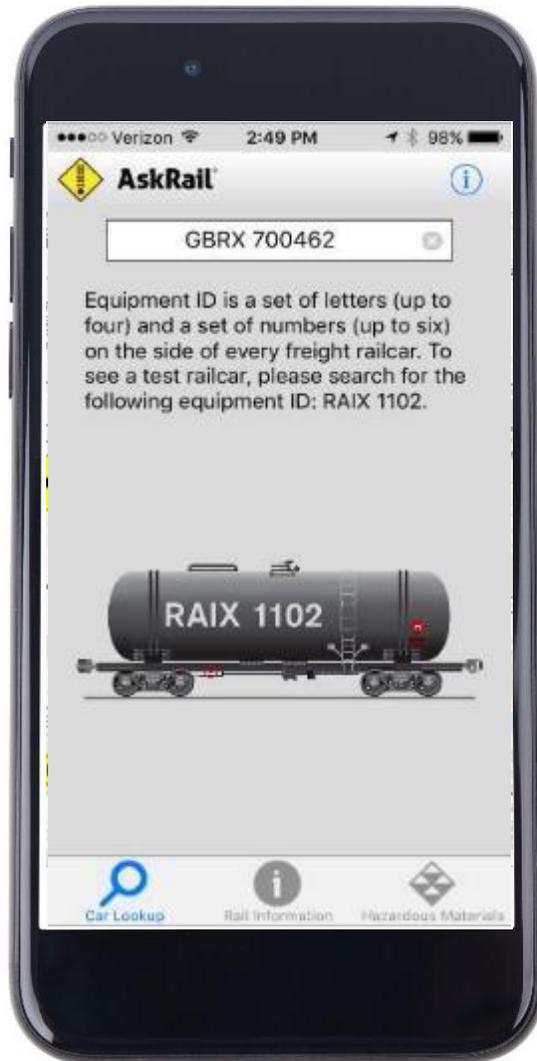
This invitation-only mobile application provides immediate access to accurate, real-time data about individual railcars on a train. This data can help emergency responders make informed decisions about how to respond on the scene of a rail emergency.



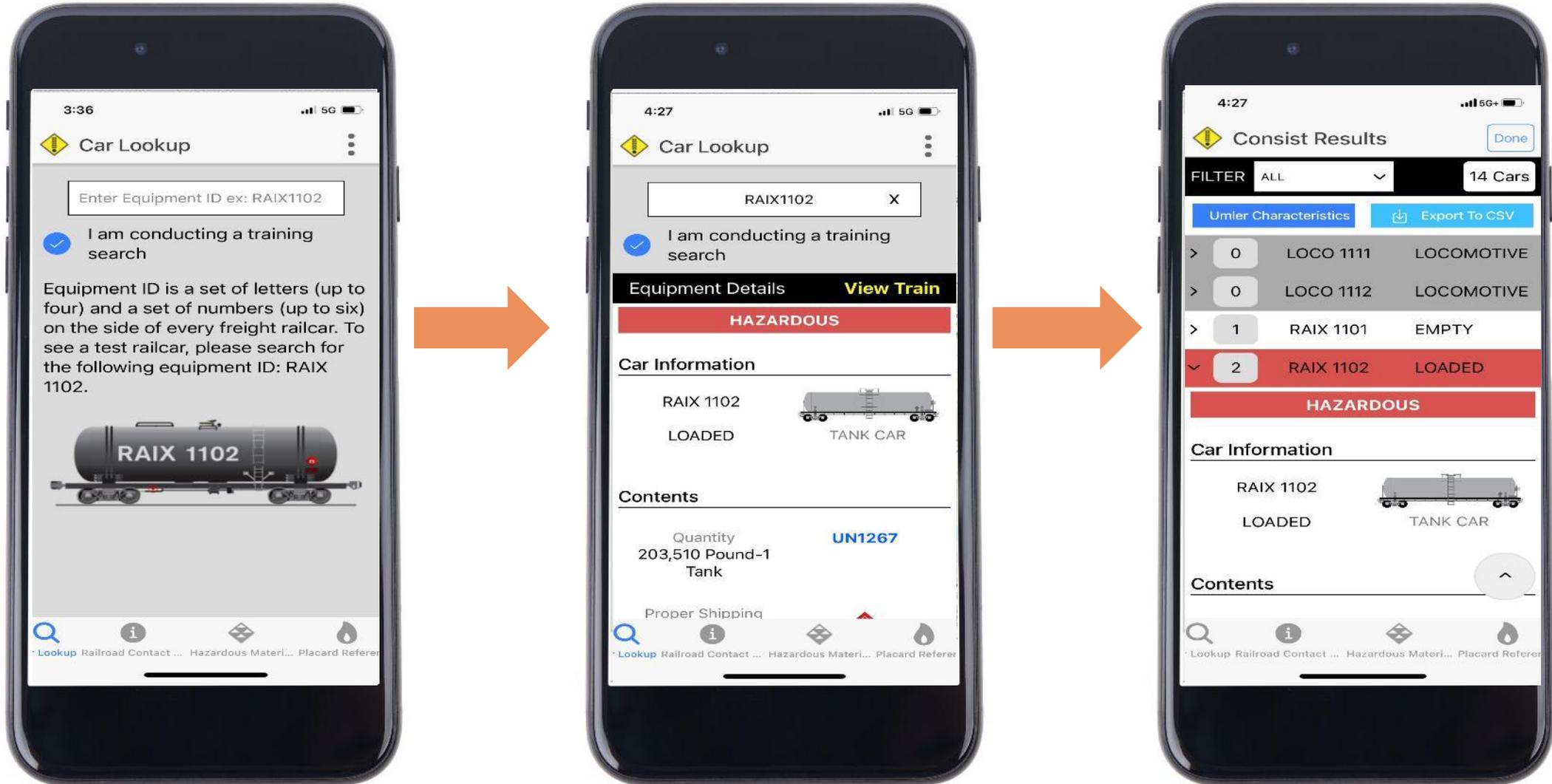
AskRail Video



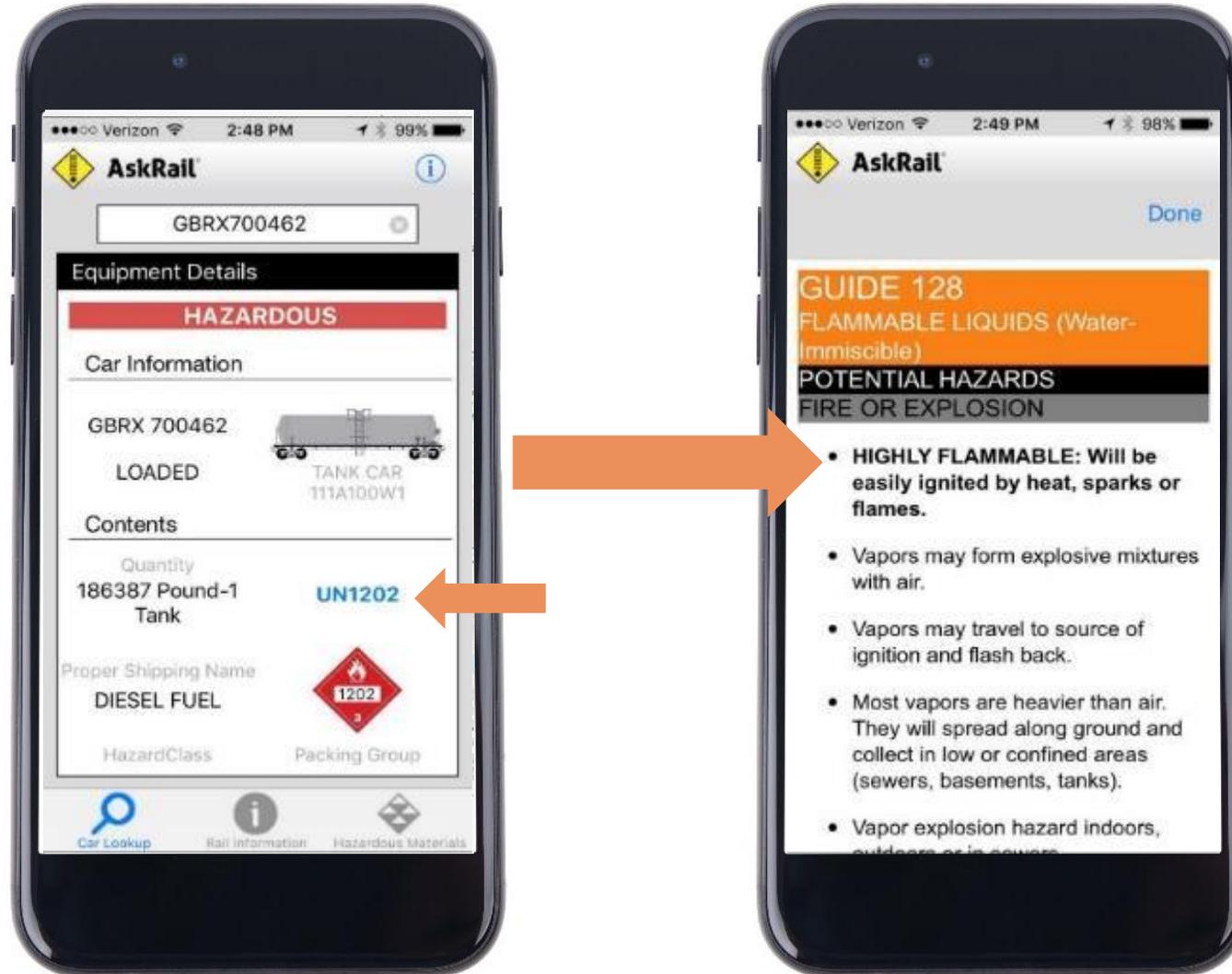
AskRail - Single Car Lookup



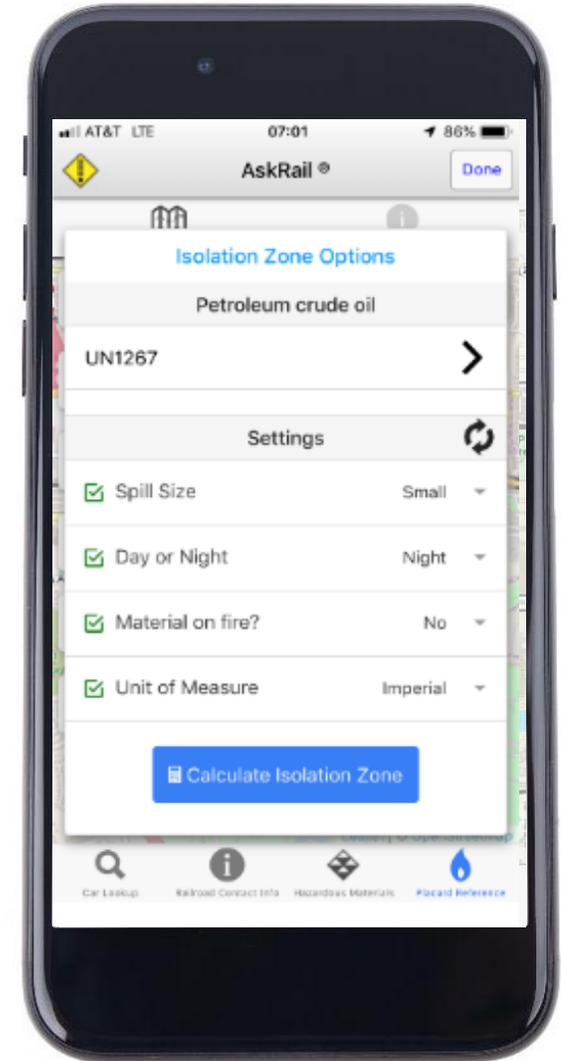
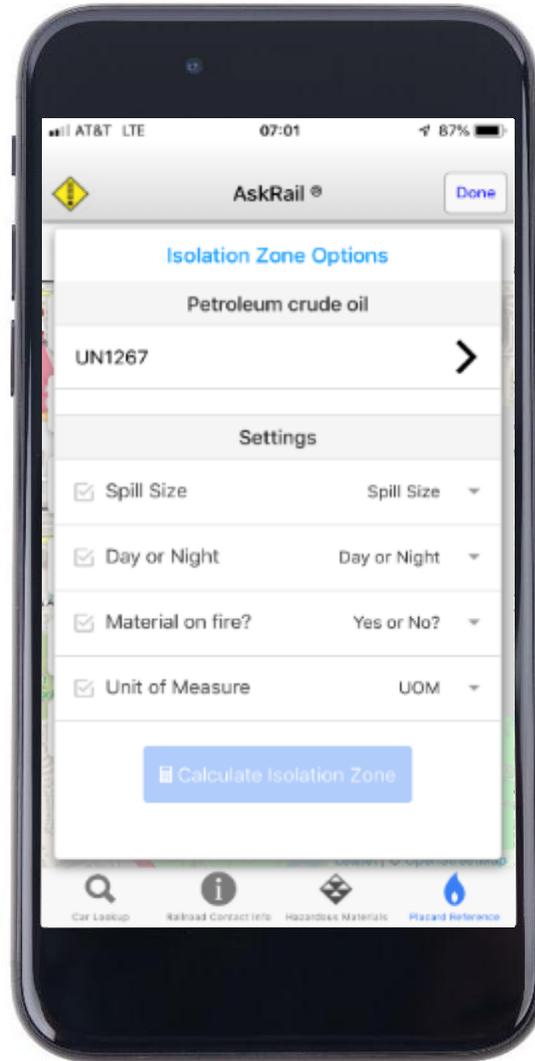
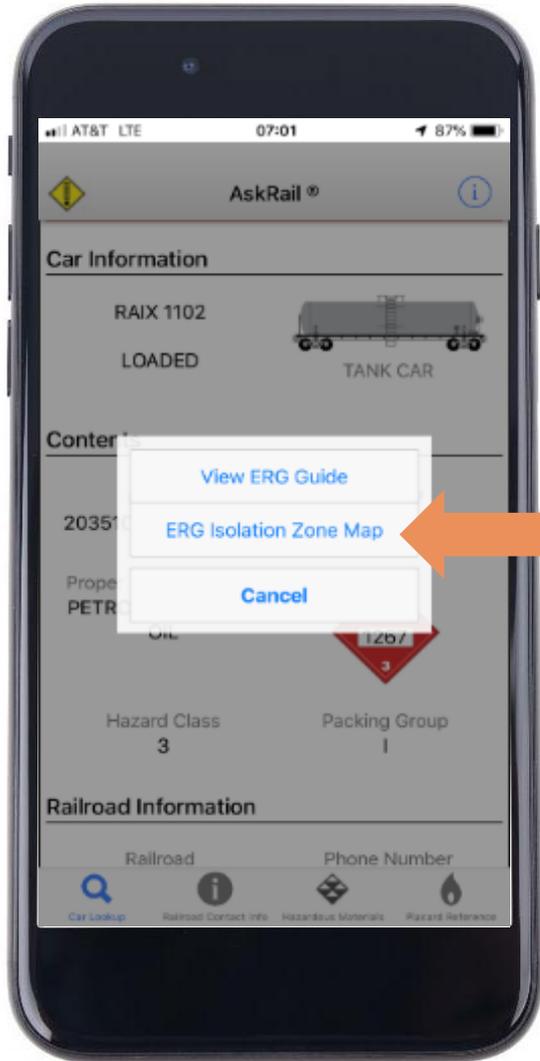
AskRail – Use RAIX1102 for Training or Use a Passing Train



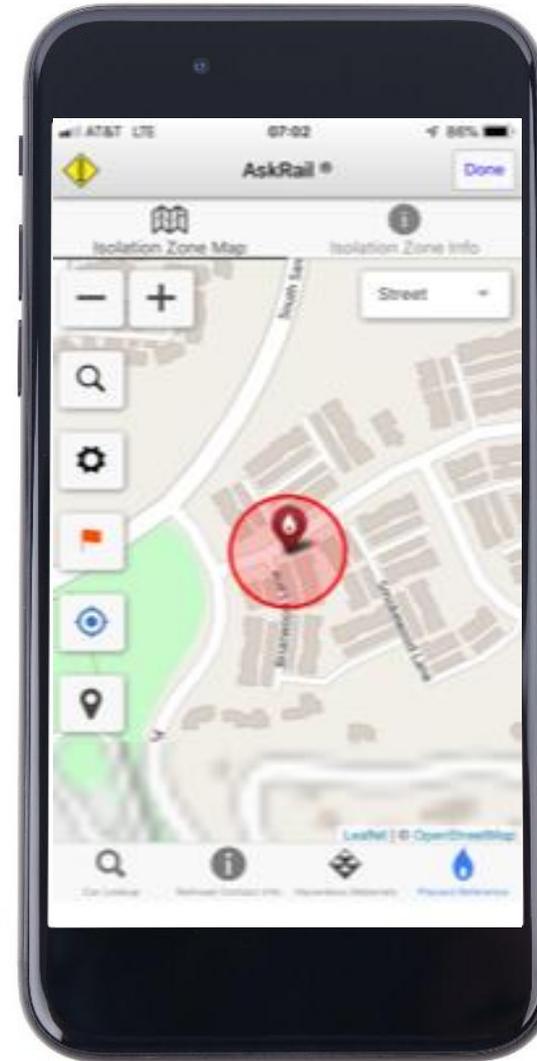
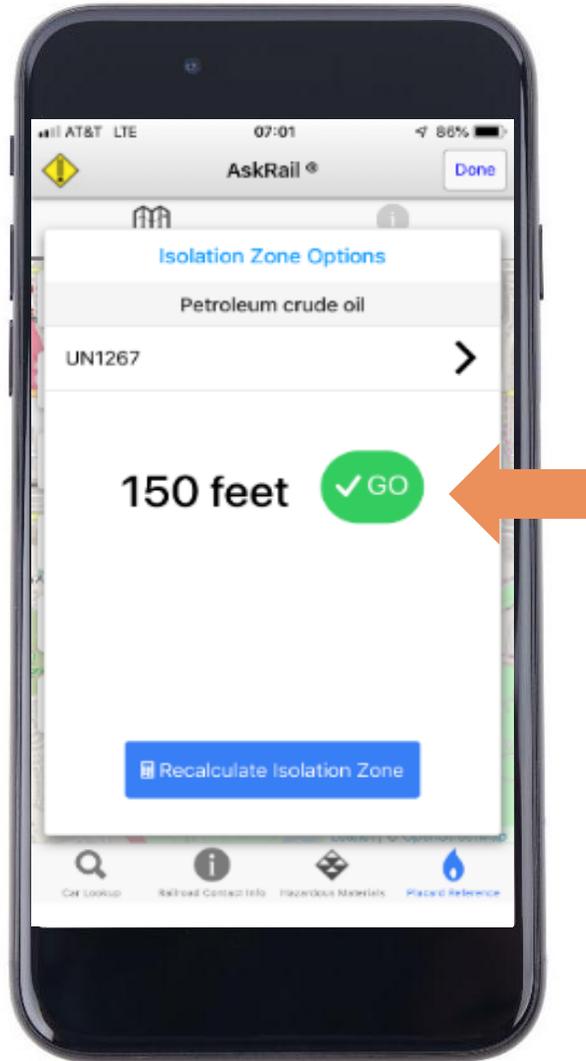
AskRail - View Response Guide



AskRail – ERG Isolation Zone



AskRail – ERG Isolation Zone



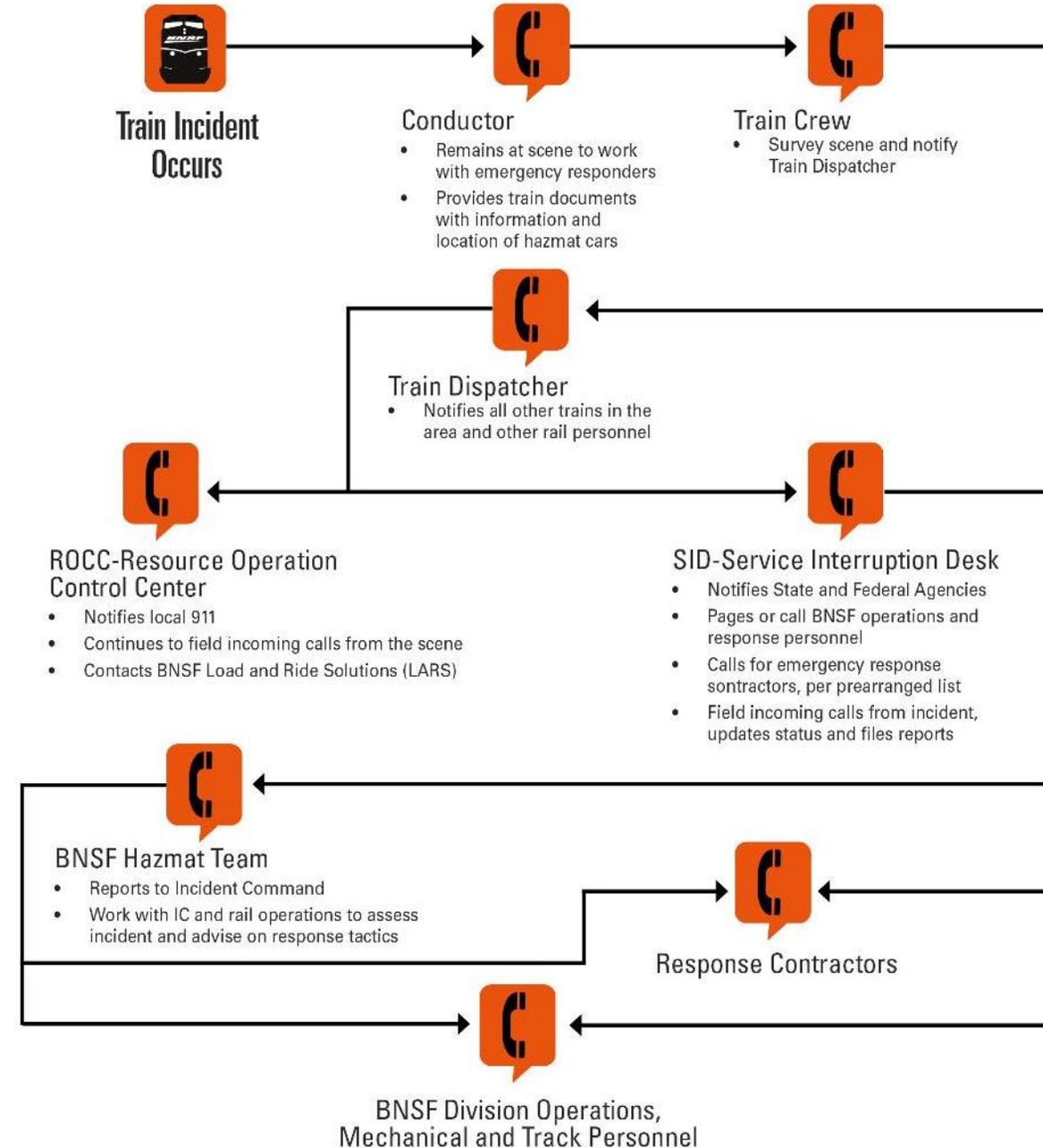


Ask Rail works on Intermodal

Enter the unit number and the declared Hazardous Materials are displayed. A train consist may not be available.

FDXU536652		X
<input checked="" type="checkbox"/> I am conducting a training search		
Equipment Details		No Train Data
HAZARDOUS		
Car Information		
FDXU 536652	FRT or TNK CONTAINER	
LOADED		
Total Quantity		
Net Weight: 13768		
Pounds		
Contents		
Quantity	UN3091	
756 Pound-18 Piece		
Proper Shipping Name		
LITHIUM METAL BATTERIES CONTAINED IN		
EQUIPMENT		
Hazard Class	Packing Group	
9	—	

Incident Notification Procedures

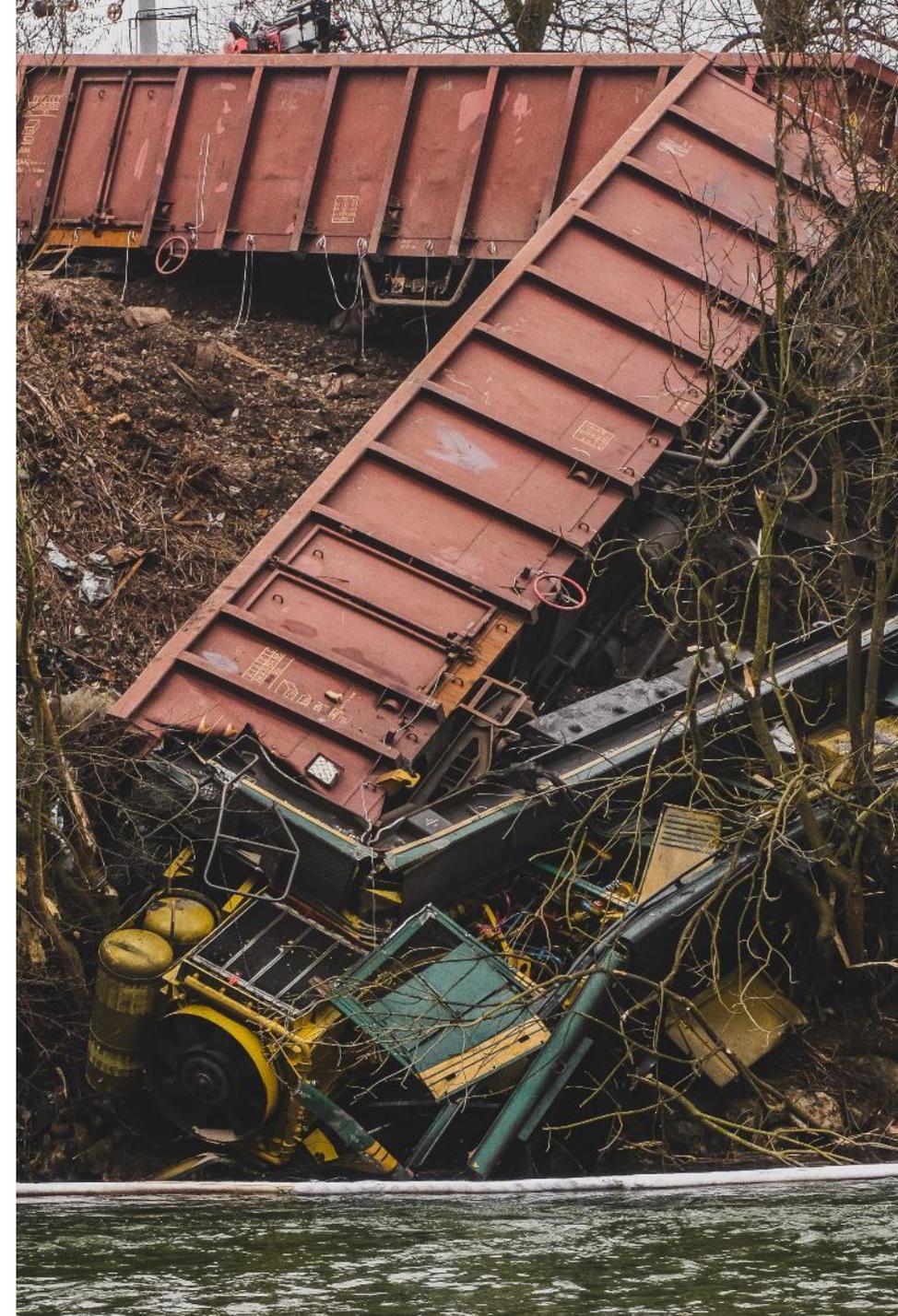


Critical Actions

Priority	Action	Description of the Action	What Entity Initiates the Action
1	Obtain, read and understand the Train Consist	First arriving unit needs to obtain the train list from the train crew or via ASKRAIL. Responders need to be able to read and understand the train list including the standing order of the train and DOT Hazmat Communication (ID Number, Proper Shipping Name, Hazard Class and Packing Group)	Fire Department
2	Establish Incident Command Structure (ICS)	Establish ICS that can be expanded and contracted as the incident matures. Incident Commander is assigned. Incident Command Post is established and clearly identified	Fire and OEM
3	Conduct a size-up	Using the train list, conduct a size up to determine: <ul style="list-style-type: none"> • number of cars derailed • commodities in the derailed cars • determine the status of the cars/commodities, such as whether they are leaking (solid, liquid or gas). • potential impact of the spill to near-by receptors (people, waterways, sewers, etc.) 	Fire Department
4	Coordinate with Railroad Hazmat/Dangerous Goods Teams	Establish contact with the railroad Hazmat/Dangerous Goods team directly or via the Railroads Emergency Response Telephone number. Exchange information on: <ul style="list-style-type: none"> • status of the incident including evacuation/shelter in place decisions • equipment/resources that the railroad is sending and corresponding ETAs • discuss response objectives • ask/answers questions 	Fire, OEM and Railroad Hazmat
5	Establish response priorities using the DECIDE process or other decision-making process	DETECT hazards and hazmat presence ESTIMATE likely outcome without intervention CHOOSE response objectives IDENTIFY action options DO best options EVALUATE progress	Fire, OEM and Railroad Hazmat

Do a Good Size-Up! Start Gathering Information

- What are your wind and weather conditions?
- Any smoke or vapor visible?
- Any liquids or leaks visible?
- What can the train crew or rail personnel tell you?
- What kind of rail cars do you see?
- Standing Car Reporting Marks (License Plate)?



Resources Coming to the Scene



Trainmasters,
Roadmasters &
Mechanical Foremen

BNSF
Railway Police



HAZMAT Response
Contractors

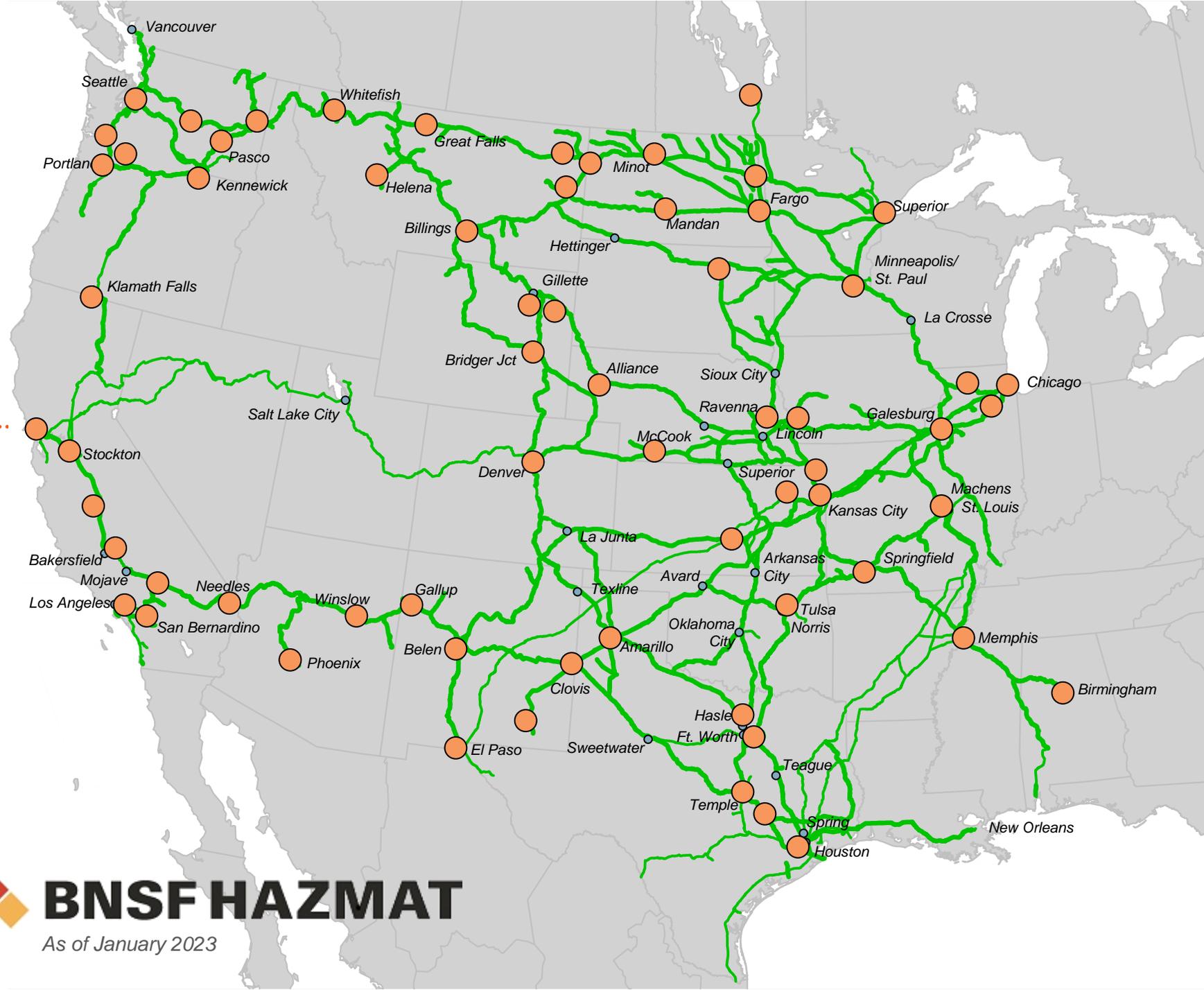


Wrecking
Contractors



BNSF HAZMAT Responder Locations

77 Responders and
38 Advisors throughout
the system.



Specialized Response Equipment

Railroad Emergency Response
& Hazardous Materials
Awareness

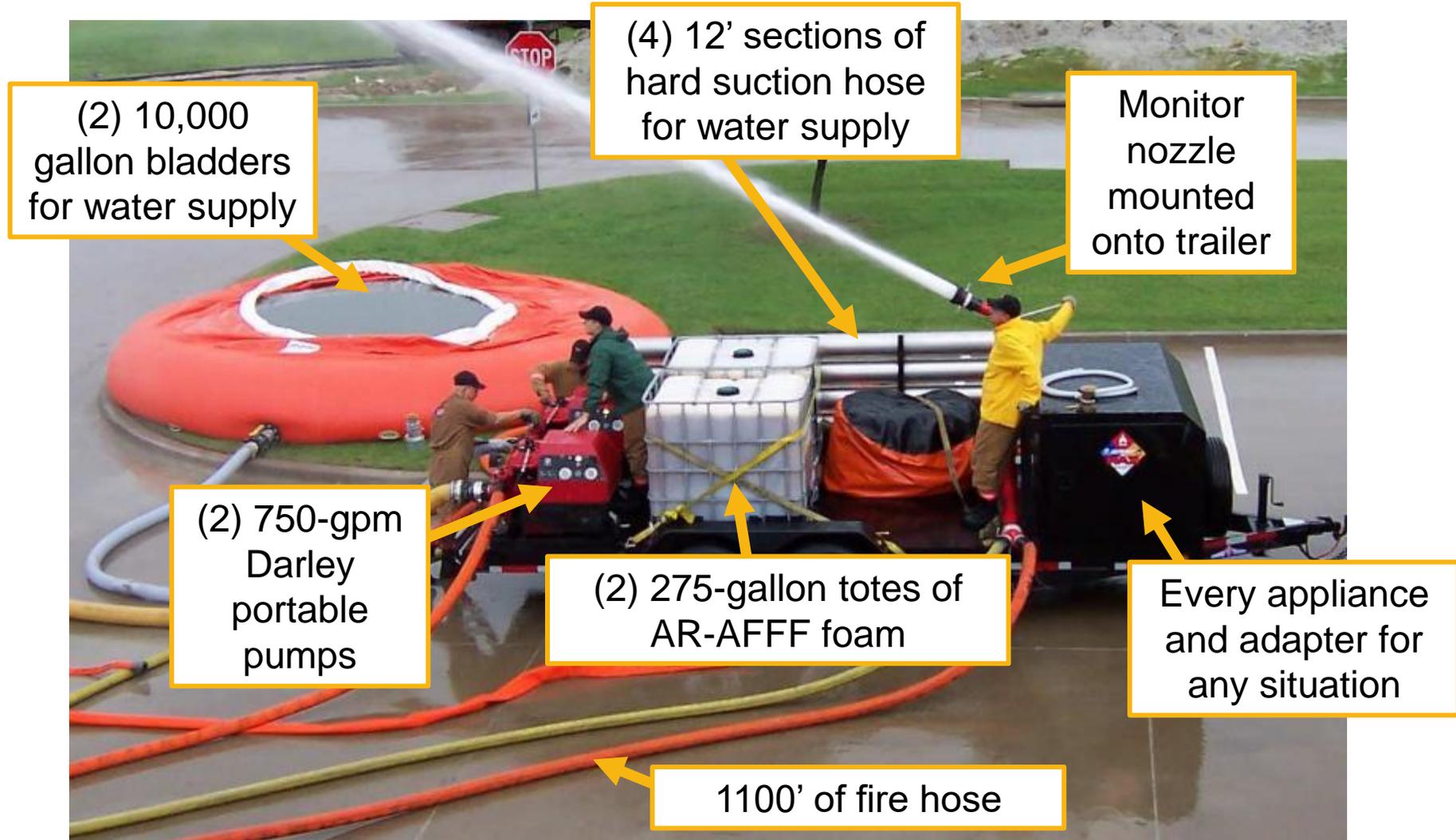
Industrial Firefighting Foam Trailers

- Fleet of 32 on HazMat routes across BNSF's network
- Alcohol-resistant (AR-AFFF) foam covers spilled material and deprives it of oxygen
- Available to other railroads and local communities as an asset
- Designed to address Polar Solvent and crude oil fires



BNSF HazMat and contract industrial firefighters are deployed to operate the equipment

BNSF Fire Trailers



Other Equipment on Fire Trailer

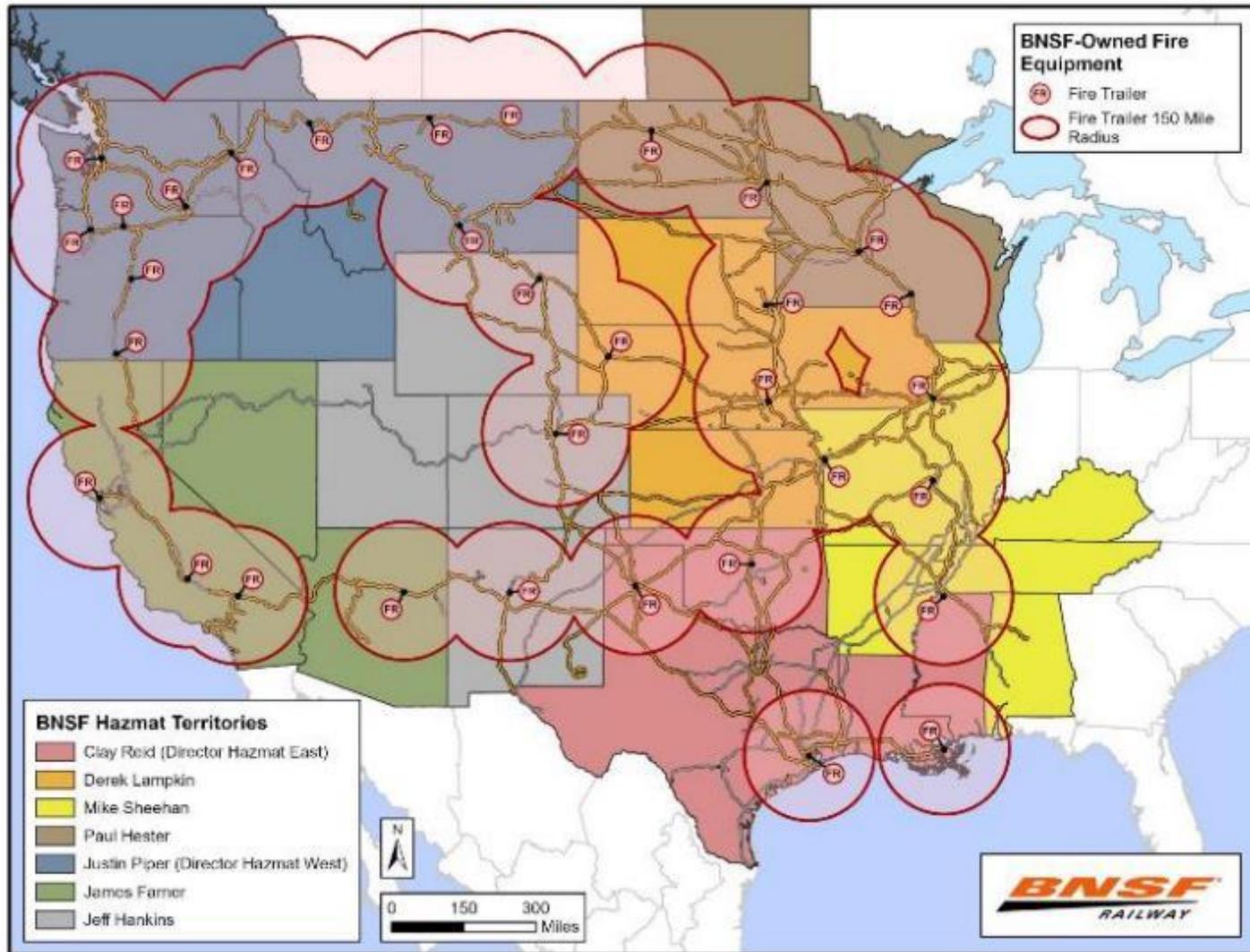


“Mudflap” Magnetic Patch



BOV Magnetic Patch

Fire Trailer & Magnetic Patch Locations



Air Trailers



What Equipment is in the Trailer?

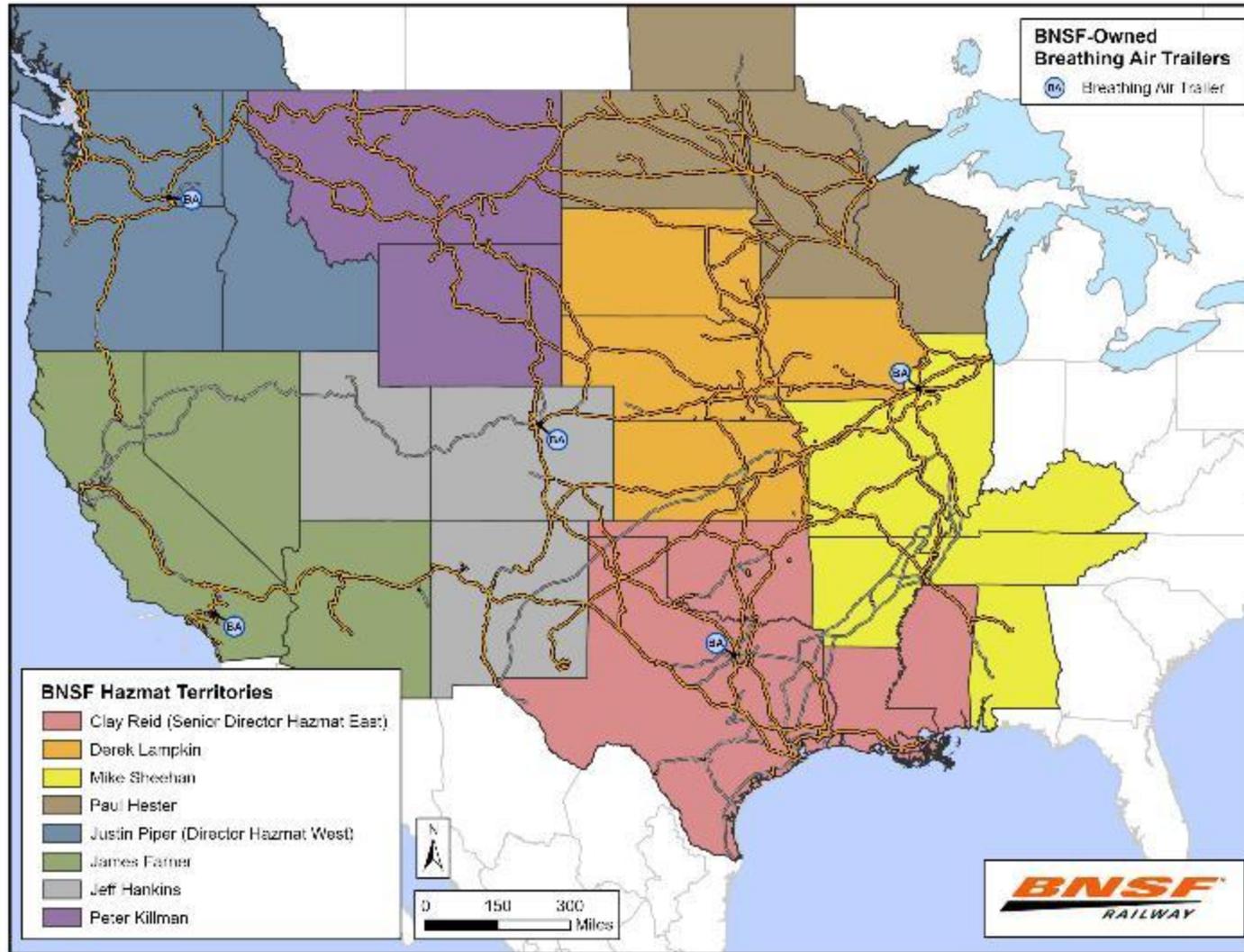
- (10) - SCBAs with spare cylinders (CA, IL, WA, CO)
 - TX = 20/20
- 10-15 minute “Ska-Pak’s” for use with large cylinders and whip airlines for wrecking equipment
- (10) - Whip airlines (50 ft)
- (40) - Scott AV3000 full-face respirators
- Bauer portable breathing air compressor
- Spare parts
- PPE



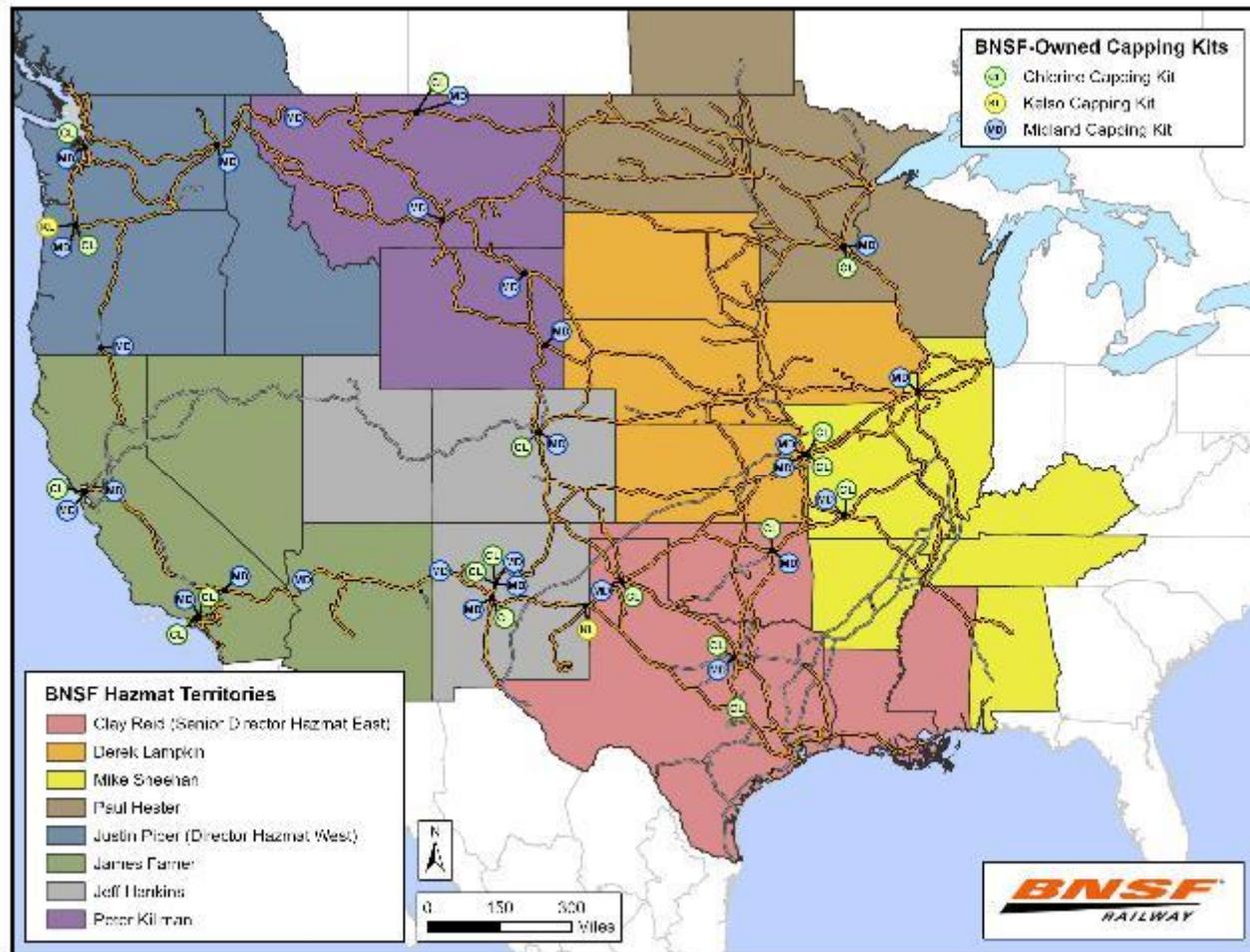
Personal Protective Equipment



Air Trailer Locations



Capping Kits



Kelso Kit



Midland Kit



Chlorine "C" Kit

BNSF Railway Hazmat Air Monitoring Assets

CTEH

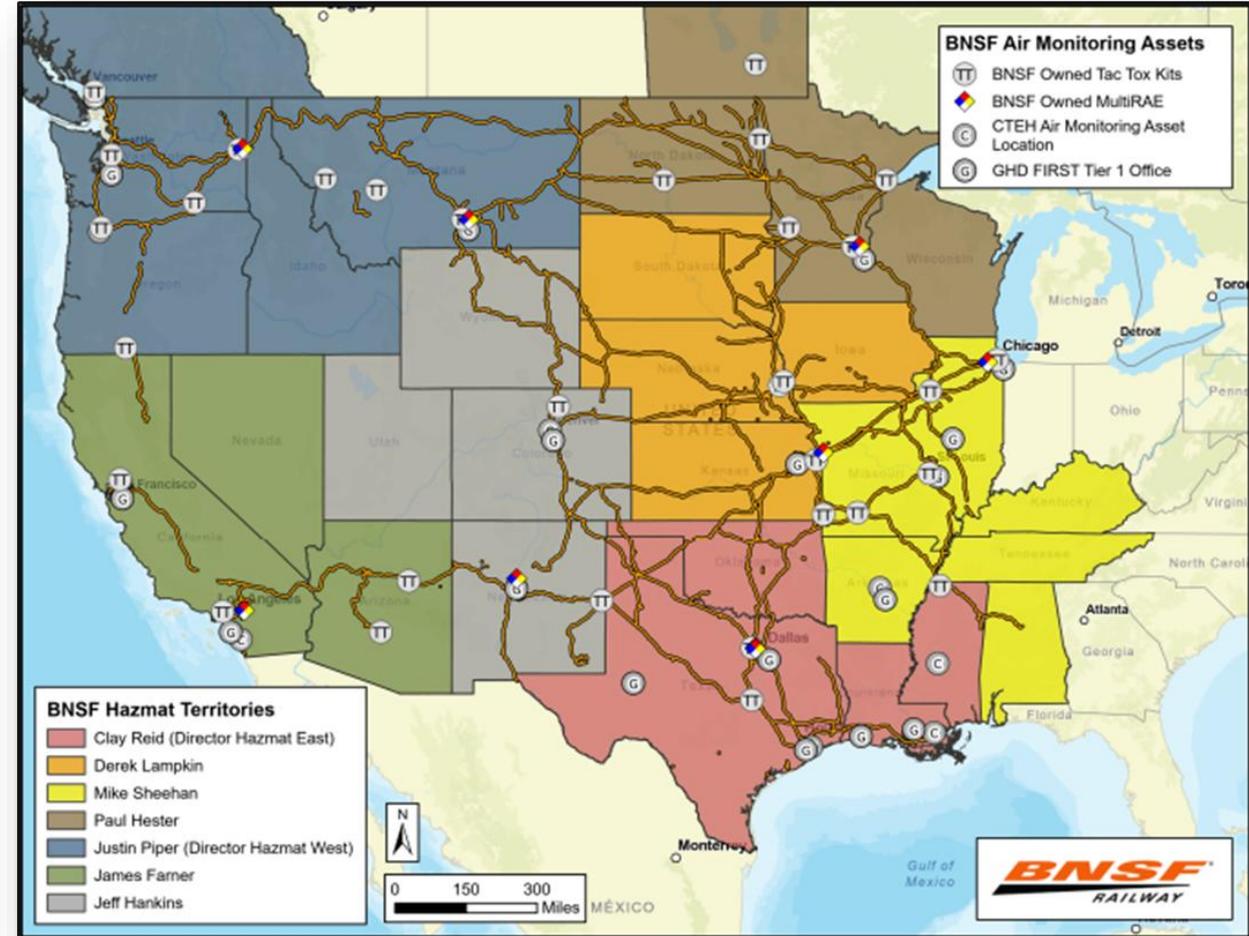
- 24-hour access to PhD Toxicologists and Dispersion Modelers
- Utilize Safer® Star Air Dispersion Model offering topographical model input

TAC TOX Kits (25 Kits total)

- MultiRae 4-gas monitor w/ PID, Kestrel weather meter, Solar Irradiance meter, Detector Tubes/pump, GPS, Calibration gases and equipment

BNSF Hazmat Managers, Directors/Hazmat Emergency Response Team

- MultiRae 4-gas monitor w/PID
- O₂-H₂S-CL₂-LEL-PID



Wildland Fire Assets



Protecting our Assets



Wildland Trailers

- Equipment includes:
 - Pumps
 - Bladders
 - Foam
 - Hose
 - Bridge Kits
- Locations:
 - Denver
 - Barstow
 - Chico
 - K-Falls
 - Pasco
 - Whitefish
 - Ft. Worth



Fire Suppression Cars

- Locations:
 - Spokane
 - Whitefish
 - Denver
 - Los Angeles
 - Amarillo
 - Phoenix
- Car Types
 - Monitor
 - Tender
 - Caboose



BNSF 933009



BNSF 933009

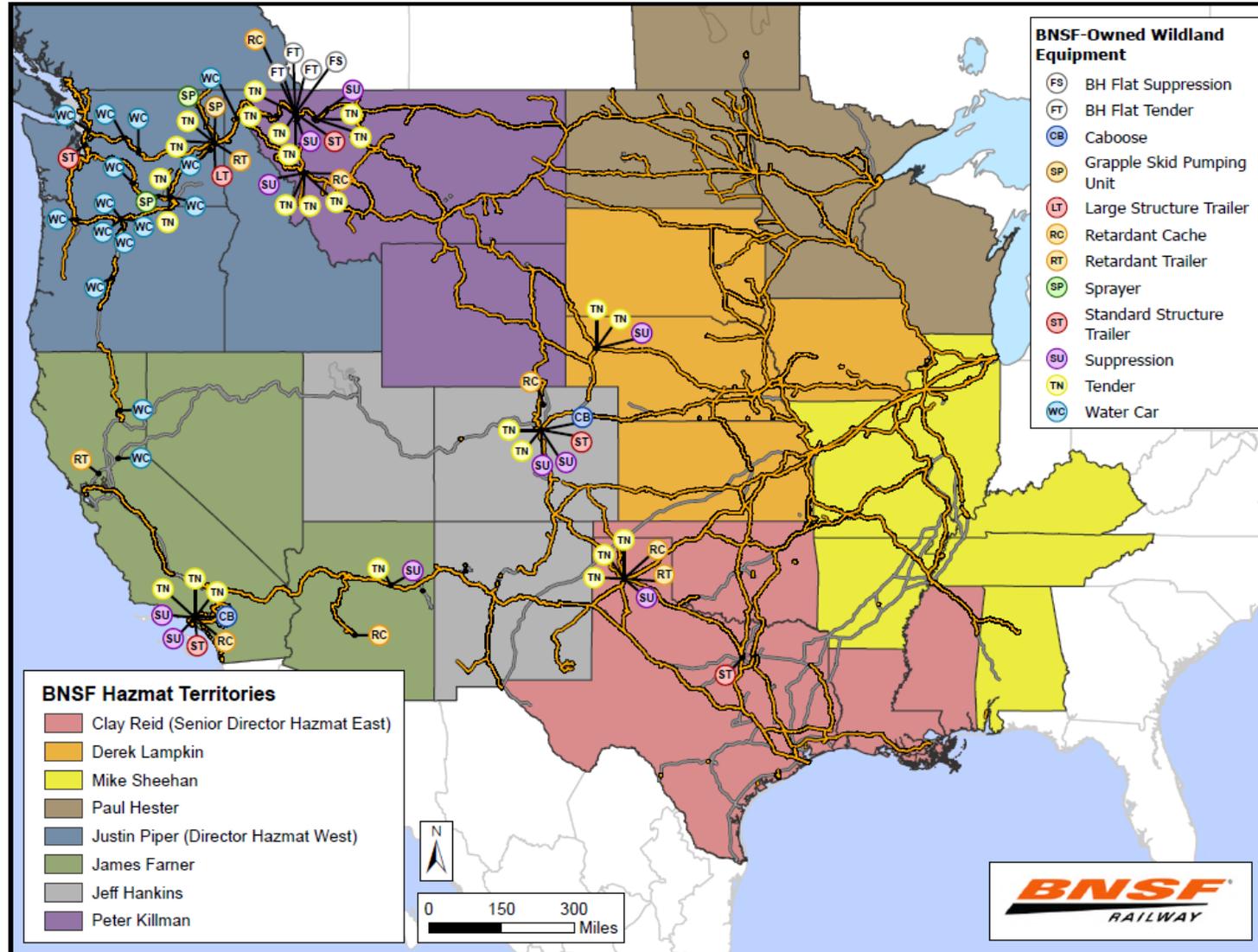


Retardant Concentrate Trailers

- 1,025 Gallons of PHOS-CHEK LC95A-Fx Wildland Fire Retardant Concentrate
- Integrated Pumping and Recirculation system
- 16,000 LBS weight, need 1- ton or larger truck to pull
- Located in Spokane and Sacramento



Wildland Response Assets





BNSF[®]
RAILWAY