Railroad Emergency Response
Specialized Training and Resources

BNSF HAZMAT

James Farner
Manager, Hazardous Materials Field Ops and ER
Railroad Safety
Who and What We Are.....

- **32,500** Miles of Track, **44,000+** employees
- Operating in **28** States, **3** Canadian Provinces
- Over **8,000** Locomotives
- Operating approximately **1,600** trains per day
- **2017 – 1.3 Million** Hazardous Material Shipments
- **2017 Capital Investment of $3.8 Billion**

BNSF can move 1-ton of freight approximately 500 miles on 1-gallon of fuel
HazMat Managers Region Map
Community focus is on training responders and providing interpretative information

- Training topics include:
  - Train list / shipping papers
  - Placards
  - Equipment
  - Incident Assessment
  - Hands-on equipment in field

- Hazmat shipment information:
  - Hazmat traffic flows for communities
  - Shipments for past year
  - Written request required

Number of Responders Trained
BNSF Hazardous Material Stats

**BNSF Number of Hazmat Shipments**

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR Yearly Totals</td>
<td>8</td>
<td>15</td>
<td>24</td>
<td>2</td>
<td>30</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Number of Derailments with an AR</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>AR per 100 K Hazmat Shipments</td>
<td>0.71</td>
<td>1.04</td>
<td>1.35</td>
<td>0.11</td>
<td>1.75</td>
<td>0.51</td>
<td>0.22</td>
</tr>
</tbody>
</table>

**BNSF Total Hazmat Releases**

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAR Yearly Totals</td>
<td>96</td>
<td>99</td>
<td>129</td>
<td>114</td>
<td>127</td>
<td>105</td>
<td>96</td>
</tr>
<tr>
<td>NAR per 100K Hazmat Shipments</td>
<td>8.5</td>
<td>6.9</td>
<td>7.3</td>
<td>6.2</td>
<td>7.4</td>
<td>7.7</td>
<td>7.2</td>
</tr>
</tbody>
</table>
Working Around Railroads and Equipment

Personnel 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, remember to maintain three points of contact at all times. Rail equipment ladders often curve around the profile of the car, and the first step up is a long way off the ground. When stepping down from the last rung, **DO NOT** jump. A good plan is to use your own ladders. Block the feet, and tie them off at the top of the car or equipment.

• Locomotive steps should be considered ladders. Always face the equipment going up and down, and maintain three points of contact.

• Locomotives in rail yards may be operated via remote control. NO crew to see you!
Incident Scene Safety –

• Contact the railroad dispatching center, and report your emergency. Advise if train traffic needs to be stopped.
• Identify yourself, your agency, your city/state, and location.
• Report all emergencies including stalled vehicles, grass fires, structural fires, and medical emergencies near or on railroad tracks.
• If you are at a derailment scene, beware of tipped and leaning equipment. Be especially aware of bent and stressed rail which can suddenly move and lash out. As the clearing operations begin, watch out for heavy equipment such as bulldozers and loaders.
• When responding to any rail emergency, remember that rail equipment is very large, and does hang out over the edge of the track. Always park your vehicles AT LEAST 25 FEET out from the edge of any track.
• Use railroad milepost numbers and/or railroad-highway crossing DOT Numbers

The Emergency Phone Number for BNSF Railway is 1-800-832-5452
Track Awareness
Why you don’t Foul our Track…….
The Aftermath…….
How to Stop a Train

#1….CALL THE BNSF EMERGENCY NUMBER @ 1-800-832-5452

- Flare placed by Flagman between the rails on ballast, 2 miles from emergency.
- Flagman goes to the point the train stops
- Spotter positioned at scene
Stopping a Train in an Emergency

Place a lighted flare between the rails, on ballast, about 2 miles in both directions from the incident location.

Move a lighted flare, light, or bright object back & forth horizontally, at knee to hip level, at the approaching train.
How do You Know Who’s Track it is?
Call the railroad and report your location and situation.
Information at Your Finger Tips

Rail Crossing Locator (FRA)

- iOS and Android Devices
- Emergency Notification
- Railroad Owner
- Crossing ID
- Milepost
- Speed Limits
- Collision Reports
Specialized Response Equipment, Resources and Training

Railroad Emergency Response & Hazardous Materials Awareness
BNSF HAZMAT
COMMITED TO SAFETY

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

We value your dedication and support.
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.

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.

ADDITIONAL RESOURCES
- System Emergency Response Plan
- Operations Lifesaver
- Railroad Crossing Locator
To ensure that our hazmat contractor partnerships are mutually rewarding, we offer two important outlets for sharing information best practices.

**BNSF HAZMAT ONLINE TRAINING**

**Railroad Emergency Response Hazardous Materials Training**
Prepares firefighters to respond to railway hazmat incidents. This program covers shipping papers, placards, markings that identify hazardous materials, railroad equipment identification and how to assess hazmat incidents.

**LNG Awareness and Emergency Response Training**
This 30-minute video covers an introduction to BNSF hazmat transportation, emergency response planning training and action, BNSF hazmat shipments, LNG-fueled locomotive awareness and BNSF fuel tender and loading processes.

**Passenger Train Emergency Response Training**
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 situations involving passenger trains.

**Crude by Rail Emergency Response**
This web-based training is offered by the Association of American Railroads in cooperation with BNSF and six other major railroads. You decide when and where to begin this no cost course that offers a foundation to help you make basic safety decisions in the event of a railway hazmat incident involving crude oil.
As a member of Transportation Community Awareness and Emergency Response (TransCAER®), BNSF provides a no-cost railroad hazardous materials familiarization course for community emergency responders. This four-hour course uses a combination of classroom and hands-on modules. Training is conducted at the location of your choice.

BNSF ON-SITE COMMUNITY TRAINING

**Onsite Railroad Emergency Response Hazardous Materials Training**

BNSF Railway offers Crude By Rail and Emergency Response Training workshops to municipal first responders. This no cost training program will provide first responders with the basic knowledge, skill and abilities to respond to incidents involving Crude By Rail (CBR). The program is delivered over 3 days (24 hours) with over 60% of the time spent on field exercises.
Flammable Liquid Firefighting-CBR
On-site Community Training
Annual Drills
Swift Water Response
Swift Water Response
www.BNSFHAZMAT.com

AskRail

Rail Crossing Locator

Commodity Flow Reports
Commodity Flow Studies

• Is your agency interested in doing a transportation risk analysis for your area?
• Do you need information for emergency planning or security planning?
  • Do you need to know what the most commonly transported hazardous materials are for your area?

The Hazardous Material Commodity Flow Study is available electronically through:

http://www.bnsfhazmat.com
## Rail Hazardous Materials Traffic Flow
(Previous 4 Quarters)

<table>
<thead>
<tr>
<th>STCC NUMBER</th>
<th>STCC</th>
<th>DESCRIPTION</th>
<th>CLASS CODE</th>
<th>RESIDUE CAR COUNT</th>
<th>LOADED CAR COUNT</th>
<th>RESIDUE INTER-MODAL COUNT</th>
<th>LOADED INTER-MODAL COUNT</th>
<th>TOTAL INTER-MODAL COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4905752</td>
<td></td>
<td>LIQUEFIED PETROLEUM GAS</td>
<td>2.1</td>
<td>3633</td>
<td>2571</td>
<td>0</td>
<td>0</td>
<td>2571</td>
</tr>
<tr>
<td>4910165</td>
<td></td>
<td>PETROLEUM CRUDE OIL</td>
<td>3</td>
<td>1882</td>
<td>2233</td>
<td>0</td>
<td>0</td>
<td>2233</td>
</tr>
<tr>
<td>4908176</td>
<td></td>
<td>GASOLINE</td>
<td>3</td>
<td>226</td>
<td>1533</td>
<td>0</td>
<td>0</td>
<td>1533</td>
</tr>
<tr>
<td>4961605</td>
<td></td>
<td>ELEVATED TEMPERATURE LIQUID, N.O.S.</td>
<td>9</td>
<td>1370</td>
<td>1382</td>
<td>0</td>
<td>0</td>
<td>1382</td>
</tr>
<tr>
<td>4907265</td>
<td></td>
<td>STYRENE MONomer, STABILIZED</td>
<td>3</td>
<td>1011</td>
<td>1056</td>
<td>0</td>
<td>0</td>
<td>1056</td>
</tr>
<tr>
<td>4905424</td>
<td></td>
<td>BUTANE</td>
<td>2.1</td>
<td>277</td>
<td>879</td>
<td>0</td>
<td>0</td>
<td>879</td>
</tr>
<tr>
<td>4930228</td>
<td></td>
<td>HYDROCHLORIC ACID</td>
<td>8</td>
<td>676</td>
<td>755</td>
<td>0</td>
<td>0</td>
<td>755</td>
</tr>
<tr>
<td>4905421</td>
<td></td>
<td>LIQUEFIED PETROLEUM GAS</td>
<td>2.1</td>
<td>946</td>
<td>629</td>
<td>0</td>
<td>0</td>
<td>629</td>
</tr>
<tr>
<td>4930040</td>
<td></td>
<td>SULFURIC ACID</td>
<td>8</td>
<td>513</td>
<td>485</td>
<td>0</td>
<td>0</td>
<td>485</td>
</tr>
<tr>
<td>4907428</td>
<td></td>
<td>HYDROCARBONS, LIQUID, N.O.S.</td>
<td>3</td>
<td>304</td>
<td>388</td>
<td>0</td>
<td>0</td>
<td>388</td>
</tr>
<tr>
<td>4909152</td>
<td></td>
<td>ALCOHOLS, N.O.S.</td>
<td>3</td>
<td>215</td>
<td>298</td>
<td>0</td>
<td>0</td>
<td>298</td>
</tr>
<tr>
<td>4904509</td>
<td></td>
<td>CARBON DIOXIDE, REFRIGERATED LIQUID</td>
<td>2.2</td>
<td>211</td>
<td>177</td>
<td>0</td>
<td>0</td>
<td>177</td>
</tr>
<tr>
<td>4961619</td>
<td></td>
<td>ELEVATED TEMPERATURE LIQUID, N.O.S.</td>
<td>9</td>
<td>142</td>
<td>138</td>
<td>0</td>
<td>0</td>
<td>138</td>
</tr>
<tr>
<td>4909230</td>
<td></td>
<td>METHANOL</td>
<td>3</td>
<td>101</td>
<td>136</td>
<td>0</td>
<td>0</td>
<td>136</td>
</tr>
<tr>
<td>4905419</td>
<td></td>
<td>LIQUEFIED PETROLEUM GAS</td>
<td>2.1</td>
<td>213</td>
<td>118</td>
<td>0</td>
<td>0</td>
<td>118</td>
</tr>
</tbody>
</table>
Industrial Fire-fighting 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
- Designed to address Ethanol and Crude Oil shipments

Trailers are mobilized to the location of an incident and contract industrial firefighters are deployed to operate the equipment.
What Equipment is on the Fire Trailer?

- (2) 10,000 gallon bladders for water supply
- (4) 12’ sections of hard suction hose for water supply
- (2) 275-gallon totes of AR-AFFF foam
- (2) 750-gpm Darley portable pumps
- 1100’ of fire hose
- Monitor nozzle mounted onto trailer
- Every appliance and adapter for any situation
BNSF Railway Fire Trailer-San Leandro FD
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
Inside of the Air Trailer
Inside of the Air Trailer
Personal Protective Equipment
Air Trailer Locations

System Wide ER Air Trailers

ER Air Trailers Locations

Updated June 2016
Specialized Mitigation Equipment

BOV Magnetic Patch

Chlorine “C” Kit

Kelso Kit

Magnetic ”Mag” Patch

Midland Kit
Magnetic Patch Locations

System Wide Magnetic Patches

- Contractor Mag Patches
- BNSF Mag Patches
- BNSF Bottom Outlet Valve Mag Patches

Updated January 2017
Capping Kits

**System Wide Capping Kits**
- Chlorine C-Kit
- Midland Kit
- Kelso Kit

**Capping Kits are owned and maintained by both BNSF & BNSF Contractors**

Updated January 2017
Air Monitoring Assets

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

TacTox Kit (22 Kits total)
- MultiRAE 4-gas monitor w/ PID, Kestrel weather meter, Solar Irradiance meter, Detector Tubes/pump, GPS, Calibration gases and equipment

GHD
- Multi-Media sampling – Air, surface water, groundwater, soil
- GIS mapping and support

iNet Systems
- Located at 8 BNSF rail yards throughout the system
Wildland Fire Assets
Protecting our Assets
“Sparky”
BNSF 933009
QUESTIONS?

Railroad Emergency Response & Hazardous Materials Awareness