RAIL SAFETY

COMMITTED TO IMPROVING SERVICE, AND INVESTING IN YOUR GROWTH

BNSF has a broad-based risk reduction program.

Derailment prevention

Addressing risks inherent with DOT-111 tank cars and proper product classification

Strengthening emergency response capabilities

Prevention

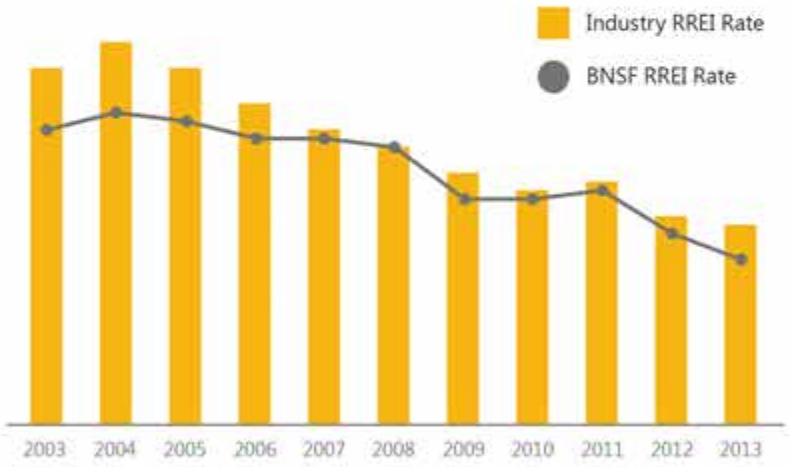
BNSF's Risk-Reduction Program, Layers of Safety

Prevention

BNSF's is the Safety Leader.

Prevention

REPORTABLE RAIL EQUIPMENT INCIDENT RATE



Railroads have excellent safety record for crude oil transportation, and BNSF leads the industry in safety.

BNSF's focus is preventing accidents

Employee Partnership
+ New Technology

Safer Operations

BNSF RAILWAY

In Fall 2013, the rail industry implemented a set of voluntary risk-reduction procedures

Longstanding best practices for special handling of Key Trains now extend to crude and ethanol shipments

"Key Train" Definition

Prevention

One or more loads of
Toxic Inhalation/Poisonous Inhalation (TIH/PIH) materials

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20 or more tank loads
of any hazardous materials

BNSF RAILWAY

Special Handling for Key Trains

Prevention

Special identification and tracking

Speed restrictions: 50 mph max speed limit

Special Handling for Key Trains

Prevention

Routes

- *Wayside wheel bearing detector spacing*
- *Track inspections frequency*
- *Minimum track maintenance standards for tracks used to meet or pass Key Trains*

BNSF RAILWAY

Special Handling for Key Trains

Prevention

Never left unattended on main line, siding tracks or outside of yards and terminals without briefing between train crew and train dispatcher.

Key trains left unattended will be secured.

U.S. DOT Agreement Provides Additional Operating Practice Risk Reductions (Q1 2014)

Prevention

Speed Restrictions

Restrictions of 40 mph for Key Trains carrying crude in DOT-111 tank cars through High Threat Urban Areas (HTUAs)

(additional 36% reduction in kinetic energy (KE), 56% overall reduction in KE)

BNSF RAILWAY

U.S. DOT Agreement Provides Additional Operating Practice Risk Reductions (Q1 2014)

Prevention

Risk-based Routing

Apply PHMSA's
Rail Corridor Risk Management System (RCRMS)
and its 27 risk factors that define the
'most safe and secure' route for trains carrying
TIH/PIH, to the routing of unit crude trains.

BNSF RAILWAY

U.S. DOT Agreement Provides Additional Operating Practice Risk Reductions (Q1 2014)

Prevention

Derailment Prevention

- *Wayside Detector Network – a max of 40 mile spacing of defective bearing detectors on Key Crude Oil routes (detects defects in wheel bearings as they pass the detector device)*
- *Rail Detection – At least one additional internal rail inspection than required by federal regulations*
- *All Key Crude Trains operated with distributed power (DP) or an operative two-way end of train device (All BNSF crude trains operate with DP)*

BNSF RAILWAY

U.S. DOT Agreement Provides Additional Operating Practice Risk Reductions (Q1 2014)

Emergency Response
(in addition to local training already undertaken by BNSF)

- *Rail Industry commits up to $5M to develop and deliver crude-specific HazMat training to First Responders*
- *Rail Industry commits to develop an inventory of emergency response resources*

BNSF RAILWAY

Mitigation

Rail industry voluntarily adopted stronger tank car standards in Oct. 2011 and Nov. 2013

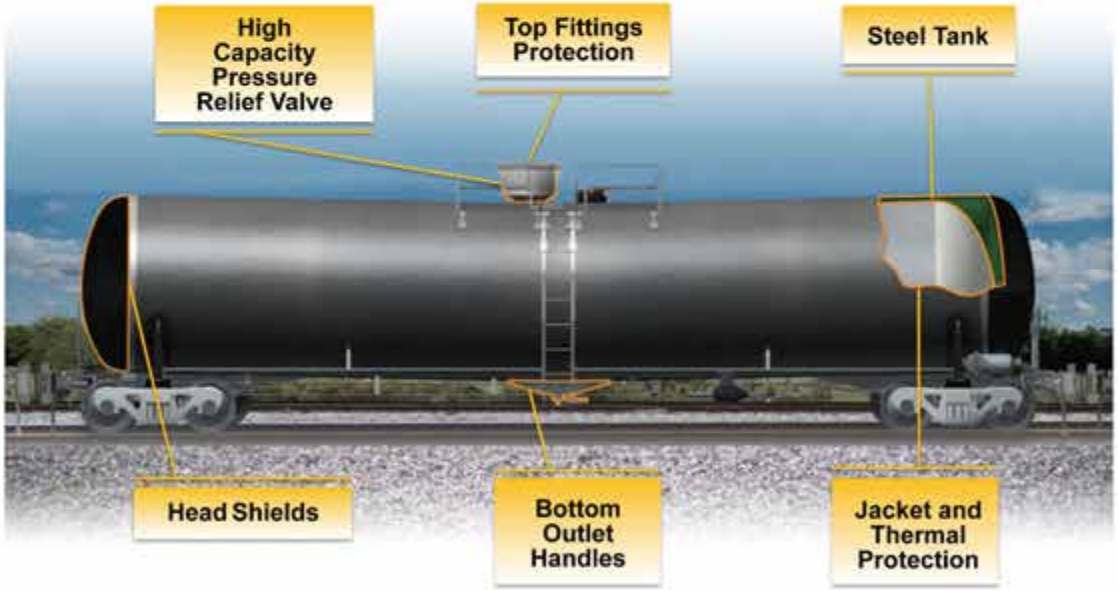
TODAY'S CARS VS. "OLD" CARS

- 1/2" or 7/16" jacketed shell vs. 7/16"
- 1/2" extra protective head shield
- Roll over protection (top fitting protection)
- Larger pressure release valve
- 47 - 77% better crashworthiness


The next generation
tank car will be
even safer.
BNSF
RAILWAY

"Next Generation Tank Car" NGTC

Mitigation



- *9/16" thick shell*
- *Requires jacket and thermal protection*
- *85% more crashworthy than DOT-111*

BNSF RAILWAY

We have issued an RFP to accelerate the tank car design and production to bring more certainty to the crude-by-rail tank car market.

Response

First Responders

Response

Shipment Info

Training

Mobilization

BNSF RAILWAY

BNSF already provides local first responders information about shipments.

New Agreement with U.S. DOT

July 2014

Response

Railroads will develop a nationwide inventory of resources for Key Route emergency responders.

- Locations for staging emergency equipment
- Contacts for community notification
- Provide to U.S. DOT and emergency responders

BNSF RAILWAY

Nationwide training program for first responders

- Hands-on equipment in field – instructor lead
- Train list/shipping papers
- Placards
- Equipment
- Incident assessment

3,500

EMERGENCY RESPONDERS TRAINED BY BNSF EACH YEAR

65,500

TRAINED SINCE 1996

30,000

Thirty thousand emergency responders and railroad/ chemical industry employees trained for hazmat response at ***the Security and Emergency Response Training Center of the Transportation Technology Center, Inc. (TTCI)*** in Pueblo, CO.

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Questions


BNSF
RAILWAY