

Specific Crude Oil Safety Measures Implemented by Railroads (2014 & 2015)

Increased Track Inspections

- At least one additional internal rail inspection each year above Federal Railroad Administration (FRA) requirements on crude oil routes **Effective: March 25, 2014**
- At least two Geometry Car inspections each year on crude oil routes **Effective: March 25, 2014**
- **BNSF-SPECIFIC ACTION:** increasing rail detection testing frequencies along critical waterways (BNSF currently at 2x FRA frequency; going to 2.5x with this change) **Effective: April 1, 2015**

Increased Trackside Safety Technology

- Additional Hot Bearing Detectors (HBD) on crude oil routes (max 40 mile spacing) **Effective: July 1, 2014**
- **BNSF-SPECIFIC ACTION:** HBD spacing of 10 miles on crude routes that parallel critical waterways
- **BNSF-SPECIFIC ACTION:** Key Train stopped by HBD must set-out the indicated car
- **BNSF-SPECIFIC ACTION:** KEY trains with Level II Wheel Impact Load Detector (WILD) defect (120 – 140 Kilopound (Kips)) will be handled as a LEVEL I defect (immediate set-out). **Effective: March 25, 2015**

Rail Risk-Based Traffic Routing Technology

- Use of Rail Corridor Risk Management System (RCRMS) to determine the most safe and secure routes for crude trains of 20 or more loaded cars **Effective: July 1, 2014**

Lower Speeds

- Implemented nationwide speed restriction: 50 mph for all Key Trains (20 or more cars hazmat; one car Toxic Inhalation Hazard/Poisonous Inhalation Hazard (TIH/PIH)) **Effective: July 1, 2014**
- Municipal speed restriction: 40 mph for crude oil trains with Department of Transportation (DOT-111) tank cars moving through High Threat Urban Areas (HTUA) **Effective: July 1, 2014**
- **BNSF-SPECIFIC ACTION:** 35 mph for all shale crude oil trains through municipalities of 100k or larger **Effective: March 25, 2015**

Key Train Operating Practice Restrictions

- During a 'train meet' a Key Train will hold the main track whenever practicable
- A Key Train experiencing an Emergency Brake application requires inspection of the entire train before proceeding

Unattended Trains

- Crude oil trains left unattended require specific job safety briefing between train crew and train dispatcher
- Locomotive Cab Securement: Key Trains left unattended have reverser removed and cab doors locked

Emergency Response Training & Community Outreach

- Developed specialized Crude by Rail (CBR) First Responder training at Transportation Technology Center Inc. (TTCI Pueblo)
- Funded tuition reimbursement to train approximately 1,500 First Responders at TTCI in 2014
- Sharing hazmat unit volumes by major track segment
- **BNSF-SPECIFIC ACTION:** BNSF has formal community outreach initiative
- **BNSF-SPECIFIC ACTION:** BNSF rolling out a real-time Geographic Information System (GIS) tracking application for state emergency-response agencies