Attachments

Attachment A----------BNSF Grade Crossing Safety Brochure

Attachment B----------BNSF Track Inspection Report

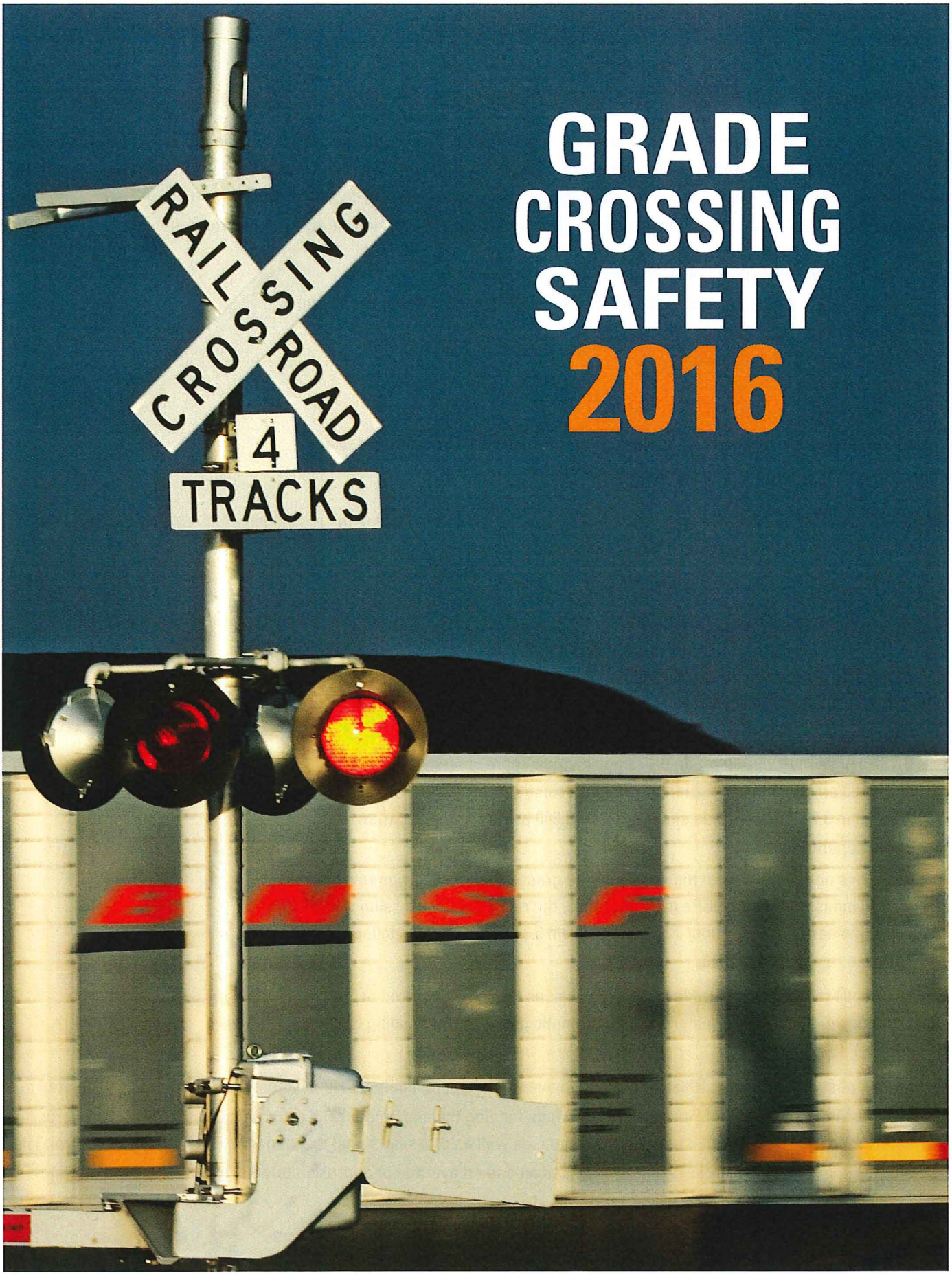
Attachment C----------BNSF Washington Track Inspections Flyer

Attachment D----------BNSF Bridge Inspection Report

Attachment E----------BNSF Pasco Re-Spray Background

Attachment F----------Coal Dust Facts

GRADE CROSSING SAFETY 2016



Federal/Railroad Grade Crossing Safety Program

Federal and State Processes for Upgrading Crossing Signals: Each state determines the location and types of rail-highway grade-crossing signals to be installed, under a federal program. Crossing signals are to regulate drivers, and are within the jurisdiction of road authorities. Therefore, they are defined by the Federal Highway Administration as highway control devices, not railroad signals.

Each state receives an allocation of federal safety funds and develops a priority list of crossings each year for grade-crossing improvements. Each state creates its own formula to generate this list, which typically includes elements such as train speed, train volume, average daily traffic and accident history.

Once a state determines which crossings are to be upgraded, it contacts the railroad to begin the "diagnostic" process. The railroad designs the circuitry for each crossing and estimates the cost. Once the state reviews and approves the estimate, the state issues an agreement to the railroad to install the specified signals. BNSF participated in more than 180 diagnostic projects in 2015.

Federal funds pay about 90 percent of the cost of a signal installation and the local government jurisdiction — city, county, etc. — pays the other 10 percent. The railroad maintains the signals from that time forward. These maintenance costs usually equal the cost of the initial installation in about 10 years. The railroad cannot, on its own, install crossing signals. Installation of traffic control devices must be done according to the above procedures.

FRA Locomotive Horn Rule: Locomotive horns assist in alerting drivers to the presence of trains. In 2005, in response to a Congressional mandate, the Federal Railroad Administration (FRA) issued a Final Rule on the Use of Locomotive Horns at Highway-/Rail Grade Crossings. Under the new rule, local governments may establish quiet zones or continue existing quiet zones, if they are willing to take remedial steps to address risk, based on a calculation of potential risk at the crossing. In many cases, the rule makes these designations subject to FRA review, approval and ongoing oversight.

These remedial steps can include crossing closure, grade separation, full-width crossing gates with an approved median divider, full-width gates and lights at crossings on a one-way street, temporary closure (for nighttime quiet zones only) or four quadrant gates. The rule also allows for an automated horn system at the crossing as a substitute for the train horn, if this provision is approved by the Federal Highway Administration. Certain Alternative Safety Measures (ASMs) are also described.

BNSF works with communities who wish to establish quiet zones and regularly reviews their quiet zone applications to the FRA. Community leaders who have questions about the proposed rule or about BNSF's role in implementing that rule should contact Mr. French Thompson, director, Public Projects, who can be reached at French.Thompson@bnsf.com.

Grade-Crossing Consolidation Programs

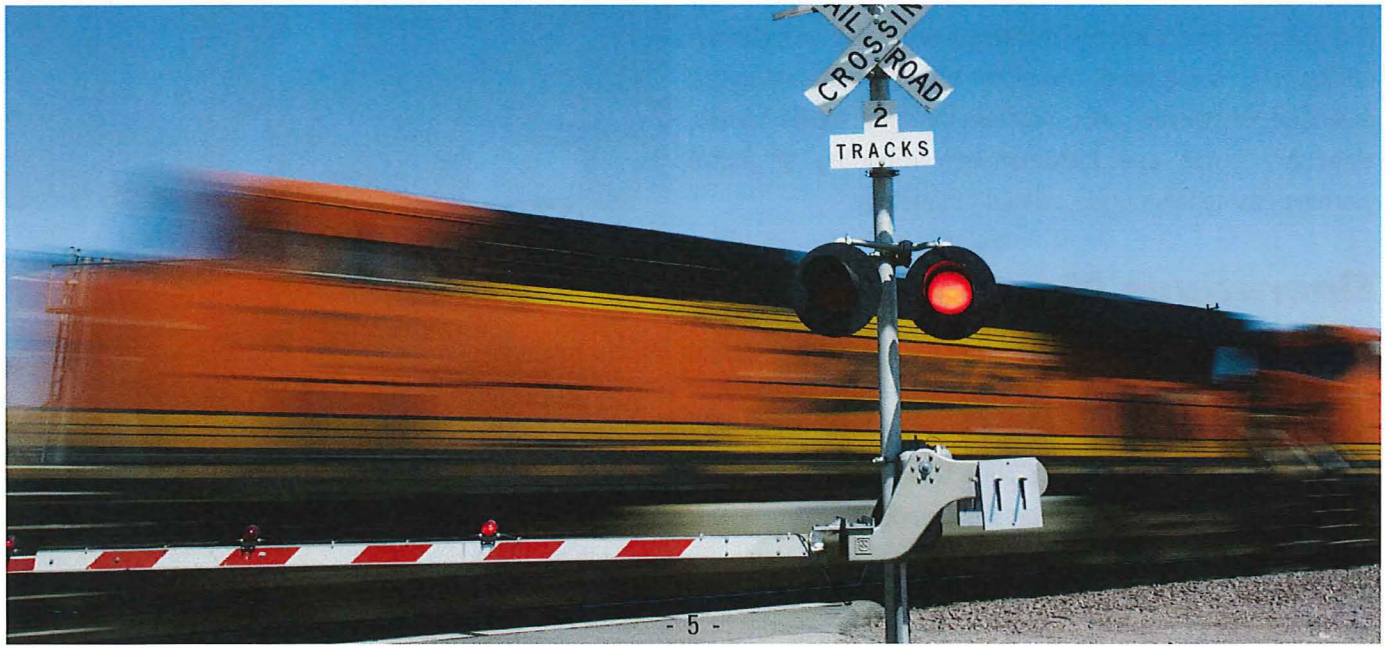
Grade-crossing Consolidation: One of the best ways to address grade crossing safety is to reduce the number of at-grade crossings. BNSF's grade crossing safety program includes an aggressive initiative to close public and private at-grade crossings, working closely with communities and property owners. Good candidates for closure include those that are redundant (other crossings nearby allow access to the same roads or areas), are not designated emergency routes, have low traffic volumes, or are private crossings that are no longer needed or used. Since 2000, BNSF has closed more than 6,000 at-grade crossings.

Private Crossing Permits Review: In 2015, about 15 percent of BNSF's grade crossing collisions occurred at private crossings. In response, BNSF is working to reduce the number of private grade crossings, especially those that are rarely used or redundant, and closely scrutinizes all requests for new private crossings. During 2015, there were 175 requests for private crossing permits. Only 15 new crossings were installed, and 52 temporary crossings were installed for construction purposes.

Track and Signal Inspection and Maintenance

Track Inspection Programs: Key corridors on BNSF are inspected four times a week by BNSF track inspectors, and many heavily-traveled routes are inspected daily. These inspections include a review of condition of track and right-of-way as well as whistle posts, crossbucks and active warning devices. In addition, BNSF train crews are instructed to report any signal and crossing warning malfunctions immediately to BNSF's Network Operations Center (NOC) in Fort Worth. This program includes "power-on" lights at active warning devices that indicate a working power supply to the lights and gates.

Grade Crossing Warning Inspection and Maintenance: BNSF is responsible for maintenance of active warning devices and spends an average of $53 million annually on grade crossing signal maintenance and repair. Each of the active warning devices is thoroughly inspected monthly by BNSF signal employees. This inspection includes a review of functionality of gates and lights and of battery back-up power sources



FRA TRACK INSPECTION- EAM1
Report Criteria: NORTHWEST DIVISION - SEATTLE SUBDIVISION
Report Timeframe: 09/01/2016 TO 09/30/2016

LS	BMP	EMP	Asset/ Track	Trav	By	Switch Thrown	Special Insp	Joint Insp	Inspected by	Defect Number	FRA Defect Code	Defect BMP	Meas Desc	Meas Amt	Remel Action	Defect Comments	Uploaded Timestamp	Insp Number
Inspection Date :2016/09/01																		
52	5.140	6.490	MAIN_0	TVS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002744704 00000004
52	.000	5.140	MAIN_1	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002744812 00000004
52	6.490	49.400	MAIN_1	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002744817 00000004
52	6.490	49.400	MAIN_1	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002744817 00000005
52	49.400	95.500	MAIN_1	OBS	GEOCAR				SHANE WALLACE								2016/09/01	0002744822 00000004
52	.000	5.140	MAIN_2	TVS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002741709 00000004
52	6.490	49.400	MAIN_2	TVS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002741714 00000004
52	49.400	95.500	MAIN_2	TVS	GEOCAR				SHANE WALLACE								2016/09/01	0002741724 00000007
52	.000	1.504	MAIN_TACOMA	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002744719 00000004
52	65.071	65.071	0065.071_TURN_#11_0733N_1			YES			SHANE WALLACE	01000085650700 01	0133A1 Loose, worn, missing switch clips	65.071	SW CLIPS FASTENINGS	.00	Repaired Before Traffic		2016/09/01	0002782761 00000002
52	65.088	65.088	0065.088_TURN_#11_0734N_1			YES			SHANE WALLACE	01000085453400 01	0133A6 Loose, worn, defect sw rod bolts	65.088	SW RODS SW BOLTS	.00	Repaired Before Traffic		2016/09/01	0002780916 00000002
52	65.132	65.132	0065.132_TURN_#11_0735N_1			YES			SHANE WALLACE	01000085672600 01	0133A12 Loose, worn, missing frog bolts	65.132	FROG BOLTS	.00	Repaired Before Traffic		2016/09/01	0002783029 00000002
52	65.350	65.350	0065.350_TURN_#11_0735S_1			YES			SHANE WALLACE	01000085674000 01	0133A13 Loose, worn, missing gr bolts	65.350	GUARD RAIL MATERIAL	.00	Repaired Before Traffic		2016/09/01	0002783045 00000002

Total Record count: 14

FRA TRACK INSPECTION- EAM1
Report Criteria: NORTHWEST DIVISION - SEATTLE SUBDIVISION
Report Timeframe: 09/01/2016 TO 09/30/2016

LS	BMP	EMP	Asset/ Track	Trav	By	Switch Thrown	Speci! Insp	Joint Insp	Inspected by	Defect Number	FRA Defect Code	Defect BMP	Meas Desc	Meas Amt	Reme! Action	Defect Comments	Uploaded Timestamp	Insp Number
51	.000	12.127	MAIN_1	TVS	HYRAIL/WALK				KEVIN BENSON	01000081635100 01	0133A6 Loose, worn, defect sw rod bolts	6.500	SW RODS SW BOLTS	.00	No add'l action/ Trk OK for posted speed		2016/09/01	0002740126 00000005
51	.000	12.127	MAIN_1	TVS	HYRAIL/WALK				KEVIN BENSON	01000082557200 01	0133A10 Missing switch, frog, gr plates	6.569	SW PLATES	.00	No add'l action/ Trk OK for posted speed		2016/09/01	0002740126 00000005
51	.000	12.127	MAIN_1	TVS	HYRAIL/WALK				KEVIN BENSON	01000082558200 01	0133A6 Loose, worn, defect sw rod bolts	6.569	SW RODS SW BOLTS	.00	No add'l action/ Trk OK for posted speed		2016/09/01	0002740126 00000005
51	12.127	40.113	MAIN_1	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002740131 00000006
52	49.400	95.500	MAIN_1	OBS	GEOCAR				SHANE WALLACE								2016/09/01	0002744822 00000004
52	95.500	133.000	MAIN_1	OBS	GEOCAR				CAMERON HENDERSON								2016/09/01	0002744827 00000013
52	95.500	133.000	MAIN_2	TVS	GEOCAR				CAMERON HENDERSON								2016/09/01	0002741719 00000011
52	49.400	95.500	MAIN_2	TVS	GEOCAR				SHANE WALLACE								2016/09/01	0002741724 00000007

Total Record count: 28

FRA TRACK INSPECTION- EAM1
Report Criteria: NORTHWEST DIVISION - SEATTLE SUBDIVISION
Report Timeframe: 09/01/2016 TO 09/30/2016

LS	BMP	EMP	Asset/ Track	Trav	By	Switch Thrown	Speci! Insp	Joint Insp	Inspected by	Defect Number	FRA Defect Code	Defect BMP	Meas Desc	Meas Amt	Remel Action	Defect Comments	Uploaded Timestamp	Insp Number
51	.432	12.127	MAIN_3	OBS	HYRAIL/WALK				KEVIN BENSON	01000080778200 01	0133A2 Loose, worn, missing bolts	.443	SW CLIPS FASTENINGS	.00	No add'l action/ Trk OK for posted speed		2016/09/01	0002744304 00000005
52	97.579	99.051	MAIN_3	OBS	GEOCAR				CAMERON HENDERSON								2016/09/01	0002745509 00000003
52	97.579	99.051	MAIN_3	OBS	GEOCAR				CAMERON HENDERSON								2016/09/01	0002745509 00000004
52	97.579	99.051	MAIN_3	OBS	GEOCAR				CAMERON HENDERSON								2016/09/01	0002745509 00000005
51	38.212	40.113	MAIN_TACOMA	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002741445 00000004
52	65.132	65.350	OTHR_0065.132_0735_NAPAVI						SHANE WALLACE	01000084529000 01	0121F1 Loose joint bars (jointed)	65.210	BOLT	.00	Repaired Before Traffic		2016/09/01	0002769558 00000002
51	21.741	23.843	SDNG_0021.741_2400_ELLING	OBS	GEOCAR				ANTHONY GIBBS								2016/09/01	0002741769 00000004
Inspection Date :2016/09/02																		
52	5.140	6.490	MAIN_0	TVS	HYRAIL/WALK				JOSHUA FULTON								2016/09/05	0002744704 00000006
52	.000	5.140	MAIN_1	TVS	HYRAIL/WALK				JOSHUA FULTON	01000079876000 01	0109B2 Ties not effectively distributed	1.745	NON CLASS TIE DEFECT	.00	No add'l action/ Trk OK for posted speed		2016/09/05	0002744812 00000005

Total Record count: 43

WASHINGTON TRACK INSPECTIONS

We are continuously investing in new technologies and infrastructure to reduce risk. BNSF inspects its track more frequently than required by the Federal Railroad Administration (FRA). Most crude oil routes on BNSF are inspected up to four times per week, more than twice the inspection frequency required by the FRA, and our busiest main lines can be inspected daily, which includes our route through the Columbia River Gorge.

BNSF also has special detection technology along key routes on our network sending back millions of messages daily as they monitor for early signs of potential problems that could cause premature equipment wear or failure. Detectors are placed even more closely together in places like the Gorge to ensure potential issues are elevated as quickly as possible. BNSF has also been developing predictive analytics to leverage the combined information received from the multiple types of detectors to discover potential issues before they arise.

INSPECTION TYPES

BNSF's track inspection program also utilizes state-of-the-art technology to help identify defects or problem areas that cannot be detected by the human eye. BNSF has made significant investments in inspection and detection technology to enhance the regular manual inspection process.

WALKING/HY-RAIL

More than 10 million miles of track are annually visually inspected by over 650 track inspectors. Many of our core subdivisions, including the majority in Washington, are inspected up to seven times per week. Track inspectors use a wide variety of tools, including level boards and switch point measuring devices, to verify compliance with BNSF track standard, which are equal to or more stringent than FRA standards.

TRACK GEOMETRY CARS

Test frequency is a minimum of three times per year.

MANNED TRACK GEOMETRY CARS

BNSF's track geometry car measures major main line routes. The track geometry car is a specially-equipped passenger car that utilizes a non-contact inertial based system and full rail profile measurement with its laser optical system. It measures the tracks' surface under load for, gauge, cross-level, alignment and vertical acceleration. A computerized print out of the trackage indicates where the measured flaws exist in the track. This information is immediately communicated to onboard personnel. Any out of compliance defect identified by the car is either protected by lowering class of track (speed restriction) or repaired prior to any train movement over the location.

RAIL DETECTORS

BNSF's rail detectors use ultra-sonic waves to detect internal flaws in the rail. The minimum intervals between inspections are determined by the tonnage moved over a given section of track; the heaviest traffic routes on BNSF's system receive rail detector testing every 18 days.

UNMANNED TRACK GEOMETRY CARS

BNSF's unmanned track geometry car operates 24/7 measuring major main line routes. The track geometry car is a specially-equipped passenger car that utilizes a non-contact inertial based system with its laser optical system. It measures the tracks' surface under load for, gauge, cross-level, alignment and vertical acceleration. Data is transmitted to a central office where a computerized print out of the trackage indicates where the measured flaws exist in the track. This information is immediately communicated to field personnel to ensure that the defects are repaired.

STAR CAR (TRACK STRENGTH MEASURING CAR)

The equipment performs track gauge restraint measurement with its split-load axle, full track geometry measurement with its non-contact inertial based system and full rail profile measurement with its laser optical system. With on-board computer collection and analysis, strip charts, exception reports with GPS coordinates are immediately delivered to the track personnel.

INVESTMENT IN WASHINGTON

In 2016, BNSF will invest nearly $220 million in the state of Washington. This year's plan in Washington is focused on maintenance projects that help ensure BNSF continues to operate a safe and reliable network and reflects the success BNSF has had in adding capacity in prior years to support customer demand.

The 2016 program will also bring capital investments more in line with forecasted customer freight service demand. The largest component of this year's capital plan in the state will be for replacing and upgrading rail, rail ties and ballast, which are the main components for the tracks on which BNSF trains operate. Regular maintenance of the railroad allows BNSF to keep its network infrastructure in optimal condition and reduces the need for unscheduled service work that can slow down the BNSF rail network and reduce capacity.

BNSF's maintenance program in Washington includes more than 1,260 miles of track surfacing and/or undercutting work, the replacement of nearly 70 miles of rail and close to 243,000 ties, as well as signal upgrades for federally mandated positive train control (PTC). This year's capital projects in the state also include continuing the replacement of the Washougal River bridge in Camas and follow more than $550 million invested by BNSF in its network in Washington over the past three years.

The 2016 planned capital investments in the state are part of BNSF's $4.3 billion network-wide capital expenditure program announced last month. These investments include $2.8 billion to replace and maintain core network and related assets, approximately $500 million on expansion and efficiency projects, $300 million for continued implementation of PTC and more than $600 million for locomotives, freight cars and other equipment acquisitions.

INSPECTION FREQUENCY IN WASHINGTON STATE FOR OIL TRAIN ROUTES

Visual Inspections	Four to seven times per week, and our busiest main lines can be inspected daily
Rail Detectors	Inspection intervals range from 140 days down to 30 days between tests on busiest routes
Geometry Cars	Three times per year
STAR Car	One time per year All main track sidings Main lines between Spokane and Vancouver via Pasco

BNSF RAILWAY

Connecting the Pacific Northwest since 1873

BNSFNorthwest.com

Railroad Bridge Inspection Report - Public Version

Current Date 08 (Month) 04 (Day) 2016 (Year)

Railroad Company BNSF Railway Company

Railroad Bridge Details

Bridge ID 0036-1402.600

Date of Last Bridge Inspection 05 (Month) 23 (Day) 2016 (Year)

Length of Bridge 1000'

Bridge Location

Latitude Coordinate 48.28697177

Longitude Coordinate -116.5536006

City, Town or County Location City of Sandpoint

Bridge Landmark Reference _____

Type of Bridge Steel Beam, Through Plate Girder, Deck Plate Girder

Type of Structure Mass Concrete

Pasco Re-spray Center Background

Re-spray Center

- In 2013, BNSF announced plans to build a coal re-spray center and this facility is a voluntary measure that is responsive to a request from Canada's Port Metro Vancouver as part of its permitting process for coal export facilities located in British Columbia.

- This additional effort provides another level of redundancy to an already well-established mitigation process. As we've always said, BNSF is committed to addressing coal dust as an issue. We take this commitment very seriously, and this is why for nearly a decade we have been very proactive in our efforts to mitigate coal dust.

- The re-spray center is located at our Pasco Rail Yard, and we have added additional rail capacity to accommodate trains running through our re-spray center. This location was selected because it best fits our operational needs.

- BNSF designed the facility with environmental and community issues in mind. As such, the entire re-spray center is enclosed, and there is no run-off from the re-spray. The coal is treated within a shed, helping to prevent the process from being a nuisance to our neighbors.

- The re-spray center became operational in early 2015, and it is our expectation that all unit trains of coal and petroleum coke traveling through the facility is treated.

Coal Dust

- BNSF does not believe that coal or any other commodity should be allowed to escape from shipping containers onto our right of way or adjacent property. Shippers are responsible for securing their freight for shipment by rail.

- This is why BNSF conducted studies to document that coal dust is an issue that needs to be addressed and to identify potential solutions shippers could use such as topping agents. Shippers are also free to use other compliance methods if they can provide evidence the alternative is just as effective as what we have outlined in our coal-loading rules.

- It is important to note that, despite decades of hauling coal in Washington, BNSF is not aware of a single complaint lodged with a clean air agency in the state or with the railroad about coal dust until the recent interest in coal exports. BNSF has a vested interest to ensure shippers are in compliance with our coal-loading rule, as coal dust poses a serious threat to the stability of our tracks. We believe our operating rule effectively addresses coal dust.

- To address engineering and maintenance issues caused by coal dust near the PRB mines, BNSF established a coal-loading rule requiring shippers to control dust escaping in transit.

- Under BNSF's coal-loading rule, a shipper will be deemed in compliance with our loading requirements if the shipper loads coal cars using our load profile template and also ensures that an acceptable topper agent is properly applied to the loaded car at an effective concentration level and in accordance with the manufacturer's specifications.

- BNSF's required load profile utilizes a "bread loaf" shape that eliminates sharp angles and irregular surfaces in order to reduce the escape of coal dust caused by wind and in-train forces.

COAL DUST FACTS

Coal Dust Is Not An Issue Near Unloading Destinations:

Since 2005, BNSF has been at the forefront of extensive research regarding the impacts of coal dust escaping from coal cars that are loaded at Powder River Basin (PRB) mines in Wyoming and Montana and effective methods of preventing the loss of coal dust from loaded trains. BNSF's research and experience has shown that coal dust escape can be a problem near mine loading points, but that it decreases as the railcars move further from the PRB. Coal dust is not an issue near coal unloading destinations, such as those proposed in the Pacific Northwest, nor has a complaint of coal dust from rail cars ever been lodged with a clean air agency in Washington or with BNSF until the announcement of prospective bulk export terminals. In addition, BNSF has established coal loading rules discussed below that will effectively eliminate coal dust even in areas near the mine loading points.

Starting in 2005, to protect its track right-of-way close in to the mines, BNSF established an extensive data collection system in the PRB under the guidance and direction of an environmental and energy research and development firm, SWA, and an environmental engineering firm, Conestoga-Rovers Associates. Dustfall collectors were placed at various points on the right-of- way to keep track of overall coal dust deposition along the rail lines. In addition, several trains were equipped with dust monitoring equipment that measured coal dust losses and determined the effectiveness of various mitigation measures.

The data from both types of monitoring showed that coal dust escapes the train in close geographical proximity to the mine and diminishes substantially afterward. This conclusion makes sense. Coal particles that can be blown out of loaded cars in transit are likely to be blown out of the cars early in a trip. In addition, as a train travels any distance, the coal dust particles shift, or sift, their way to the bottom of the railcar as the car is shaken and jostled as it moves down the tracks.

BNSF's maintenance experience confirms that coal dust losses are concentrated on lines near the PRB mines. Coal dust deposits on BNSF's lines in and near the PRB require costly accelerated maintenance far beyond normal maintenance. BNSF maintains regular maintenance schedules on our lines in Washington and Oregon. If coal dust was escaping the trains in the PNW, it would be present in our right of way, and there would be a much higher frequency of maintenance to protect the integrity of the track, similar to BNSF's experience in the PRB. BNSF's testimony before the Surface Transportation Board (STB) indicated that some areas of the Joint Line need to be undercut every 2 to 3 years, and the entire Joint Line needs annual shoulder ballast cleaning. By contrast, other high density lines, like BNSF's TransCon Corridor in New Mexico, are generally undercut every 15 to 20 years (or 10 years for certain segments), and shoulder ballast cleaning is not required. (Sloggett Opening Verified Statement to the STB at pg. 7-8)[1] The maintenance practices that BNSF must carry out in the PRB to deal with coal dust are not needed on our lines in Washington and Oregon because coal dust is not a problem on BNSF's Washington and Oregon lines.

Thanks to BNSF's efforts to understand the problem of coal dust and to promulgate loading rules to protect PRB lines from the effects of coal dust, BNSF is aware of the full range of research that has been done on the issue of coal dust. With the recent community discussions relating to coal transportation through the PNW, there have been claims about coal dust escaping from rail cars that are simply not supported by any data in the research that has been done. For example, it has been asserted that trains carrying coal lose one pound

[1] Undercutting is a ballast maintenance measure where the track and ties are lifted off the ballast, removing the

In response to the STB's March 2011 decision, BNSF established a new coal loading rule with the same objective as its prior coal dust standard, which is to reduce coal dust losses from loaded coal cars by at least 85 percent. However, BNSF's new rule accomplishes this objective through an activity-based "safe harbor", whereby shippers can use approved methods of coal dust control to be sure when they load their coal cars that they will be in compliance with BNSF's rule. Under BNSF's loading rule, a shipper will be deemed to be in compliance with BNSF's loading requirements if the shipper loads coal cars using BNSF's Load Profile Template and also ensures that an acceptable topper agent is properly applied to the loaded coal at an effective concentration level and in accordance with the manufacturer's specifications. An acceptable topper agent is one that has been shown to reduce coal dust releases by 85%, and five available topper agents have been shown to meet this requirement. A shipper may also seek to include any other method of coal dust suppression (e.g., compaction or other technology) by submitting a compliance plan to BNSF that provides evidence demonstrating that the alternative compliance measure will reduce coal dust releases by at least 85 percent. The rule went into effect on October 1, 2011.

The information included here has been set out in numerous filings that were submitted to the STB where BNSF has demonstrated the benefits of its coal loading rule in reducing coal dust losses from loaded coal trains.