



STATE OF WASHINGTON

UTILITIES AND TRANSPORTATION COMMISSION

1300 S. Evergreen Park Dr. S.W., P.O. Box 47250 • Olympia, Washington 98504-7250
(360) 664-1160 • TTY (360) 586-8203

Nov. 21, 2017

Stephen Semenick, Public Projects Manager
BNSF Railway Company
2454 Occidental Ave. S., Suite 1A
Seattle, WA 98134

Sent via email and First Class Mail

RE: TR-171142 – Petition on Behalf of WSDOT to Modify Active Warning Devices at SR-223 in Toppenish – Response due Dec. 11, 2017

Dear Mr. Semenick:

On Nov. 20, 2017, the Washington State Department of Transportation (WSDOT) filed a petition with the Washington Utilities and Transportation Commission (commission), seeking approval to modify active warning devices at the State Route 223 (SR-223) crossing, identified as USDOT 104520Y, in Toppenish. The commission assigned docket number TR-171142 to this petition.

Please review the enclosed petition and respond within 20 days of the date of this letter (Dec. 11, 2017). Your response options include:

- **Support the petition** – Complete the Respondent's Waiver of Hearing form, which serves as your consent to the commission to issue an order without further notice or hearing.

OR

- **Do not support the petition** – Reply with your position and include whether you feel a hearing is necessary to resolve the issues or suggest other courses of action, such as further discussion prior to go to hearing.

Stephen Semenick
Nov. 21, 2017
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If you do not respond by Dec. 11, 2017, commission staff will ask that the matter be set for hearing. If you have any questions, please contact Betty Young, Transportation Planning Specialist, at 360-664-1202 or byoung@utc.wa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Kathy Hunter". The signature is written in black ink and has a long, sweeping tail that extends to the right.

Kathy Hunter
Assistant Director, Transportation Safety

Enclosure

cc: Connie Raezer, WSDOT (without enclosure)




WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

| | | |
|--|---|------------------------------|
| Washington State Dept. of Transportation |) | DOCKET NO. TR- 171142 |
| _____ |) | |
| Petitioner, |) | PETITION TO MODIFY HIGHWAY- |
| |) | RAIL GRADE CROSSING ACTIVE |
| |) | WARNING DEVICES |
| vs. |) | |
| BNSF Railway Company |) | |
| _____ |) | |
| Respondent |) | USDOT #104520Y |
| |) | |
| |) | |
| |) | |

The Petitioner asks the Washington Utilities and Transportation Commission to approve modification of highway-rail grade crossing warning signals.

Section 1 – Petitioner’s Information

| |
|---|
| Washington State Department of Transportation |
| Petitioner |
|  |
| Signature |
| 310 Maple Park Avenue SE, Suite 2B |
| Street Address |
| Olympia, WA 98504 |
| City, State and Zip Code |
| PO Box 47329 Olympia, WA 98504-7329 |
| Mailing Address, if different than the street address |
| Connie Raezer |
| Contact Person Name |
| 360-705-7459 raezerc@wsdot.wa.gov |
| Contact Phone Number and E-mail Address |

Section 2 – Respondent's Information

| |
|---|
| <u>541171</u> BNSF Railway Company |
| Respondent |
| <u>2454 Occidental Avenue South, Suite 2D</u> |
| Street Address |
| <u>Seattle, WA 98134</u> |
| City, State and Zip Code |
| |
| Mailing Address, if different than the street address |
| <u>Stephen Semenick</u> |
| Contact Person Name |
| <u>206.625.6152 stephen.semenick@BNSF.com</u> |
| Contact Phone Number and E-mail Address |

Section 3 – Crossing Location

| |
|--|
| 1. Existing highway/roadway <u>State Route 223</u> |
| 2. Existing railroad <u>BNSF</u> |
| 3. USDOT Crossing No. <u>104520Y</u> |
| 4. Located in the NW 1/4 of the SE 1/4 of Sec. 30, Twp. 10N Range 21E W.M. |
| 5. GPS location, if known <u>46.32782 -120.23553</u> |
| 6. Railroad mile post (nearest tenth) <u>66.10</u> |
| 7. City <u>Toppenish</u> County <u>Yakima</u> |

Section 4 – Current Highway Traffic Information

1. Name of highway State Route 223
2. Road authority Washington State Department of Transportation
3. Average annual daily traffic (AADT) 2015 MP 0.00 4,900 and MP 2.27 6,700
4. Number of lanes One 12' lane and one 12' pullout and no shoulders at the track. 12' pullout turns into a 10' shoulder away from the crossing.
5. Roadway speed 55 mph
6. Is the crossing part of an established truck route? Yes No
7. If so, trucks are what percent of total daily traffic? 10
8. Is the crossing part of an established school bus route? Yes No
9. If so, how many school buses travel over the crossing each day? 20
10. Describe any changes to the information in 1 through 7, above, expected within ten years: No known changes anticipated to the highway

Section 5 – Current Crossing Information

1. Railroad company BNSF Railway Company
2. Type of railroad at crossing Common Carrier Logging Industrial
 Passenger Excursion
3. Type of tracks at crossing Main Line Siding or Spur
4. Number of tracks at crossing One
5. Average daily train traffic, freight 8 trains per day
Authorized freight train speed _____ Operated freight train speed 49
6. Average daily train traffic, passenger N/A
Authorized passenger train speed _____ Operated passenger train speed _____

7. Describe any changes to the information in 1 through 4, above, expected within ten years: No changes expected.

8. What is the available sight distance from the stop bar (or 25 feet from the tracks if no stop bar) on both approaches to the crossing? Unobstructed

9. If the sight distance is less than 400 feet, describe the structures, roadway or track curvature, visual obstacles or other characteristics that limit sight distance.

Section 5 – Current Warning Devices

1. Provide a complete description of the warning devices currently located at the crossing, including signs, gates, lights, train detection circuitry and any other warning devices.

Crossing currently includes Gates, Overhead Flashing Signals, Shoulder Mounted Flashing Signals, Crossbucks, Stop Bars, and W10-01 Advanced Warning Sign with Pavement Markings

Section 6 – Description of Proposed Changes

1. Describe in detail the proposed changes to the crossing. Include the funding source for the proposed installation, if applicable.

RR work: Install new four-quadrant gate system with upgraded LED signals and upgrade circuitry to constant warning.

WSDOT work: Install active advance warning system with intertie to RR system and install guard rail (standard plan) if not included in BNSF work.

Improvements to be funded under Federal Section 130 Program.

Section 7 – Illustration of Proposed Warning Devices

Attach a detailed diagram, drawing, map or other illustration showing the proposed warning devices. See attached Diagnostic Team Worksheet

Section 8 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to modify a highway-rail grade crossing warning signals at the following crossing.

USDOT Crossing No. 104520Y

We have investigated the conditions at the crossing. We are satisfied the conditions are the same as described by the Petitioner in this docket. We agree the warning signals should be installed and consent to a decision by the commission without a hearing.

Dated at _____, Washington, on the _____ day of November, 2017.

Stephen Semenick

Printed name of Respondent

Signature of Respondent's Representative

Manager Public Projects

Title

206.625.6152 stephen.semenick@BNSF.com

Phone number and e-mail address

2454 Occidental Avenue South, Suite 2D, Seattle, WA 98134

Mailing address

WSDOT RAILROAD GRADE CROSSING DIAGNOSTIC TEAM REVIEW WORKSHEET*

Reviewers: WSDOT (Ahmer Nizam, Connie Raezer, Chuck Wickham SCR: Todd Daley Jeff Davis, Bob Hooker); FHWA (Don Peterson); UTC (Paul Curl, Betty Young); BNSF (Rick Wagner)

Date: September 13, 2016

Location: SR 223 Mile Post 0.51 WSDOT Region - SCR

Railroad: BNSF Railway USDOT No.: 104520Y

Highway Data

No. of lanes in each direction: One 12' lane and one 12' pullout and no shoulders at the track. 12' pullout turns into a 10' shoulder away from the crossing.

Are sidewalks or bike paths present? Yes No

ADT 2015 at MP 0.00 (begin) 4,900 at MP 2.27 6,700 Roadway speed limit: 55mph posted

School bus route? Yes Truck route? Yes Hazmat transporters? Yes

Crossing angle: Approximately 125 degrees

Approach curvature: SR 223 has an 1100' radius curve 30' west of the crossing. Crossing is in a tangent section.

Approach grades: 0% entering / 0% exiting

- Evidence of scrape marks at the crossing from low vehicle clearance? Yes No

Comments on highway data:

Includes stop refuge in both directions. The intersection of South Track Road and SR 223 is about 150 feet west of the crossing. The intersection is not signalized.

Railway Data

No. of Tracks: one set Trains per Day: 8

Train Speed Limit: 49 Approach curvature: Tangent section.

Passenger Trains? Yes No Unknown

Comments on railway data

Mainline

* This report of survey is undertaken in order to comply with 23 United States Code Section 130. The use of this data is governed by 23 United States Code Section 409 and shall not be subject to discovery or admitted into evidence in a federal or state court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Warning Devices (check all that apply)

Gates Overhead flashing lights Shoulder-mounted flashing lights
 Crossbucks # Tracks sign Stop Bars

Are advance warning signs and pavement markings (including stop line) properly placed and in good condition?
Yes No

If "no" explain the W10-1 sign and railroad symbol are in good condition but not placed in conjunction with each other, as required by the standard plan and MUTCD

Note the presence of other warning or regulatory signs associated with the crossing. For example:

Stop or Yield Exempt Do Not Stop on Tracks Skewed Crossing
 Low Clearance Other(s) _____

Is the USDOT number posted? Yes No

Is an emergency notification phone number posted? Yes No

Crossing Surface

Concrete Asphalt Timber Rubber Other _____

Comments on crossing surface Good condition

Sight Distance

Approach Sight Distance

Distance from the crossing along the north-bound highway approach where the crossing becomes clearly visible:
Unobstructed

Distance from the crossing along the opposing highway approach where the crossing becomes clearly visible:
Unobstructed after curve to left

Clearing Sight Distance

If the crossing has **no gates**, does the clearing sight distance meet the guidance criteria in Design Manual Figure 1350-1 (Case 1)? NA

Sight Triangle

If the crossing is **passive**, does the sign triangle meet the guidance criteria in Design Manual Figure 1350-1 (Case 2)? N/A

Is the crossing illuminated? Yes

Other Roadways

Are there any roadway intersections in the vicinity of the crossing that may cause traffic to queue back over the tracks? Yes. Queue may form due to left turn movements at S. Track Rd

If yes:

- What is the available storage space? Approximately 175 feet

Are traffic signals located within 200 feet of the crossing or otherwise contributing to vehicle queues approaching the tracks? Yes No

If "yes", is Railroad Preemption provided? Yes No

Comments/Observations

Accident Data

No. vehicle-train collisions in the last 5 years

Fatal 1

Injury 1

Property Damage 1-2015

No. non-train-related vehicle collisions at crossing in the last 5 years

Fatal 0

Injury 0

Property Damage 0

No. pedestrian-related incidents in the last 5 years

Fatal 0

Injury 0

Information on reported near misses between vehicles and trains at the crossing

According to UTC staff, BNSF train crews have communicated instances of near misses mainly involving trucks

Other Notes

There were 2 accidents in 2005:

9-13-05: 2 fatalities

From UTC website:

- 9/13/2005 GRANGER - 67 year-old male driver and 57 year-old female passenger struck by BNSF freight train at the SR 223 crossing near Granger. Incident occurred on the BNSF Railway Northwest Division (Yakima Valley Subdivision) at milepost 66.12. Driver drove around lowered gates and through flashing lights.

9-23-05: 1 injury – FRA report states that “driver drove around or thru lowered gates.”

Accident in 2015:

10-5-15: One property damage accident involving a pick up that circumvented gates.

Crossing Diagram



Recommendations/Action Items

RR work: Install new four quadrant gate system with upgraded LED signals and upgrade circuitry to constant warning

WSDOT work: Install active advance warning system with intertie to RR system and install guard rail (standard plan) if not included in BNSF work

Estimated Cost: total estimate as of 9/13/2016 is 1 million

A site visit was conducted on October 27th to review the proposed four quadrant gate system. Summary notes attached.

Concurrence:

FHWA: 11/02/16 via email

UTC: 10/31/16 via email

BNSF: 10/28/16 via email

**Section 130 Diagnostic Evaluation Meeting Summary
SR 223, USDOT 104520Y**

Team Participants:

WSDOT: Ahmer Nizam, Jamil Anabtawi, Todd Daley

UTC: Betty Young, Paul Curl

BNSF: Rick Wagner, Rick Van Wey

On October 27, 2016, a Section 130 Diagnostic Evaluation Team was convened to discuss a final recommendation for improvements at the SR 223 railroad grade crossing near Granger, Washington within the limits of the Yakama Nation Reservation.

Following the determination that funds were not available to grade separate the crossing, WSDOT submitted to the Team a report from a value engineering study that recommended improving warning devices in lieu of grade separation, and thus necessitated the reconvening of the Section 130 Diagnostic Team.

The Team met on site and discussed various alternatives including four quadrant gates, active advance warning, median separators, lowering the speed limit, and adding rumble strips.

Based on 1) the nature of accident history and near miss reports; 2) the operating characteristics of the roadway; and 3) the limited ability for enforcement oversight by the Washington State Patrol within the Yakama Nation Reservation, the Team, with FHWA's concurrence, will issue a final recommendation to:

- Install four quadrant gates;
- Upgrade existing signals with LED heads;
- Install an active advance warning system; and
- Upgrade circuitry to constant warning.

WSDOT will update the Diagnostic Team Review Worksheet following concurrence of this summary from the participants.

BNSF RAILWAY COMPANY
 FHPM ESTIMATE FOR
 WA DOT

LOCATION TOPPENISH

DETAILS OF ESTIMATE

PLAN ITEM: 000289335

VERSION: 4

PURPOSE, JUSTIFICATION AND DESCRIPTION

SR-223 - TOPPENISH, WA; REPLACE CONSTANT WARNING / FLASHERS / GATES / CANT; NORTHWEST DIV; YAKIMA SUBDIV; LS 48; MP 66.12; DOT# 104520Y; SEQ# 67214.

MONTHLY POWER UTILITY COST CENTER: 61504.

THE MATERIAL LIST BELOW REFLECTS TYPICAL REPRESENTATIVE PACKAGES USED FOR ESTIMATING PURPOSES ONLY.

THIS ESTIMATE IS GOOD FOR 180 DAYS. THEREAFTER THE ESTIMATE IS SUBJECT TO CHANGE IN COST FOR LABOR, MATERIAL, AND OVERHEAD.

CONTRACTS HAVE BEEN ESTABLISHED FOR PORTIONS OF SIGNAL WORK ON THE BNSF RAILROAD.

***** SIGNAL WORK ONLY *****

THE STATE OF WASHINGTON IS FUNDING 100% OF THIS PROJECT.

MAINTAIN PROPRIETARY CONFIDENTIALITY.

PRIMARY FUNDING SOURCE IS FHWA

** BUY AMERICA(N) APPLIES **

| DESCRIPTION | QUANTITY U/M | COST | TOTAL \$ |
|-------------------------------------|--------------|--------|----------|
| ***** | | | |
| LABOR | | | |
| ***** | | | |
| ELECTRICAL LABOR F/SIGNAL EQUIPMENT | 54.0 MH | 1,669 | |
| SIGNAL FIELD - REPLACE | 832.0 MH | 25,651 | |
| SIGNAL SHOP LABOR - CAP | 1.2 MH | 41 | |
| PAYROLL ASSOCIATED COSTS | | 16,002 | |
| DA OVERHEADS | | 25,551 | |
| EQUIPMENT EXPENSES | | 5,331 | |
| INSURANCE EXPENSES | | 4,592 | |
| TOTAL LABOR COST | | 78,837 | 78,837 |
| ***** | | | |
| MATERIAL | | | |
| ***** | | | |
| ARRESTOR, MDSA-2 XS | 1.0 EA N | 766 | |
| BATTERY, 46 VGL-350 | 1.0 LS N | 14,398 | |
| BELLS | 4.0 EA N | 784 | |
| BUNGALOW 8X8 W/ AC | 1.0 LS N | 10,038 | |
| BUNGALOW MATERIAL | 1.0 LS N | 7,476 | |
| CABLE, 2C/6 TW | 500.0 FT N | 640 | |
| CABLE, 3C/2 | 250.0 FT N | 1,473 | |
| CABLE, 5C/10 | 70.0 FT N | 139 | |
| CABLE, 5C/6 | 1000.0 FT N | 4,350 | |
| CABLE, 7C/14 | 1000.0 FT N | 1,830 | |
| CANTILEVER (NO QUOTE) | 2.0 EA N | 34,808 | |
| CHARGERS, 12/80 (20/40/60) | 2.0 EA N | 2,170 | |
| CONSTANT WARNING, XP4, 1TK | 1.0 EA N | 17,805 | |
| ELECTRICAL MATERIAL | 1.0 EA N | 1,500 | |
| ELGX EGMS | 1.0 EA N | 18,000 | |
| EVENT RECORDER | 1.0 EA N | 3,560 | |
| FIELD MATERIAL | 1.0 LS N | 7,372 | |
| FILL DIRT | 20.0 CY N | 500 | |
| FOUNDATION, CANT | 2.0 EA N | 8,124 | |
| FOUNDATION, CONCRETE | 4.0 EA N | 1,200 | |
| GATE KEEPER | 4.0 EA N | 7,452 | |
| GATE MECHANISM, S-60 | 4.0 EA N | 24,064 | |
| GUARD RAIL, DUAL | 2.0 EA N | 2,508 | |
| HAWK 48 DIM | 1.0 EA N | 1,425 | |
| LED LIGHT | 24.0 EA N | 4,824 | |
| LIGHT OUT DETECTOR | 2.0 EA N | 2,008 | |

| | | | |
|-------------------------------|------------|---------|---------|
| PD LOOP | 1.0 LS N | 42,000 | |
| RELAY | 10.0 EA N | 7,500 | |
| RELAY, EOR | 1.0 EA N | 750 | |
| RELAY, ER | 1.0 EA N | 750 | |
| RELAY, ISLAND | 2.0 EA N | 1,500 | |
| SHUNT, NBS | 2.0 EA N | 2,238 | |
| SURFACE ROCK | 30.0 CY N | 1,500 | |
| U-1400 | 4.0 EA N | 10,000 | |
| USE TAX | | 23,180 | |
| OFFLINE TRANSPORTATION | | 3,075 | |
| | | <hr/> | |
| TOTAL MATERIAL COST | | 271,707 | 271,707 |
| ***** | | | |
| OTHER | | | |
| ***** | | | |
| AC POWER SERVICE | 1.0 EA N | 5,000 | |
| BUNGALOW, WIRE AND TEST | 1.0 LS N | 5,643 | |
| CONTRACT ENGINEERING | 1.0 LS N | 12,000 | |
| CONTRACT SIGNS/CONES/FLAGGING | 1.0 LS N | 10,000 | |
| DIRECTIONAL BORING | 150.0 FT N | 7,500 | |
| | | <hr/> | |
| TOTAL OTHER ITEMS COST | | 40,143 | 40,143 |
| PROJECT SUBTOTAL | | | 390,687 |
| CONTINGENCIES | | | 37,960 |
| BILL PREPARATION FEE | | | 4,287 |
| | | | <hr/> |
| GROSS PROJECT COST | | | 432,934 |
| LESS COST PAID BY BNSF | | | 0 |
| | | | <hr/> |
| TOTAL BILLABLE COST | | | 432,934 |