TR-152111-P

UTC
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Washington State Dept. of Transportation Petitioner,	)	DOCKET NO. TR-
	)	
	)	PETITION TO INSTALL OR MODIFY AN INTER-TIE BETWEEN A HIGHWAY SIGNAL AND A RAILROAD CROSSING SIGNAL SYSTEM
vs.	)	
	)	
Tri City Railroad Respondent	)	
	)	USDOT No.: 310392J

The Petitioner asks the Washington Utilities and Transportation Commission to approve installation of an inter-tie between a highway signal and a railroad crossing signal system.

Section 1 – Petitioner's Information

Washington State Department of Transportation
Petitioner

11/6/15
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

Ahmer Nizam
Contact Person Name

360-705-7271 nizama@wsdot.wa.gov
Contact Phone Number and E-mail Address

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UTIL. AND TRANSP.
COMMISSION

Section 2 – Respondent's Information

Tri City Railroad
Respondent

PO Box 1700
Street Address

Richland, WA 99352
City, State and Zip Code

Mailing Address, if different than the street address

Rhett Peterson
Contact Person Name

509-371-8313 or 509-727-8824 rhettwater@me.com
Contact Phone Number and E-mail Address

Section 3 – Crossing Location

1. Existing highway/roadway SR 240 (signal) at Duportail
2. Existing railroad Tri City Railroad
3. USDOT Crossing No. 310392J
4. Located in the NE 1/4 of the NW 1/4 of Sec 3, Twp. T9N, Range R28E W.M.
5. GPS location, if known
7. Railroad mile post (nearest tenth) 41.9
8. City Richland County Benton

Section 4 – Vehicle Traffic

1. Type of public road at the crossing ☒ State ☐ County ☒ City

☐ Port ☐ State Park ☐ Other _____

2. Name of public road SR 240 and Duportail

3. Road authority WSDOT and City of Richland

4. Average daily vehicle traffic over the crossing 1,333 south /3,360 north of crossing on Duportail St. count from 2010 (35,000 SR 240 in 2014)

Vehicle speed limit 25 MPH on Duportail

5. Number of lanes Duportail is a city street has single lane each direction with a left turn lane approaching the SR240 intersection. SR 240 is a six lane state highway plus a left-turn lane in each direction.

6. Trucks (commercial vehicles) are what percent of average daily traffic 8%

7. Number of school buses over the crossing each day 2

Section 5 – Railroad Traffic

1. Name of railroad(s) operating at crossing

Tri City Railroad

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 1

5. Average daily train traffic, freight: 4 (increasing to 6 by 2016)

Authorized freight train speed 20 Operated freight train speed 10

6. Average daily train traffic, passenger 0

Authorized passenger train speed N/A Operated passenger train speed N/A

Section 6 – 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.

Overhead and Shoulder mounted flashing lights with gates, blank out message sign in the increasing direction on SR 240.

Section 7 – Description of Proposed Changes

1. Describe in detail the proposed changes, including train detection circuitry, sequencing and advanced preemption time, justification for the changes and its effects on current warning devices and warning times for drivers.

Install new 8 wire preemption which will improve the communication between the train detection system and the WSDOT traffic signal. LED upgrade. Upgrade track circuitry to support 8 wire system and additional preemption time needed.

All improvements funded under Section 130.

Section 8 – Illustration of Current and Proposed Layout

Attach a detailed diagram, drawing, map or other illustration showing the current and proposed layout of the road, crossing surface and railway in the vicinity of the crossing, including shoulders, sidewalks, lanes of travel, bike lanes, warning devices and any other applicable crossing conditions.

Section 9 – Traffic Signal Preemption

Complete the attached Guide for Determining Time Requirements for Traffic Signal Preemption at Highway-Rail Grade Crossings.

1. Specify simultaneous or advance preemption requested.
   Advance preemption

If advance preemption, what is the preemption time.
   41 seconds

Section 10 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to install or modify an inter-tie between the highway signal and the railroad crossing signal system at the following crossing.

USDOT Crossing No. 310392J

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 inter-tire should be installed and consent to a decision by the commission without a hearing.

Dated at 10:40 AM, Washington, on the 3rd day of NOVEMBER, 2015.

JOHN J. MILLER

Printed name of Respondent

John J. Miller

Signature of Respondent's Representative

VICE PRESIDENT & CHIEF OPERATIONS OFFICER

Title

509-578-8557 MILLER@TCRY.COM

Phone number and e-mail address

TRI CITY RAILROAD
PO BOX 1700

RICHLAND WA 99352

Mailing address

Version 4-27-2006

Minnesota Department of Transportation

GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City Richland, WA

County

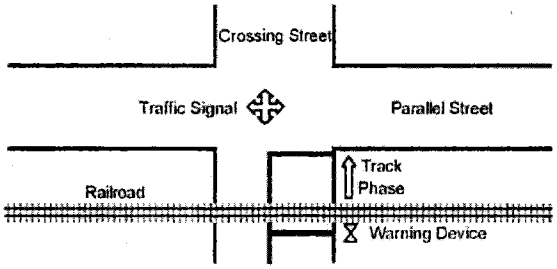
District

Date 10/07/14

Completed by Joe DeGroat

District Approval

Show North Arrow



Parallel Street Name: SR 240

Crossing Street Name: Duportail

Railroad Tri-City RR

Railroad Contact Rhett Peterson

Crossing DOT# 310392J

Phone (509) 371-0901

SECTION 1: RIGHT-OF-WAY TRANSFER TIME CALCULATION

Preempt verification and response time

			Remarks
1. Preempt delay time (seconds)	1.	0.0	
2. Controller response time to preempt (seconds)	2.	0.0	Controller type:
3. Preempt verification and response time (seconds): add lines 1 and 2	3.	0.0	

Worst-case conflicting vehicle time

			Remarks
4. Worst-case conflicting vehicle phase number	4.	2	
5. Minimum green time during right-of-way transfer (seconds)	5.	10.0	
6. Other green time during right-of-way transfer (seconds)	6.	0.0	
7. Yellow change time (seconds)	7.	5.0	
8. Red clearance time (seconds)	8.	1.5	
9. Worst-case conflicting vehicle time (seconds): add lines 5 through 8	9.	16.5	

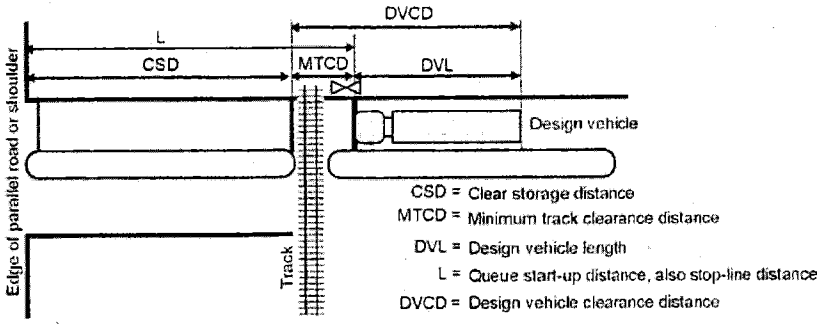
Worst-case conflicting pedestrian time

			Remarks
10. Worst-case conflicting pedestrian phase number	10.	4	
11. Minimum walk time during right-of-way transfer (seconds)	11.	6.0	
12. Pedestrian clearance time during right-of-way transfer (seconds)	12.	26.0	
13. Vehicle yellow change time, if not included on line 12 (seconds)	13.	3.0	
14. Vehicle red clearance time, if not included on line 12 (seconds)	14.	2.0	
15. Worst-case conflicting pedestrian time (seconds): add lines 11 through 14	15.	37.0	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time (seconds): maximum of lines 9 and 15	16.	37.0
17. Right-of-way transfer time (seconds): add lines 3 and 16	17.	37.0

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



			Remarks
18. Clear storage distance (CSD, feet)	18.	44	
19. Minimum track clearance distance (MTCD, feet)	19.	29	
20. Design vehicle length (DVL, feet)	20.	55	Design vehicle type:
21. Queue start-up distance, L (feet): add lines 18 and 19	21.	73	
22. Time required for design vehicle to start moving (seconds): calculate as 2+(L÷20)	22.	5.7	Remarks
23. Design vehicle clearance distance, DVCD (feet): add lines 19 and 20	23.	84	
24. Time for design vehicle to accelerate through the DVCD (seconds)	24.	7.0	Read from Figure 2 in Instructions.
25. Queue clearance time (seconds): add lines 22 and 24	25.	12.7	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

			Remarks
26. Right-of-way transfer time (seconds): line 17	26.	37.0	
27. Queue clearance time (seconds): line 25	27.	12.7	
28. Desired minimum separation time (seconds)	28.	4.0	
29. Maximum preemption time (seconds): add lines 26 through 28	29.	53.7	

SECTION 4: SUFFICIENT WARNING TIME CHECK

			Remarks
30. Required minimum time, MT (seconds): per regulations	30.	20.0	
31. Clearance time, CT (seconds): get from railroad	31.	1.0	
32. Minimum warning time, MWT (seconds): add lines 30 and 31	32.	21.0	Excludes buffer time (BT)
33. Advance preemption time, APT, if provided (seconds): get from railroad	33.	0.0	
34. Warning time provided by the railroad (seconds): add lines 32 and 33	34.	21.0	
35. Additional warning time required from railroad (seconds): subtract line 34 from line 29, round up to nearest full second, enter 0 if less than 0	35.	33	

If the additional warning time required (line 35) is greater than zero, additional warning time has to be requested from the railroad. Alternatively, the maximum preemption time (line 29) may be decreased after performing an engineering study to investigate the possibility of reducing the values on lines 1, 5, 6, 7, 8, 11, 12, 13 and 14.

Remarks:

SECTION 5: TRACK CLEARANCE GREEN TIME CALCULATION (OPTIONAL)

Preempt Trap Check

36. Advance preemption time (APT) provided (seconds):	36.	41.0	Line 33 only valid if line 35 is zero.	
37. Multiplier for maximum APT due to train handling	37.	1.25	See Instructions for details.	
38. Maximum APT (seconds): multiply line 36 and 37	38.	51.3		Remarks
39. Minimum duration for the track clearance green interval (seconds)	39.	15.0		For zero advance preemption time
40. Gates down after start of preemption (seconds): add lines 38 and 39	40.	66.3		
41. Preempt verification and response time (seconds): line 3	41.	0.0		Remarks
42. Best-case conflicting vehicle or pedestrian time (seconds): usually 0	42.	0.0		
43. Minimum right-of-way transfer time (seconds): add lines 41 and 42	43.	0.0		
44. Minimum track clearance green time (seconds): subtract line 43 from line 40	44.	66.3		

Clearing of Clear Storage Distance

45. Time required for design vehicle to start moving (seconds), line 22	45.	5.7		
46. Design vehicle clearance distance (DVCD, feet), line 23	46.	84		Remarks
47. Portion of CSD to clear during track clearance phase (feet)	47.	44		CSD* in Figure 3 in Instructions.
48. Design vehicle relocation distance (DVRD, feet): add lines 46 and 47	48.	128		
49. Time required for design vehicle to accelerate through DVRD (seconds)	49.	16.0	Read from Figure 2 in Instructions.	
50. Time to clear portion of clear storage distance (seconds): add lines 45 and 49	50.	21.7		
51. Track clearance green interval (seconds): maximum of lines 44 and 50, round up to nearest full second	**51.**	**67**		

SECTION 6: VEHICLE-GATE INTERACTION CHECK (OPTIONAL)

52. Right-of-way transfer time (seconds): line 17	52.	37.0		
53. Time required for design vehicle to start moving (seconds), line 22	53.	5.7		
54. Time required for design vehicle to accelerate through DVL (on line 20, seconds)	54.	6.0	Read from Table 3 in Instructions.	
55. Time required for design vehicle to clear descending gate (seconds): add lines 52 though 54	55.	48.7		
56. Duration of flashing lights before gate descent start (seconds): get from railroad	56.	3.0		Remarks
57. Full gate descent time (seconds): get from railroad	57.	12.0		Remarks
58. Proportion of non-interaction gate descent time	58.	0.40	Read from Figure 5 in Instructions.	
59. Non-interaction gate descent time (seconds): multiply lines 57 and 58	59.	4.8		
60. Time available for design vehicle to clear descending gate (seconds): add lines 56 and 59	60.	7.8		
61. Advance preemption time (APT) required to avoid design vehicle-gate interaction (seconds): subtract line 60 from line 55, round up to nearest full second, enter 0 if less than 0	**61.**	**41**		