



1 BNSF departments, when requested to do so, on the Northwest and Montana Divisions. This  
2 includes delivery of the BNSF/WSDOT Rail Office program in the State of Washington.

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4 **3. Please explain your background and qualifications for working on railroad bridge**  
5 **design and safety.**

6 I am a registered Civil Engineer in the states of Washington, Oregon, California and  
7 Nevada. I previously worked for the Oregon Department of Transportation in its Rail Division as  
8 Manager Crossing Safety Section as well as a Senior Crossing Safety Specialist. I was responsible  
9 for acting on behalf of the State of Oregon in the processing of similar petitions in the State of  
10 Oregon.

11 I am currently responsible for management of the Seattle Engineering team for BNSF  
12 Railway. I have responsibility for all engineering issues associated with Capitol and Program  
13 projects. I work directly with the Manager Structures on issues that impact areas of concern for  
14 our B&B personnel and infrastructure.

15 I am an Associate Member of the National Committee on Uniform Traffic Control Devices  
16 (NCUTCD) and the Secretary of the Railroad Light Rail Transit Committee (Parts 8 and 10) of  
17 the NCUTCD.

18  
19 **4. Are you familiar with Chelan County's petition to reconfigure the railroad**  
20 **bridge over the Chumstick Highway and, if so, what is the extent of your knowledge or**  
21 **involvement with that project?**

22 I am familiar with the project. I have been consulted about the bridge's condition and  
23 whether replacement is necessary.

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1 **5. Please describe the configuration of the railroad bridge, including its current useful**  
2 **life and whether BNSF plans to replace the bridge on its own initiative in the near future.**

3 To the best of my knowledge, BNSF designs its steel bridge structures for a minimum of  
4 100+ year service life. Maintenance and/or repair of certain components can sometimes extend  
5 a bridge's useful life considerably past 100 years. Since this bridge was built in 1928, it is my  
6 understanding that it has a minimum of 20 years of remaining design life, with potentially more  
7 service life. The bridge currently meets all BNSF requirements and has no FRA deficiencies  
8 noted. It is inspected in accordance with Federal requirements; no structural safety exceptions  
9 have been noted. Thus, BNSF does not plan to replace the bridge in the foreseeable future.

10  
11 **6. Are there any railroad safety concerns with respect to the bridge's design and/or**  
12 **engineering as-is, i.e., is there a "general ill-condition" of the bridge? Please explain.**

13 No, the bridge does not have any items of concern noted. The bridge is serviceable in its  
14 current condition and acceptable for unrestricted use by railway traffic.

15  
16 **7. Chelan County claims that a negative safety factor of the railroad undercrossing is**  
17 **limited motorist sight distance. Does this present a railroad safety concern with respect to**  
18 **the track or bridge at or near the Chumstick Highway? Why or why not?**

19 This does not constitute a railroad safety concern. If there are any safety issues, they  
20 involve the County and the highway - not the railroad. BNSF does not control the design or speed  
21 of the highway, or other geometric and/or operating requirements of the roadway. These are left  
22 explicitly to the public authority. The public authority has the ability to alter the roadway  
23 approaches, change the posted speed for this roadway, and take other measures to address this  
24 highway safety issue.

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1 **8. Chelan County claims that a negative safety factor of the railroad undercrossing is**  
2 **narrow roadway width. Does this present a railroad safety concern with respect to the track**  
3 **or bridge at or near the Chumstick Highway? Why or why not?**

4 No. The bridge structure is safe for railroad operations. It appears there is a highway safety  
5 issue that must be addressed by the responsible road authority - Chelan County - but the road  
6 authority does not want to incur the full costs of the project.

7  
8 **9. Chelan County claims that a negative safety factor of the railroad undercrossing is**  
9 **sharing the underpass with Chumstick Creek. Does this present a railroad safety concern**  
10 **with respect to the track or bridge at or near the Chumstick Highway? Why or why not?**

11 No, having one structure that spans multiple geographic features (i.e. river and flood plain)  
12 or transportation modes (i.e. roadway and multi-use path) or a combination of these issues does  
13 not present a railway safety issue.

14  
15 **10. Chelan County claims that a negative safety factor of the railroad undercrossing is**  
16 **limited trestle height. Does this present a railroad safety concern with respect to the track**  
17 **or bridge at or near the Chumstick Highway? Why or why not?**

18 No, this does not present a railway safety concern. Every day, numerous vehicles move  
19 safely under this bridge. This structure is posted with a 15'3" clearance, which I believe is common  
20 for this classification of roadway.

21 Additionally, the *Guide for Uniform Laws and Regulations Governing Truck Size and*  
22 *Weight Among the WASHTO States*, published by WASHTO, of which Washington is a member  
23 state, as well as the *Washington State Commercial Vehicle Guide 2008 - 2009*, published by  
24 WSDOT, lists the maximum vehicle height in the State of Washington as 14 feet. This allows a  
25 clearance of 1'3" above the normal legal vehicle height at this underpass structure. Vehicles above  
26 14' appear to need a permit and a guide vehicle, according to the WSDOT Commercial Vehicle  
27 Guide.

1 **11. You testified that the bridge is posted with a 15'3" feet height. When claiming that**  
2 **highway safety and rail safety are identical issues, Judge Mace emphasized concern that**  
3 **insufficient clearance under a rail overcrossing might cause a school bus to bottom out on**  
4 **a highway bridge. Are you aware of any time a school bus has bottomed out under BNSF's**  
5 **railroad bridge? Is that concern a possibility here?**

6 This is not an issue for railway safety. If this were an at-grade crossing, one at which the  
7 modes (highway and railway) crossed at the same elevation, I could understand Judge Mace's  
8 concern for a vehicle to possibly become high-centered on a "humped crossing." I do not believe  
9 the height of this underpass is a rail safety issue or highway safety issue. As noted above, the  
10 bridge is signed for a 15'3" clearance. The maximum vehicle height in the State of Washington,  
11 without a permit, is 14 feet. This issue is clearly not a railway safety concern. For that matter, it  
12 is not clear how the bridge's vertical clearance is even a highway safety issue.

13  
14 **12. Is it your professional opinion, as an engineer, that highway safety and rail safety are**  
15 **identical issues in this case? Why or why not?**

16 No, I do not agree that the railway and highway issues are identical. The issue presented  
17 by the County is a highway safety issue. Whether this roadway existed as a 5 m.p.h. trail or a 55  
18 m.p.h. highway, the railway would have the same concerns - we need a serviceable structure that  
19 can carry railway traffic safely over the geographic feature. Roadway approach geometrics,  
20 roadway speed, and driver behavior appear to be the factors involved in this issue. I do not see any  
21 issue with this railway structure that impacts railway safety. The structure is serviceable in its  
22 current configuration for safe passage of railway traffic.

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1 **13. Chelan County stated that in 2002, BNSF gave the county an estimate of \$1,750,000**  
2 **for a shoo-fly and an altered and relocated bridge over the Chumstick Highway. Is this an**  
3 **accurate figure? Why or why not?**

4 I was not employed at BNSF at this time. Records indicate this was qualified as a very  
5 rough estimate at the time it was tendered to the County. Given the current construction costs and  
6 labor market costs and based on the costs of projects I have been involved in recently, it is very  
7 probable that the temporary shoo-fly track alone would exceed that amount (see ¶ 19).

8  
9 **14. What is an accurate cost estimate for the project?**

10 I do not have a refined estimate for the County's proposed construction at this time.  
11 However, the County could and should retain the services of any number of qualified engineering  
12 consultants (i.e. Hanson Wilson Inc., HNTB Inc., David Evans Associates Inc.) to determine the  
13 feasibility, design, and estimate of probable cost of a proposed structure and shoo-fly. At this time,  
14 I do not have staff available to assign to this project and do the design internally.

15  
16 **15. In the *Initial Order Denying Petition to Dismiss for Lack of Jurisdiction*, Judge Mace**  
17 **noted that "Now that the Commission has resolved the jurisdictional issues over allocating**  
18 **costs, Chelan will have an opportunity to identify its own proposed costs." To your**  
19 **knowledge, has the County identified its own proposed costs?**

20 No. It is up to the County to do so. This matter does not seem ready for adjudication at this  
21 time. Having worked for the Oregon Department of Transportation's Rail Division, and overseen  
22 the Crossing Order process for the State of Oregon, I question the timing of the County's  
23 application. They have obtained some funding, but not the concurrence of the railway for the  
24 project to be constructed. Additionally, I question if federal funds would/should be used on this  
25 project. As such, the conditions of 23 C.F.R. § 646 would apply. Until the County identifies the  
26 full funding for this project, there is no equitable way to assign cost to BNSF. Again, the County  
27

1 is initiating this highway safety project to address a highway safety issue, not a railway safety  
2 issue.

3  
4 **16. Hasn't Chelan County been engaged in negotiations on this project with BNSF and**  
5 **proposing plans since "at least" 2002?**

6 No. To the best of my knowledge, Chelan County provided a few rough drawings, but not  
7 a complete cost estimate - including the identification of project funding. Insofar as BNSF has  
8 agreed to work with the County to help design a new bridge, it has only been amenable to do so  
9 at the County's design and construction expense. BNSF and the County, to my knowledge, have  
10 not engaged in ongoing discussions of the agreements required to undertake this project.

11  
12 **17. If the Commission orders BNSF to pay to replace the trestle, do you foresee any**  
13 **potential repercussions or financial consequences to the railroad, beyond this immediate**  
14 **project?**

15 Yes. I have not seen any existing agreements that require BNSF to participate in the  
16 reconstruction of the underpass.

17 I would pose this simple question to the WUTC and the County: If this were a BNSF line  
18 running under the County' roadway, and we wanted to widen this structure for additional tracks  
19 or to flatten a curve in approach to the structure, would the County willingly participate, on our  
20 schedule and at its expense, in reconstructing the overpass? Of course not. The precedence of  
21 allowing a municipal entity to unilaterally engage in project selection and assignment of cost,  
22 without BNSF consent, would produce an undue burden on our common carrier obligations. This  
23 type of reasoning would implicate literally thousands of structures in counties across the country  
24 that BNSF could be forced to replace at its own cost and solely at the whim of local jurisdictions.  
25 That constitutes economic regulation of the railroad. The County, as the only party that stands to  
26 benefit from this proposed alteration, should bear all the costs of this project.

1  
2 **18. What steps or actions would be required to mitigate the interruption on the main line**  
3 **during construction?**

4 The mainline absolutely cannot be taken out of service for any extended period of time.  
5 A shoo-fly would have to be constructed to allow continued train operations during construction  
6 of the new structure.  
7

8 **19. What is a ballpark cost figure for constructing a shoo-fly?**

9 Based on past projects, I would estimate this project would cost in excess of \$5 to \$8  
10 million dollars to construct if a shoo-fly were required.

11 As BNSF and the County have not come to an agreement on what the scope of this project  
12 is, I cannot, with any certainty, separate the shoo-fly costs from the cost of the project. However,  
13 I would estimate the shoo-fly would cost approximately 2.5 to 3 million dollars. This is based on  
14 my understanding that the shoo-fly would have to span the highway and creek, just as the  
15 permanent structure would.  
16

17 **20. Chelan County proposes to widen the existing roadway and increase the radius of the**  
18 **curve under the BNSF trestle to improve highway design and public safety at the Chumstick**  
19 **Highway/BNSF undercrossing. Would widening the existing roadway and increasing the**  
20 **curve radius under the trestle improve rail safety? Why or why not?**

21 No, this is designed to perhaps improve highway safety – not railway safety. The operation  
22 of the railway would not be affected by the changing of the roadway geometry in approach to this  
23 underpass.

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1 **21. If the Commission grants Chelan County’s petition, how does BNSF want the WUTC**  
2 **to apportion the costs of this project between Chelan County and BNSF pursuant to RCW**  
3 **81.53?**

4 23 C.F.R. § 646.210 states that “Projects for the reconstruction of existing grade  
5 separations are deemed generally to be of no ascertainable benefit to the railroad and there shall  
6 be no required railroad share of the cost.” Consequently, it is BNSF’s position that the entire cost  
7 of the project (including all design, permitting, and construction costs) should be 100% allocated  
8 to Chelan County.

9 If BNSF and the County could come to an agreement on project scope, cost, and  
10 construction responsibilities, BNSF would be better able to generate more specific cost estimates.


11  
12 **22. Are you aware of any additional sources of funding for the railroad bridge portion**  
13 **of the Chumstick Highway project, and if so, from what source(s) do you recommend the**  
14 **County seek additional funding?**

15 Yes. For example, the SAFETEA-LU legislation (Safe, Accountable, Flexible, Efficient  
16 Transportation Equity Act: A Legacy for Users) enacted in 2005 allows for Federal Section 130  
17 funds to be used for the reconstruction of existing grade separated structures. I strongly encourage  
18 the County to inquire as to the availability of those funds.

19  
20 DECLARATION

21 I, Danniell MacDonald, declare under penalty of perjury under the laws of the State of  
22 Washington that the foregoing PREPARED TESTIMONY OF DANNIEL MacDONALD is  
23 true and correct to the best of my knowledge and belief.

24 DATED this 28<sup>th</sup> day of March, 2008.

25  
26   
27 \_\_\_\_\_  
DANNIEL MacDONALD

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CERTIFICATE OF SERVICE

I am over the age of 18; and not a party to this action. I am the assistant to an attorney with Montgomery Scarp MacDougall, PLLC, whose address is 1218 Third Avenue, Suite 2700, Seattle, Washington, 98101.

I hereby certify that the original and 5 copies of PREFILED TESTIMONY OF DANNIEL MACDONALD have been sent by FedEx to Carole J. Washburn at WUTC and a PDF version sent by electronic mail. I also certify that true and complete copies have been sent via electronic mail and U.S. Mail to the following interested parties:


Judge Patricia Clark  
1300 S. Evergreen Park Dr. SW  
P.O. Box 47250  
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1400 S. Evergreen Park Drive, SW  
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Wenatchee, WA 98807

I declare under penalty under the laws of the State of Washington that the foregoing information is true and correct.

DATED this 28<sup>th</sup> day of March, 2008 at Seattle, Washington.

  
\_\_\_\_\_  
Lisa Miller, Paralegal