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STATE OF WA
UTILITIES AND TRANSPORTATION COMMISSION

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

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IN RE THE BURLINGTON)	DOCKET NO.
NORTHERN SANTA FE RAILWAY)	
COMPANY,)	PETITION FOR EXEMPTION
Petitioner.)	FROM WAC 480-60-050
)	
)	

COMES NOW PETITIONER The Burlington Northern Santa Fe Railway Company ("BNSF") by and through its attorney of record and respectfully petitions the above captioned Commission for an order exempting it from the operation of WAC 480-60-050 at the location and under the circumstances set forth in this Petition.

1. BNSF is a Delaware corporation with its principal place of business in Fort Worth, Texas. BNSF is a Class I railroad doing business as a common carrier of freight by rail with operations in Washington and twenty-seven other states in the western United States with interchanges of freight and equipment to connecting carriers in the eastern United States and Canada.

2. In Washington the BNSF has major routes north into Canada, east through Spokane to the eastern half of the country, and south through the gateway

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to the major seaports of California. Amtrak also provides passenger service over the BNSF system to Illinois, and south through Oregon to California.

3. BNSF is considered a major link in the transportation of freight to and from Washington including international container traffic as well as the transportation of domestic products such as lumber, grain and consumer goods. BNSF works in partnership with the major ports in Washington to provide cost effective and reliable transportation service to domestic and international shippers.

4. For the BNSF, railroad safety is a continuous process undertaken individually and in cooperation with federal and state agencies. The BNSF works with the railroad unions, state agencies and other interested parties in a collaborative process to enhance the safety of its employees and the public.

5. As part of its continuing safety initiatives, the BNSF wishes to install a Trackside Acoustic Detection System (TADS) within Washington to assist in the early detection of potentially dangerous defects in cars operated on the BNSF line.

6. The main objective of TADS is to provide early indication of internal defects on railcar roller bearings. The current thermal detection technology effectively discovers defective bearings in the final stages of burn-off, but in some cases this progression occurs so rapidly that failure occurs within a few miles of the last thermal scanner. TADS is designed to identify roller bearings that are at greater statistical risk than the norm so they can be monitored and/or removed from service before they overheat or fail.

7. TADS is designed and manufactured by the Transportation Technology Center Inc. (TTCI), a wholly owned subsidiary of the Association of

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American Railroads (AAR). TTCI installed the first TADS prototype in Middlesex NJ (MSX) in March 1998. Additional prototypes were installed in South Africa and Australia in 2000 and 2001, respectively, to further develop the system.

8. TADS is designed to detect and monitor flaws in roller bearings at nominal track speeds by obtaining data on freight car roller bearings of each train passing the site, and transmitting processed and compacted information on each bearing to a database. This compacted data is then used to evaluate the bearings in a process that includes passing the data through various defect algorithms that will detect the presence of possible defects. This technology has already proven very effective in early detection of bearing failures.

9. A small number of BNSF cars traverse the MSX detector weekly. Encouraged by TTCI's success, BNSF requested that "noisy" bearings identified by this detector be sent to the BNSF Wheel Shop in Lincoln NE for tear down inspection. Sixty-one of sixty-three bearings identified by TADS were in various stages of distress. At least two were evaluated as very near burn-off. Hot bearing teardown data suggests that 75% of overheated bearings should be detectable by TADS prior to overheating.

10. These results prompted BNSF to purchase three TADS systems and install them where they could most effectively cover the type of rail cars (merchandise, intermodal and coal) that data indicates are most likely to exhibit bearing defects detectable by TADS. One of these systems is installed near Alliance, Nebraska and is already identifying defective bearings on coal cars. BNSF

1 has already started removing these bearings from service and sending them to their
2 Wheel Shop for tear down and evaluation.

3 11. TADS is designed to measure the sound level of each bearing that
4 passes by regardless of size. The microphones are highly directional with plumes
5 shaped precisely to encompass each bearing's acoustical signature with as little
6 background noise as possible. BNSF experimented with first generation acoustical
7 detectors in the early 1990s with limited success due to low signal to noise ratios.
8 These third generation detectors have been successful in raising the signal to noise
9 ratio by decreasing their proximity to the noise source. Since sound attenuates
10 exponentially with distance to the source, moving these devices two feet further from
11 the track in compliance with current clearance regulations would render them all but
12 useless.

13 13. The system is considered by the railroad to be part of its signal system
14 and will be maintained by the signal department. The overall height of the acoustic
15 microphones is 21.2" at 47.2" from the nearest rail gauge face. See Attachments 1,
16 2, and 3.

17 14. WAC 480-60-050(14) allows installation of signal equipment, which is
18 no more than 36" high with a 72" clearance. This equipment is 21" high and the
19 microphones are 84.25" from the centerline. The requirements of
20 WAC 480-60-050(15) are satisfied and BNSF could install the device without
21 Commission order.

22 15. The BNSF plans to install the TADS system at the Velox site in
23 Spokane Washington at Milepost 60.3 on BNSF's Pend Oreille Subdivision. The
24

1 Velox site is on the track paralleling E. Trent Ave and bounded by N. Sullivan Rd
2 and N. Barker Rd. The nearest address is 16587 E. Trent Rd (SR 290), Spokane
3 Washington. The Velox, Washington site will concentrate on intermodal and
4 merchandise cars.
5

6 16. The BNSF's construction plans call for photo-cell activated lights on 30
7 feet poles that illuminate the whole installation. Attached as Exhibit 4 are plans for
8 the "NO CLEARANCE " signage which will be placed on either side of the
9 installation.
10

11 17. While the BNSF does not believe that a Commission order is
12 necessary, the Commission staff believes that an exception to the clearance rules
13 may be required under WAC 480-60-020. Out of an abundance of caution,
14 therefore, BNSF seeks an order approving the installation of the TADS system as
15 set forth in this petition and Exhibits 1, 2, and 3.
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17 18. The BNSF has crews prepared for a November 6 installation. Because
18 of the adverse affect that delay of the installation date would have, BNSF requests
19 immediate action pursuant to WAC 480-60-020(3).
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21 Respectfully submitted this 25th day of October, 2002.

22 Kroschel Gibson Kinerk Reeve, LLP
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26 David M. Reeve
27 Attorney for Petitioner BNSF
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