



0000045329

ORIGINAL

NEW APPLICATION

RECEIVED

1 FENNEMORE CRAIG
 2 A Professional Corporation
 3 C. Webb Crockett (No. 001361)
 4 3003 North Central Avenue
 5 Suite 2600
 6 Phoenix, Arizona 85012-2913
 7 Telephone: (602) 916-5000
 8 Attorneys for The Burlington Northern
 9 and Santa Fe Railway Company

2002 OCT 30 P 4: 25

AZ CORP COMMISSION
 DOCUMENT CONTROL
 Arizona Corporation Commission
DOCKETED

OCT 30 2002

DOCKETED BY	<i>CR</i>
-------------	-----------

BEFORE THE ARIZONA CORPORATION COMMISSION

10 IN THE MATTER OF THE APPLICATION OF
 11 THE BURLINGTON NORTHERN AND SANTA
 12 FE RAILWAY COMPANY, A DELAWARE
 13 CORPORATION, FOR AN ORDER GRANTING
 14 AN EXEMPTION FROM THE REQUIREMENTS
 15 OF A.A.C. R14-5-110(B)(7)(a)

DOCKET No. *RR-02635B-02-*
APPLICATION *0817*

14 The Burlington Northern and Santa Fe Railway Company ("BNSF") hereby applies for an
 15 order from the Arizona Corporation Commission ("Commission") which grants the BNSF an
 16 exemption from the requirements of A.A.C. R14-5-110(B)(7)(a).

17 In support of its Application, the BNSF states as follows:

18 1. The full name and address of Applicant is:

19 The Burlington Northern and Santa Fe Railway Company
 20 2650 Lou Menk Drive, 2nd Floor
 21 P.O. Box 961057
 22 Fort Worth, Texas 76161-0057

23 2. The nature of the Applicant's business is: The transportation of merchandise,
 24 intermodal containers and coal.

25 3. The BNSF is in the process of installing a Trackside Acoustic Detection System
 26 ("TADS") on its tracks at Kingman, Arizona. The purpose of the TADS is to provide early
 indication of internal defects on rail car roller bearings. TADS is designed to identify roller

1 bearings that are at greater statistical risk than the norm so they can be monitored and/or removed
2 from service before the bearings overheat and subsequently fail.

3 4. The current thermal detection technology is only effective at discovering defective
4 rail car roller bearings in the final stages of burn-off. In some cases the deterioration of the
5 defective roller bearings occurs so rapidly that the failure occurs within a few miles of the last
6 thermal scanner.

7 5. TADS is designed and manufactured by the Transportation Technology Center
8 Inc. (TTCI) a wholly owned subsidiary of the Association of American Railroads (AAR). TTCI
9 installed the first TADS prototype in Middlesex NJ (MSX) in March 1998. Additional
10 prototypes were installed in South Africa and Australia in 2000 and 2001 in order to further
11 develop the system.

12 6. A small number of BNSF cars traverse the MSX detector weekly. Encouraged by
13 TTCI's success, BNSF requested that "noisy" bearings identified by this detector be sent to the
14 BNSF Wheel Shop in Lincoln NE for tear down inspection. Sixty one of 63 bearings identified
15 by TADS were in various stages of distress. At least 2 were evaluated as very near burn-off.

16 7. Hot bearing teardown data suggests that 75% of overheated bearings should be
17 detectable by TADS prior to overheating.

18 8. The BNSF experience with the MSX detector prompted BNSF to purchase three
19 TADS systems and to install the systems where they could most effectively cover the type of rail
20 cars (Merchandise, Intermodal and Coal) that data indicates are most likely to exhibit bearing
21 defects detectable by TADS. One of these systems is installed near Alliance NE and is
22 identifying defective bearings on coal cars. BNSF has started removing these bearings from
23 service and sending them to the BNSF Wheel Shop for tear down and evaluation. Installation of
24 TADS at the Kingman, Arizona site will concentrate the TADS on Intermodal and Merchandise
25 cars.

26 9. TADS is designed to measure the sound level of each bearing that passes by

1 regardless of size. The microphones are highly directional with plumes shaped precisely to
2 encompass each bearing's acoustical signature with as little background noise as possible. BNSF
3 experimented with first generation acoustical detectors in the early 1990s with limited success
4 due to low signal to noise ratios. These third generation detectors have been successful in raising
5 the signal to noise ratio by decreasing their proximity to the noise source. Since sound attenuates
6 exponentially with distance to the source, the microphones must be located as close to the source
7 as possible

8 10. The TADS microphones are designed to be located 47.166 inches from rail gauge
9 face and another 28.25 inches from the center of the track for a total distance of 6 feet 3.416
10 inches from the center of the track. A diagram of the system is attached as Exhibit "A."

11 11. A.A.C. R14-5-110(B)(7)(a) provides for general clearance requirements for
12 equipment placed adjacent to tracks as follows:

13 No merchandise, materials, equipment, or other articles shall be
14 placed either on the ground or on a platform adjacent to any track
15 at a distance less than 8 feet 6 inches from the centerline of track.
16 A suitable line or other marker shall be maintained on all platforms
17 at a distance of 8 feet 6 inches from the centerline of track to
18 indicate minimum clearance for the articles.

19 12. To require the microphones to be placed at the distances set forth in A.A.C. R14-
20 5-110(B)(7)(a) would significantly reduce the effectiveness of the microphones and, in effect,
21 render them all but useless. BNSF therefore requests that the Commission grant an exemption
22 from the requirements of A.A.C. R14-5-110(B)(7)(a) to allow TADS to be installed 6 feet 3.416
23 inches from the center of the track rather than the stated requirement of 8 feet 6 inches from the
24 center of the track.

25 13. BNSF is committed to safety and employs many different technologies to improve
26 roller bearing performance. BNSF is encouraged that recent initiatives have resulted in a 35%
decline in bearing related derailments in 2002 versus 1999 and 2000 but understands the need for
continuous improvement in rail car roller bearing performance.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

RESPECTFULLY SUBMITTED this 30th day of October, 2002.

FENNEMORE CRAIG, P.C.

By 
C. Webb Crockett
Suite 2600
3003 North Central Avenue
Phoenix, Arizona 85012-2913
Attorneys for The Burlington Northern and Santa Fe Railway Company

ORIGINAL AND TEN COPIES
of the foregoing hand-delivered
this 30th day of October, 2002, to:

Arizona Corporation Commission
Docket Control
1200 West Washington Street
Phoenix, Arizona 85007

COPY OF THE FOREGOING
hand-delivered this 30th day
of October, 2002 to:

Ernest G. Johnson, Esq.
Director
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Mr. Donald Thompson
Railroad Safety Section
Arizona Corporation Commission
2200 North Central Avenue
Suite 300
Phoenix, Arizona 85004

Jason D. Gellman, Esq.
Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

By 
1355238.1/83500.000

