

**Renewal Application for Special Temporary
Authority
BNSF Railway
August 2020**

**NARRATIVE EXPLANATION OF OPERATION
AND FREQUENCY COORDINATION**

This application seeks renewal of a grant of Special Temporary Authority for research, development, and testing of a 900MHz wireless network utilizing Software Defined Radios (SDR). The applicant, BNSF Railway (“BNSF”) is a consumer of wireless RF equipment. BNSF is currently in the process of developing a trackside communications system that will provide higher speed, wireless connectivity along BNSF Right of Way.

BNSF proposes to operate, for a limited time period for test operations, 4 terrestrial test sites located in the Pacific Northwest (Washington & Montana). BNSF will install Ondas SDR radios on four existing base stations communicating to five trackside mobiles, utilizing the 900MHz A Block channels. Each site will consist of an external omni antenna connected to the Ondas SDR radio.

The communications system being tested operates on 10 contiguous 12.5 KHz channel pairs at 897.00625 – 897.13125 MHz and 936.00625 - 936.13125MHz. The emission designator for these experimental operations will be 125KW7D. The trackside mobiles and base station radios will operate at a maximum transmitted power of 45 dBm and at an EIRP of up to 54 dBm.

“Stop Buzzer” contacts for the four base & mobile sites are as follows:

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