

EXHIBIT 1

Statement in Support of Application for Blanket Authorization to Deploy Experimental Facilities for the Distribution of RF Signals Inside Railroad Tunnels

Statement of Interest

I, Randy Crawford, hereby certify that I am an authorized employee of AF CommSupply. Pursuant to Section 5.59 of the Rules of the Federal Communications Commission AF CommSupply hereby requests blanket authorization to operate experimental facilities in multiple locations nationwide in conjunction with potential railroad customers.

Motive for Request

AF CommSupply requires this authorization to demonstrate to potential railroad customers its *RFLightlink* system for the in-tunnel distribution of RF signals. AF CommSupply intends to deploy and demonstrate its in-tunnel communications solution to several of the nation's major railroad operators who are AF CommSupply's potential customers. A nationwide blanket authorization is necessary to allow multiple potential railroad customers to choose the tunnel locations that best suit their needs and to conduct multiple experiments. This request is consistent with the Commission's policy objective, stated in its rule making proceeding amending its Experimental Radio Service Regulations ("*ERS Order*"), where the Commission found that permitting the filing of a single application for related multiple experiments would "facilitate experimentation and decrease the regulatory burden on . . . licensees and staff."¹

Description of Proposed Experiment

RFLightlink is a system for the distribution of RF signals from mobile units operating in-tunnel or in-building to the outside environment. This system allows mobile units operating on trains to maintain communications with the outside environment while traveling through subterranean tunnels. This system is completely transparent to the mobile units operating in-tunnel and the base station and or mobile units in the outside environment communicating with the in-tunnel radios.

The *RFLightlink* system is comprised of a fiber optic cable run through a tunnel connected to a series of nodes, and broadband antennas located at the tunnel openings. At each end of the tunnel is a "donor node" that receives signals from

¹ *Amendment of Part 5 of the Commission's Rules*, ET Docket No. 96-256, Report and Order, (FCC 98-283), (rel. Oct. 27, 1998) ("*ERS Order*").

outside the tunnel. The donor node converts RF energy to light energy, which can be transmitted throughout the tunnel via the fiber optic cable and a series of "operating nodes." The operating nodes are spaced approximately every 1000 feet throughout the tunnel and function as transceivers; converting and transmitting signals received by the donor node to the tunnel environment, and converting and transmitting, via the fiber cable, signals from mobile units operating in-tunnel to the broadband antenna where such signals are reconverted back to RF energy and transmitted to the open environment. The RF energy transmitted from the broadband antenna into the open environment is exactly the same as the RF energy transmitted by the mobile unit operating in-tunnel, with no change in power, frequency, bandwidth, or modulation.

Technical Data

Initially AF CommSupply intends to deploy its *RFLightlink* system in conjunction with railroads to provide in-tunnel coverage for on-train VHF dispatch-to-dispatch systems licensed in the Industrial/Business radio service. Accordingly, AF CommSupply submits the following technical information for a typical railroad-use experiment configuration.

As proposed, an experimental *RFLightlink* system will be deployed with two fixed broadband antennas positioned atop the entrance of both ends of a railroad tunnel, at a height above average terrain ("HAAT") of approximately 45 ft (15M). Although the *RFLightlink* broadband antennas are capable of covering 100MHz to 1 GHz, they will initially be used to receive and repeat radio signals from fixed base station and mobile units licensed to the railroad operating on channels in the VHF band (generally between 160.215 and 161.610 MHz). A typical railroad VHF system is licensed for a maximum ERP of 150 watts for base stations and 45 watts for mobile units, with an emission designator of 20KOF3E. In this configuration, the *RFLightlink* will only repeat base station emission inside the tunnel, and will only repeat mobile unit emissions into the open environment outside the tunnel.

Consistent with the Commission's directive in the *ERS Order*, AF CommSupply will notify the Commission of the specific details of each individual experiment as it is deployed, including location, number of base and mobile units, power emission designator, and any other pertinent technical information, including the call signs of the railroad systems deploying the *RFLightlink* system.²

Duration of Experiment

AF CommSupply requests this blanket authorization for a term of five years. As noted by the Commission in the *ERS Order*, a license term of five years provides

² See *ERS Order* at ¶12.

greater experimental flexibility and alleviates administrative burdens on the Commission.³ A five year license term is a particular necessity in this case to allow railroad operators an opportunity to become familiar with the *RFLightlink* system, and deploy it in various locations and environments throughout the country.

Public Interest Statement

Radio communications between trains and central dispatchers are essential to protect railroad employees and the general public. Only radio can provide immediate information on the location, direction and speed of hundreds of trains operating at the same time on each major railroad in the country. This information is indispensable to railroad safety. In this regard, a 1994 "Report to Congress" by the Federal Railroad Administration reviewed in detail the various types of railroad communications systems, including those used for train movement and control, switching operations, defect detection and emergency response, and concluded that radio communications were an integral part of railroad safety planning and execution.⁴ Currently trains operating in tunnels lose this vital communications link to their central dispatchers. By granting this application the Commission will extend vital telecommunications access to trains operating inside tunnels.

In conclusion, AF CommSupply respectfully submits that a grant of this application will foster the public interest by enhancing railroad communications coverage in areas where such coverage would otherwise be impaired or non-existent.

³ *Id* at ¶¶5-7.

⁴ Railroad Communications and Train Control, Federal Railroad Administration, Department of Transportation Report to Congress, July 1994 at 22-34 (hereafter FRA Report).