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**Statement in Support of Application for
Blanket Authorization to Deploy Experimental
Facilities for the Distribution of RF Signals In Tunnels,
Subterranean Locations or Inside Buildings**

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 public safety and other communications customers.

Motive for Request

AF CommSupply requires this authorization to demonstrate to potential customers its *RFLightlink* system for the in-tunnel, underground and in-building distribution of RF signals. AF CommSupply intends to deploy and demonstrate its communications solution to several of the public safety and other communications users who are AF CommSupply's potential customers. A nationwide blanket authorization is necessary to allow multiple potential customers to choose the 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 to maintain communications with the outside environment while in tunnels, subterranean locations or inside buildings where RF penetration is not possible. This system is completely transparent to the mobile units inside the tunnel or building and the base station and/or mobile units in the outside environment communicating with the in-tunnel and in-building 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 (or outside the building) is a "donor node" that receives signals from outside the environment. The donor node converts RF energy to light energy, which can be transmitted throughout the tunnel or building via the fiber optic cable and a series of "operating nodes." The operating nodes are spaced approximately every 1000 feet and function as transceivers; converting and transmitting signals received by the donor node to the tunnel (or building)

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*").

environment, and converting and transmitting, via the fiber cable, signals from mobile units operating inside 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 outside 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

As proposed, an experimental *RFLightlink* system will be deployed with two fixed broadband antennas positioned atop the entrance of both ends of a tunnel, at a height above average terrain ("HAAT") of approximately 45 ft (15M) or one antenna outside a building at a height to be determined. The *RFLightlink* will only repeat base station emission inside the tunnel or building, and will only repeat mobile unit emissions into the open environment outside the tunnel or building. The *RFLightlink* system will repeat the radio signals of licensed frequencies in the following bands: 148-174 MHz, 450-512 MHz, 806-965 MHz, 1855-2000 MHz and 2400-2483.5 MHz. ↙

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 units, power emission designator, and any other pertinent technical information, including the call signs of the communications 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 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 operators an opportunity to become familiar with the *RFLightlink* system, and deploy it in various locations and environments throughout the country.

Public Interest Statement

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

² See *ERS Order* at ¶12.

³ *Id* at ¶¶5-7.