

To whom it may concern;

Burns & McDonnell Engineering Company Inc. is requesting a new authorization of a conventional experiential radio Service licenses under 47 C.F.R Part 5 under form 442 to explore the potential, practicality, and limitations of utilizing the newly assigned 3 MHz broadband channel in the existing 900MHz (896-901/935-940 MHz) band in relation to commercial power grid monitorization utilizing private LTE networks.

The following information is provided in relation to and to satisfy question 7 part a,b,c, of form 442.

- a. Granting of this experimental license will allow Burns & McDonnell Engineering Company Inc. to test this newly authorized broadband spectrum allocation as the communications backbone for emerging technologies. As well as how these new systems will interact with and coexist with existing 900 MHz systems, both inband LMR and adjacent (NB-PCS/ISM) bands. This trial will take place at our main headquarters location 9400 Ward Parkway, Kansas City MO, 64114, where we operate a grid modernization lab. This lab hosts grid control equipment which will be tested over the test 900MHz network. This will also serve as a demonstration location for the trial, where power utility companies can explore potential network implications of any technological developments and test real world configurations emulating their existing network infrastructure, and planned improvements identified from our testing. The testing will be conducted with a commercially available Ericsson Radio 2217 radio terminated into dummy loads, an RF isolation test chamber or into omni antennas at a power level low enough to be in compliance of FCC OET Bulletin 65 for general public exposure with antennas located inside of the Lab at 9300 Ward Parkway. The 900MHz at no time will have antennas located outside of the confines of the building. Commercially available user equipment from 4RF, GE, Council Rock, Encore networks, and Sierra Wireless will be used to communicate with the Ericsson Radio.
- b. The purpose of this trial is to determine the feasibility and limitations of specifically using Band 8 900MHz wide area radio access network (LTE) deployments then what have previously been utilized in the commercial power generation, transmission and distribution utility industry. As part of this trial, Burns & McDonnell Engineering Company Inc. will explore emerging technologies, and how they interact with existing systems already deployed, as well as other potential use cases for other 900MHz deployments, including LMR / Band 8 coexistence/interference.
- c. Our planned scope is aimed specifically at the Band 8 900MHz band and private LTE networks for the commercial power generation, transmission and distribution utility industry. As this band is in the early stages of adoption, there are a number of questions the above-mentioned industry have expressed including but not limited to LMR/ISM/NB-PCS interference impacts of the 3MHz broadband channel, interoperability of existing utility infrastructure communication systems over a new network topology and any associated benefits or constraints when implementing an existing service over the new network.

We welcome any questions from the commission to Don Gawf - Senior Telecom Specialist.

Thank you,  
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