

Attachment 1
Northrop Grumman Systems Corporation
Application for Special Temporary Authority

Background. Northrop Grumman Systems Corporation (“Northrop Grumman”) is requesting this Special Temporary Authority (STA) to establish a trial Long Term Evolution (LTE) network to test and experiment with the bridging of LTE applications to legacy tactical data and other radio-based networks. This LTE network will use the 700 MHz band of spectrum which is currently owned by the First Responder Network Authority (FirstNet). The purpose of the network is to determine methods of integrating forward looking technologies, such as LTE, with existing radio networks for public safety and other uses.

The Experiments. During the duration of this STA, several experiments will be conducted and will center on the concept of the deployable network architecture. A division within Northrop Grumman has built a demonstration network which closely resembles the real-world, anticipated architecture of a nationwide first responder’s network, such as the FirstNet network. This demonstration network includes a nationwide distributed network for FirstNet, including local hubs, regional hubs and the nationwide network core. This is located in McLean, Virginia. The STA being applied for in this submission is for a simulated deployable network which will be located in San Diego, CA. The architecture for this initially includes on fixed base station located at the Northrop Grumman laboratory in San Diego. Initially, operations will be based within several hundred meters of that base station.

The intent of the initial experimentation will be to test and demonstrate how communications can be seamlessly bridged from an LTE network to other real-world networks including: Land Mobile Radio (LMR), the Joint Tactical Information Distribution System (JTIDS) a.k.a. Link-16, IP-based RF networks, and tactical radio networks such as the Advanced Networking Wideband Waveform (ANW2) and the Soldier Radio Waveform (SRW). This experimentation is critical to ensure continued compatibility among emerging communications techniques and legacy networks for all public safety and defense purposes.

Northrop Grumman Certifications. Northrop Grumman confirms the following as part of this application:

1. The STA will enable Northrop to operate a trial 700 MHz LTE network at its laboratory in San Diego, CA. The objective is to use the 700 MHz LTE network with end-user devices to test and develop integrated communications solutions to enable continued compatibility between emerging communications technologies and legacy systems. The trial network will serve as an expository vehicle upon which advanced concepts of hypothetical integrated communications will be demonstrated.
2. With FirstNet's consent, the trial network utilizes FirstNet's spectrum: 758-768 MHz is used as the downlink band and 788-798 MHz is used as the uplink band.

3. The base station will be deployed in San Diego, CA as indicated in the application for the STA.
4. Less than 5 end user devices will be utilized by Northrop Grumman employees in locations less than 300 meters from the base station.
5. Northrop's temporary operations will not be used in actual mission-critical operations or in the delivery of live transmissions to protect life, property, or safety.
6. Northrop has implemented internal procedures to monitor and maintain control of the handsets and will promptly respond to any reports of harmful interference. Each unit will be registered to its recipient, and Northrop will maintain a record of each device so that each can be easily recalled at any time during testing and when testing is complete.
7. Northrop understands that FirstNet has the right to monitor its operations. Northrop also understands that if additional time for its trial is needed beyond the expiration of the STA, that it will be required to file an application with the FCC and, once again, seek FirstNet's consent.

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