**Before the**
**Federal Communications Commission**
**Washington, D.C. 20054**

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| In the Matter of | ) | |
| | ) | File No. 0447-EX-CN-2017 |
| Leidos, Inc. Application for Experimental Radio Service | ) | |

**OBJECTIONS OF THE COMMONWEALTH OF VIRGINIA**

The Commonwealth of Virginia, Department of State Police ("Commonwealth"), by its counsel, hereby submits informal objections on behalf of its Statewide Agencies Radio System ("STARS") in response to the June 7, 2017 Application of Leidos, Inc. for experimental radio service, File No. 0447-EX-CN-2017, for military aircraft to ground and military aircraft to aircraft radio testing.

## INTRODUCTION

STARS is a twenty-one state agency public safety grade statewide integrated voice and data radio system. STARS uses digital trunked VHF narrow band land mobile radio technology for the infrastructure and relies heavily on 700 MHz digital vehicular repeater systems (VRS) in approximately 3,300 vehicles to support portable radio public safety grade communications within the network.

In 2004 the Commonwealth entered into a contract with Motorola to design, construct and implement a new comprehensive statewide public safety communications system, and the current STARS system was designed and built under Motorola's guidance. STARS is a statewide shared land mobile radio system utilizing Part 90 public safety channels, Part 22 VHF paging channels, and Part 80 VHF maritime channels. The Commonwealth applied for various waivers from the Commission to acquire and operate the Part 22 and Part 80 channels, which the Commission has granted. The

Commonwealth has since obtained various waivers from the Commission to continue deployment and operations of STARS using its particular design infrastructure and equipment.

STARS has been operational since 2006, and has provided full statewide public safety radio coverage since 2012, with its infrastructure serving 97% of Virginia's population and over 90% geographical coverage.

## IMPORTANCE OF VIRGINIA'S PUBLIC SAFETY COMMUNICATIONS

STARS is concerned that the aerial communications portion of the Leidos application presents a significant threat of interference to public safety operations, across a wide spectrum of STARS' channels. A 50 Watt transmitter at altitude 128 km around Bridgewater could potentially interfere with STARS communications anywhere in the state. Please note that this could also affect public safety communications for most jurisdictions throughout the Commonwealth.

Because STARS uses digital trunked VHF narrow band land mobile radio technology for transmissions between its tower sites and mobile radios in the public safety vehicles, the protection of those VHF transmissions from interference is a critical public safety necessity for Virginia. Notifying Leidos of interference after the fact means an officer safety issue could have already occurred. This is simply not acceptable.

Virginia has unfortunately suffered through major public safety crises in recent years, including the 9/11 attack on the Pentagon, the Beltway Sniper attacks, the Virginia Tech massacre and most recently the August 2017 Charlottesville riots over Confederate monuments; and Virginia's concentration of federal installations, from the robust Navy bases in Hampton Roads to CIA and other government offices in northern Virginia, as

well as the threat of potential hurricane evacuation of Hampton Roads, demands a continued emphasis on public safety communications of the highest quality.

## LEIDOS' APPLICATION AND HISTORY

Leidos previously obtained an experimental authorization (WK9XRX) for a similar service, but voluntarily limited its operations under that license to ground-based transmissions within 1 km of Bridgewater, Virginia, and using only six discrete frequencies.

While STARS was able to conclude that this very limited ground use of these frequencies by Leidos under the previous license was not likely to cause interference with STARS, Leidos has not offered STARS assurances that its uses under the new license will be limited to ground use within 1 km of Bridgewater on specific frequencies, but has instead insisted that its license must include aerial use also (which appears to be the core purpose of its experimental testing for military air to ground and air to air systems).

Leidos is essentially seeking the right to interfere within public safety operations in the entire 150 to174 MHz band at 50 watts ERP, using airborne radio transmissions within a 128 km radius of Bridgewater.

Since all state level public safety and public service organizations rely on STARS for communications, everywhere in the state is important. Game Wardens, Conservation and Recreation Police, Corrections Officers, and the State Police all have unique radio coverage requirements, which comprises the entire state geographically.

Without knowing the specific altitude of Leidos aerial operations, it is impossible to determine the co-ordination, particularly at 50 watts level, which is far in excess of normally permitted aerial transmissions under FCC regulations. *See, e.g.* 47 C.F.R §

90.423(a) (permitting Part 90 licensees to operate transmitters with an output power of as much as 10 watts aboard aircraft). The aerial use of these frequencies threatens not only STARS, but all public safety users across a large portion of Virginia.

While Leidos has offered to avoid specific STARS frequencies, this is unfortunately not a practical solution. As explained earlier, STARS uses all of its frequencies, with the mix of channels changing constantly, and Virginia State Police and other state agencies must be responding to emergencies at any time of the day or night, so there is no "inactive" time or rarely used frequencies for STARS on which Leidos could operate safely.

STARS is allowed by state law to restrict disclosure concerning the details of its radio system operations, to prevent terrorist attacks on Virginia's public safety communications.

It is therefore impractical for STARS to give Leidos a list of all STARS frequencies to be protected beyond what a Universal License Search will show, which does unfortunately have them in it.

STARS is willing to consider Leidos' use of their coordinated specific frequencies on the ground within 1 km of Bridgewater, which STARS can review. If operations by Leidos are not restricted in this manner, such unrestricted operations would threaten the VHF transmissions used by STARS to transmit between tower sites and mobile radios in vehicles.

However, STARS urges the Commission to reject any unspecified and uncoordinated aerial license for Leidos in the public safety frequencies which will almost certainly interfere with public safety operations across a very large part of the state.

While Leidos has offered to limit itself to 10-second transmissions within 2-hour long test cycles, if these happen to interfere with Virginia State Police or other safety agencies responding to terrorist attacks or serious crimes, the harm cannot be remedied. Their need for testing in Virginia should not be equated with public safety communications. The military has test ranges in other states where this sort of testing can safely occur.

## CONCLUSION

STARS respectfully requests that the pending license application by Leidos be denied by the Commission unless Leidos amends it to delete aerial operations, limit ground operations to within 1 km of Bridgewater, on a limited number of channels, and coordinate these channels with all affected Public Safety coordinators as well as the Society of Broadcast Engineers, and conduct a Universal License Search to select channels which will not cause harmful adjacent and co-channel interferences.

For the foregoing reasons, the Commonwealth respectfully requests that the Commission deny Leidos' application in File No. 0447-EX-CN-2017, and suggests that Leidos aerial testing be restricted to more remote and rural areas of the United States where the risk of harm to public safety communications can be minimized.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I certify that on August 18, 2017, the foregoing document was served by email and first-class mail, postage prepaid, on:

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