

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Implementing Public Safety Broadband Provisions of the Middle Class Tax Relief and Job Creation Act of 2012)	PS Docket No. 12-94
)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band)	PS Docket No. 06-229
)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands)	WT Docket No. 06-150

COMMENTS OF THE COMMONWEALTH OF VIRGINIA

The Commonwealth of Virginia, Department of State Police (“Commonwealth”), by its counsel, hereby submits comments on behalf of its Statewide Agencies Radio System (“STARS”) in response to the March 7, 2013, Notice of Proposed Rulemaking (“NPRM”) in the above matter (FCC 13-31) inviting comments on the implementation of the Public Safety Spectrum Act. Specifically, the Commonwealth addresses two technical issues (interference coordination / protection and the 700 MHz guard band), and transition of incumbent narrowband operations in the new public safety broadband spectrum.

INTRODUCTION

STARS is a twenty-two state agency public safety grade statewide integrated voice and data system. STARS uses a digital trunked VHF narrowband system, which relies heavily on a 700 MHz digital vehicular repeater system (DVRS) in over 3,000 public safety vehicles to support portable based public safety communications. STARS is accordingly an incumbent public safety narrowband system within the new public safety broadband spectrum. The Commonwealth, on behalf of STARS, wishes to express its concerns that this incumbent

statewide public safety system be properly protected during the transition of this spectrum to FirstNet.

COMMENTS

A. Background

As the NPRM notes, the Commonwealth was one of the jurisdictions which was in the process of deploying a narrowband system in what became the public safety broadband spectrum at the time of the Second Report and Order, 22 FCC Rcd 15289, in 2007. The Commonwealth sought and obtained a waiver from the Commission to continue its deployment of STARS (See, Virginia Order, 22 FCC Rcd at 20293 ¶(7)), and has now spent approximately \$ 380 million in deployment of the STARS system, which is successfully providing state-of-the-art public safety communications services within the Commonwealth.

B. General Approach

The Commonwealth believes that the appropriate mechanism and timeframe for a transition of the public safety broadband spectrum are completely dependent on the availability of federal funding for a transition. The Commonwealth also believes that the recent 800 MHz rebanding which is being completed should provide a proven and reliable model for 700 MHz transition. The Commonwealth believes that, if 700 MHz transition funding is made available, a 700 MHz transition model should be established, using cost, criteria and estimates based on the 800 MHz transition. The Commonwealth believes that an independent transition administrator should be appointed to adapt the existing model and timetable for incumbent narrowband systems, based on the 800 MHz experience for that system or in that state and dependent on the availability of 700 MHz transition funding. Each incumbent public safety system should be

given broad latitude to implement this schedule in the most efficient manner which serves and protects the existing 700 MHz narrowband users.

C. Interference Coordination

The Commission has asked about the potential for harmful interference to incumbent public safety narrowband operations which may occur during the period prior to relocation (NPRM, ¶28).

The Commonwealth strongly believes that co-ordination requirements must be put in place to protect incumbent narrowband operations. STARS has already experienced harmful interference from the testing of a 700 MHz LTE system in Virginia by a manufacturer. This testing interference caused a local communications failure for STARS, which is unacceptable for public safety communications.

Since STARS uses 700 MHz for the link between a vehicular repeater and associated portable radios, it is particularly susceptible to interference. Particular users such as K-9 units or tactical teams already stretch the coverage range to the limit by off-road use in rural areas. Any interference or increase in the “noise floor” will potentially leave K-9 and other tactical officers stranded in the field without communications. Interference will pose a serious threat to an officer’s safety when the officer is out of his vehicle and relying on the 700 MHz vehicular repeater system to maintain communications.

D. 700 MHz Public Safety Guard Band

The Commission has asked for comments on the continued need and usefulness of the 700 MHz public safety guard band (NPRM, ¶31).

The Commonwealth believes that a continued guard band is a necessity. As noted earlier, STARS is particularly susceptible to interference because of its use of 700 MHz to communicate with public safety officers out of their vehicles.

The low power (2.5 watts) which must be used for the STARS portable radios already poses problems in signal strength the further the officer is from the vehicle, or with intervening terrain or buildings. With interference and the “noise floor” rising, the low power signal risks becoming lost in that “noise”, drowning out communications with the dispatcher as the officer’s distance from the vehicle increases.

The Commonwealth respectfully suggests that the Commission should retain operational jurisdiction over the guard band, not FirstNet. The mission of FirstNet in building out a national 700 MHz broadband public safety system means that it is not in a neutral position to protect the 700 MHz public safety guard band.

E. FirstNet Transition Role and Funding

The Commission has inquired about the appropriate role of FirstNet in the transition of 700 MHz narrowband systems to other spectrum, and the funding for such transition (NPRM, ¶53).

The Commonwealth respectfully suggests that since FirstNet will control the reallocated spectrum of the end of the process, and will hopefully have funds to create a national public safety network, that it is only appropriate that FirstNet bear the cost of relocation. The Commonwealth also believes that in any 700 MHz transition process, an independent party should supervise the details of the transition including time deadlines and the appropriateness of specific costs, just as the 800 MHz transition administrator has managed the transition of 800 MHz spectrum to Nextel, which paid for those transition costs.

The Commonwealth believes that the skills and experience gained through the 800 MHz transition process can be directly applied to the 700 MHz process.

Absent funding from FirstNet or another federal source, the Commonwealth doubts that many of the public safety users which are the incumbent narrowband spectrum users can afford any relocation. The Commonwealth's current estimate (based on actual costs in the 800 MHz transition process) to transition its STARS system to new 700 MHz spectrum will be \$5.5 million, primarily due to the necessity of replacing hardware in over 3,000 digital vehicular repeater units. This is a cost that the Commonwealth should not be expected to absorb in difficult budget times, and should be paid for by FirstNet.

The Commonwealth (and other incumbent public safety users of 700 MHz narrowband spectrum) followed the rules of the Commission, obtained authorization to build a new 700 MHz narrowband statewide system, and purchased equipment based on that covenant. The Commonwealth has already incurred \$ 380 million in building STARS, and further funding of \$5.5 million more to transition to new 700 MHz spectrum must come from FirstNet or other federal sources.

If no sources of funding are available, then relocation is impossible nationwide as a practical matter. Identifying and providing federal funding is a necessary first step in any transition. If funding is made available, no other incentive to transition should be necessary.

F. Relocation Deadlines and Transition Mechanics

The Commission raised questions regarding a "hard" deadline, and transition mechanics (NPRM, ¶54).

The Commonwealth believes that unless funding can be provided in advance, any deadline is inappropriate.

If funding is provided, the Commonwealth would be willing and eager to relocate. There would be implementation issues to overcome in staffing personnel and staging spare equipment to perform the reconfiguration statewide, to permit an orderly transition for over 3,000 vehicles without disrupting ongoing public safety needs. This can be done but the complexity of a large statewide transition, and the necessary time for the transition, may differ significantly for a statewide incumbent like STARS and a small incumbent municipal system. This disparity strongly suggests that one size cannot fit all, but that a transition administrator should supervise the transition, and set individual deadlines based upon the different facts applicable to each incumbent. The facts peculiar to each incumbent, not FirstNet deployment plans, must control; but this type of potential conflict with FirstNet goals indicates why an independent administrator should manage the transition. No one in the 800 MHz transition seriously suggested that Sprint should be able to unilaterally determine the transition schedule or what it was willing to pay for specific transition costs. Since a statewide operation such as STARS blocks not only deployment of 700 MHz broadband in its own state, but adjacent states also, any analysis must start with the facts peculiar to each 700 MHz narrowband incumbent system.

If new broadband operations were allowed to overlap incumbents in a rolling deployment, the Commonwealth is concerned that there could be significant interference problems, effectively reducing the range of its portable radios. Coverage areas for K-9 units and other tactical teams searching in woods for a criminal or lost child are already adversely impacted by equipment restrictions (such as narrowband digital modulation). Allowing more “noise” through interference effectively would reduce the range even further.

G. Deferral of Incumbent Narrowband Issues

The Commission has asked whether some of the narrowband incumbent relocation issues can or should be deferred (NPRM, ¶56).

The Commonwealth believes that relocation of 700 MHz narrowband incumbents, funded by FirstNet, should be the first step in any broadband 700 MHz deployment plan.

A waiver or deferral of a transition would block statewide deployment in the incumbent state and all surrounding states. Virginia is in a particularly sensitive geographic location, adjacent to the nation's capital and itself containing many significant government installations. Recent events in Virginia – such as the 9/11 attack on the Pentagon, the Beltway sniper and the Virginia Tech massacre – have painfully shown the need for a high quality of public safety communications. The annual risk of hurricanes, with a potential need for hurricane evacuation of a huge metropolitan area along with the Navy and Air Force facilities in Hampton Roads, further emphasizes the need for public safety communications in Virginia.

If counties or cities within the Commonwealth or adjacent state jurisdictions were allowed to use the spectrum for 700 MHz broadband while Virginia continued with its STARS narrowband operations, the Commonwealth is very concerned that the level of interference would be unacceptable. This is particularly true given that the 700 MHz use by the Commonwealth is for the portable radio system supporting public safety personnel at extreme distances from their vehicles. Whether looking for a criminal inside a building, or for a criminal or lost child in the woods, the officer's safety and success of his mission may be dependent on radio communications between his portable device and headquarters or other officers. Allowing broadband use of the same spectrum would effectively raise the "noise floor" on an already fragile digital communications voice path, effectively increasing the risk of losing that communications path and risking the officer's safety and mission.

CONCLUSION

STARS is a vital statewide public safety communications system serving a geographic area critical to the nation's homeland security. FirstNet should pay for the transition costs as a first step in clearing the 700 MHz spectrum for a nationwide 700 MHz broadband public safety system. During any transition, it is critical that interference with existing public safety field operations should be avoided.

Respectfully submitted,

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF STATE POLICE

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CERTIFICATE OF SERVICE

I hereby certify that on this 23rd day of May, 2013, a copy of the foregoing Comments of the Commonwealth of Virginia was sent by email to genaro.fullano@fcc.gov.



Peter E. Broadbent, Jr.

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