

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C

In the matter of
Hamden County Correctional Facility

Request for Waiver of the
January 1, 2013 Narrowbanding Deadline

To: Chief, Public Safety and Homeland Security Bureau

Pursuant to Section 1.925 of the rules of the Federal Communications Commission (the "Commission"), the Hampden County Sheriff's Department hereby submits a request for waiver of the January 1, 2013 narrowbanding deadline. The Hampden County Sheriff's Department (HCSD) has intended to be narrowband compliant for January 1, 2013. HCSD has worked with its communications vendors to provide design and pricing information to procure a solution compliant with the narrowband mandate and deadline. The initial designs and project costs were based around simply replacing its existing VHF communications systems and non-compliant subscriber equipment. HCSD is a state agency, funding for capital improvements and operations are primarily derived from the Commonwealth. There has been a strong initiative recently for State agencies and State funded communications projects to comply with the Statewide Communication Interoperability Plan (SCIP). To comply with this initiative, to be more in line with the operation of and interoperable with other State agencies and to provide the greatest likelihood of State provided project funding assistance, HCSD investigated a change in scope of its communication operations to an 800MHz solution.

To validate whether an 800MHz solution would be suitable for the Ludlow campus, testing using a single channel 800MHz frequency was carried out on May 11, 2012. The testing was extremely successful and the 800MHz provided coverage in all areas required by HCSD. The inbound and outbound coverage was more robust than the existing wideband VHF system. Given the excellent coverage of the single site 800MHz channel, the unknown degradation in range, specifically in building moving to narrowband VHF operation, as well as the previously stated advantages, HCSD determined the 800MHz solution was the most beneficial to pursue.

HCSD worked closely with its communications vendor to assist in developing an 800MHz solution. The design and development effort culminated with a proposal that was delivered on August 2, 2012. The 800MHz solution value was surprisingly equivalent to the cost of upgrading its VHF infrastructure and subscribers to be narrowband compliant. In summary, HCSD is committed to being narrowband compliant, however given the current timetable and many of the factors that have resulted in delays in being able to move forward with procurement, HCSD is respectfully requesting a waiver for the FCC's consideration.

Delays that have contributed the request for a waiver are listed below:

1. Change in scope (800MHz from VHF) to provide greater levels of interoperability with other State agencies and improved operational coverage and personnel safety
2. The field testing and validation, system design and proposal cycle for the change of scope
3. The initial project funding source falling through
4. The timetable and process for securing an alternate funding source
5. The freeze on new 800MHz licensing and the timetable to secure the spectrum
6. The process and timeline for delivering a purchase order to the vendor
7. The manufacture, staging, field implementation, optimization and testing of the solution

HCSD finds that it will be necessary to continue to operate on its VHF frequencies until items #5 and #7 above are resolved and completed.

Specifically, HCSD requests until December 30, 2013 to complete its migration from its VHF wideband communication system to the 800MHz trunking system.

On July 13th, 2011, the commission released DA-11-1189 to provide guidance to licensees for the filing of waiver of the narrowbanding deadline. The commission cited the requirements of FCC rules section 1.925 which state that waiver must demonstrate that "(i) the underlying purpose of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative." Relative to the requirements of the FCC rules section 1.925, the commission recommended the following content for the waiver.

- Steps already taken to plan for, initiate, and complete the transition to narrowband operations;
- System and Complexity;
- Whether system equipment is narrowband-capable to must be replaced or upgraded
- Whether licensee plans additional system upgrades or improvements in addition to converting to narrowband operation;
- Funding sources, including whether the licensee's budget requires governmental approval or a multiyear budget process;
- Whether the licensee's narrowbanding schedule is affected by neighboring systems due to interoperability relationship or other interdependencies;

- Plans to minimize the negative impact of extended wideband operations on co-channel adjacent channel operations, including a description of the spectrum environment in the affected area; and,
- If the licensee plans to migrate to a non-VHF/UHF band(e.g., 700/800mhz) whether it will relinquish VHF/UHF spectrum once it is migrated and the amount of spectrum to be relinquished.

Further, the commission has requested the following:

- The steps the process have been or will be taken prior to January 1st, 2013;
- Anticipated dates of commencement and completion of:
 - Replacement or returning of mobiles/portables
 - Infrastructure replacement or returning

Steps already taken to plan, initiate, and complete the transition to narrowband operations

HCSD is aware of the FCC's requirements for licensees to migrate to narrowband operations in the applicable UHF and VHF spectrum. The 800MHz digital trunked solution HCSD has moved forward with addresses the narrowband mandate by moving away from VHF wideband operation. HCSD has determined this solution was the proper choice that would satisfy the narrowband requirement, would offer improved campus-wide in building coverage, provide operational efficiencies through dedicated user talk groups, increase interoperability with other State agencies, improve the State's system coverage by allowing authorized State agencies the ability to roam to the HCSD trunking system and to leverage the State's pre-existing investment in their system core for use by another State agency. For these reasons HCSD has issued a purchase order to Motorola Solutions for the 800MHz solution.

Pursuant to FCC rules section 1.925, HCSD has no other viable narrowbanding alternative than to proceed with the 800MHz digital trunked solution. With the existing VHF infrastructure being non-narrowband compliant as well as more than half of the subscriber fleet requiring replacement for compliance, remaining VHF would require investing in a second system build out. Such a solution would require additional funding, which is not available. Maintaining VHF operations and transitioning to narrowband operation would not address the deficiencies in coverage that the existing wideband system has and, would in all likelihood introduce additional areas of insufficient coverage. Addressing these areas of insufficient coverage to ensure operation at least equivalent to the existing wideband system or more in line with the 800MHz solution would require an extensive design phase and the implementation timetable would likely match that of the 800MHz solution. Maintaining VHF

conventional operation would also not address the need for various user groups to have dedicated talk paths that a trunking system would afford nor the interoperability with other State agencies. An alternate (VHF) solution would be "inequitable, unduly burdensome and contrary to the public interest."

System size and complexity

The Hampden County Sheriff's Department in Ludlow is comprised of 10 detached or partially detached structures including three corrections housing towers covering less than a ¼ square mile area.

The existing VHF systems are comprised of a two (2) channel campus wide analog conventional voting system along with a single site VHF repeater channel. The two channel system has voting receiver sites installed in the various structures on the campus to improve inbound portable user coverage due to the dense construction of the housing structures and metal skin materials of other buildings on the campus. Those sites/locations are interconnected through facility owned copper to the prime site. The existing single site repeater channel is in use for the Pre-Release Center (PRC) facility. The Pre-Release Center is a separate structure on the campus serving a distinct operational function.

HCSD also utilizes the Commonwealth's 800MHz analog trunking system for wide area prisoner transportation through mobile radios in vehicles designated for that function. Communication from the prisoner transport vehicles to Hampden County Sheriff's Central Control Room (dispatch) is through control stations interfaced into the console.

The existing VHF systems presently service approximately 350 VHF portable radios users and the 800MHz prisoner transportation radios are installed in 31 vehicles that travel state-wide.

The system being procured will be a single site 5 channel 800MHz P25 Phase I trunking solution. The trunking system will utilize the Commonwealth's existing investment in a system core for authentication of radio and dispatch console users. The infrastructure solution is Motorola's latest and would support a future migration to P25 Phase II trunking through software only upgrades. The 800MHz system will support 350 portable subscriber radios that will be programmed and distributed as part of the system implementation period. For cost reasons, the subscribers are P25 Phase I only compliant.

Whether system equipment is narrowband-capable or must be replaced or upgraded

The existing VHF infrastructure and approximately half of the portable subscriber radios are not narrowband compliant. The VHF infrastructure for the two voted channels is no longer supported and was installed during the facility's construction in 1990.

The VHF infrastructure and all subscribers will be replaced with the procurement of the 800MHz solution. The existing VHF portable subscribers that are newer and narrowband capable will be distributed among Western Massachusetts Women's Correctional Center (WCC) in Chicopee, MA, HCSD's Western Massachusetts Correctional Alcohol Center (WMCAC) in Springfield, MA to replace older portable radio hardware.

Whether the licensee plans additional system upgrades or improvements in addition to converting to narrowband operation

Outside of meeting the FCC narrowband requirement, the 800MHz system being procured will provide HCSD with improved portable subscriber coverage, primarily indoors where it is lacking in some areas today. This improved coverage was determined through an actual field coverage test that HCSD participated in with its vendor and system integrator. The other improvement in migrating to a trunking system is the ability to create user talk groups that increase the effectiveness of communications by allowing users specific to a role or function, the ability to focus on communications intended for their task versus monitoring all transmissions.

In addition to the radio communication infrastructure and subscriber equipment, HCSD is upgrading their dispatch console equipment to a current generation solution, to support the digital trunking system and to be on the same platform as other State agencies.

Lastly, part of the system improvements, albeit small, is to add a dispatch console connected mobile control station to support the region's UHF interoperability system. With this nominal addition to the scope of the project, it will provide HCSD the ability to communicate directly with most local Law Enforcement and Fire Service entities in Western Massachusetts. It would extend this capability to all of the 800MHz subscribers through a console initiated patch between a talk group established for this function and the UHF interoperability system control station.

The system replacement is necessary to provide HCSD Corrections Officers and other personnel effective and reliable on campus in building communications along with interoperability both with State agencies using 800MHz trunking and with local agencies through a dedicated 800MHz talk group/UHF interoperability system patch.

Funding sources, including whether the licensee's budget requires government approval or a multi-year budget process

The funding source for the procurement of the 800MHz solution is through the Hampden County Sheriff's Department's general operating and federal inmate reimbursement line items of its FY2013 budget.

Whether the licensee's narrowbanding schedule is affected by neighboring systems due to interoperability relationships or other interdependencies

HCSD's narrowbanding schedule is not impacted by neighboring systems due to interoperability relationships. HCSD interoperates with the Ludlow Fire and Law enforcement agencies through the Central Control Room (CCR) dispatch console. These are the two primary local resources HCSD interacts

with currently, both of which are already narrowband compliant. Interoperability will be expanded as previously detailed with both local and State agencies through the procured solution.

Plans to minimize the negative impact of extended wideband operations on co-channel and adjacent channel operations, including a description of the spectrum environment in the affected area.

Co-channel interference is not expected to increase because of the extended wideband operations. No additional levels of interference are anticipated to/from existing licensed stations. The potential interference to/from existing licensed stations is anticipated to decrease as area agencies narrowband their equipment. Interference resulting from the extended use of wideband channels is only expected by new licensees operating in closer proximities than those distances currently permitted by frequency coordinators and to adjacent channels. HCSD would address these interference issues on a case by case basis, and will take all reasonable steps necessary to remedy the interference. These steps will include utilizing alternate directional and down tilt antennas where practical, reducing base station ERP or ceasing operating altogether.

This request for waiver is for 12 months after the January 1, 2013 deadline (formally December 30, 2013). HCSD anticipates utilizing the wideband VHF spectrum for approximately 11 months to facilitate the finalizing of the 800MHz licensing and for the manufacture, staging and field installation of the system that will replace its current VHF operations.

If the licensee plans to migrate to a non-VHF/UHF band (e.g. 700MHz or 800MHz), whether it will relinquish VHF/UHF spectrum once it has migrated and the amount of spectrum to be relinquished.

Upon migration to the new 800MHz system and system acceptance functions completed with the vendor, HCSD will cease operation on its VHF channels at its **Ludlow** facility. Call sign KZF950, included in Appendix XXX includes all three VHF repeated frequency pairs along with mobile input frequencies for the UHF interoperability system that are licensed to HCSD. The licensed VHF repeater output frequencies of 154.935 MHz (FB2), 158.730 MHz (FB2) and 151.460 MHz (FB2) are also licensed at the WCC (Location 4 on Call Sign KZF950). The associated repeater inputs of 156.090 MHz MO, 155.430 MHz MO and 155.580 MHz MO are presently licensed with a 24km radius around Location 1, 627 Randall Road, and are in use in Chicopee at WCC. Operation at the WCC facility can be narrow banded with additional programming and does require the use of the same VHF frequencies licensed at the Ludlow facility. HCSD is open to license modifications on those frequencies so that they only pertain to the WCC facility with the migration of the Ludlow facility to 800MHz trunking.

What steps in the process have been or will be taken prior to January 1, 2013

Hampden County Sheriff's Department has been working for some time toward positioning itself to be compliant with the FCC's narrowband requirement. HCSD has already or will have taken the following steps prior to January 1, 2013

- ✓ Has been purchasing narrowband compliant VHF portable radio subscribers in quantities that annual budgets have facilitated.

- ✓ Requested narrowband replacement system designs and pricing over its last several fiscal years for budgeting purposes
- ✓ Requested Commonwealth funding assistance for the narrowbanding upgrades FY10-FY13 June2009-June 2012
- ✓ Requested an alternative design/solution recommendation that would both increase its probability of receiving Commonwealth funding, improve critical communications compared to a direct replacement of the VHF system and increase interoperability
- ✓ Field tested the effectiveness of the alternative 800MHz solution
- ✓ Formally requested funding from the Commonwealth's Executive Office of Public Safety and Security (EOPSS) for the 800MHz solution
- ✓ Met with and received approval from the Massachusetts State Police, as the system administrator, for the use of the system core for the 800MHz trunking system and console solution
- ✓ Submitted for coordination and FCC licensing with APCO for 5 to 6 800MHz trunking channels (application T12081409112585)
 - Attempting to resolve licensing freeze by submitting a waiver to the
- ✓ Investigating alternative licensing avenues through Region 19 for licensing Massachusetts Department of Corrections 800MHz trunking frequencies in Ludlow for HCSD.
- ✓ Secured funding for the project
- ✓ Issued a purchase order to Motorola Solutions for the system procurement

Anticipated dates of commencement and completion of:

- Replacement or retuning of mobiles/portables
- Infrastructure replacement or retuning

Following is the timetable that Hampden County Sheriff's Department and Motorola Solutions have developed for the implementation of the 800MHz solution to address the narrowbanding requirement. Pursuant to DA 11-1189, the following key dates have been provided:

Milestone	Completion Date
Coordination/Licensing Application Submitted (PO issued)	August 13, 2012
Funding Secured	Anticipated January 28 th , 2013
Purchase Order/Contract Issued	Anticipated January 31, 2013
Licensing Finalization	March 29, 2013
System Design Finalized	April 26, 2013
Manufacture & Staging of System	August 30, 2013
Field Installation and Optimization	October 18, 2013
System Functional Testing Completed	November 1, 2013
Subscriber Units Issued	November 22, 2013
System Cutover	November 29, 2013
System Acceptance	December 27, 2013