

Ohio Department of Administrative Services
Ohio Office of Information Technology
John Kasich, *Governor*
Robert Blair, *Director*
Stu Davis, *State Chief Information Officer*

MARCS Program Office
30 E. Broad St.
39th Floor
Columbus, Ohio 43215

614-995-0060 voice
614-995-0067 fax
www.oit.ohio.gov



March 28, 2012

Mr. Julius Genachowski
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C.

Dear Chair Genachowski:

The Ohio Statewide Interoperability Executive Committee (SIEC), on behalf of the State of Ohio and all Ohioans, respectfully submits our 700 MHz wireless interoperable mobile public safety waiver petition. The original, signed document is attached. Co-signers of the document are Ohio's Chief Information Officer, Stu Davis, who is also Assistant Director of the Ohio Department of Administrative Services; and Joseph Montgomery, Assistant Director of the Ohio Department of Public Safety and Co-Chairman of our SIEC.

Ohio's SIEC has been in existence since initial recognition by the FCC on November 19, 2002. Our SIEC is recognized as the body of knowledge for public safety wireless communications in Ohio and has been tasked with developing Ohio's plan of integration into the Nationwide Broadband Public Safety Network as envisioned in Title VI of the Middle Class Tax Relief and Job Creation Act of 2012.

Ohio is the seventh largest state in population in the United States. Our geographic location positions Ohio to be the crossroads of America. Public safety first responders in Ohio range from serving large metropolitan areas to extremely rural Appalachia in the southeast and sparsely populated, rich farm lands in the northwest. In order to deliver the services expected by our citizens, our first responders are in great need of interoperable mobile public safety broadband services. Ohio will not be able to deliver these expected and much-needed broadband services unless and until the attached 700 MHz broadband waiver is granted by the FCC to enable spectrum access.

Respectfully submitted:

A handwritten signature in blue ink, appearing to read "Darryl L. Anderson".

Darryl L. Anderson
Administrator
Ohio Statewide Interoperability Executive Committee

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

In the Matter of:)
)
Request by the State of Ohio)
for a Waiver of the Commission's Rules to)
Allow Establishment of a 700 MHz) PS Docket No. 06-229
Interoperable Public Safety Broadband)
Network in the State.)
)

March 21, 2012

REQUEST FOR WAIVER

Pursuant to Section 1.925 of the Commission's rules, the State of Ohio submits this Petition for Waiver to allow for construction and deployment of an interoperable 700 MHz public safety broadband network. This waiver is being requested by the State of Ohio through the Statewide Interoperability Executive Committee (SIEC), which has been tasked with the coordination, development and implementation of next generation broadband communications for Public Safety in the State of Ohio. Ohio, through the SIEC, has identified public safety interoperable broadband as a priority for the state's public safety first responders and stands ready to move forward with deployment of such a system as soon as practical and permissible.

The State currently operates one of the country's largest interoperable statewide public safety mission critical voice networks known as the Multi-Agency Radio Communications System (MARCS). Ohio will leverage the established governance model and experience found in the SIEC and utilize the considerable infrastructure and support present in the MARCS system to add broadband capabilities for Ohio public safety users.

Because the current Commission rules are based on the D Block auction winner building out and operating the proposed 700 MHz nationwide public/private broadband

network, and because Commission rules have not yet been modified to reflect changes brought about by the Middle Class Tax Relief and Job Creation Act of 2012 (H. R. 3630), Ohio must obtain a waiver from the Commission to implement an early build out of the Ohio statewide public safety broadband network, The Commission has previously granted conditional waivers to other jurisdictions for the use of the 700 MHz public safety broadband spectrum to build out similar networks. Ohio hereby submits this waiver request and seeks similar considerations from the Commission. As addressed in this petition, a grant of the requested waiver to the State of Ohio will be in the public interest.

I. Background

On behalf of the State of Ohio, the SIEC is the waiver request applicant and the administrative entity that is overseeing the submission, coordination, development and implementation process. MARCS will provide the infrastructure and backbone on which the public safety broadband network is built.

The State of Ohio currently operates an interoperable statewide public safety mission critical voice network known as MARCS, the Multi-Agency Radio Communications System. MARCS is dedicated to providing Ohio's first responders and public safety providers with state-of-the-art wireless digital communications. MARCS is also responsible for promoting interoperability, to help save lives and maximize effectiveness in both normal operations and emergency situations.

The MARCS infrastructure consists of 130 state-owned towers and 80 leased-space towers, connected through T-1 lines into core computer equipment at the State of Ohio Computer Center located on the campus of The Ohio State University in Columbus, Ohio. Although only 8,500 mobile radios were originally envisioned, there were 47,972 radio ID's activated on the MARCS network by the end of 2010.

Users include at least 213 fire agencies, 128 police agencies, 80 emergency medical service agencies (EMS), 89 emergency management agencies (EMA), 17 state agencies, the Federal Bureau of Investigation (FBI), the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), the U.S. Border Patrol, the U.S. Fish and Wildlife Service, and the High-Intensity Drug Trafficking Area (HIDTA), part of the Drug Enforcement Administration. In all, there are 1,292 subscribing agencies, including health departments, hospitals, fire and police departments, EMS, EMA, sheriffs' offices, the Red Cross and other first responder and public safety agencies throughout Ohio, and in the bordering counties of Michigan, Indiana, Kentucky, and West Virginia.

The Commission previously noted in its Waiver Order issued May 12, 2010 that it was favorably inclined to grant waiver relief to states:

“We conclude that waivers for early deployment should meet certain criteria for geographic scope of the proposed deployment. For several reasons, we believe that states provide the most appropriate geographic size for consideration of waiver relief. States offer a reasonable delineation, both geographically and politically, to ensure that deployments are undertaken with sufficient authority, planning and coordination among all state and local public safety agencies within the state. States can also ensure that early deployments are developed to be consistent with overall plans for intra-state interoperability, and can, consistent with existing mechanisms concerning narrowband interoperability, serve as a single interface with the PSST and ERIC to minimize the complexity that would otherwise be inherent in coordinating numerous interactions on a jurisdiction-by-jurisdiction basis. Further, we believe that state-level waiver deployments will facilitate equipment development and purchase, by ensuring that there is a critical mass of potential users even in the early deployment phase to encourage vendors to compete to provide reasonably priced equipment. The public safety community also has experience with interoperability planning at the state level. For example, under a Department of Homeland Security administered Public Safety Interoperable Communications (“PSIC”) grant program, each state and territory has developed a statewide communications interoperability plan (“SCIP”). The established governance mechanisms of a state will also facilitate execution of spectrum leases, and coordination of deployments within states and with adjacent states. Finally, we note that state-level systems have the advantage of including a mix of populations, including both urban and rural areas. Thus, state-level governance mechanisms are more likely to ensure that rural areas are included as part of overall deployment plans.”¹

¹ *Order, In the Matter of: Requests for Waiver of Various Petitioners to Allow the Establishment of 700 MHz Interoperable Public Safety Wireless Broadband Networks*, PS Docket No. 06-229, released May 12, 2010.

The State of Ohio concurs with the Commission's statement. Furthermore, Ohio's established experience in planning, procuring, deploying and operating the current MARCS system being used by 1,292 local, state and Federal agencies serves as a firm foundation upon which to deploy a successful interoperable 700 MHz public safety broadband Long Term Evolution (LTE) network.

Over the last few years, the Commission has taken significant steps to advance a nationwide interoperable public safety broadband network. Despite these efforts, there remains an urgent need to provide mission-critical information via wireless broadband services to our first responders.

Ohio has deployed an in-vehicle, public safety mobile data network on narrowband spectrum that currently covers the entire state to provide critical data capabilities for first responders. However, this platform has limited ability to support many of the latest public safety applications that require higher bandwidths than are available with the current narrow band platform. The Commission has also recognized that existing public safety systems are inadequate to transport the data and video information required to provide the situational awareness required by the Nation's first responder community.

Ohio needs, and stands ready to deploy, as funding becomes available, an interoperable LTE public safety broadband system on the 700 MHz PSBL spectrum that would help form a part of the nationwide public safety broadband solution. Ohio's request is consistent with previously granted waivers to other jurisdictions that allow early deployments which will leverage 4G LTE technology also being deployed by commercial providers.

The Ohio vision is to create a wireless broadband network for first responder agencies, coordinated by the SIEC, with the ability to leverage multiple public safety

applications for use by all participating agencies.

With broadband wireless communications resources available to the first responder in Ohio, police officers would know quickly and silently that the vehicle they are stopping is stolen or that the individual they are interviewing is wanted or dangerous. They would be able to conduct photo lineups of suspects while still at the crime scene, and be able to access web-enabled surveillance cameras in public facilities to gain intelligence critical to the safe resolution of blockaded or hostage incidents.

Firefighters would know which routes were blocked due to construction or accidents, which hydrants are out of service, and what hazardous conditions exist as soon as the data is updated by police, water departments and building inspectors. Medics would be able to stream patient's vital signs and video views of the patient to the Emergency Rooms and Medevac helicopters, allowing doctors to better and more quickly diagnose and issue orders for treatment while the patient is en-route to the hospital. Emergency Managers would be able to receive real-time data and video from incident sites, teleconference with the Incident Commanders, and quickly share critical information, and mobilize essential resources to ensure the swift and safe resolution of the emergency situation.

As funding is made available, Ohio is prepared to deploy the described public safety broadband network in the near-term future to serve as the next generation statewide mobile data network, available to all public safety agencies. Deployment of the network in Ohio will enhance day-to-day, task force and mutual aid response through support of a full spectrum of interoperable IP multimedia applications, including:

- Streaming video (surveillance, remote monitoring)
- Digital Imaging
- Automatic Vehicle Location
- Computer Aided Dispatching
- Email
- Mapping/GIS

- Remote Database Access
- Report Management System Access
- Text Messaging
- Telemetry/Remote Diagnostics
- Web Access

A broadband public safety network in Ohio will support applications currently not accommodated over existing narrowband or wideband wireless data technologies. Tasks requiring substantial time to communicate between dispatchers and officers on narrowband voice systems (*e.g.*, database lookups and dispatch messaging) will also off-load to broadband spectrum, significantly reducing narrowband channel load and providing increased voice capacity. In addition, allowing police officers remote access to databases (*e.g.*, BMV, warrants, missing persons and stolen vehicle databases, etc.), remote form entry and reporting and web access will enhance public safety by increasing officer efficiency, reducing paperwork and allowing officers to spend more time on patrol. Similar increases in efficiency and effectiveness will be enjoyed by fire, EMS and other first responder agencies using the wireless broadband network.

To realize all these important benefits, Ohio requests the Commission's authorization to implement and operate a public safety broadband network built to meet our critical requirements, which can be integrated into the larger nationwide public safety network as such deployment occurs over time. Therefore, the Commission is urged to expeditiously grant Ohio's waiver request.

II. Leveraging Established Governance, Experience and Resources

Ohio, through its Statewide Interoperability Executive Committee, requests this waiver to continue with efforts to implement a public safety broadband communications network for Ohio first responders. The SIEC consists of the following departments, agencies,

and associations:

- Ohio Department of Public Safety – Chair
- Buckeye State Sheriffs’ Association – Co-Chair
- Multi-Agency Radio Communications System (MARCS) – Adm/Coord & State Point of Contact
- Ohio Emergency Management Agency
- Ohio Emergency Medical Services
- Ohio Homeland Security
- Ohio State Highway Patrol
- Ohio Fire Chiefs’ Association
- Ohio State Fire Marshall
- Ohio Association of Chiefs of Police
- Ohio Department of Natural Resources
- Ohio Department of Rehabilitation and Corrections
- Ohio Hospital Association
- County Engineers Association of Ohio
- Ohio Department of Health
- County Commissioners’ Association of Ohio
- Ohio Township Association
- Ohio Municipal League
- Emergency Management Association of Ohio
- Ohio National Guard
- Ohio Association of Public Safety Communications Officials
- Ohio Bureau of Criminal Identification and Investigation
- FCC Region 33 Point of Contact
- Ohio Office of Criminal Justice Services
- Ohio Board of Regents / University System of Ohio
- Current and former Urban Area Security Initiative (UASI) Cities (Cleveland, Columbus, Cincinnati, Toledo)
- Association of Ohio Health Commissioners
- Mid-size city or county radio system director
- Chairs of Ohio’s eight homeland security regional interoperability committees
- A representative of an Ohio public utility
- Other representatives as identified by the Director of the Ohio Department of Public Safety

These entities, cooperating as the SIEC, serve as a model of interoperability and cooperation within Ohio. The work of this governance body has created numerous interoperable benefits exemplified by the existing MARCS network supporting interoperability and designed to meet public safety operability requirements for mission critical voice and low speed data communications. With the development and adoption of

new standards based broadband 4G LTE technology, the State plans to supplement the current mission critical voice capabilities with public safety broadband applications.

While communications technology is an essential tool, *people* are in charge of protecting the public and responding to dangerous incidents. Agencies using the current MARCS network have successfully broken down a number of barriers historically hampering interoperability. In addition to the technical capabilities, sharing the MARCS system has enabled jurisdictions and departments to collaborate on planning for disaster responses and to conduct practice drills and scenarios before actual disasters occur. This planning and practice is essential to improve communications interoperability and a more effective response when an actual natural disaster or major event does occur. This has significantly improved communications for prevention and response activities.

Grant of the requested waiver will leverage the established SIEC governance structure already in place and will help expand public safety communications capabilities beyond voice and low speed data to include broadband capabilities such as high speed data and video. The resulting broadband system will be designed to be fully interoperable, consistent with conditions as recommended by the public safety community and required by the Commission. Expedient grant of this waiver will allow Ohio to pursue deployment of an interoperable broadband network in the 758-768/788-798 MHz band under a spectrum lease agreement with the Public Safety Spectrum Trust (PSST), or the current license holder which holds the nationwide license for this spectrum.

The SIEC governance structure established by Ohio has been invaluable in serving as a key focal point for communications interoperability planning, practice and implementation across the state. The SIEC looks forward to leveraging this existing and proven governance structure to move forward beyond voice communications and enable interoperable broadband high speed data and video capabilities. In addition to its people and process resources, Ohio's

public safety community has a number of physical resources that will be leveraged to deploy a broadband system. For example, one of the largest costs in any communications system is the establishment of antenna sites. MARCS already has access to 218 antenna sites. These sites can also be used to support antennas, provide backup power and house equipment for the broadband system. While additional sites will be needed for broadband compared to those for narrowband operation, existing resources can significantly contribute toward system deployment.

III. The Requested Waiver is in the Public Interest

The public interest will be served by allowing Ohio to engage in the early deployment of an interoperable broadband LTE system in support of public safety, homeland security, and first responder communications. The Commission's rules require that to obtain a waiver, a petitioner must demonstrate either (1) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the present case, and that a grant of the waiver would be in the public interest, or (2) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative. Under either of these standards, the requested waiver allowing Ohio to deploy a public safety broadband network in advance of the National Public Safety Broadband Network is justified.

The underlying purpose of the Commission's rules for the 700 MHz public safety broadband spectrum is to provide for the expeditious deployment of new interoperable broadband communications capabilities for public safety agencies leveraging technologies used in the commercial market. The Commission rules in place had envisioned that the public safety broadband network would be deployed under a public/private partnership by the

auction winner of the adjacent “D block” spectrum. These rules severely limit and discourage any local agency deployment. Under the rules, the D block licensee will have the “exclusive right to build and operate the Shared Wireless Broadband Network encompassing both the PSST and D spectrum blocks.”² However, the failure of the D block auction in 2008 introduced significant delays in that plan. In its recent Third Report and Order, the Commission noted the significantly changed circumstances since the unsuccessful attempt to implement a mandatory public/private partnership in 2008 and issued a “stay” of existing mandatory partnership rules. However, in doing so, the Commission also noted that during the pendency of the current rulemaking, public safety entities seeking authorization for early deployment must still apply for a waiver.³

Grant of the requested waiver will resolve the problem faced by Ohio in accessing the public safety broadband spectrum by granting the requested waiver for early deployment of a public safety broadband network built to meet our first responder requirements. Grant of the requested waiver will provide great public interest benefits by allowing the state to move forward and implement an interoperable public safety broadband network the 758-768/788-798 MHz band without further delay.⁴ Additionally, a waiver granted to the State of Ohio will enable a plan that helps ensure once the system is built, it will meet the unique needs of public safety agencies in our area.

The tragic events of September 11, 2001 and Hurricane Katrina along with more recent events such as Hurricane Irene and the unexpected earthquake in September on the east

² 47 CFR, Sections 27.1330 and 90.143 of the FCC rules.

³ *Third Report and Order and Fourth Further Notice of Proposed Rulemaking*, PS Docket 06-229, released January 26, 2011 at paragraph 14.

⁴ Should Congress reallocate the additional spectrum in the D block to public safety, Ohio would subsequently seek a modification of its waiver grant to allow operation also on the D block spectrum.

coast have made clear that public safety entities need interoperable broadband communications capabilities. The reality is the deployment of a full coverage nationwide network from which local public safety entities can obtain broadband services could be years away.

Ohio is willing to commit resources to bridge this gap so its first responders can utilize broadband technology to better help protect life and property. While we wait for resolution of the Commission's proceeding, the need for deployment of broadband technologies remains critical. To serve the public interest requires that state and local jurisdictions be permitted to deploy their own interoperable, broadband public safety communications networks, as was recently granted to the 21 jurisdictions in the *Waiver Order*. In these unique circumstances, waiver of the rules providing for deployment in the 758-768/788-798 MHz band will serve the public interest. The public interest will be served by a Commission grant of the waiver requested herein, and the State of Ohio requests favorable action on this request be taken expeditiously.

Grant of the requested waiver will provide significant public safety benefits by allowing the state to move forward and implement broadband public safety service in a timely manner and under a plan that helps ensure it will meet public safety needs, both for operability and interoperability. Granting of the waiver will also allow the state to leverage existing communications sites and its extensive experience in interoperability governance gained through both the MARCS initiative and the SIEC experience to help deploy an interoperable broadband network. Technology and communications in particular play an increasingly important role in providing public safety and homeland security. It is impossible to predict where the next natural or man-made disaster, criminal incident, or terrorist event will occur. Therefore, all jurisdictions must be as prepared as possible to deal with such incidents.

The State of Ohio looks forward to an expeditious Commission grant of the requested waiver and authorization to deploy a public safety broadband interoperable network. Public safety requires constant vigilance and response 24 hours a day, 7 days a week and such a broadband network will provide essential tools to keep pace with the expanding requirements and risks we face. Criminals are no longer limited to voice communications and neither should the police officers, firefighters and emergency medical personnel serving the residents of Ohio.

Broadband communications will provide an extremely important addition to voice communications systems. A public safety grade broadband system will allow public safety personnel in the state to quickly and securely access databases in the field and to transmit images among personnel and with the command centers within the state.

The advanced applications enabled by Ohio's envisioned public safety broadband system will serve both essential prevention and response activities. Expeditious database access and image transfer can provide critical information that offers the extra margin between life and death. Further, with the deployment of Long Term Evolution broadband technology already endorsed by public safety leaders and the Commission, the State and members of the SIEC can provide a broadband network which provides not only operability but also interoperability and technology leveraged off of commercial economies of scale.

It is essential that broadband deployment in the state be accomplished in a cost effective manner serving our respective jurisdictional operability requirements, is interoperable across our jurisdictions, and enables interoperability, as authorized, by any visiting jurisdictions coming to our assistance in times of disaster. Grant of the waiver will allow Ohio to pursue public funding and/or its own public/private partnership to commence construction and deployment of a broadband system, under a spectrum agreement with the Public Safety Spectrum Trust (PSST), or the current license holder. The State is well

positioned to deploy and provide interoperable public safety broadband communications meeting the requirements of this area if the spectrum is made available. With a conditional grant of the waiver, the State can move forward to plan and deploy an interoperable public safety broadband network under the conditions set forth by the Commission.

IV. Interoperability

LTE is a commercial open standard technology which is being deployed by commercial wireless operators in the commercial portions of the 700 MHz band today. Ohio agrees with the Public Safety Spectrum Trust and the Commission that the selection of LTE as the common air interface technology for use in the public safety 700 MHz band is an essential first step towards achieving the goal of nationwide interoperability. Ohio is planning deployment of an LTE broadband network to support public safety operations. This LTE system will be deployed to operate on a paired assignment of 10 MHz wide channels in the public safety broadband block between 788-798 MHz for mobile transmission and 758-768 MHz for base station transmission. The equipment deployed in the band will be compliant with the 3GPP Release 8 standards, as mandated by the previous Commission interoperability requirements for waiver grantees.⁵

Moreover, at a minimum, the Ohio LTE system deployed in the Public Safety Broadband Block will initially support the applications specified in the *Waiver Order*: (1) Internet access, (2) Virtual Private Network access to any authorized site and to home networks, (3) a status or information “homepage,” (4) access to responders under the Incident Command System, and (5) field-based server applications.

Ohio agrees with the Commission, public safety, equipment manufacturers and

⁵ The LTE standard is progressing with additional updates beyond release 8. If allowed by the Commission, a later release of the LTE standard could also be considered for deployment.

commercial wireless service providers that roaming is a “fundamental requirement.” Ohio will support roaming to all interoperable 700 MHz public safety authorized users in the 758-768/788-798 MHz band and will support roaming to future regional, state, and Tribal public safety authorized users as specified in the *Waiver Order*. Finally, Ohio agrees to adhere to the technical criteria that the Emergency Response Interoperability Center establishes via Commission rules. Interoperability is a priority for Ohio and if approved, Ohio will ensure that its broadband network complies with requisite FCC rules and related orders.

V. Conclusion

In light of the critical public safety and national security requirements at stake, the State of Ohio urges the Commission to grant the requested waiver expeditiously. Grant of this waiver request is in the public interest and will further both public safety's and the Commission's goal to deploy a nationwide interoperable 700 MHz public safety broadband network. A grant is also consistent with Congressional interests in enabling interoperable broadband communications for public safety as soon as possible in the State of Ohio.

Respectfully submitted,

Signature 

Joseph R. Montgomery
Assistant Director, Ohio Department of
Public Safety

Signature 

Stuart R. Davis
Chief Information Officer, State of Ohio
Assistant Director, Ohio Department of
Administrative Services

Date March 21, 2012