



Border Interoperability Demonstration Project

*Study on Implementing Interoperability Channels
along and across the United States–Canadian Border*

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1. Introduction

Public safety agencies serving communities along the U.S.–Canadian border face unique challenges ensuring fully interoperable communications in support of their missions. For instance, agencies seeking to license radio spectrum along the border must consider regulatory policies and special restrictions that apply due to proximity to the border. These agencies must operate within terms of agreements between the Federal Communications Commission (FCC) and its international counterpart in Canada—the Innovation, Science and Economic Development Canada (ISED), formerly Industry Canada. The FCC and ISED negotiate agreements on the sharing of radio spectrum along the border in order to ensure that radio users from one country do not interfere with radio users in the other country. The agreements typically apply to any licensee operating along the border within an international coordination zone, which varies in distance from the border depending on the frequency band.¹ Any public safety radio system constructed within an international coordination zone must also comply with technical restrictions, which are designed to prevent its radio signal from broadcasting into the other country and causing interference. Because both countries share the same radio spectrum, there are conflicts in channel assignment in certain radio bands.

The United States has allocated a series of nationwide public safety interoperability channels in several frequency bands (e.g., very high frequency [VHF], ultra-high frequency [UHF], 700 / 800 megahertz [MHz]). Public safety agencies operating along the border with 700 / 800 MHz capabilities may find the interoperability channels useful for cross border communications. However, many of these designated interoperability channels in VHF and UHF bands may not be available for use near the U.S.–Canadian border because ISED has previously assigned those frequencies to local users in Canada or there are interference issues with adjacent channels. Even if a particular frequency is not assigned for Canadian use, the current process designed to prevent interference by restricting radio emissions from one country into the other also prevents use of these designated interoperability channels. As a result, many border communities have resorted to radio exchange or other basic interoperability solutions to coordinate with international counterparts. While these solutions support emergency communications as needed, public safety agencies operating in VHF and UHF bands seek permanent interoperability solutions for daily border operations.

The Border Interoperability Demonstration Project (BIDP), a one-time grant administered by the Department of Homeland Security (DHS) Office of Emergency Communications (OEC), sought to identify innovative solutions for improving interoperable communications along and across the border. BIDP award recipients successfully obtained spectrum licenses for public safety interoperability channels through frequency waivers with both domestic and international spectrum licensees. See [Appendix A](#) for additional information on BIDP.

OEC developed this study to share BIDP lessons learned and to outline a five-step process for implementing interoperability channels along and across the U.S.–Canadian border. Specifically,

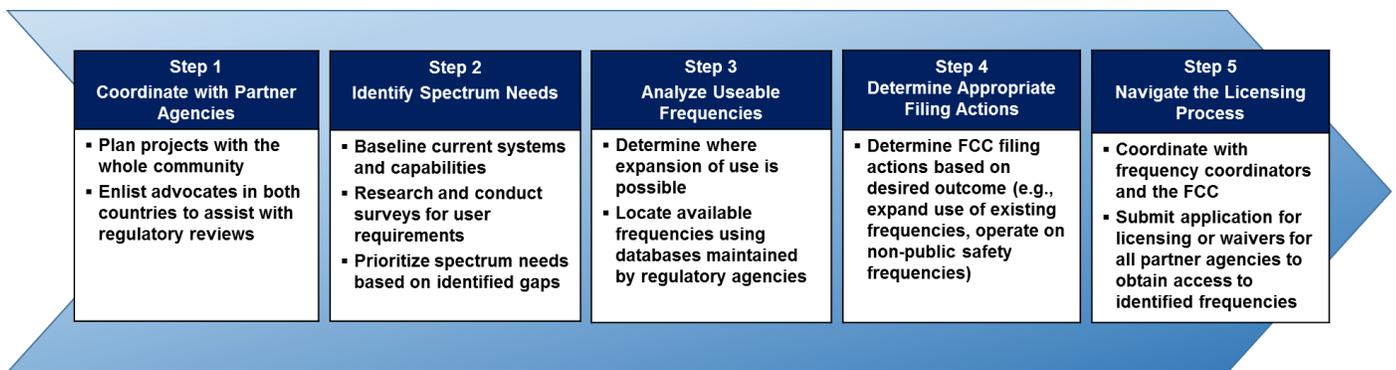
¹ For licensees operating on channels below 470 MHz, the zone where frequencies must be shared with licensees from Canada is defined by Lines A and C in the U.S. See 47 CFR § 1.928(e). For licensees operating on channels in the 700 MHz or 800 MHz bands, the “Sharing Zone” extends 100 kilometers (62 miles) from the border, with an expanded Sharing Zone extending 140 kilometers (87 miles) in the Seattle, Washington–Vancouver, British Columbia region. See Arrangement F and Arrangement Q.

this study examines the State of Montana’s project, which coordinated a frequency waiver for the shared use of a designated interoperability channel, VLAW31—referred to as the Blue channel.

2. Public Safety Guide to Interoperability Channels on the U.S.–Canadian Border

OEC, in coordination with the border communities selected for BIDP awards and the FCC, developed a five-step process for public safety agencies to follow when coordinating interoperability channels for use near the U.S.–Canadian border. The process recommends that public safety agencies: 1) Coordinate with partner agencies across the region; 2) Identify spectrum needs; 3) Analyze usable frequencies; 4) Determine the appropriate filing actions, and 5) Navigate the licensing process. Figure 1 depicts this five-step frequency coordination process.

Figure 1. Frequency Coordination Process



The following sub-sections include recommended actions and best practices for each step. BIDP award recipients identified these actions and best practices to assist other border communications in avoiding challenges such as administrative delays, recurring application fees, and waiver rejections. Note, this study is based on BIDP lessons learned for frequency coordination in selected communities along the U.S.–Canadian border. Public safety agencies should adjust recommended actions to fit their community’s unique circumstances. See [Appendix B](#) for frequency coordination resources that are referenced throughout this document, and [Appendix C](#) for examples of FCC license applications and waiver requests.

Step 1: Coordinate with Partner Agencies

A common success factor across several BIDP projects was early coordination and regional planning across all disciplines, jurisdictions, and levels of government—domestic and international. Likewise, the first step in successful frequency coordination involves coordinating with public safety agencies and other stakeholders that support daily operations and all types of emergency response. Together, partner agencies should identify interoperability challenges and develop solutions that benefit all involved.

OEC recommends a whole community approach to planning, a concept from the Presidential Policy Directive 8 and the National Preparedness Goal. The *2014 National Emergency Communications Plan* (NECP) encourages involving the whole community, a means by which individuals, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of their respective communities. Communities can then determine the best ways to organize and strengthen their assets, capacities, and interests.² The NECP states that whole community planning is necessary for the more complex and interdependent landscape that has emerged due to new technologies, policies, and stakeholders involved in emergency communications. While individuals in public health, transportation, and critical infrastructure sectors are not always trained response personnel, they can share valuable information and provide situational awareness during response and recovery efforts.

BIDP award recipients reported that statewide and regional coordinators were critical points of contact when identifying partner agencies. As a program requirement, BIDP recipients worked with their Statewide Interoperability Coordinator (SWIC).³ The SWIC serves as the state’s single point of contact for interoperable communications and implements the Statewide Communication Interoperability Plan (SCIP) in coordination with the state’s governing bodies. OEC strongly encourages all jurisdictions to coordinate communications projects with the SWIC to ensure that projects support statewide efforts to improve emergency communications. Furthermore, OEC employs regional coordinators who work with SWICs, government officials, and private sector stakeholders to build partnerships across their assigned region.⁴

Best Practice: Contact Coordinators

Statewide Interoperability Coordinators (SWIC) can assist in identifying partners, informing governing bodies, and coordinating projects to ensure support of statewide plans. For more information on SWICs, visit: <https://www.dhs.gov/statewide-interoperability-coordinators>

In addition to SWICs, OEC has subject matter experts located across the country to engage stakeholders and to provide support in addressing issues. These regional coordinators seek to build partnerships between the federal, state, local, tribal, and territorial government stakeholders; as well as the private sector. More information on OEC regional coordinators is available at: <https://www.dhs.gov/oec-regional-coordination-program>

BIDP award recipients also cited identification of advocates or champions within senior leadership as an important action to frequency coordination. Public safety agencies should identify advocates in both countries that may inform other leaders and support regulatory reviews on spectrum licensing applications. For example, Montana worked closely with Canadian leaders in bordering Provinces—British Columbia, Saskatchewan, Alberta, and Manitoba. Early coordination and planning with Canadian partners laid the groundwork for subsequent coordination with the FCC and ISED.

² The NECP provides information and guidance to those that plan for, coordinate, invest in, and use operable and interoperable communications for response and recovery operations. The NECP is available at: <https://www.dhs.gov/national-emergency-communications-plan>.

³ To find the SWIC for your state or territory, contact: OEC@hq.dhs.gov.

⁴ OEC Regional Coordination Program website: <https://www.dhs.gov/oec-regional-coordination-program>.

Step 2: Identify Spectrum Needs

Next, public safety agencies should collect information on current communications systems and frequencies in use. Agencies should coordinate with radio technicians to create a spectrum inventory by referencing any existing documentation detailing designated interoperability channels, such as the SCIPs, standard operating procedures, or field operations guides.⁵ For example, the spectrum inventory could include:

Best Practice: Use BIDP Tools and Templates

OEC developed tools and templates in coordination with BIDP award recipients to reflect lessons learned from interoperability solutions. One template is based on Maine's Border Interoperability Guide, which provides a list of provincial, state, and local resources, designated interoperability frequencies, and response coordination procedures along Maine's border. This template is available at: <https://www.dhs.gov/border-interoperability-demonstration-project>

- The frequencies on which the agencies currently operate;
- The frequencies on which existing equipment can be programmed to operate;
- An understanding of how a channel is used during an incident;
- The geographic coverage area required for operations;
- Any parties currently sharing channels or equipment that would be affected by a change in either equipment or frequency allocations;
- The capacity of the frequencies on which the agencies operate and whether the frequencies are in danger of reaching that capacity, either currently or upon future growth;
- Plans for upcoming equipment upgrades or refreshment at the state, local, territorial, tribal, or international level; and
- Legal and regulatory restrictions on pertinent frequencies.

Upon completing the spectrum inventory, agencies should compare the spectrum inventory results with the whole community's user requirements and identify gaps to anticipate additional spectrum needs. In Montana, public safety agencies previously implemented the Blue channel in other parts of the state's communications systems. As part of the BIDP project, Montana sought to expand the Blue channel's use near and across the U.S.–Canadian border. This approach supported Montana's statewide plans for designated public safety interoperability channels and consistent training across partner agencies.

Step 3: Analyze Usable Frequencies

Public safety agencies should research and analyze frequencies, including those designated by the United States for nationwide interoperability channels and in the Public Safety Pool⁶, which are available across public safety spectrum bands. If a public safety frequency is not useable due to incumbents on the Canadian side of the border, agencies may consider alternate frequencies that may be assigned to transportation agencies or critical infrastructure sectors. The following list includes resources for potential frequencies:

⁵ To assist border communities in creating a spectrum inventory, OEC developed and published a template on its BIDP website: <https://www.dhs.gov/border-interoperability-demonstration-project>.

⁶ 47 CFR § 90.20(a) and 47 CFR § 90.20(a)(2). These frequencies may also be used for public safety support entities, or for international communications by police. A list of frequencies in the Public Safety Pool may be found at 47 CFR 90.20(c) at: http://www.ecfr.gov/cgi-bin/text-idx?SID=96bf34a5c122d411f8e07ff2f2284c59&mc=true&node=se47.5.90_120&rgn=div8.

- **National Interoperability Channels.** The interoperability channels comprise a set of bands with predetermined operational parameters (e.g., law enforcement only, fire only) that help guide on-scene coordination of local emergency events. Nationally-recognized interoperability channels exist in five different frequency bands: 150–174 MHz, 220–222 MHz, 450–470 MHz, 769–775 / 799–805 MHz, and 806–809 / 851–854 MHz. The FCC-designated interoperability channels are listed in Section 90.20(i) of the FCC rules.⁷

OEC publishes the *National Interoperability Field Operations Guide* (NIFOG) as a technical reference for emergency communications planning and for radio technicians responsible for radios that will be used in disaster response. The NIFOG and other public safety tools and templates are available through OEC’s Interoperable Communications Technical Assistance Program.⁸

Best Practice: Reference the NIFOG

The NIFOG includes rules and regulations for use of nationwide and other interoperability channels, tables of frequencies and standard channel names, and other reference material, formatted as a pocket-sized guide for radio technicians to carry with them. To download an electronic copy or request a hard copy, visit: http://publicsafetytools.info/nifog_info/nifog_info.php

- **VHF / UHF Cross Border Frequencies.** For reasons including cost, coverage, and limited technology refresh, most public safety agencies near the U.S.–Canadian border operate on VHF and UHF frequencies. There is little uniformity in these band plans along and across the border, and legacy incumbents and regulations often frustrate plans for cross border interoperability. The following list provides resources for locating VHF and UHF frequencies and determining current use and suitability for public safety:
 - **Public Safety Pool.** This pool of frequencies contains the United States’ designated public safety frequencies, which are at lower risk of interference and offer easier coordination with the incumbent parties. Unfortunately, ISED does not specify dedicated public safety interoperability frequencies in the 150–174 MHz and 450–470 MHz bands, so agencies must research Canadian frequency allocations separately.
 - **Canadian Frequencies.**⁹ Before filing an application for waiver, applicants should examine the status of their prospective frequencies in the Canadian frequency license directory maintained by ISED. ISED’s Spectrum Management System offers a convenient way to search for public licensed frequencies and their licensees. In addition, ISED provides a compendium of interoperability voice and data channels that can be used nationwide in Canada for operations with U.S. public safety agencies.¹⁰ Determining a suitable Canadian frequency prior helps increase the probability of a timely and successful frequency coordination process.

⁷ 47 CFR § 90.20(i).

⁸ For information on the NIFOG and other public safety tools, see: http://publicsafetytools.info/nifog_info/nifog_info.php.

⁹ ISED Spectrum Management System website: <http://sms-sgs.ic.gc.ca/eic/site/sms-sgs-prod.nsf/eng/home>. Note that the Spectrum Management System contains only 90 percent of Canadian licensed stations in its database.

¹⁰ ISED Compendium of Interoperability Voice/Data Channels That Can Be Used Nationwide in Canada and for Canada–United States Interoperability Operations: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10976.html>.

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- **Industrial/Business (I/B) Pool.**¹¹ This pool of frequencies comprises several radio services including Power Services, Petroleum Services, and Railroad Radio Services. Many of these frequencies see limited use and may be potential candidates for expanding use along and across the border.¹² For example in 2013, the FCC granted public safety agencies in Sandoval County, New Mexico, a waiver to use I/B Pool frequencies because they met the waiver requirements and agreed to cooperate with any incumbent licensees to avoid harmful interference.¹³
- **700 / 800 MHz Cross Border Frequencies.**¹⁴ Coordination in the 700 / 800 MHz bands tends to be simpler than coordination in the VHF and UHF bands, since the U.S. and Canada have negotiated multiple international agreements to share 700 / 800 MHz frequencies and establish coordination zones along the U.S.–Canadian border. Channels in the 800 MHz band were allocated by Arrangement F, and channels in the 700 MHz band were allocated by Arrangement Q, which created a sharing zone within 100 kilometers (62 miles) of the U.S.–Canadian border, and expanded sharing zone extending 140 kilometers (87 miles) in the Seattle, Washington–Vancouver, British Columbia region.

During application reviews with Canadian officials, BIDP award recipients found that ISED uses a different method for calculating interference than the FCC.¹⁵ ISED uses the Canadian Digital Elevation Model, while the FCC references its FM and TV Service Contour Maps.¹⁶ Thus, agencies should understand and apply both ISED and the FCC’s method of calculating interference to ensure applications are accepted.

Public safety agencies should also note any restrictions for specific use of frequencies. For example, Montana successfully expanded use of the Blue channel by first updating international policies and legal definition of two-way communications that had been in place since 1952.¹⁷ As a result of coordination, the U.S. Department of State, Canada, and the FCC established a joint statement of intent that redefined terminology and made it legal to use portable radios in cross border communications.¹⁸ Previously, public safety agencies had been allowed to use only mobile radios.¹⁹ In addition, ISED established a licensing process so that Canadian public safety agencies could use VLA31 for interoperability operations within 16 kilometers (10 miles) of the border.

¹¹ 47 CFR § 90.35 – I/B Pool: <https://www.gpo.gov/fdsys/granule/CFR-2010-title47-vol5/CFR-2010-title47-vol5-sec90-35>.

¹² In the Matter of Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, FCC 00-439, December 29, 2000. https://apps.fcc.gov/edocs_public/attachmatch/FCC-00-439A1.pdf.

¹³ In the Matter of Sandoval County, New Mexico, FCC DA 13-1926, September 18, 2013.

ftp://ftp.fcc.gov/pub/Daily_Releases/Daily_Business/2013/db0918/DA-13-1926A1.pdf.

¹⁴ Arrangement F: <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10069.html> and Arrangement Q: <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10685.html>.

¹⁵ While a signal strength limit is not listed under the [Above 30 MHz Agreement](#), ISED typically rejects a U.S. coordination proposal that is predicted to produce a signal strength exceeding -146 decibel-watts (based on 10% time/50% location variability) at the location of a Canadian base or mobile station operating on the proposed frequency. FCC DA 09-1064, May 13, 2009: https://apps.fcc.gov/edocs_public/attachmatch/DA-09-1064A1_Rcd.pdf.

¹⁶ Canadian Digital Elevation Model: <http://geogratis.gc.ca/api/en/nrcan-rncan/ess-sst/c40acfbac722-4be1-862e-146b80be738e.html>. FM and TV Service Contour Maps: <https://www.fcc.gov/media/radio/general-info-fm-tv-maps-data#block-menu-block-4>.

¹⁷ The 1952 Convention: <https://transition.fcc.gov/ib/sand/agree/files/can-nb/52conven.pdf>.

¹⁸ Statement of Intent, signed in October 2014: <https://transition.fcc.gov/ib/sand/agree/files/CBPSC.pdf>.

¹⁹ Mobile radio units are mounted within public safety vehicles. Portable radio units are designed to be carried by a person and capable of transmitting and/or receiving while in motion or during brief halts at unspecified locations (i.e., handhelds). At the time of the 1952 Convention, portable radio units were not envisioned.

Step 4: Determine Appropriate Filing Actions

After identifying useable frequencies for coordination, agencies should determine appropriate filing actions. Frequency coordination processes vary based on the applicant’s desired outcome. Public safety agencies may request spectrum licenses or rule waivers with the FCC. BIDP award recipient actions included two of the most common scenarios: 1) expanding use of existing frequencies; and 2) operating on non-public safety frequencies.

Best Practice: Prioritize Needs

While ultimate interoperability is desirable, agencies should prioritize communications needs to make incremental advancements towards interoperability. For example, while the end goal may be to establish multiple interoperability channels, each designated for various disciplines (e.g., law enforcement, fire and rescue), it may be difficult to identify several useable frequencies. Alternatively, agencies may work toward one multi-discipline interoperability channel that’s available for daily use in border areas as a more obtainable first step.

- **Expand Use of Existing Frequencies.** Once users have identified useable frequencies, one of the most straightforward outcomes is to add users to the existing system. Since a public safety agency already has the license, it is generally straightforward to justify a need for additional users and show that there will be limited disruption. Often this can be accomplished through a modification of an existing license. The waiver process allows for changes to the original regulation for the use of a frequency. In this scenario, the agency submits a waiver request to the FCC to expand eligibility or geographic use of the channel.
- **Operate on Non-Public Safety Frequencies.** If agencies identify frequencies outside of those designated for public safety use, it is still possible for them to obtain access. If the frequencies already have a license holder and active users, then the agencies will need to coordinate with the current users to identify any potential conflicts or usage issues. Agencies should conduct an interference analysis to determine how likely they may be to cause disruption to an incumbent’s services. When performing the analysis, agencies should consider terrain variation, especially in the more mountainous regions of the border.²⁰ In this scenario, the agency submits an application to the FCC to operate on identified frequencies.

In Montana, the FCC granted a waiver to allow additional types of users to operate on a frequency designated for law enforcement use. The FCC reviews waiver requests, and often grants those that include extensive justification and documentation.²¹ These waivers are a common solution for public safety agencies. See [Appendix C](#) for examples of waiver requests, including Montana’s request for reference. Regulators tend to view requests for mutual-aid communications favorably, as long as the applicant demonstrates that it has mitigated any potential interference.²²

²⁰ Canadian terrain data is available at: <http://www.geobase.ca/geobase/en/data/cded/index.html>.

²¹ Waivers are subject to restrictions set by 47 CFR § 90.20(c) and 47 CFR § 22.561.

²² See State of Washington Order and State of Montana Order.

Step 5: Navigate the Licensing Process

The final step is to complete appropriate applications and submit to regulatory agencies for review.²³ To help navigate the licensing process, public safety agencies should work with a frequency coordinator and the FCC. In June 2016, the FCC released Public Notice DA 16-739 to guide agencies seeking to file an application with the FCC along the border with Canada.²⁴ The public notice offers licensing guidance to any public safety agency seeking to roam across the border with its mobile or handheld portable radio units, or to improve cross border communications through base station repeaters.

Best Practice: Work with the FCC

To successfully navigate the complex laws and policies regulating frequency coordination along the border, contact the FCC during project planning. Agencies should understand the licensing process and unique issues in their area prior to filing a request. For more information, contact staff at the FCC's Public Safety and Homeland Security Bureau, Policy and Licensing Division:
<https://www.fcc.gov/general/policy-and-licensing-division-public-safety-homeland-security-bureau#block-menu-block-4>

The FCC requires applicants to demonstrate that their application was coordinated by an FCC-designated frequency coordinator. Frequency coordinators are private organizations that have been certified by the FCC to recommend the most appropriate frequencies for applicants in the designated Part 90 radio services.²⁵ The applying agency submits application materials to the frequency coordinator, who then reviews the application for completeness and technical feasibility. When the frequency coordinator approves an application, the coordinator then submits it with frequency recommendations to the FCC. Because of the complexity of the process, public safety agencies should expect this part of the process to require at least a month.²⁶

BIDP award recipients found the best approach was to contact the FCC during project planning. Early coordination with the FCC helped to identify a frequency coordinator and inform the appropriate filing actions to avoid potential delays or need for resubmission.

3. Conclusion

Obtaining spectrum licenses to operate on frequencies along and across the U.S.–Canadian border remains a complex process. By following the five-step process and best practices successfully demonstrated by the BIDP award recipients and identified in this study, public safety agencies can better address common obstacles to implementing interoperability channels to support border-region communications. For questions on BIDP or this study, please contact OEC.²⁷

²³ FCC Form 601, Application for Radio Service Authorization, is available at: <https://www.fcc.gov/licensing-databases/forms>.

²⁴ Public Safety and Homeland Security Bureau Provides Guidance to U.S. Public Safety Agencies Along the Canada Border Seeking to Roam Into Canada or Improve Cross-Border Communications Via Base Station Repeaters, Public Notice, FCC DA 16-739, June 30, 2016: https://apps.fcc.gov/edocs_public/attachmatch/DA-16-739A1_Rcd.pdf.

²⁵ FCC Frequency Coordinators website: http://wireless.fcc.gov/services/index.htm?job=licensing_3&id=industrial_business. A list of public safety frequency coordinators is available at: <https://www.fcc.gov/general/public-safety-frequency-coordinators>.

²⁵ Note that for frequencies below 470 MHz, any frequency coordinator can be used, not just those listed on the FCC's Frequency Coordination page.

²⁶ <https://www.apcointl.org/spectrum-management/frequency-coordination.html>.

²⁷ Contact OEC at: OEC@hq.dhs.gov.

Appendix A. Border Interoperability Demonstration Project Background

To address the critical need for interoperability along and across international borders, the *Implementing Recommendations of the 9/11 Commission Act of 2007* (Pub. L. No. 110-53) authorized the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) to establish the Border Interoperability Demonstration Project (BIDP) to identify solutions that facilitate emergency communications in border areas and ensure emergency response providers can communicate during natural disasters, acts of terrorism, and other man-made disasters. BIDP was a \$25.5 million one-time, competitive program to provide funding and technical assistance to U.S. communities along the Canadian and Mexican borders.²⁸ The legislation authorized DHS to select no fewer than six communities (at least three along the U.S.–Canadian border and at least three along the U.S.–Mexican border) for participation in the demonstration project, to provide technical assistance to the selected communities, and to share information among BIDP participants and other interested parties.

DHS selected seven projects that demonstrated innovative solutions and met both statutory and program guidance requirements, as listed in Figure A-1.²⁹ The selected projects tested approaches that involved new technologies or an innovative approach to governance, planning, coordination, training and exercises. The projects served as repeatable models for other border communities to achieve greater communications interoperability with domestic and international agencies. OEC worked with BIDP award recipients to document lessons learned, capture challenges and successes, and share information with the emergency response community throughout the process. See the [BIDP Closeout Report](#) for additional information.

Figure A-1. Selected Projects

State	Lead Sub-Recipient	Project Title	Funding Allocation*
Arizona	City of Yuma	Yuma Full Voice and Data Integration Demonstration Project	\$3,994,443
California	San Diego Fire-Rescue	Regional Command and Control Communications Tactical Border Communications Project	\$3,852,580
Maine	County of Washington	Enhanced Communications Infrastructure and Partnerships for Border Security Project	\$3,963,163
Michigan	Wayne County	Southeast Michigan Border Interoperability Solution Project	\$4,000,000
Montana	Flathead County	Northern Tier Consortium Border Interoperability Demonstration Project	\$3,895,425
Ohio	Lake County	Multi-Agency, Multi-Jurisdictional U.S. Regional & International Interoperable Communications Infrastructure and Maritime Domain Awareness Project	\$3,998,200
Texas	City of McAllen	Rio Grande Valley Border Interoperability Regional Project	\$1,940,000
			\$25,643,811

**In accordance with the BIDP Funding Opportunity Announcement (page 2), OEC determined to provide approximately \$145,000 more in BIDP awards, in addition to the \$25.5 million.*

²⁸ For additional information, see the BIDP website at: <https://www.dhs.gov/border-interoperability-demonstration-project>.

²⁹ <https://www.dhs.gov/news/2011/04/29/secretary-napolitano-announces-funding-strengthen-interoperable-emergency>.

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Figure A-2 provides a summary of the interoperability solutions implemented in the seven BIDP projects.

Figure A-2. Summary of BIDP Projects

State	Interoperability Solutions
Arizona	<ul style="list-style-type: none"> ● Expanded the Yuma Regional Communications System by increasing federal, state, local, and tribal participation and adding data capabilities ● Prepared for future connectivity with international partners through the U.S.–Mexico Cross Border Secure Communications Network ● Demonstrated new capabilities during four functional exercises
California	<ul style="list-style-type: none"> ● Enhanced the Regional 3Cs network and added U.S. Customs and Border Protection ● Enabled the ability for mobile and temporary communications across the region ● Demonstrated new capabilities during a functional exercise
Maine	<ul style="list-style-type: none"> ● Built and leased communications towers, installed radio equipment, and deployed mobile and portable radios to improve coverage to nearly 100% of border ● Coordinated use of national interoperability channel, formalized agreements, and established resource sharing practices with agencies on both sides of border ● Demonstrated new capabilities in two functional exercises
Michigan	<ul style="list-style-type: none"> ● Upgraded existing radio infrastructure to improve coverage across the U.S. and into Canada ● Installed Internet Protocol-based communications infrastructure in the Detroit–Windsor tunnel ● Improved cross border protocols by creating standard operating procedures and designated talkgroups ● Demonstrated new capabilities in a functional exercise
Montana	<ul style="list-style-type: none"> ● Expanded a cross border interoperability channel for public safety use within 16 kilometers of the border ● Provided a framework for international mutual aid agreements and frequency coordination ● Enhanced voice and data capabilities at border crossing stations and incorporated Automatic Vehicle Location within select vehicles to provide situational awareness in rural areas ● Demonstrated new capabilities during a functional exercise
Ohio	<ul style="list-style-type: none"> ● Consolidated four disparate radio systems into one system capable of interoperable voice and data communications ● Upgraded infrastructure and achieved portable radio coverage nearing 98% across Ohio’s international border ● Implemented a Vessel Tracking System in Lake Erie to enhance maritime situational awareness ● Demonstrated new capabilities during a functional exercise
Texas	<ul style="list-style-type: none"> ● Connected disparate radio systems using Motorola’s “Smart X” technology ● Implemented a border Point of Entry text alert system ● Expanded coverage and capacity of regional radio system ● Demonstrated regional improvements through a functional exercise with 42 participants from 27 agencies

Appendix B. Frequency Coordination Resources

This appendix includes spectrum-related laws and policies, points of contact, and tools to assist in frequency coordination.

Figure B-1. Spectrum-Related Laws and Policies

Resource	Description	Website
The 1952 Convention	The 1952 Convention, or “Convention between Canada and The United States of America Relating to the Operation by Citizens of Either Country of Certain Radio Equipment or Stations in the Other Country,” is an agreement ratified by the United States and Canada establishing the first rules for citizens of either country operating radio equipment in the other country. This treaty allows public safety agencies to operate their mobile radios on a frequency authorized in their home country, but does not automatically allow that mobile radio to transmit on a frequency licensed by the other country. Further, the treaty does not address <i>portable</i> communications across the border (e.g., trading radio caches across the border). It is worth noting that the permitting process provided for in the 1952 treaty has never been implemented, and the FCC and ISED have expressed intent to continue that informal policy of not requiring a federal permit or other authorization for a public safety user who requires use of his or her own licensed frequency across the border.	https://transition.fcc.gov/ib/sand/agree/files/can-nb/52conven.pdf https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01222.html
The 1962 Spectrum Management Treaty	The 1962 Spectrum Management Treaty, or “Coordination and Use of Radio Frequencies above 30 Megacycles per Second,” is an early United States–Canadian agreement addressing very high frequency (VHF) and ultra-high frequency (UHF) communications. Most importantly, this treaty creates the A/B/C/D Lines, or “Coordination Zone,” inside which the U.S. and Canada require special frequency coordination procedures. The treaty was signed in 1962 and updated in 1965.	https://transition.fcc.gov/ib/sand/agree/files/can-nb/above30.pdf
Arrangement F	Arrangement F, or “Sharing Arrangement between the Department of Industry of Canada and the Federal Communications Commission (FCC) of the United States of America Concerning the Use of the Frequency Bands 806–824 MHz, and 851–869 MHz by the Land Mobile Service Along the Canada-United States Border,” dictates the harmonization of 800 MHz frequencies between the U.S. and Canada, creating and allocating interoperability channels to be shared by the countries. Arrangement F created shared channels in the 800 MHz bands along the U.S.–Canadian Sharing Zones. Sharing Zones generally extend 100 kilometers in either direction from the U.S.–Canadian border, with exceptions around the Great Lakes and Washington State. Inside these Sharing Zones, the agreement grants either U.S. or Canadian first responder agencies priority in specified frequency bands. Arrangement F also provides for efficient information exchange related to licensee names, coverage areas, and points of contact.	https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10069.html
Arrangement Q	Arrangement Q creates and harmonizes a set of 700 MHz public safety frequencies for use by U.S. and Canadian first responders. Arrangement Q provides for designated 700 MHz interoperability channels inside the same Sharing Zones as Arrangement F, and designates primary users for each Sector of the Sharing Zones. Both Arrangements F and Q contain specific tables of frequencies that are eligible for sharing among U.S. and Canadian public safety agencies.	https://transition.fcc.gov/ib/sand/agree/files/can-nb/Arrangement_Q.pdf
Statement of Intent Regarding Cross Border Public Safety Communications	The 2014 Letter of Intent clarified implementation of the 1952 Convention, allowing both countries to use portable public safety radios at and across the border in the other country, providing those radios are properly licensed in their native country. The treaty now permits both U.S. and Canadian public safety agencies to use their portable radios as they approach and cross the border, on local dispatch frequencies, and on frequencies licensed in the other country. The authorization also expands the treaty to apply to both voice and data services.	https://transition.fcc.gov/ib/sand/agree/files/CBPS_C.pdf

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Resource	Description	Website
47 CFR § 90.407. Emergency Communications	This regulation grants public safety users permission to use their frequencies for uses other than those expressly authorized if normal facilities are disrupted during a natural disaster or large-scale emergency. It should be noted that this rule <i>does not</i> permit agencies to communicate on any frequency in order to provide life-saving services or to make use of interoperability channels above Line A when their FCC license specifically proscribes such use.	http://bit.ly/2lhxz0v
47 CFR § 90.421.	This regulation, titled <i>Operation of mobile station units not under the control of the licensee</i> , allows public safety licensees (those operating on frequencies in the Public Safety Pool) to deputize non-licensed operators on the frequency in order to meet operational requirements.	http://bit.ly/2lhGija
Public Notice Offering Guidance on Cross Border Communications Along Border with Canada	This public notice offers licensing guidance to any public safety agency seeking to roam across the border with its mobile or handheld portable radio units. It also offers licensing guidance to any public safety agency seeking to improve cross border communications through base station repeaters.	https://apps.fcc.gov/edocs_public/attachmatch/DA-16-739A1_Rcd.pdf

Figure B-2. Points of Contact

Resource	Description	Website
Department of Homeland Security Office of Emergency Communications (OEC)	OEC can assist agencies in cross border frequency coordination upon request. OEC offers grant guidance, technical support, standards assistance, and opportunities to connect with other first responder agencies and land mobile radio users. OEC has published numerous guidance documents on interoperable emergency communications.	https://www.dhs.gov/office-emergency-communications
OEC Regional Coordinators	OEC has subject matter experts located across the country to assist states in addressing interoperable communications activities and challenges. Regional Coordinators assist in collaboration, provide resources and best practices, and can act as a liaison between federal agencies and state and local entities.	https://www.dhs.gov/oec-regional-coordination-program
Statewide Interoperability Coordinator (SWIC)	The SWIC serves as the state's single point of contact for interoperable communications and implements the Statewide Communication Interoperability Plan (SCIP) in coordination with the state's governing bodies. OEC strongly encourages all jurisdictions coordinate communications projects with the SWIC to ensure that projects support statewide efforts to improve emergency communications.	To find the SWIC for your state or territory, contact: OEC@hq.dhs.gov
Canada–United States (CANUS) Communications Interoperability Working Group (CIWG)	Created in 2012, OEC co-facilitates the CANUS CIWG with Public Safety Canada. The working group seeks to enhance cross border communications interoperability between Canadian and American first responders and emergency management organizations and facilitate the seamless movement of both information and resources across the border.	Contact: CANUSCIWG@hq.dhs.gov
Federal Communications Commission (FCC)	The FCC regulates all non-federal radio spectrum in the United States and represents the U.S. in interoperability planning and negotiation with Canada. FCC has issued numerous regulations, public notices, and guidance documents. FCC also approves applications for waiver of its frequency rules.	https://www.fcc.gov/public-safety-and-homeland-security
National Telecommunications and	NTIA manages the Federal Government's use of spectrum to ensure domestic and international spectrum needs are efficiently met. NTIA works closely with the FCC and international counterparts to manage spectrum. While NTIA focuses only on federal spectrum, many state and local entities coordinate with federal entities in the field and may be	https://www.ntia.doc.gov/category/spectrum-management

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Resource	Description	Website
Information Administration (NTIA)	impacted by international frequency coordination efforts. NTIA provides a variety of resources including a spectrum allocation chart and updates to international radio regulations.	
Industry, Science and Economic Development Canada (ISED)	ISED is Canada’s telecommunications regulatory agency. ISED licenses radios and radio spectrum, and coordinates near- and cross-border frequency sharing with the United States and the FCC.	http://www.ic.gc.ca/eic/site/ie/cgc.nsf/eng/home

Figure B-3. Federal Publications

Resource	Description	Website
National Emergency Communications Plan	The <i>2014 National Emergency Communications Plan (NECP)</i> provides information and guidance to those that plan for, coordinate, invest in, and use operable and interoperable communications for response and recovery operations. OEC worked closely with more than 350 federal, state, local, tribal, and territorial jurisdictions, private sector representatives, and other stakeholders to update the NECP with the goal of bringing public safety communications into the 21st century. To address the rapidly evolving emergency communications landscape, the NECP emphasizes the need to enhance and update the policies, governance structures, plans, and protocols that enable responders to communicate and share information under all circumstances. The NECP aims to maximize the use of all communications capabilities available to emergency responders—voice, video, and data—and to ensure the security of data and information exchange.	https://www.dhs.gov/national-emergency-communications-plan
SAFECOM Documents	Through collaboration with emergency responders and elected officials across all levels of government, SAFECOM works to improve emergency response providers’ inter-jurisdictional and interdisciplinary emergency communications interoperability across local, regional, tribal, state, territorial, international borders, and with federal government entities. The SAFECOM website provides members of the emergency response community with resources created by SAFECOM and its partner organizations to improve public safety interoperability. It offers comprehensive information on topics relevant to emergency response communications and features best practices that have evolved from real-world situations.	https://www.dhs.gov/safecom/
FCC Cross-Border Roaming Public Notice	This FCC publication offers guidance to public safety agencies seeking to operate across the border in three scenarios: (1) the agency seeks to roam into Canada with its mobile or portable radio equipment; (2) the agency seeks to communicate from the U.S. into Canada through base station repeaters located in Canada; and (3) the agency seeks to host Canadian public safety licensees through base station repeaters located stateside.	FCC DA 16-739: https://apps.fcc.gov/edocs_public/attachmatch/DA-16-739A1.pdf
FCC 2009 Part 22 and Part 90 Public Notice	This report, fully titled <i>Public Safety and Homeland Security Bureau, Wireless Telecommunications Bureau, and International Bureau Provide Guidance to Part 22 and Part 90 Applicants Seeking VHF and UHF Frequencies along the U.S.-Canada Border</i> , further clarifies the process of cross-border frequency coordination for VHF and UHF users.	FCC DA 09-1064: https://apps.fcc.gov/edocs_public/attachmatch/DA-09-1064A1_Rcd.pdf
National Public Safety Telecommunications Council (NPSTC) and Canadian Interoperability Technology Interest Group (CITIG) Reports	The NPSTC-CITIG publication <i>Cross Border Communications Report</i> provides an overview of border interoperability from the perspective of the local first responder agency, describes the current legal and regulatory environment, documents the state of several cross-border communications projects, and offers a series of recommendations and best practices for agencies seeking improved cross-border interoperability. The NPSTC-CITIG publication <i>Portable and Mobile Radio use at the U.S. Canadian International Border</i> provides a short, user-oriented overview of the current state of U.S.–Canadian cross-border public safety communications. The document focuses on changes caused by the FCC and Industry Canada’s 2014 Letter of Intent.	NPSTC: http://www.npstc.org/crossBorder.jsp CITIG: http://www.citig.ca/cross-border.aspx

Appendix C. Examples of FCC License Applications and Waiver Requests

This appendix includes examples of license applications and rules waiver requests to the Federal Communications Commission (FCC). Figure C-1 lists public safety applicants and waiver requestors with details of filings. For additional information on each request, see the FCC Docket and the Universal Licensing System (ULS) resources, which include hyperlinks to the FCC Public Notices and applications. Note that at the time of this document’s publication, some example applications and requests were under FCC review. Check the FCC website for the latest status.³⁰

Figure C-1. Example FCC License Applications and Rules Waiver Requests

Applicant	Frequencies	Description	FCC Docket	Status
State of Montana	155.4750 megahertz (MHz)	Seeking to use frequency for interagency coordination of all public safety responders within 16 kilometers of U.S.-Canada border	DA 12-1984	Waiver request granted
State of Maine	160 MHz *Multiple frequencies inside band	Seeking to use channels exclusively coordinated by the Association of American Railroads to develop a statewide, very high frequency (VHF), Project 25 system	DA 12-74	Waiver request granted
Sandoval County, New Mexico	173.325 MHz	Seeking use of Industrial/Business Pool frequency for use by vehicular repeaters	DA 13-1926 ULS	Waiver request granted
North Carolina State Highway Patrol	856.8125 MHz	Seeking to add a new 800 MHz channel from the Business/Industrial Land Transportation (B/ILT) Pool to one of its base stations to account for increased traffic to that station	DA 16-1395 ULS	Application under FCC review
State of North Dakota	155.475 MHz	Seeking expansion of permitted uses for VLAW31 frequency for cross-border day-to-day operations	DA 16-1451 ULS	Waiver request granted
American Electric Power, located in Ohio	854.9375–859.8375 MHz *Multiple frequencies inside band	Seeking to use channels vacated by Sprint in order to fill in coverage gaps and increase capacity	DA 16-1073 ³¹ ULS	Application under FCC review
Tennessee Department of Safety and Homeland Security	810 / 855.8375 MHz	Seeking use of a B/ILT frequency channel pair for use statewide for “simplex car-to-car communications” and for “tactical field operations” in connection with temporary fixed base stations	DA 16-370 ULS	Application under FCC review
State of Wisconsin	138–144 MHz *Multiple frequencies inside band	Seeking shared use of a federal/military, four-site, trunked, VHF system	DA 00-367	Waiver request granted

The following pages contain Montana’s frequency waiver request submitted to the FCC for expanded use of the interoperability channel described in this study. This example is provided for other public safety agencies’ reference; however, waiver requests should be tailored to the specific location and needs of each agency.

³⁰ For information on the FCC licensing systems and to search databases, see: <https://www.fcc.gov/licensing>. The FCC ULS is available at: <http://wireless.fcc.gov/uls>.

³¹ The Association of Public-Safety Communications Officials–International posted an opposing comment in response to the FCC Public Notice, available at: <https://apcointl.org/doc/advocacy/688-reply-comments-800mhz-exclusive-window/file.html>.

State of Montana Frequency Waiver Request

Request to Utilize Frequency 155.4750 MHz (Call Sign WNQN689) for Multi-Discipline Mutual Aid Communication Operations Within 16km of the U.S./Canadian Border

1. Purpose

The waiver request is submitted to the Federal Communication Commission (FCC) under rules found in §90.20 to utilize frequency 155.4750 MHz for all public safety responders within 16 kilometers (10 miles) South of the 49th Parallel for interagency coordination.

2. Introduction

The State of Montana has a long history of providing effective mutual aid communication resources to Law Enforcement, Fire, EMS and other emergency responders to provide for responder and public safety. Through the acquisition and oversight of FCC licenses, the State has provided a variety of Very High Frequency (VHF) resources in the 150–172 MHz range. Below is a list of State of Montana held frequencies and FCC Call Signs that form a basis of the Montana Mutual Aid Frequency System.

Frequency (MHz)	Call Sign	Location/Use
153.9050	KB21991	Statewide General Mutual Aid (Gold)
157.4250	WPOJ515 WPOJ516 WQAV770	Statewide General Mutual Aid (Neon)
155.7900	KB46221	Statewide Law Enforcement Mutual Aid (Silver)
155.4750	WNQN689	Statewide Law Enforcement Mutual Aid (Blue) (Also site based FB licenses, including: KNJX594, WNRQ746, WNRQ749, WNRQ750, WNRQ754, WNRQ755, WNRQ757, WNRQ758, WNRQ759, WNRQ761, WNRQ762, WNRQ763, WNRQ766, WNRQ767, WNRQ769, WNRQ770, WNRQ771, WNRQ773, WNRQ774, WNRQ775, WNRQ777, WNRR240, WNRR242, WNRR243, WNRR245, WNRR246, WNST502, WNST503, WNSW984, WNSW985, WNSW986, WNSX411, WNSX419, WNUB243, WNUB350, WNUB351, WNUB352, WNUB353, WNUB354, WNUB355, WNUB356, WNUB357, WNUB358, WNVB345, WNYD318, WNYD503, WNYD504, WNYD505, WNYD507, WNYD515, WNYD516, WNYD517, WNYF957)
153.8000	WQCP794	Statewide Law Enforcement Mutual Aid (Black)
153.8300 154.0700 154.2650 154.2800 154.2950 159.3450 154.2725 154.2875 154.3025	WNRE362	Statewide Fire Mutual Aid (Ruby, Red, Maroon, Coral, Scarlet, Copper, Burgundy, Crimson, Garnet)

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Frequency (MHz)	Call Sign	Location/Use
155.2800 155.3250 155.3400 155.3850	WNSD247	Statewide EMS Mutual Aid (White, Tan, Gray, Pink)
172.2250 172.3750	WQHU517	Statewide Fire Mobile and Temporary Repeater (Alpha, Bravo)
155.1600 155.2200	WQOB614	Statewide Mobile Search and Rescue Mutual Aid (Purple, Violet)
154.4525 155.7527 158.7375 159.4725	WQPJ811	Statewide Mobile VTAC Mutual Aid (Charlie, Delta, Echo, Fox)

These resources, along with the Standard Operating Procedures for use and operations, are described in the Mutual Aid and Common Frequency Manual found at: http://pssb.mt.gov/mutual_aid_manual.mcp

On June 1, 2011, the Northern Tier Interoperability Consortium, represented by the Interoperability Montana Project, a consortium of local and tribal governments in Montana, was awarded the Border Interoperability Demonstration Project (BIDP) grant. This grant was transferred to Flathead County Montana on August 25, 2011, a member of the Northern Tier Interoperability Consortium (NTIC), when the IM Project ceased operations in July 2011.

In cooperation with the State of Montana, the NTIC proposed in the grant that frequency 155.4750 MHz, part of the State of Montana mutual aid frequency assignment for law enforcement mutual aid (Blue Channel or VLAW31), be used for general interagency border communications during an emergency. The goal of this request was to provide a single, common VHF resource for multi-agency border operations. The specific elements included:

“The Northern Tier in partnership with the State of Montana will pursue an agreement to allow Canadian Federal, tribal, provincial, state, and local responders to utilize Montana’s BLUE mutual aid channel (National VLAW31) for mutual U.S./Canadian border operations at or within 10km of the border. The State of Montana currently has frequency licenses for base stations at 19 locations throughout the Northern Tier. This proposal suggests implementing new narrowband Project 25 base stations at 15 licensed locations in the Northern Tier.”³²

Goals for this Activity included: **“These activities will achieve the following objectives: 1) Improve day-to-day interoperable emergency communications among local, state, tribal, and federal entities as well as international partners along and across international borders; 2) Improve interoperable emergency communications among emergency response providers responding to threats and natural disasters on the border; and 3) Facilitate interoperable communications among emergency response providers in border communities of varying population densities.”³³**

³² Northern Tier BIDP Grant Application, Interoperability Montana, Activity One Description, page 2.

³³ Northern Tier BIDP Grant Application, Interoperability Montana, page 3.

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This request was made based on the following criteria:

- VLAW31 (Blue) is widely used and recognized by law enforcement organizations along the Canadian border. It is also utilized widely by neighboring North Dakota along the border for interoperability.
- Counties and communities along the border are sparsely populated with limited resources. It is common for personnel involved in law enforcement to also participate in EMS, fire, and other emergency incidents.
- The State of Montana has not only a statewide license to operate on 155.4750 MHz, but also has 20 base station licenses with coverage in or near the area of concern.³⁴ This would provide emergency contact for not only law enforcement personnel, but also fire and EMS emergencies.
- Most patrol and emergency situations at or near the border will involve law enforcement personnel interacting with other law enforcement or other emergency services.
- Establishing a single frequency with both mobile and Fixed Base operations already licensed will assist any Canadian user who, in an unlikely case, would need to contact someone while operating on the U.S. side of the border.

Under FCC regulations, 155.475 MHz is reserved under the following condition: **“This frequency is available nationwide for use in police emergency communications networks operated under statewide law enforcement emergency communications plans.”**³⁵ NTIC is representative of the local and state law enforcement in the counties directly touching the Canadian Border. Currently, eight of the thirteen voting members are Law Enforcement representatives, and the remaining voting representatives have regular local coordination with Law Enforcement agencies regarding project direction.

Montana has a long history of cooperation and interaction with domestic and international response agencies along the Canadian Border. Beginning in 2005, Montana and Canadian partners have engaged in information and strategy sessions, titled as the Western Border Interoperable Working Group (WBIWB), with the goal of improving interoperable communications and defining the interoperability needs of both countries along the border. The need for simple, universal resources providing interoperability at the basic level has long been identified as a priority.

In part, the submission of the BIDP grant and the proposal to utilize VLAW31 (Montana Blue Channel) was a culmination of these efforts. Since the award of the BIDP grant, Northern Tier representatives, along with the State of Montana represented by the Department of Administration (mutual aid system administrators) and the Montana Highway Patrol (statewide law enforcement representative) have met with representative from the Provinces of Alberta and Saskatchewan to share this strategy. Concurrence was reached to pursue joint use of 155.4750 MHz for basic border-region interoperability.³⁶

3. Justification for the waiver of certain technical and administrative rules.

- a. Per FCC guidance for waiver consideration, the “(i) the underlying purpose of the rules(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest,”³⁷.

³⁴ These include Call Signs: KNJX594, WNRQ749, WNRQ750, WNRQ754, WNRQ755, WNRQ758, WNRQ759, WNRQ762, WNRQ763, WNRQ771, WNRQ773, WNRQ775, WNRQ777, WNST502, WNSW986, WNSX419, WNUB243, WNUB350, WNUB353, WNUB354.

³⁵ 47 CFR § 90.20(c)(3)(d)(41).

³⁶ Western Border Interoperability Working Group strategy meeting, May 30-31, 2012, held in Whitefish, Montana.

³⁷ 47 CFR § 1.925.

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- i. The request for expanded use of 155.4750 MHz serves the best interest of the public residing in Northern Montana and the public safety responders in the same region. Frequency 155.4750 MHz is widely monitored by law enforcement agencies by mobile units and fixed station locations, including dispatch centers in counties along the Canadian border. Other response disciplines have unique mutual aid channels for administrative and tactical use, but use of the centralized 155.4750 MHz will benefit law enforcement and other response organizations. In the unlikely event of Canadian responders operating on the U.S. side of the border, it provides a centralized resource for all units to communicate with that meets the public interest criteria.
 - ii. The State of Montana maintains a comprehensive system to evaluate and authorized use of 155.4750 MHz both within the 16 km zone and statewide, through the Montana Mutual Aid and Common Frequency Permitting System.³⁸ This system can efficiently authorize any user to utilize the frequency in the requested zone, as outlined in this waiver.
- b. “(ii) in view of unique or unusual factual circumstances of the instant case, application of the rules(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.³⁹”
- i. Because of the extreme rural nature of the topography and population within 16 km of the 49th parallel, and the reliance of multi-disciplined local, tribal, state, federal and international response groups on each other in times of emergency, the restriction of 155.4750 MHz would be ‘unduly burdensome’ to the public and emergency response community and is contrary to the public interest. The rules in this case are inequitable given the limited use of this frequency and the cross-dependence of emergency response agencies.

4. Conclusion

- a. In light of the foregoing, the Applicant respectfully submits we have satisfied the requirements for a waiver under Sections 1.3 and 1.925 of the Commission’s rules in order to operate on broader assignments with regards to frequency 155.4750 MHz along the Canadian border, as described in this document.
- b. Should the Commission require additional information associated with this Exhibit, it is asked to contact the State of Montana telecommunication representative.

³⁸ This online system reviews and approves use of State of Montana licensed frequencies. Application and information may be found at: <https://app.mt.gov/mutualaid/>.

³⁹ 47 CFR § 1.925.

Appendix D. Acronyms and Abbreviations

BIDP	Border Interoperability Demonstration Project
B/ILT	Business/Industrial Land Transportation
CANUS CIWG	Canada–United States Communications Interoperability Working Group
CITIG	Canadian Interoperability Technology Interest Group
DHS	Department of Homeland Security
FCC	Federal Communications Commission
I/B	Industrial/Business
ISED	Innovation, Science and Economic Development Canada (formerly Industry Canada)
MHz	Megahertz
NTIA	National Telecommunications and Information Administration
NECP	National Emergency Communications Plan
NIFOG	National Interoperability Field Operations Guide
NPSTC	National Public Safety Telecommunications Council
OEC	Office of Emergency Communications
SCIP	Statewide Communication Interoperability Plan
SWIC	Statewide Interoperability Coordinator
UHF	Ultra-High Frequency
ULS	Universal Licensing System
VHF	Very High Frequency