Statement for the Record
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Cross-Border Interoperability Issues

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INTRODUCTION

Good morning Chairman Cuellar, Ranking Member Dent, and Members of the Subcommittee. I appreciate the opportunity to testify on cross-border interoperable communications issues. I am Chris Essid, the Director of the Office of Emergency Communications (OEC).

OEC is a component of the Office of Cybersecurity and Communications (CS&C) within the National Protection and Programs Directorate of the Department of Homeland Security. Assistant Secretary for Cybersecurity and Communications Gregory Garcia is responsible for the overarching mission of CS&C to prepare for and respond to incidents that could degrade or overwhelm the operation of our Nation's information technology and communications infrastructure. This mission is part of a larger strategy to ensure the security, integrity, reliability, and availability of our information and communications networks.

From its inception the Department of Homeland Security has worked with Congress and the Administration to address the human, technical, and governance challenges of interoperability. Indeed, interoperability is one of Secretary Chertoff's highest priorities for the Department.

MISSION, RESPONSIBILITIES, AND ACTIVITIES

Title XVIII of the Homeland Security Act, as amended, assigns to OEC the mission of advancing interoperable and operable emergency communications through collaboration with Federal, State, local, and tribal partners. Since becoming operational on April 1, 2007, OEC has focused on meeting its various mission requirements, including the integration of three interoperability programs transferred from other DHS

entities: the Federal wireless programs under the Integrated Wireless Network (IWN), the Interoperable Communications Technical Assistance Program (ICTAP), and outreach, guidance, and tool development by the SAFECOM program. We have also focused on working with our key stakeholders to identify their needs and gain a better understanding about the ever-changing interoperable communications environment.

OEC is working to bridge interoperability gaps between Federal, State and local governments. As a coordinator of cross-governmental initiatives, OEC is implementing shared infrastructure projects, through the Federal Partnership for Interoperable Communications (FPIC)—a partnership of Federal, State, and local agencies with a public safety mission to enhance the operability and interoperability of Federal departments and agencies. OEC will continue to leverage the groundwork established by its Federal wireless partners and build on existing capabilities at all levels of government to enhance interoperable emergency communications. Further, we will be working with the National Communications System (NCS), which is also a component of CS&C, to coordinate our responsibilities for ensuring the continued operation of the telecommunications functions and responsibilities of the Federal government.

National Plans and Assessments

As directed by Congress, OEC conducts periodic assessments of the state of interoperability across the Nation and regularly reports on progress towards achieving national objectives as established by the President, Congress, and DHS. Development of the National Communications Capabilities Report of existing Federal, State, local, and tribal government capabilities is a key first step in our analytical efforts. The first phase of this report, currently under departmental review, builds on the findings and conclusions of studies and documents such as the National Interoperability Baseline Survey, Tactical Interoperable Communications Plans, Tactical Interoperable Communications Scorecards, and the Communications Asset Survey and Mapping (CASM) database.

While past assessments like the Baseline Survey focused on State, local, and tribal interoperable communications, the Capabilities Report incorporates information from the Federal perspective to show the full scope of interoperable communications nationwide. The report aims to characterize the emergency communications challenges that must be addressed, the capabilities that exist to address them, and any gaps in capability availability or deployment.

OEC will use the findings and recommendations from the report to develop a National Emergency Communications Plan (NECP) later this year. Since this will be a National Plan, OEC will be working closely with other DHS components and other Federal agencies with emergency communications roles and responsibilities, including the NCS, the Federal Emergency Management Agency (FEMA), and the Office for Interoperability and Compatibility, in addition to our stakeholders from regional, State, local, and tribal governments, and the private sector. Additionally, OEC has established the preliminary framework for activities of the Emergency Communications Preparedness Center, which

Congress directed to coordinate the Federal aspects in the development of the NECP. The NECP will set goals and provide short-term and long-term recommendations for addressing interoperability gaps and advancing operability and interoperability.

Before we can begin building the NECP, however, we need to have a comprehensive understanding of the interoperability capabilities needed and those currently in use across the Nation. Thus, one of OEC's top priorities in the near term is to develop a robust assessment of the state of emergency communications, particularly gaps and vulnerabilities. The Capabilities Report noted above will give us much of this information, but we also will be gathering valuable input from other initiatives like the Statewide Communications Interoperable Plan (SCIP) review process, which ultimately will help us identify how OEC can advance the emergency communications capabilities of first responders and emergency management officials.

A key component of a nationwide, cross-governmental understanding of emergency communications is the development of Communications Asset Survey and Mapping (CASM) tool. CASM is a web-based communications assets database that consolidates information about land-mobile radio systems and other interoperability assets and determines how they are being used by metropolitan and urban area public safety agencies within a State. OEC works with participating public safety agencies to populate CASM with their data and help them understand the interoperability methods used by neighboring agencies so they can plan accordingly. Recently, CASM has been upgraded to include a "what if" feature that allows users to see the consequences to communications assets in a variety of man-made and natural disaster scenarios. To date, more than 75 metropolitan/urban areas and States—representing more than 8,000 agencies—have entered data into CASM. Through attendance and tool demonstrations at national public safety conferences, FPIC meetings, and ongoing coordination with other DHS partners such as the member agencies of the National Communications System, OEC is reaching users and policy-makers at all levels of government.

Outreach and Technical Assistance

OEC has participated in and supported a number of stakeholder forums and initiatives designed to promote awareness and build consensus among Federal, State, and local entities on policy and technical issues affecting interoperable communications. This includes dedicated interoperability events with groups such as the National Governors Association's Statewide Planning Workshops and the National Association of Counties/National League of Cities Interoperability Policy Academies. OEC leaders attend major conferences hosted by the National Public Safety Telecommunications Council, International Association of Fire Chiefs, the Association for Public-Safety Communications Officials and others. Additionally, a significant portion of OEC's stakeholder engagement occurs though the SAFECOM Executive Committee and Emergency Response Council. OEC leaders also understand the need for private-sector engagement in support of this mission and continue to meet with industry to learn more about new developments in interoperable equipment and technology.

Building on these relationships, OEC provides technical assistance services to the practitioner community to foster the development of interoperable communications capabilities at the State and local levels. OEC's technical assistance helps States identify gaps in their communications infrastructure and determine technical requirements for an interoperable communications system. Technical assistance includes strategic and tactical communications planning, system feasibility studies, tabletop exercises, evaluations of communications sites and technologies, and on-site engineering support.

During the preparations in the Gulf Coast Region for the 2007 hurricane season, OEC moved from planning mode to technical-services support mode. There, OEC coordinated the accelerated delivery of communications equipment and training services to several hurricane-prone states in the region well in advance of the season. The training addressed the usage of the equipment in its designated communications planning environment, as well as the need for coordination, governance, and a regional set of standard operating procedures for communications.

The Office of Emergency Communications also provided on-site support for the 2007 Golden Phoenix, an Interoperability Joint Training Event, which had a scenario with an 8.0 earthquake in the greater Los Angeles area. Participants in the event include Los Angeles City and County multi-jurisdictional emergency responders, the California National Guard, and the Department of Defense (DoD). OEC ICTAP provided technical evaluators and planning assistance to measure and evaluate communications interoperability across the continuum of first responders, DoD, and participating State and local government entities and non-governmental organizations. The event underscored the need for training opportunities among the various response groups and the challenges that might be encountered. OEC helped to document the challenges and findings.

Statewide Communication Interoperability Plans

Historically, limited and fragmented planning and a lack of coordination and cooperation among disciplines and jurisdictions have hampered the emergency response community's ability to communicate during response efforts. To combat this problem, the DHS fiscal year 2007 Homeland Security Grant Program (HSGP) required States and Territories to develop locally driven, multi-jurisdictional, and multi-disciplinary Statewide Communication Interoperability Plans (SCIPs). Following coordination between DHS and the Department of Commerce's National Telecommunications and Information Administration (NTIA), NTIA has also incorporated the SCIP requirement as an element of its Public Safety Interoperable Communications (PSIC) Grant Program. The SCIP requirement and the planning efforts of States and localities mark critical milestones in breaking down the barriers of the past and in establishing a roadmap for the future of interoperability. As of December 3, 2007, all 56 States and Territories submitted SCIPs. For the first time States will have a plan for interoperable communications and a baseline to assess their progress towards realizing their interoperability goals.

OEC provided technical assistance, outreach, and guidance to States and Territories in the development of their SCIPs. The Office developed and facilitated 35 SCIP development workshops, conducted 15 document reviews, and provided SCIP-development support to 48 of the 56 States and Territories. In addition, OEC provided States and Territories with the option of submitting preliminary SCIPs. Forty-two took advantage of this option, and OEC conducted a peer review process in October 2007 to provide critical feedback to those States and Territories on their preliminary plans before the final submission deadline.

Upon final submission of the SCIPs in December 2007, OEC began working with its partners at FEMA and NTIA to facilitate a peer-review process to evaluate the SCIPs and supported NTIA in the evaluation of applicants' PSIC Investment Justifications. Just last week, panels of Federal, State, local, and tribal peers convened in St. Louis, Missouri to provide input on the approval of SCIPs. Based on this peer input, OEC will make decisions on whether a SCIP receives a "pass" or "needs additional information" grade. The evaluated SCIPs with comments and recommendations will be returned to the States and Territories by March 31, 2008. Technical assistance will be available to any State or Territory that requests additional SCIP support.

Through this process, States and Territories will be receiving feedback from their peers on how to improve their planning efforts. As a result, the Department expects that the SCIPs will require periodic updates and enhancements. To promote the value of this process, future DHS grant programs will continue build upon the progress made through the SCIPs to better target funding and ensure the statewide planning process continues.

Interoperable Communications Grant Programs

In the Implementing Recommendations of the 9/11 Commission Act of 2007, Congress authorized the Interoperable Emergency Communications Grant Program (IECGP) to provide grants to support projects which improve operable and interoperable emergency communications among Federal, State, regional, local, tribal and, in some instances, international border communities. This grant program will fund activities which comply with the SCIPs and with the National Emergency Communications Plan. Once completed, the National Plan will help frame the way-ahead for the Nation, and will be essential in helping the Department set National priorities for emergency communications and target specific outcomes.

FEMA and OEC share responsibilities for the IECGP, which will require continued coordination between the two organizations to ensure its success in producing measurable progress in improving interoperability. Fortunately, OEC already has an excellent working relationship in place with FEMA through our previous collaboration on the fiscal year 2007 HSGP, and our combined work in support of NTIA's PSIC Grant Program. For the IECGP, we will leverage our collective experience and expertise and build on the progress, requirements, and lessons learned from existing programs.

CROSS-BORDER INTEROPERABILITY CHALLENGES

Ensuring the ability of public safety agencies and officials to communicate across disciplines and jurisdictions and to exchange information on-demand during an incident is challenging enough from a purely domestic perspective. Interoperability challenges become even more difficult in our country's regions that border Canada and Mexico. As a result, OEC must collaborate closely with agencies that share the responsibility for surmounting these challenges, including the U.S. Department of State, NTIA, and the Federal Communications Commission (FCC). OEC is working with its stakeholders and partners in several areas to improve cross-border interoperable communications and manage challenges.

Spectrum Management

The proper management of spectrum resources is key to achieving cross-border interoperability. The use of different spectrum bands among border communities in different countries is a significant hurdle to overcome: our emergency response partners in Canada and Mexico do not use U.S. frequency allocations, which results in the use of disparate frequencies. Establishing cross-border interoperability requires the use of additional technology solutions to bridge these disparate frequencies, or new cross border agreements to allow emergency communications operations in the appropriate bands. OEC has established a close relationship with the Department of State, and continues to make headway on the issue.

Regulation

The Federal Communications Commission and the National Telecommunications and Information Administration (NTIA) regulatory requirements must be met when establishing domestic interoperability among Federal, State, local, and tribal public safety agencies. To establish cross-border interoperability on the Canadian and Mexican borders, the requirements of Industry Canada[1] and the Mexican Secretariat for Communications and Transportation (SCT) with support from the Federal Commission on Telecommunications (COFETEL) must also be met. Differing regulatory requirements in these agencies increases the amount of time and effort required to establish interoperability and coordinate spectrum use.

Coordination

In an effort to ensure harmonious spectrum sharing along our common borders, the United States has entered into bilateral agreements with Canada and Mexico. As interoperability solutions are adopted, new bilateral agreements may be required to protect these solutions or exemptions to existing agreements may be needed to preserve the legality of the solution. These negotiations are conducted in conjunction with the Department of State; its early involvement is critical to the success of any interoperability

[1] Industry Canada is the spectrum regulatory body for Canada.

solution that may be inconsistent with existing international telecommunications agreements.

Security

Information assurance is a priority for public safety agencies. Many interoperability solutions, particularly those providing data interoperability, require multiple systems to interface, which creates several security concerns. These system security concerns must be factored into any cross-border interoperability solutions..

Geographic and Demographic Factors

The immense size, varying terrain, and differing population densities of the U.S. border regions require interoperability solutions to be tailored to the implementation locales. For example, the most effective solution in a rural, desert location will not be appropriate for a mountainous, metropolitan area.

Operations

Without comprehensive operational and exercise plans, the best technical interoperability solution may not realize its optimum effectiveness; therefore, all interoperability solutions must address operational interoperability. Additionally, the United States, Mexico, and Canada do not have a common incident management terminology, and in some instances there are language barriers to overcome.

OEC INITIATIVES TO IMPROVE CROSS-BORDER INTEROPERABILITY

The United States-Mexico High Level Consultative Commission on Telecommunications Security Communications Task Group

The United States-Mexico High Level Consultative Commission on Telecommunications Security Communications Task Group (HLCC SCTG) was established in 2006 to address the need for security communications between the United States and Mexico. The SCTG is jointly chaired by OEC and the Mexican Secretary of Public Security. Initially, a short-term solution was implemented that negotiated an exemption to an existing telecommunications protocol to allow the use of ten Mexican public safety radios in the state of Arizona. The SCTG's recommended long-term solution will provide voice and data interoperability between the United States and Mexico by establishing ten broadband microwave links between Customs and Border Protection (CBP) sites in the United States and the Centers for Control, Command, Communications, and Computers (C4) sites in Mexico. The SCTG finalized its recommendations and presented them to the HLCC in early February 2008.

The identification of mutually acceptable frequencies has proven to be a challenge. Thanks to OEC's leadership, the SCTG has successfully worked with SCT and NTIA to license the frequencies for its long-term solution[2.]

The SCTG will be recommending the establishment of a protocol by the High Level Consultative Commission on Telecommunications (HLCC) to ensure the interference protection of the frequencies. Additionally, the protocol will establish a users group to address the development of standard operating procedures and other operational issues once the long-term solution is no longer under the purview of the High Level Consultative Commission on Telecommunications. The SCTG will also determine whether communications over the solution will occur in English or Spanish along the southern border.

The 2010 Olympics Task Force Security Subcommittee, Communications Interoperable Working Group

The 2010 Olympics Task Force Security Subcommittee, the Communications Interoperable Working Group (CIWG) is developing an integrated interoperability plan in preparation for the Olympics in Vancouver. The Interoperability Continuum[3] is being used as a basis to develop a robust interoperability solution. Efforts to date have involved the identification of existing communications assets and required participants. The next steps in the process include the development of interoperable protocols, policies, procedures, and tactical communication strategies. The CIWG will also develop a multi-year training and exercise plan and schedule. Spectrum issues are also anticipated to be a challenge in the implementation of the International Border Community Interoperable Communications Demonstration Project and the 2010 Olympics CIWG. The participating agencies operate in a wide range of disparate frequency bands.

Geographic and demographic factors will come into play during the 2010 Olympics. The influx in the number of tourists and public safety officials has the potential to stress existing communications systems. OEC sees this as a good opportunity to identify cross-border interoperability solutions to be used for a large-scale international event.

The Federal Partnership for Interoperable Communications Southwest Border Communications Working Group

The Federal Partnership for Interoperable Communications (FPIC) Southwest Border Communications Working Group is a domestic initiative intended to effectively use the region's scarce critical resources to identify and leverage interoperability opportunities among Federal, State, and local agencies implementing wireless infrastructure along the United States-Mexico border and to help programs succeed in meeting end users' needs.

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[2] Currently, the SCTG and Mexico C4 have identified five of the six frequency pairs required for Phase I of the cross-border microwave project. The latest frequencies submitted by Mexico C4 for the Agua Prieta to Douglas microwave link are currently under consideration by the NTIA. The frequencies will be in the 7 GHz to 8 GHz band.

[3] The Interoperability Continuum is a tool devised to measure progress in public safety interoperability using five elements: Governance, Standard Operating Procedures, Technology, Training and Exercises, and Usage.

Additionally, this group is working to ensure coordination among public safety agencies on the U.S. side of the border. While this effort does not directly create cross-border interoperability, it works to establish domestic interoperability in a critical region as a precursor to cross-border interoperability.

CONCLUSION

Improving interoperability on our northern and southern borders is of paramount importance to the safety and security of our Nation. OEC will continue to serve as the focal point for the coordination of robust cross-border interoperability solutions that address user needs and policy requirements of all three countries. Through FPIC and other forums, OEC will continue to cultivate relationships with Canadian, Mexican, and American users and regulatory agencies across all levels of government to better identify and address barriers to interoperability.

I appreciate this opportunity to discuss OEC activities look forward to working with this Subcommittee to help meet the emergency communications needs of our Nation.