Comments on Responses from other Parties by Federal, Provincial, Territorial Authorities, Federation of Canadian Municipalities and the Tri-Services Chiefs Associations on behalf of the First Responder and Emergency Management Communities

Comments on Responses from Other Parties
Reference: Notice No. SMSE-007-12 — Policy, Technical and Licensing Framework for Use of the Public Safety Broadband Spectrum in the Bands 758-763 MHz and 788-793 MHz (D Block) and 763-768 MHz and 793-798 MHz (PSBB Block). Response due: November 26, 2012.

In reviewing responses, two trends emerged that we feel need to be addressed in a reply: 1) Categories of users; and 2) Whether or not to mandate LTE as a technology.

B 1 - 3: Access to the Spectrum Designated for Public Safety (Categories of Users)

IC indicated it may amend the above categorization of users through a future public consultation: (http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09554.html). Many respondents commented on the categories of users proposed to be permitted to use the 700 MHz broadband spectrum.

It is vital, both from an emergency management perspective and a financial viability perspective, that we have the ability to include Category 3 users in day to day activity, on a priority basis, where possible, so they will be available, equipped and trained when needed.

We believe IC should amend this policy through this consultation to provide enough latitude to include users who are not normally involved in “public safety” but:
1) may be part of an emergency/major event plan; or
2) are involved in ensuring the “safety of the public”.

Interoperability during an emergency between all three categories of users is not just about having access to the same spectrum, but ensuring everyone knows how to use it on a day-to-day basis. If the spectrum is available to all three categories, on a priority basis, in their daily business, as well as during emergencies, it will increase the likelihood that they will be equipped, trained and more effective when called upon during emergencies and major events. This concept reflects two of the lanes of the interoperability continuum, i.e. Usage and Training & Exercises.

Any agency broadly aiding the safety of the public should be permitted to use the entire spectrum under consideration as long as there are appropriate priority of access designations, which is readily achieved with current technologies. Accommodating the broadest possible user base is a key way the public safety community will be able to afford a roll-out, especially in rural areas. The broad public safety community suggests that the categories of users as defined by IC for the Radio System Policy RP-25 be modified as follows:

Category 1: police, fire, emergency medical services and emergency management organizations; Category 2: forestry, public works, utilities, public transit, hazardous material clean-up, border protection, airport security, and any other agencies contributing to public safety; and Category 3: other government agencies and certain non-governmental organizations or entities that play a role in ensuring the safety of the public.
B 12 – 13: Radio Interoperability - Mandating Technology

A number of responders strongly urged Industry Canada (IC) to mandate Long Term Evolution (LTE) as the technology for the 700 MHz public safety broadband portion.

While public safety may formally adopt LTE technology as the way forward, we would again caution against mandating LTE as “the” technology. Although we agree that open standards are essential, the identification of a technology standard alone cannot guarantee interoperability. Making a standard mandatory may limit a system’s evolution as technology standards change, or if standards are completely replaced by technologies that are more advantageous.

The intent of the public safety community in Canada is to implement a nationally/internationally interoperable network. To achieve this, the public safety community is proposing a governance structure endorsed by the Senior Officials Responsible for Emergency Management (SOREM). LTE is presently the technology standard that the public safety technology advisory team is evaluating and will likely recommend as the primary cornerstone technology to support the public safety broadband network for the foreseeable future. However, it should be noted that if LTE is recommended, it should not be to the exclusion of all other technologies that may be required to co-exist with LTE for some specialized portions of the network design.

The implementation of a common technology standard is only one of the factors necessary to achieve interoperability. Many other technical design issues and administrative process and approvals must align to achieve true interoperability. These include the existence of the aforementioned Governance structure tasked with the creation of co-ordinated sharing agreements, a technical design that considers a system of systems or a shared wide-area architecture and not isolated stand-alone systems, defined user roaming and access registration, common defined security protocols, etc. In addition, significant experience using the equipment of two P25 vendors on a single system has revealed that standards in technology can be implemented in many different ways that do not always integrate as expected. It is rarely possible for every party to maintain the same version of technology, or to implement it the same manner. The creation of testing process and performing physical equipment testing in a pre-production environment is also necessary to make an interoperable network work, especially a national network of the scale that we envision for Canada.

In order to accommodate flexibility in an environment where technology evolves rapidly, mandated technologies may hinder interoperability more than help. Technical measures will be essential to interoperability, and the obligation should be written in contractual agreements with service operators. These will be defined in service level agreements (SLAs).

Defining a common technical standard is one of the fundamentals for achieving national interoperability, and also required if we wish to achieve interoperability with public safety agencies in the U.S. We also understand that the alignment with the U.S. implementation and evolution of FirstNet based on the LTE standard has the added advantage of leveraging the economies of scale that their volume infrastructure and user terminal purchases will create.

While public safety may formally adopt LTE technology as the way forward, we continue to caution against mandating LTE as “the” technology standard for Public Safety Broadband use in Canada.