22 February, 2011

Manager, Mobile Technology and Services
DGEPS, Industry Canada
300 Slater Street
Ottawa, ON K1A 0C8

Glen Miller, Director of Information Technology
Peter Gauthier, Director of Wireless Services
E-Comm 9-1-1, Emergency Communications for
Southwest British Columbia
3301 East Pender Street,
Vancouver, BC V5K 5J3


Sir or Madame;

Please find attached Emergency Communications for Southwest British Columbia’s (E-Comm) response to the Department’s “Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum SMSE-08-10” as well as an Executive Summary.

Yours sincerely;

[Signature]
Glen Miller, Director of IT

[Signature]
Peter Gauthier, Director of Wireless Services
Executive Summary

E-Comm is a shareholder-owned, not-for-profit company, incorporated under the 
BC Business Corporations Act. It was constituted specifically under the BC 
Emergency Communication Corporations Act (ECC Act Bill 148 1997) to provide 
communications services to public safety. As a result of the ECC Act, E-Comm 
has three areas of public safety communications responsibility:

1. E-Comm owns and operates a wide area radio network for police, fire and 
   EMS in the Metro Vancouver area and Abbotsford
2. E-Comm provides 9-1-1 call answer, fielding approximately one million 9-1-1 
calls per year from Metro Vancouver, the Sunshine Coast Regional 
   District (SCRD), the Squamish-Lillooet Regional District (SLRD) and 
   Whistler
3. E-Comm provides operational dispatch to a number of police and fire 
   agencies in the Metro Vancouver area, the SCRD and the SLRD.

The company operates as most other shareholder-owned corporations do, under 
the supervision of a Board of Directors. It is unique in that the company is owned 
by the municipalities and agencies that subscribe to the wide area radio network. 
As part of its governance, E-Comm meets with committees made up of public 
safety disciplines at least four times a year to provide guidance in the operations 
of the company.

We believe that this type of governance approach could be applied to the 700 
MHz broadband spectrum that is being requested for public safety. Under this
model, the interests of public safety are paramount. Public safety agencies benefit from this relationship by not having to dilute their delivery of service to the public by using their own resources to deal with issues that are primarily technical in nature. In this way, they are left to deal with the business of public safety and entrust the business of providing communications tools to perform their duties to those more familiar with the workings of communications systems. The cost recovery aspect of E-Comm ensures that the members benefit from increased participation in the radio network. They also benefit from activities that support other governmental agencies such as Healthlink BC, which is a province wide Telehealth organization for which E-Comm provides technology support. The net revenue from IT services provided to agencies such as these are applied to the costs of supporting the radio network thereby lowering the costs of the members.

It is not suggested that this is the only potential governance model for 700 MHz public safety broadband systems. Rather, this is presented as a very successful example of public safety banding together to provide a region with communications services that are much larger than the sum of what each individual agency could provide. This goes directly to question 5-7 in the consultation paper – E-Comm provides a real-life example of the institutional feasibility of a shared, interoperable public safety communications system. What makes this model successful is direct participation by public safety agencies in the governance and oversight.
Public safety has seen an exponential increase in the need for mobile data. Beside the day-to-day data requirements, incident commanders are seeing the benefit of being able to access databases and live video to properly direct their resources during major events. Their need for bandwidth will only continue to increase. This is why it is necessary that public safety is allocated 20 MHz of dedicated spectrum in the 700 MHz band (10 MHz in both the upper and lower bands), harmonized with the United States. Harmonization is necessary for a number of reasons. The two most relevant to this discussion is that the need for cross border communication is increasing and both countries need to have the ability to access information from each other using the simplest means possible. Secondly, a “made in Canada” solution will only result in higher costs for hardware. There would also be a possibility that manufacturers would not produce some hardware components because they cannot financially justify it.

The question naturally arises as to whether commercial carriers can fulfill the need for public safety to provide mobile data services. After all, they do that now in urban environments. Issues exist with the provision of this service. First is the issue of capacity. Access to the networks becomes more restricted during the very times that it is most needed - in times of major incidents. Second is the issue of coverage. Coverage is provided by commercial carriers on the basis of acceptable return on investment. However, public safety does not have the ability to decline service based on the ability of those needing its services to pay for them. Site survivability is yet another aspect of a commercial network that is tied

Helping to Save Lives and Protect Property
to return on investment. Public safety needs its communications infrastructure to continue to operate under conditions that commercial networks are not built for.

E-Comm welcomes the opportunity to respond to the consultation paper. It is our hope that Industry Canada comes to the conclusion that, in the public interest, it is necessary to allocate 20 MHz in the 700 MHz band to public safety and that this band should be harmonized with the United States.
4-1. What is the general need for additional commercial mobile spectrum at this time and what do you anticipate the future needs to be?

E-Comm response:

E-Comm believes that the need for additional commercial spectrum can be easily supported. The proliferation of wireless devices including smartphones is fuelling the marketplace for applications that can be useful to the consumer market. It would follow, then, that commercial providers are going to need to be able to supply connectivity as cost effective as possible. Access to spectrum in the 700 MHz band will, as pointed out in the discussion paper, allow for fewer sites to cover a larger area. This can have a favourable impact in rural areas.

The need for commercial 700 MHz broadband spectrum should not come at the expense of public safety 700 MHz broadband spectrum. This spectrum for public should be harmonized with the United States 700 MHz broadband band plan to ensure that incidents along the border can be effectively dealt with and not hampered by the inability to communicate across the border. As well, many large public safety response incidents will have no borders. Public safety must have the means of dealing with large scale responses that affect both sides of the border.

4-2. Provide general deployment information on the current use of your existing holdings in each mobile spectrum band. In the case where current holdings are not being used, provide information on its planned use, including timelines.

E-Comm response:

Although not classed as a commercial carrier, E-Comm holds licenses for 128 channels of 800 MHz spectrum in both the public safety band and the commercial band used to support public safety voice communications in the Metro Vancouver area. E-Comm's partner agencies include all police and EMS in this area. As well, the majority of sizable fire departments employ the use of the network. At present E-Comm holds no spectrum in the 700 MHz band however the future growth of public safety communications in the coverage area is going to necessitate a move into 700 MHz band for narrowband voice communications.
4-3. Indicate your need for additional spectrum for commercial mobile service applications and how much spectrum is required. 
(a) What deployment timelines are being considered?

**E-Comm response:**

E-Comm has no requirement for commercial broadband spectrum.

(b) What types of applications/uses are envisioned?

**E-Comm response:**

E-Comm has no requirement for commercial broadband spectrum.

(c) To what degree will your business' anticipated spectrum needs be addressed by having access to the 700 MHz and/or 2500 MHz spectrum?

**E-Comm response:**

E-Comm has no requirement for commercial broadband spectrum.

4-4. Do you plan to use 700 MHz spectrum acquired in the auction with, or on behalf of, another entity, which may participate in the auction? If yes, with which entity?

**E-Comm response:**

E-Comm has no requirement for commercial broadband spectrum.

4-5. Provide comments on the extent to which alternate spectrum access arrangements have been investigated/considered to respond to your need for additional spectrum. In addition, provide specific efficiency measures investigated or implemented for current holdings. Your comments to the above questions will be considered proprietary and will remain confidential. Responses to these questions must be submitted separately (e.g., in an appendix) and clearly marked as “Confidential.”

**E-Comm response:**

E-Comm has no requirement for commercial broadband spectrum.

5-1. Based on the criteria listed above, which of the four band plan options should be adopted in Canada? Why is this option preferred over the other options? If Option 3 (APT band plan) is selected, what should the block sizes be?
In providing your responses, include supporting arguments, including potential benefits to wireless subscribers.

**E-Comm response:**

E-Comm’s response and comments relate to use of the spectrum by public safety in all its defined categories. It is E-Comm’s opinion that Industry Canada adopt Option 1. Harmonize with the US Band Plan with additional allocation of the upper 700 band “D” block, yielding a total assignment of 20 MHz (2 x 10 MHz) to public safety.

This will enable public safety users to benefit from economies of scale in equipment manufacture associated with a homogeneous North American market. As well, this will also enable the use of interoperable user devices between Canada and the United States.

5-2. The band plans presented in the options above include guardbands. Should the Department auction the guardbands, or should these frequencies be held in reserve for future use such that they are technically compatible with services in the adjacent bands?

**E-Comm response:**

Industry Canada should not auction guardbands (specifically 757-758, 775-776 and 787-788 MHz) at this time. Guardbands should be held in reserve until technical requirements for mutual protection of public safety narrowband and broadband systems and commercial broadband systems are better understood. This can only occur once the deployment plans for these types of systems in the 700 MHz band are further developed (i.e. type of RF access technology, system architecture, etc.)

Also comment on any related aspects not addressed above or other possible options, including combinations of options.

**E-Comm response:**

E-Comm believes very strongly that the harmonized band plan should be held inviolate, once established, by both Canada and the United States. Unilateral changes to the band plan should be challenged aggressively.

5-3. Do public safety agencies need spectrum for broadband applications? If so: (a) How much and for which type of applications?
E-Comm response:

Public safety requires allocation of broadband spectrum in the 700 MHz band to support broadband applications. The primary driver for public safety broadband is the delivery of multimedia content to and from emergency field personnel with centralized management of this content for efficiency and security reasons, i.e. video, imaging, mapping, telemetry. The availability of compact, integrated devices capable of managing multimedia content is a key requirement and public safety needs to leverage technology developments in the commercial marketplace to fulfill this requirement. A wide range of broadband applications are under consideration for deployment by public safety, for example:

- Computer Aided Dispatch (CAD) systems access
- Automatic Vehicle Location (AVL) and tracking
- Emergency responder personnel tracking in active incidents
- Streaming of live video feeds to and from the field for a variety of purposes
  - Tactical surveillance
  - Incident recording
  - Distribution of Next-Generation 911 video information from the public to first responders and other field personnel
- Field access to GIS/mapping systems with dynamic, tagged information for enhanced situational awareness
  - Weather
  - Road closures
  - Power outage
  - Earthquake feeds
  - Emergency alert (hazard) information
  - Incident information
- Electronic incident command systems and “Common Operating Picture” applications
- Access to on-line databases of multimedia content:
  - Records (RMS) and case management systems access (Fire, Police, etc.)
  - Building plans, HAZMAT/CBRNE and other hazard inventories
  - Resource inventory databases
  - Still image database access (e.g. facial recognition)
  - CPIC access
  - Biometric analysis

Helping to Save Lives and Protect Property
- Insurance record and registry databases (vehicles, vessels, aircraft)
  - Telemedicine applications within emergency medical services:
    - Vital signs monitoring
    - Robotic surgery
    - Video feeds for assessment and diagnosis
    - Patient records access
  - Patient and evacuee tracking
  - Access to enterprise networks
    - Email and office automation systems
    - Unified messaging and communications (e.g. VoIP telephony)
    - Intranet and Internet access
    - Enterprise applications (personnel systems, etc.)
  - Vehicle telemetry and control
  - User device software updates and maintenance/downloads
  - License plate recognition
  - E-ticketing
  - Robot control
  - Sensor and machine-to-machine communications (fixed and portable)
  - Tracking of human resources in area of incident other than public safety responders

These applications apply to and will be used by a wide variety of emergency response organizations and users at all levels of government, in addition to first responder (Police, Fire, EMS) agencies:

- Natural resource operations (wildfire management, environmental response, conservation officers)
- Emergency Management organizations
- Corrections and Sheriff’s Services
- Coroners
- Transportation agencies, including Commercial Vehicle
- Search and rescue – Air, Ground, Marine
- Border enforcement
- Utilities (electrical, gas, water, sewer) and Public Works
- Health service providers in addition to EMS agencies (Hospitals, Clinics, etc.)

Some of these applications are currently deployed and in regular daily use in support of emergency response, for example CAD, RMS and AVL.
(b) What are the anticipated deployment plans and the possible constraints, if any, in implementing these plans?

E-Comm response:

- The use of mobile data applications for public safety has been growing exponentially over the past 10 years. The application list above is an indication of what exists as well as some of the applications that are in active development. The development of these types of applications is going to be defined, in part, by the method of delivery to mobile devices. Historically this has been the case. Public safety is constrained by a number of issues such as funding, resources, security, business process transformation and user training. Current services are primarily delivered by existing private data or commercial wireless data networks. However, these data networks have significant limitations in terms of performance, coverage, capacity, security and resilience that preclude effective deployment.

(c) Is there suitable alternate spectrum to the 700 MHz to meet these broadband requirements?

E-Comm response:

4.9 GHz is the only broadband spectrum available to public safety. It is only suitable for local area communications at an incident scene because of its propagation properties. As well, it is anticipated that the hardware available for 5.8 GHz may make the management of interference of 4.9 GHz untenable. This is because it is software reconfigurable for use in the 4.9 GHz band Other spectrum allocated to public safety is assigned in 12.5 or 25 KHz channel widths and only suitable for narrowband (i.e. voice) services due to this fragmentation and the method of licensing.

5-4. Comments are sought on the need for public safety broadband radio systems to be interoperable:

(a) between various Canadian public safety agencies;

E-Comm response:

Examination of any large scale public safety response incident in Canada or the United States will show, unequivocally, that the lack of interoperable communications led to inefficiencies and, more importantly, more danger to the public and public safety responders. Canada has been at the leading edge of the recognition of this fact and the creation of E-Comm was in direct response to the 1994 Stanley Cup riot where communication between public safety responders was a significant shortcoming. E-Comm has been able to provide a robust interoperable platform for public safety voice...
communications in its area of service. E-Comm has also been directly involved in the deployment of broadband wireless data services for public safety. E-Comm has seen these services grow within the various public safety disciplines of police, fire and EMS. The growth and dependence of these applications within those disciplines has also shown that the interoperability aspect will become increasingly important to deal with response to incidents requiring response from more than one discipline. These responses are becoming more frequent.

The construction and operation of networks across Canada would have to be according to common technical and operating standards along with an appropriate governance model. Before E-Comm was created it was generally believed that a governance structure that could provide the means of supplying safe reliable voice communications was not achievable. E-Comm's example shows that it cannot only be achieved but applied very effectively. Although a replication of the E-Comm governance model may not be appropriate, it demonstrates that, with proper participation, an appropriate model is achievable.

(b) between Canadian and U.S. public safety agencies.

E-Comm response:

As mentioned previously there are incidents that occur that do not respect borders. These incidents can be natural, earthquakes, tornados, or manmade such as industrial accidents near the border. There are going to incidents where either Canadian or United States public safety agencies are going to take the lead on but that neighbouring agencies will be required to assist. The ability to quickly access data provided by the lead agency will be extremely beneficial in the ability to the well being of the public and public safety responders and keep property damage to a minimum.

5-5. What are the challenges faced today by public safety agencies to have cross-border radio interoperability in other frequency bands?

Supporting rationale for your responses to the above questions should be provided.

E-Comm response:

There are a number of challenges faced by public safety. This should not be considered an exhaustive list. Fragmentation of spectrum on both sides of the border coupled with a different set of licensing and coordination rules contributes to challenges. The fact that there doesn't appear to be much in the way of dialogue across the border until an emergency arises doesn't help
matters. Protocols for interoperability along with exercises at the local level would be helpful.

5-6. Notwithstanding your responses to questions 5-3 to 5-5, the Department seeks comments on whether public safety broadband needs can be met by using commercial systems with priority access rights for public safety, at commercial rates.

(a) Your views and comments are invited on priority access rights, including pre-emption, and on the feasibility of such a system.

**E-Comm response:**

The availability of bandwidth and capacity for public safety has historically been inversely proportional to its need in times of crisis. Bandwidth and capacity are dependent on spectrum and when the main purpose of the spectrum is return on investment rather than public safety, it is easy to see how that happens.

Priority access rights have always been desired on mobile telephones. This has either failed or had very limited success. There doesn’t seem to be any to suggest that this will be any different with mobile data.

(b) What public safety technical and operational requirements cannot be met by commercial systems, from either a public safety or commercial operator point of view?

**E-Comm response:**

Commercial interests will always be where return on investment can be realized. Public safety concerns itself with the health and well being of the public at large. Although these two interests are not mutually exclusive those ideals are often in conflict. For commercial entities coverage and survivability is dependent on the pay back and profit leaving smaller populations underserviced. Public safety coverage and survivability is dependent on the perceived need to deploy resources in any given area.

(c) What specific rules, if any, should be mandated by the Department to make such a system viable?

**E-Comm response:**

Although not advocating the continued use of commercial networks by public safety, if public safety were to continue using commercials service in the 700 MHz band there must be rules to deal with access, capacity, survivability, and coverage required by public safety.
In times of emergency, bandwidth on wireless networks is a critical and finite resource. The radio spectrum is the fundamental resource required to enable bandwidth/capacity available on wireless networks. Public safety needs to directly control this critical resource and cannot be dependent on commercial carriers to make resource allocation decisions on behalf of public safety in times of crisis. Public safety's experience with use of commercial wireless systems for mission critical operations has shown that:

1. Commercial operators are unwilling or unable to enter into prioritized-service agreements with public safety agencies
2. Commercial systems get significantly congested during significant emergency events
3. Outages of commercial networks do occur and restoration time can be long
4. Effective prioritization and pre-emption mechanisms on wireless networks do not currently exist

Previous attempts at implementing prioritization mechanisms on commercial networks have either failed (e.g. PAD) or had limited success (e.g. WPS). These issues arise because commercial network operators are primarily motivated by maximizing usage and revenue generation on their networks – to do this they must address the needs of all types of users equally in their network designs and operational policies. To be effective, any resource prioritization or pre-emption policy must address the application level, with public safety agencies determining, via an appropriate governance process and in the absence of commercial influence, the relative priority of applications across different types of users. Public safety does not believe that Industry Canada can effectively apply rules to commercial spectrum that would resolve these issues.

5-7. Comments are sought on the need for regional (local, provincial, etc.) dedicated broadband networks to provide access to all public safety agencies, and the institutional feasibility of implementing such a system.

E-Comm response:

To deal with the many regional and jurisdictional issues that would crop up a “network of networks” approach could be taken. In some areas partnerships with public safety can be established much like E-Comm and CREST in urban and suburban areas. There would likely be a need for the government to build out rural areas. In some provinces there may be a desire to build out a province wide network covering all urban and rural areas. In some cases a mobile coverage solution may be examined.

In all cases, there should only be a single network in any given geographic area, with all systems across the country being built to the same technical
standards to ensure interoperability. To meet the needs of public safety, these networks need to be built using spectrum dedicated to public safety so that public safety can control resource allocation and the technical and operational specifications of the network.

To make these systems financially viable, the user base needs to be as broad as possible, addressing all first responder agencies at the local, provincial and federal level, in addition to all agencies having a mandate for operations in support of emergency response/recovery and life safety missions (see list of agency types under 5-3 (a) above).

This network deployment model is dependent on establishment of an effective governance structure for the use of public safety broadband spectrum and the resulting “network of networks”. This governance model will have elements at the federal, provincial and regional/local levels, with the F/P/T aspects being aligned with the model identified in the Communications Interoperability Strategy for Canada (CISC). Within this structure, governance at the F/P/T level would be vested with SOREM. The national governance structure would have decision-making authority related to technical and operational matters needed to ensure interoperability. It is envisaged that in the majority of cases, public safety broadband networks would be built either at the provincial or regional level, with such systems linking into the F/P/T governance structure. Financial oversight would need to be vested with those organizations or bodies actually building and operating individual (provincial or regional) systems.

It is also envisaged that these networks would primarily be built following a Public-Private-Partnership model, where private industry would have a significant role to play in the construction and operation of the backbone networks and public bodies would be responsible for funding, operational policy and user support. Specifics of business model and financial viability for such a system has not been studied or defined in detail to date; much work remains however there are examples of public safety cooperating to gain access to public safety trunked radio spectrum that is licensed and operated by a third party. In terms of the use of the spectrum by public safety and the maintenance of the network by a third party under the scrutiny of the public safety entities, these operations are considered to be very successful. However, public safety believes that acquisition of dedicated broadband spectrum at no cost will provide significant financial advantage in favour of the construction and ongoing operation of public safety broadband networks that will accelerate user adoption and application deployment.

5-8. Is there a need for a dedicated national interoperable broadband network to provide access to all public safety agencies? The Department seeks comments on the institutional feasibility of implementing such a system. Provide supporting arguments for your responses to the above questions.
E-Comm response:

There is a need for a dedicated national interoperable broadband network. The United States has recognized that need and is putting up a substantial amount of funding to ensure that it becomes a reality. Given Canada's area, geography and demographics it might prove a little more difficult. This is not to suggest that the different levels of government should not contribute to it financially. Again, referring to partnership models that have proven successful would provide some good insight into the institutional feasibility of any network. In all likelihood, rather than a single national network, a national “network of networks” would be implemented, where there would be a single network in any given geographic area, with all systems across the country being built to the same technical standards to ensure interoperability.

5-9. If band plan Option 1, 2a, or 2b in Section 5.1 is chosen, which one of the three options described above should be adopted and why is this option preferred over the other options? Provide supporting rationale.

E-Comm response:

Option 1 is recommended (Harmonization with the US). The costs of hardware to implement anything other than this harmonization would make it virtually impossible to build such a network. The only possible alternative would be for Option 3 if, and only if, the United States adopted the same band plan.

5-10. If commercial operators are mandated to support public safety services, what tier size should be applied in order to ensure adequate public safety coverage?

E-Comm response:

E-Comm does not advocate mandating commercial operators to support public safety services. Rather, we advocate allocation of dedicated spectrum to public safety so that the public safety community can control all aspects of their access.

5-11. If the APT band plan (See Option 3 in Section 5.1) is adopted:

(a) Given that the APT band plan requires a 55 MHz duplexing separation, can Canadian public safety services operate their current narrowband systems in this band plan configuration? If not, what are possible alternatives to address public safety needs?
E-Comm response:

It is difficult to see how this band plan would work with the current narrowband systems without significant costs being borne by the owners of those systems if it could be done at all. Given the experiences that the public safety community in the United States have encountered over the 800 MHz rebanding, it is difficult to imagine that the existing 700 MHz narrowband users would view this favourably. In E-Comm’s view it is imperative to align our band plan with that of the United States.

It is interesting to note that the Police Federation of Australia is lobbying to have the APT band plan re-examined.

Industry Canada should adopt Option 1 under Section 5-1. Harmonize with the US Band Plan with additional allocation of the upper 700 band “D” block, yielding a total assignment of 20 MHz (2 x 10 MHz) to public safety.

(b) Should spectrum be designated for dedicated public safety broadband systems, and how much?

E-Comm response:

Industry Canada should adopt Option 1 under Section 5-1. Harmonize with the US Band Plan with additional allocation of the upper 700 band “D” block, yielding a total assignment of 20 MHz (2 x 10 MHz) to public safety.

You are also invited to comment on any related aspects that are not addressed above, including whether the decision should be delayed until the U.S. situation is known.

E-Comm response:

Any decision Industry Canada makes on the 700 MHz band allocation should be in harmony with the United States. If the Industry Canada decision on the band plan comes before the United States, E-Comm recommends that Industry Canada holds sufficient spectrum in the 700 MHz band for public safety to allow Canada to harmonize with the US once its band plan is known. This is designated as Option 3 in Section 5-2 under the heading of “700 MHz Band Plan Architecture for Public Safety Systems”. It is expected that will mean setting aside 2 blocks of 10 MHz, i.e. 758-768 and 788-798 MHz, which encompasses the current US public safety broadband allocation and the D block under the present US band plan.
5-12. The Department seeks comments on whether the auction of 700 MHz commercial spectrum should be based on uniform tier sizes across all spectrum blocks, or a mixture of tier sizes.

**E-Comm response:**

E-Comm's position is that the 2 blocks of 10 MHz spectrum not be put up for auction. Rather these blocks should be allocated to public safety.

5-13. Based on your answer above, what tier size(s) should be adopted? Provide supporting arguments for your responses to the above questions.

**E-Comm response:**

Please see 5-12.

Effective immediately, no new broadcasting certificates will be issued for LPTV stations in TV channels 52-59 (698-746 MHz).

The Department proposes that the displacement of the incumbent LPTV stations be subject to a notification period of one year for LPTV stations located in urban areas or in specific geographic areas, such as along highway corridors; and a period of two years for LPTV stations in all other areas. A displacement notification can be issued only after technical determination is made concluding that continued operation of the incumbent LPTV station would impede the deployment of new licensed systems in the 700 MHz band.

**E-Comm response:**

E-Comm supports this.

5-14. The Department seeks comments on the transition policy proposed above.

**E-Comm response:**

E-Comm has no comment.

5-15. The Department seeks comments regarding its proposal to permit low-power licensed devices, including wireless microphones, to operate in the band 698-764 MHz and 776-794 MHz only until March 31, 2012.

**E-Comm response:**

E-Comm has no comment.

6-1. The Department seeks comments on its proposed changes to the Canadian Table of Frequency Allocations for the band 698-806 MHz.
E-Comm response:

E-Comm supports this.

7-1. The Department seeks comments on the current state of competition and its anticipated evolution, including the impact on consumers in the Canadian wireless services market:
(a) in general;

E-Comm response:

E-Comm has no comment.

(b) in terms of its contributions and interaction to the broader Canadian telecommunications service market;

E-Comm response:

E-Comm has no comment.

(c) in comparison with the wireless markets of other jurisdictions.

E-Comm response:

E-Comm has no comment.

7-2. Provide views, and any supporting evidence, on the impacts of government measures adopted in the AWS auctions, including the impacts on consumers and on the state of competition. In particular, what has been the impact, if any, of such measures on industry concentration, barriers to entry or expansion of services, and the availability of new or improved service offerings and pricing plans?

E-Comm response:

E-Comm has no comment.

7-3. In light of the current conditions in the Canadian wireless service market(s), is there a need for specific measures in the 700 MHz and/or 2500 MHz auction to increase or sustain competition?

E-Comm response:

E-Comm does not support an auction of spectrum for public safety. This spectrum should be allocated to public safety.
7-4. The Government of Canada has undertaken a consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. How would the adoption of any of these proposed changes impact your responses to the questions above? Provide supporting evidence and rationale for all responses.

E-Comm response:

E-Comm has no comment.

7-5. If the Department determines that there is a need for measures to promote competition, which of the above mechanisms would be most appropriate and why should this mechanism be considered over the other? Comments should also indicate if further restrictions should apply so that policy objectives are met, for example, over a given time period?

E-Comm response:

E-Comm has no comment.

In light of your response above, and recognizing that pending decisions on the specific band plan, spectrum for public safety system, tier sizes and open access requirements could influence your response:

7-6. (a) If the Department were to implement spectrum aggregation limits (caps):

(i) Should the cap apply to the 700 MHz band only or be broader?

E-Comm response:

E-Comm has no comment.

(ii) What should the size of the cap be?

E-Comm response:

E-Comm has no comment.

(iii) Should bidders and their affiliates or associates share the cap?

(iv) How long should the cap remain in effect?

E-Comm response:

E-Comm has no comment.

(b) If the Department were to implement a set-aside in the 700 MHz auction:
(i) Who should be entitled to bid in the set-aside block(s) and should the entitled bidders be restricted to bidding on the set-aside only?

**E-Comm response:**

Set aside should be restricted to public safety and related agencies. These should not be put up for bid but assigned for that purpose.

(iii) How much spectrum should be set-aside and which block(s) should be set-aside?

**E-Comm response:**

E-Comm recommends 10 Mhz of contiguous spectrum in the both the lower and upper band.

(iii) If the set-aside were to include multiple blocks of spectrum, should they be contiguous?

**E-Comm response:**

The public safety allocation should be contiguous within the 10 MHz blocks.

(iv) What restrictions should be put in place to ensure that policy objectives are met (for example, should trading of the set-aside spectrum be restricted for a given timeperiod)?

**E-Comm response:**

E-Comm has no comment.

7-7. Are there other mechanisms that should be considered and, if so, how should these be applied?

**E-Comm response:**

E-Comm has no comment.

7-8. The Government of Canada has undertaken a consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. How would the adoption of any of the proposed changes affect your responses to the questions above?

**E-Comm response:**
E-Comm has no comment.

Provide supporting evidence and rationale for all responses. Note: The possible implementation of a set-aside regarding the 2500 MHz spectrum to be auctioned will be dealt with in a separate consultation.

8-1. In the above context, the Department seeks comments on challenges and specific problems affecting the deployment of broadband mobile services to low-density rural and remote areas.

E-Comm response:

The deployment in these areas will always be a challenge. Spectrum allocated to public safety could facilitate the deployment of temporary mobile sites in these areas when the circumstance call for it.

8-2. Is there a need for further regulatory measures or changes to existing regulatory rules (e.g. RP-19) to facilitate service deployments in rural and remote areas that remain unserved and/or underserved?

E-Comm response:

E-Comm has no comment.

8-3. Should the Department decide that measures are necessary, comments are sought on specific measures that could be adopted within the 700 MHz spectrum auction process to ensure further deployment of advanced mobile services in rural and remote areas (e.g. roll-out conditions, tier structure, etc.). Rationale and supporting evidence that substantiate your responses should be provided.

E-Comm response:

E-Comm has no comment.

9-1 The Department seeks comments on whether there is a need for government intervention to promote open access, by increasing access by users to handsets and/or applications.

E-Comm response:

E-Comm has no comment.

9-2. If government intervention is needed, which of the following options should be implemented?
Option 1: Mandated open access requirements across all future commercial mobile bands
Option 2: Mandated open access requirements for the entire commercial mobile spectrum in the 700 MHz band.
Option 3: Mandated open access requirements for the "C Block" (746-757/776-787 MHz) as in the United States.
Please provide supporting arguments for your responses, and any additional comments related to provisions of open platforms for devices and applications.

E-Comm response:

E-Comm has no comment.

10-1. The Department is considering three options to proceed with the 700 MHz and 2500 MHz bands auction processes:
Option 1: to conduct an auction for licences in the 700 MHz band first, followed by an auction for licences in the 2500 MHz band approximately one year later;

E-Comm response:

E-Comm does not support an auction of spectrum for public safety. This spectrum should be allocated to public safety.

Option 2: to conduct an auction for licences in the 2500 MHz band first, followed by an auction for licences in the 700 MHz band approximately one year later;

E-Comm response:

E-Comm does not support an auction of spectrum for public safety. This spectrum should be allocated to public safety.

Option 3: to conduct one combined auction for licences in both the 700 MHz and 2500 MHz bands, which would be six months later than the first auction in the case of separate auctions.

E-Comm response:

E-Comm does not support an auction of spectrum for public safety. This spectrum should be allocated to public safety.

Industry Canada is seeking views on the merits or disadvantages of proceeding with each of the various options stated above. The Department seeks to understand the magnitude of interdependencies between the two bands from a business/operational perspective. Specifically, comments are sought as to the extent spectrum in these bands is interchangeable or complementary from both a
technological and a strategic perspective. In addition, views on the business and financial capabilities of participating in a joint auction for both bands are sought. Comments should include the rationale for selecting one option rather than another.