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January 7, 2011

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

**Reference:** Consultation for the 700 MHz Band

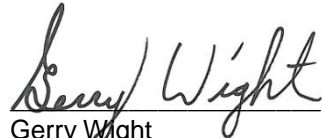
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Dear Sir,

Daniels Electronics is a Victoria based manufacturer of LMR Systems that are sold worldwide. We currently offer 700 MHz band radios for analog and P25 digital applications. In response to your "Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum" we are pleased to provide you with our comments from a manufacturer's perspective relative to Public Safety applications.

If for any reason you need clarification please do not hesitate to contact me at 1-800-664-4066.

Sincerely,



Gerry Wight  
Vice President - Sales and Marketing  
Daniels Electronics Ltd.



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**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics does not hold any spectrum.*

**4-3. Indicate your need for additional spectrum for commercial mobile service applications and how much spectrum is required.**

*Not applicable to Daniels Electronics.*

**(a) What deployment timelines are being considered?**

*Not applicable to Daniels Electronics.*

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

*Not applicable to Daniels Electronics.*

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

*Not applicable to Daniels Electronics.*

**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?**

*Not applicable to Daniels Electronics.*

**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.**

*Not applicable to Daniels Electronics.*



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**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.**

*Daniels Electronics recommends the Option 1 band plan implementation (Harmonized with the U.S. band plan). Daniels Electronics is a Canadian manufacturer of public safety radio systems, some of which are designed for operation in the Canadian and US 700 MHz bands.*

- 1. Interleaving different spectrum uses (Options 2a, 2b, 3) across Canadian and US markets leaves Canada with a unique and therefore disadvantaged public safety product market (from a manufacturing perspective).*
- 2. Option 1 offers compatible spectrum uses across Canadian and US markets, allowing for manufacturing economies of scale.*
- 3. Option 1 facilitates better and timelier frequency coordination efforts between Canadian and US government agencies.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**5-3. Do public safety agencies need spectrum for broadband applications? If so:**

*Yes. Currently all spectrum allocated for Public Safety is focused on narrowband voice only applications. It is intuitive that Public Safety first responders would be better equipped in their response to an emergency if they had access to graphics, images and text in addition to voice when they arrive on site. Maps, photos, situational background would all aid the response and broadband spectrum is the delivery mechanism of choice to provide this information to a handheld device or vehicle mounted device.*

**(a) How much and for which type of applications?**

*For the applications mentioned above it is desirable that download speeds of several Mb/s be possible with comparable upload speeds to enable bidirectional situational awareness. The types of applications include access to graphics, images and text in addition to voice would enable Public Safety first responders to be better equipped when they arrive on site in their response to an emergency.*

**(b) What are the anticipated deployment plans and the possible constraints, if any, in implementing these plans?**

*Speaking from an industry perspective it would seem that major metropolitan areas will be the regions first served with this type of capability and focused initially on the front*

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line responders (police, fire, ambulance). With large scale deployments other supporting groups could also benefit from these technologies.

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

*In Daniels Electronics opinion as a designer and manufacturer of radio equipment, no. As indicated in your consultation paper, high frequency bands (such as 4.9 GHz) reduce the effective coverage range, increasing the system cost in a given coverage area. All other sub 1 GHz bands that provide good coverage characteristics from an RF perspective are fully occupied to prevent suitable bandwidth being available.*

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

*In Daniels Electronics opinion this is vital and essential. The whole thrust of P25 for narrowband voice is revealing the benefits of interoperability. Agencies can communicate between agencies and in different geographies as they support other major agencies in national emergencies. Interoperable communication equipment from the vendor community is increasing functionality, providing choice of vendor and functionality and bringing innovation and cost reduction to the industry that desperately needs both.*

**(a) between various Canadian public safety agencies;**

*The ability of public safety agencies to jointly respond to a major event and communicate amongst themselves is a core principle of CITIG and the Continuum of Interoperability. In a national emergency local agencies will need assistance from surrounding regions and the ability to coordinate their response is a foundational requirement that dictates the need for interoperable communications.*

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

*Since 90% of the Canadian population lives within 300 kms of the US border, in the event of a major emergency it is highly probable that the closest agencies that could lend support to the local first responders will be the US counterparts. In a national emergency local agencies will need assistance from surrounding regions and the ability to coordinate their response is a foundational requirement that dictates the need for interoperable communications.*

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

*Daniels Electronics has heard from these agencies that the challenges include incompatible equipment (non P25) that cannot communicate together, different frequency bands that require conversion equipment and a lack of planning and coordination to have preplanned conversion solutions in place when the need arises to be interoperable.*

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**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.**

*In Daniels Electronics experience, major national emergencies cannot rely on commercial communication systems due to reliability of operation, lack of “hardened sites” and availability of communications channels when contention exists with public users. After Hurricane Katrina, Daniels Electronics equipment was deployed on a large scale by FEMA (US Federal Emergency Management Agency) and NIFC (US National Interagency Fire Center) to rebuild a public safety network that was damaged or destroyed by flooding. The temporary systems were used exclusively by first responders since the primary commercial networks were also out of service due to flooding.*

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

*In Daniels Electronics opinion, such an approach is impractical and open to catastrophe for first responders trying to maintain communications in life and death situations. The potential economic benefits of a shared system are not worth the risk they may impose under emergency conditions to first responders and the public they are trying to aid.*

**(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?**

*Existing dedicated Public Safety systems are generally limited to narrow band voice or low speed data communications. The ability to see a graphic, a map, a photo, a warrant for arrest is currently not supportable by the deployed technology or the currently licensed spectrum. The addition of such capabilities would greatly enhance the ability of first responders to be more effective in their response and respond in a timelier manner that will save lives.*

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

*In Daniels Electronics opinion, such systems should be dedicated to public safety, they should be mandated to be open standard based to ensure interoperability and they require dedicated bands of spectrum adequate to the services and deployment envisioned. Public Safety communications systems should not be secondary to commercial services.*

**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.**

*Already in Alberta and the Maritimes we are seeing region wide public safety systems being deployed to achieve interoperability between first responders as well as to maximize coverage and cost effectiveness on dedicated public safety networks. For broadband applications the same logic will apply and the institutional willingness appears to be there since funds are limited.*



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**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.**

*Already in Alberta and the Maritimes we are seeing region wide public safety systems being deployed to achieve interoperability between first responders as well as to maximize coverage and cost effectiveness on dedicated public safety networks. For broadband applications the same logic will apply and the institutional willingness appears to be there since funds are limited. Such a capability at a national level would be beneficial as agencies travel across the country responding to major events (forest fires, the Olympics, an earthquake).*

**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.**

*From a public safety perspective with dedicated spectrum there is no difference in the above options.*

*From a manufacturers perspective we again note the following:*

- 4. Interleaving different spectrum uses (Options 2a, 2b,) across Canadian and US markets leaves Canada with a unique and therefore disadvantaged public safety product market.*
- 5. Option 1 offers compatible spectrum uses across Canadian and US markets, allowing for manufacturing economies of scale and more effective market access.*
- 6. Option 1 facilitates better and timelier frequency coordination efforts between Canadian and US government agencies.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*The APT band plan should not be adopted by Canada; this would be incompatible with the existing US band plans, Option 1 should be adopted.*

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



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*The Canadian decision should be delayed until the US situation is known.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*



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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**6-2. The Department seeks comments on the spectrum utilization policy proposed above.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*





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**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:**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**(a) in general;**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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? In light of your response above, and**



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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**(b) If the Department were to implement a set-aside in the 700 MHz auction:**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**(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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*



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**(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 time period)?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

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

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Provide supporting evidence and rationale for all responses.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Note: The possible implementation of a set-aside regarding the 2500 MHz spectrum to be auctioned will be dealt with in a separate consultation.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*



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**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.).**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Rationale and supporting evidence that substantiate your responses should be provided.**



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**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**9-2. If government intervention is needed, which of the following options should be implemented?**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Option 1: Mandated open access requirements across all future commercial mobile bands**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Option 2: Mandated open access requirements for the entire commercial mobile spectrum in the 700 MHz band.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Option 3: Mandated open access requirements for the “C Block” (746-757/776-787 MHz) as in the United States.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Please provide supporting arguments for your responses, and any additional comments related to provisions of open platforms for devices and applications.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*



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**10-1. The Department is considering three options to proceed with the 700 MHz and 2500 MHz bands auction processes:**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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;**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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;**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**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.**

*Daniels Electronics is unable to offer an opinion on this subject since it is not our area of expertise.*

**Comments should include the rationale for selecting one option rather than another.**

