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Consultation on the Technical and Policy Framework for Licence-Exempt Use in the 6 GHz Band

SMSE-014-20

Submission from:

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The Government Mobile Communications Branch of the Province of Ontario is pleased to respond to SMSE-014-20 Consultation on the Technical and Policy Framework for Licence-Exempt Use in the 6 GHz Band.

The Province has begun the upgrade of its push-to-talk radio network for its public safety users which includes microwave backhaul required to connect radio sites to our 911 communication centres. The risk of harmful interference to any part of our network especially the backhaul network which could impact the performance of multiple coverage sites is certainly very concerning.

Maintaining the integrity of this network by keeping it free from harmful interference is paramount to protect the safety of life not only of the public safety first responders who will use the network, but the safety of life and property of the public who these first responders serve.

Our response to this consultation on the following pages will be limited to question 2 and question 13.

Q2:
ISED is seeking comments on its proposals to allow licence-exempt RLAN use in the 5925-7125 MHz band.

We believe it will difficult to adequately protect incumbent and future licensed 5925-7125 MHz band operations from harmful interference if unlicensed RLAN operations are permitted, especially if higher power RLAN devices are permitted as per the FCC rules.

ISEDC should be aware of the recent petition for the appeal of the FCC RLAN rules by APCO, EEI, AT&T and others. The petition highlights our concern that there must be adequate mechanisms in place to protect microwave receivers from harmful RLAN interference including licensed systems whose failure could threaten lives and safety due to the critical nature of the information being carried.

We note that the FCC is permitting low power 1-watt devices where other jurisdictions are planning more conservative rules limiting power to 250 milli-watts. We are concerned that low power RLAN devices will be misused by residential and business users by either locating their devices outside, or by using outdoor antennas. Limiting the output power of low-power devices to 250milli-watts would help mitigate the risk of receiving interference from these devices if used outside.

The FCC's rules allowing standard power devices of up to 4 watts presents an even greater interference risk than the risk from low power devices and does not appear to be supported elsewhere. Our concerns are further exacerbated by the proposal to allow the use of standard power RLAN devices outside where transmissions would not be reduced through building wall attenuation. Channel assignments made for standard power devices by AFCs are therefore most critical to ensure standard power devices do not cause harmful interference to licensed systems.

Q13
ISED is seeking comments on the implementation considerations for the operation of an AFC system, specifically:

- ***a. information required from licensed users***
- ***b. interference protection criteria for computation of exclusion zones***
- ***c. information required from standard-power Aps***
- ***d. frequency of AFC update of licensee information***
- ***e. security and privacy requirements***

ISEDC must continue to protect Public Safety assignments by not disclosing channel assignments and locations to the public domain. This runs contrary to the intent of the proposed AFC design which requires licensed radio site details to make interference free RLAN assignments. One consideration is to treat Public Safety assignments uniquely from other assignments. Public Safety assignments could be "blocked" from RLAN

assignment over a bounded geographical area in lieu of the AFC performing location specific interference calculations. Specific Public Safety site locations would not have to be divulged to the AFC.

We believe it will be difficult to guarantee that the AFC system(s) will not be compromised and that AP channel assignments will remain valid. The unfortunate reality is that information technology systems and equipment, especially systems exposed to the internet are vulnerable to external “hacking” and manipulation. ISEDC must carefully consider how security features with be architected and maintained in the AFC system, and how the AFC operator(s) themselves will be security cleared to establish an on-going trust that the AFC system(s) will be able to make valid interference-free RLAN assignments.

Even with adequate AFC control and security, we are concerned that “unlocked” standard power RLAN devices might become available that allow user programming of channels and/or location information. Without AFC control of channel assignments or if inaccurate location information is being provided, these devices would be completely unmanaged, greatly increasing the risk of harmful interference to licensed systems.