RADIO ADVISORY BOARD OF CANADA
CONSEIL CONSULTATIF CANADIEN DE LA RADIO

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(Submitted by email)

Subject: SRSP-500, Draft Issue 2

Dear Josette Gallant,

Introduction

In April 2024, the Department requested that RABC review the draft second issue of Standard Radio System Plan (SRSP)-500, – *Technical Requirements for Land Mobile and Fixed Radio Services Operating in the Bands 138-144 MHz and 148-174 MHz.* The Board assigned the review of the standard to the Mobile & Personal Communications Committee.

The Committee held three meetings to review the proposed changes to the standard, during which feedback was provided to the Department. Final comments of the Board are as follows.

Comments

Section 1.3

Public Safety members have one major concern with the proposed language in the new issue. With the differences in the VHF band-plan patterns across the country it is not clear that the draft wording in the SRSP is adequate to protect what might be considered non-standard systems. TX to RX spacing patterns have been developed independently across the provinces and attempting to align to a standard band-plan (although this may be ideal) has the risk of providing preferential access to spectrum in some Provinces verses others. The requirement to align to a specific pattern will cause unnecessary financial harm. The Board recommends the following changes:

> Radio systems conforming to the requirements contained in this SRSP will take priority in licensing and coordination over non-standard systems proposed for operation in these bands, subject to the terms and conditions of Spectrum Utilization Policy (SP Gen) and Redeployment Plan 100-500 MHz. However, ~~radio systems requiring a~~ where an established channel assignment pattern exists in a Province, e.g., different spacing between the base transmit frequency and the mobile transmit frequency is established

other than the one prescribed in this SRSP, systems will be ~~may be~~ authorized on a standard basis ~~at the discretion of the local spectrum management office~~ provided that the assignments fall within base transmit and mobile transmit block pairings specified in this SRSP.

Sections 2.6 and 2.7
Ontario has the largest VHF province-wide trunking public safety network in Canada using for the most-part 138/142MHz duplex assignments with a 4.02MHz offset (not 3.99MHz as per the SRSP plan). Making this system non-standard and potentially limiting its expansion or requiring a costly and operationally impacting network wide re-channelling exercise simply doesn't make sense, nor is it likely provide any spectrum management advantage.

The last sentences in Section 2.6, "Modification of a non-standard system will not be required except where this system blocks the entry of standard systems into these frequency bands"; and Section 2.7, "Extension or expansion of these systems will be considered by ISED's district offices on a case-by-case basis. New systems deployed in these frequency bands shall conform to the requirements of this SRSP", are particularly problematic. It is recommended that these two sections be replaced with a new section and new wording:

> New channel assignments operating in the bands 138-144 MHz and 148-174 MHz should follow the band allocations defined within this SRSP where possible. Existing systems which were licensed as standard prior to the issuance of this SRSP may continue to operate as standard systems. In addition, existing system expansion or system replacement using band allocations that differ from the standard allocations defined within this SRSP but follow a traditional provincial band allocation pattern are allowed.

Section 2.10
Public Safety members and the first responder community applaud any efforts to assist with public safety interoperability. The assignment and co-ordination of these three new channels will assist those who operate in the VHF band, especially in rural areas of Canada, to collaborate and provide a coordinated response to emergencies. RABC further recommends that technical operational parameters (i.e., modulation, bandwidth and CTCSS) be left to public safety agencies to self-coordinate. It was further agreed that the assignment of all three (3) proposed frequencies [159.81 MHz, 159.93 MHz and/or 160.05 MHz] would provide for maximum flexibility and capabilities for mutual-aid responses from emergency services.

Section 2.11
Public Safety members understand the intend behind the wording of this section.

Section 7.1.1
Electricity Canada members recommend the limit of the effective radiated power (ERP) for mobile units raised to 50 watts ERP (instead of 30 watts). The effective site coverages operated by utilities are typically limited by the uplink (talk-back or talk-in). Then, an increased from 30 to 50 watts ERP (for mobile) would help operators improve the effective coverage in many places.

Of course, Safety Code 6 limits must always be met (this is true for 30 watts or 50 watts). It is also true that in all cases, the ERP shall be limited to that which is necessary to providing a balanced radio system (mobile talk-back capability) over the desired service area or at the required level of service.

CACP supports the authorization of higher erp levels for mobile stations. Recognizing this will be coordinated and evaluated on case-by-case basis, this will assist users, particularly in rural areas where there is likely to be limited concerns for interference. The Ontario Government and the Railway Association of Canada also supports the proposed increase to the limits.

In particular, Ontario indicated that Systems are typically talk-back limited and the increase in mobile radio power would improve coverage. In some situations, the increase in power could mitigate the need to add an additional site or sites and the need for additional radio channels. Ontario is facing this situation in several locations today as the Province enables its new VHF P25 TDMA radio system.

As such, RABC recommends effective radiated power (ERP) for mobile units raised to 50 watts ERP (instead of 30 watts).

Section 5.3
Public Safety's understanding of the market is that trunking systems are able to achieve 7.5KHz channeling using FDMA (NXDN standards) or are able to achieve equivalent capacity using TDMA (DMR, P25, Tetra) - allowing for 2 voice paths in a 15KHz channel. Unfortunately, the P25 Public Safety Standard does not support 7.5KHz channel capability in direct or talk-around modes. Radios compliant with the P25 Standard for trunking operations can only operate using 15KHz channels (analog or digital modulation) in direct or talk-around modes.

RABC is satisfied with the proposed wording of Section 5.3.

New Section 7.4
NAV CANADA (a Sponsor Member of RABC) undertook theoretical technical calculations that show that there is a possibility of interference from LMR systems to VHF aeronautical stations. Considering these calculations, NAV CANADA recommended the inclusion of a new section in the SRSP to warn about the risk of interferences which, if confirmed by NAV CANADA, should lead to an expedited interference resolution process between LMR operators and NAV CANADA. NAV CANADA believes the risk of interference will increase with its planned introduction of VDL mode 2 in Canada. CACP, CECA and the Ontario Government (also Sponsor Members of RABC) opposed NAV CANADA's proposal, who noted among other things, there have been no known real world interference issues (LMR systems to VHF aeronautical stations) and that standard processes exist to resolve cases of interference between systems. RABC understands that NAV CANADA will be submitting its recommendation with the supporting calculations directly to ISED.

Conclusion

The Board has now completed its review. We appreciate having had the opportunity to review the updated standard.

Sincerely,

J. David Farnes
General Manager