

DATE OF MEETING March 17, 2021

AUTHORED BY [Tim Doyle, Fire Chief]

SUBJECT TK2140 Portable Radio Replacement – Fire Dispatch Transition

OVERVIEW

Purpose of Report:

To advise Council that \$58,000 has been added to year 2021 of the 2021 – 2025 Financial Plan for the replacement of Nanaimo Fire Rescue's TK2140 portable radios which are incompatible with Surrey Fire Dispatch emergency signaling technology.

BACKGROUND

Emergency signaling functionality allows the user to quickly call the dispatcher for help by pressing a single easy-to-reach button on the radio set. Additionally, Unit ID allows the dispatch center to determine exactly which unit is making or receiving a call. Having routine unit ID emergency signaling information is extremely valuable for firefighters and dispatchers and therefore a highly desirable safety feature that aligns with Fire Service best practices.

One model of radio that Nanaimo Fire Rescue (NFR) uses is a TK2140 model which is an older radio and has been in production for approximately 20 years. NFR currently has 43 TK2140s in inventory. NFR first purchased this model shortly after it became available and most recently in 2015 (average age > 10 years) before transitioning to newer radios that are compatible with Surrey emergency: NX5200K2 (45) radios.

NFR's TK2140 radios are equipped with Dual-Tone Multi-Frequency signaling (DTMF); however, Surrey Dispatch employs Motorola Data Communications (MDC) 1200 emergency signaling, which is not compatible with this model.

DISCUSSION

Communications consultants have determined that the following options are available to maintain NFR's radio emergency signaling capabilities:

1. Purchase 43 new NX5200K2 radios to replace 43 older radios that are not compatible with Surrey; this includes antennas, batteries, and chargers. The cost of this option is \$58,000.
2. Use a PC-based device, designed by Surrey, to monitor the incoming audio at Surrey from Nanaimo. Upon detecting an emergency DTMF signal, this device would play a .WAV file in MDC1200 format containing the unit ID number and signaling to the Surrey consoles that an emergency button was activated. This solution is a "patch" that "translates" the DTMF signals to MDC1200 signals and would only provide notification of emergencies - not Unit ID information. The installed cost of this solution is in the order of \$7,000.

3. Modify 43 TK2140 radios for MDC1200 emergency only signaling with an additional module, not Unit ID information. For 43 radios this would cost in the order of \$10,000.

To be clear, these options are not an equal comparison due to numerous variables. Firstly, Options Two and Three are adaptations that only provide patch fixes for emergency signaling. Secondly, these options necessitate investing funds into radios that are at/or approaching end-of-life. Lastly, in terms of reliability, Option Two and Three are considered medium risk because both options are theoretical and have not been tested. If the modifications were successful, they still would not provide enough information regarding the origin of the rescue request or when that request was made.

The consultant highly recommends Option One. This option aligns NFR's radios uniformly with Surrey's emergency signaling technology. The radios that are incompatible with Surrey's technology could be repurposed for training.

The funding for these radios will come from the Asset Management Reserve Fund,

SUMMARY POINTS

- Emergency signaling button allows the user to quickly call the dispatcher for help by pressing a single easy-to-reach button on the radio set. Additionally, Unit ID allows the dispatch center to determine exactly which unit is making or receiving a call.
- Nanaimo Fire Rescue's TK2140 portable radios are incompatible with Surrey Fire Dispatch emergency signaling technology.
- Three options were suggested by Surrey's communication consultant; however, the Consultant suggested that replacement is the lowest risk option.

Submitted by:

Tim Doyle
Fire Chief

Concurrence by:

Laura Mercer
Director of Finance

Jake Rudolph
Chief Administrative Officer