



National Interagency Incident Communications Division



May 22, 2012

To: Radio Users

From: Stephen M. Jenkins, Chief, National Interagency Incident Communications

Subject: Relm BK EPH/EMH Radio Interstitial Frequency Safety Issue

Issue: The Relm BK EPH/EMH radio will not tune to FCC-issued interstitial frequencies in use by state and local agencies. If a technician uses the PC programming software to program a channel to an interstitial frequency, that channel will contain a random frequency, with no indication that an error occurred from either the PC programming software or the EPH/EMH radio. The affected radio will appear to function on that channel, but the transmitter and receiver will be on the wrong frequency, jeopardizing the safety of the radio user. The only way to know that an error occurred is to inspect the radio configuration via front panel programming or to read the radio configuration back into the PC programmer. The channel that was programmed with an interstitial frequency will have a different frequency than the one entered. If a technician attempts to program an interstitial frequency via front panel programming the radio will not accept it. If an interstitial frequency is cloned into an EPH radio, the radio will program itself to the next valid frequency.

Identifying interstitial frequencies: An interstitial frequency is any frequency in the FCC public safety band (150 - 162 MHz) that has a five in the fourth decimal place. For example 155.7525 is an interstitial; 155.7450 is not. Note that federal frequencies (162 to 174 MHz) with a five in the fourth decimal place are not interstitial (e.g. 166.6125) and are compatible with the EPH/EMH radio.

Discussion: The issue of interstitial frequency radio incompatibility was first identified in 2007 and information was posted to the National Interagency Fire Center (NIFC)/National Interagency Incident Communications Division (NIICD) [NIFC/NIICD Hot Sheet](#). It was noted in the Hot Sheet that the EPH was incapable of tuning to FCC-licensed interstitial frequencies and that interstitial frequency assignments would increase over time. The problem with the PC programmer was not discussed because it had not yet been identified. It was recommended that

EPH radios be replaced as soon as budgets allow. The DOI lifecycle replacement of portable radios is 7 years and the US Forest Service lifecycle replacement for radios is 10 years. Relm/BK states that the last EPH radio was shipped in 1998.

State and local agencies are completing the FCC-mandated migration to narrowband. Consequently, interstitial frequency assignments are increasing. Since the EPH/EMH cannot be programmed to these frequencies, it can no longer be considered an effective tool for interagency wildland fire communications. Continued use of the EPH/EMH will create problems with interoperability, complicate frequency management, and impede mutual aid.

Outcome: Effective January 1, 2013 the EPH/EMH will be removed from the [NIFC/NIICD Approved Radio](#) list. Wildland fire contractors who are required to provide radios from the [NIFC/NIICD Approved Radio](#) list need to plan accordingly for the 2013 fire season.

Recommendations:

1. Radio management personnel need to identify any incompatible FCC-licensed frequencies being used as part of mutual aid agreements with state and local entities and make radio users aware of the limitations of EPH/EMH radios.
2. Communications unit leaders need to identify on their Incident Radio Communications Plan (ICS 205) any incompatible FCC-licensed frequencies being used on the incident and make incident radio users aware of the limitations of EPH/EMH radios.
3. Ensure EPH/EMH radios are replaced with newer radio models no later than January 1, 2013. After this date, only radios which are fully compatible with interstitial frequencies will be placed on the [NIFC/NIICD Approved Radio](#) list.

Questions concerning this issue can be directed to the Communications Duty Officer (208-387-5644) cdo@fs.fed.us.

/s/ **STEPHEN M. JENKINS**
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