

United States Department of the Interior  
BUREAU OF LAND MANAGEMENT  
Office of Fire and Aviation  
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May 9, 2001

In Reply refer to:  
(FC-260) 9209 P

EMS Transmission 05/10/01  
Information Bulletin No. OF&A 2001-030

To: SDs, CDs

From: Director, Office of Fire and Aviation

Subject: Operational Testing of Digital Portable and Mobile Radios

DD: 7/10/01

In 1995, Congress directed the federal government to sell a portion of the radio spectrum to private industry to support new technologies. Congress also directed federal agencies to reduce the operational separation between VHF frequencies, effectively doubling the number of frequencies available. It was further determined that federal users would have equipment (portable and mobile radios and repeaters) within the new narrowband frequency confines by January 1, 2005. The Department of the Interior, in an effort to meet the Congressional directive, mandated Electronics Industry Association/Telecommunications Industry Association (EIA/TIA) 102 (P-25) digital technology for narrowband conversion. Local and state agencies to date, have not been mandated to convert to narrowband technology in the VHF frequency band.

The BLM Fire and Aviation program will conduct an operational field test this fire season in an effort to ensure the conversion to new P-25 digital radio equipment does not compromise safe fireline operations. Technical tests were completed during the FY 2000 field season. The operational field test will be done by select firefighting modules using the new digital P-25 narrowband radios. The operational field test will use the digital radios in a wideband analog mode to ensure there is operational compatibility on an interagency basis. This operational test will be done during the months of May and June, and concluded by July 1 (assuming the radio manufacturers can meet the delivery date). Operational testing feedback will be gathered in a standard format. Technical and operational assistance will be provided during the test period first from the home unit, then from the state office, and finally from the Office of Fire and Aviation.

The selected firefighting modules doing the test will be required to finalize their report by July 1, 2001 (assuming the radio manufacturers can meet the delivery date) and forward it to the BLM National Office of Fire and Aviation (OF&A) by July 10, 2001. The OF&A will provide a written report back

to the state directors by July 17, 2001.

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If the operational testing of the new radios shows no durability or operational fireline issues, the OF&A will approve those radios identified in the test plan for purchase and use by the fire program.

We propose to do this operational testing of digital radios with the following firefighting modules:

Hotshot Crews:

- Silver State - four portable radios from NIFC
- Diamond Mtn - four portable radios from NIFC
- Vale - four portable radios from NIFC
- Colorado - four portable radios from NIFC

Smoke Jumpers:

- Great Basin - four portable radios assigned to specific Smokejumpers
- Alaska - four portable radios assigned to specific Smokejumpers

Engine Crews:

- California - One Engine Crew - one mobile and two portable radios from NIFC
- Nevada - One Engine Crew - one mobile and two portable radios from NIFC
- Utah - One Engine Crew - one mobile and two portable radios from NIFC
- Oregon - One Engine Crew - one mobile and two portable radios from NIFC

Water Tenders:

- California - Water Tender - mobile radio from NIFC
- Idaho - Water Tender - mobile radio from NIFC

Type IV Incident Commander - Area Fire Management Officer or Station Manager:

- Nevada - one mobile radio and one portable radio from NIFC
- California - one mobile and one portable from NIFC
- Oregon - one mobile and one portable from NIFC

Aviation - Helitack:

- Utah - Moab Field Office - four portable radios from NIFC

States may elect to add additional fire personnel to participate in the testing of the new P-25 digital radio equipment. The operational field testing by firefighting personnel is important because the results will dictate the decision for the fire program to proceed with the purchase of new digital radios. This will be a costly decision, but more importantly, it must meet the operational requirements of fire and aviation from initial attack to extended attack to project fires. The portable and mobile radios must be able to work reliably in all of these operational fire situations to ensure continual operational communications and minimize risk.

For this reason, it is important that the firefighting modules involved in this test understand the importance of accurately completing their analysis of the new radios and proving the test results in the agreed upon timeframes.

The Operational Radio Field Testing Questionnaire is attached.

Questions may be directed to John Gebhard, IRM Chief, at 208-387-5164 or Ron Strong, National Telecommunications Manager, at 303-236-6635.

Signed by:  
Lynn Findley  
Acting Director, Office of Fire and Aviation

Authenticated by:  
Pat Lewis  
Supervisory Mgmt. Asst.

1 Attachment

1 - Operational Radio Field Testing Questionnaire (2 pp)

**Distribution**

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## Operational Radio Field Testing Questionnaire

Fire personnel who are involved in the operational fire program field testing of digital (P-25) radios are asking for feedback based on the following situations. The digital radios will be operated in a wideband/narrowband analog mode for the test. This evaluation is to be filled out by the module leader supervisor based on his/her experience during the test. Evaluations are to be sent to John Gebhard, 3833 Development Ave., Boise, ID. 83705 no later than July 1.

1. Was training given on the use of the new digital radio?
  - Was training necessary for all members of your crew?
  - Do you think training will be needed each year on the use of these radios?
  - Did the training cover local radio practices, off unit radio issues, and air to ground practices?
  
2. Was tail gate training required during the fire season on use of the new digital radios?
  - Why was tail gate training done?
  - What topics needed refresher training?
  
3. Were all crew members capable of using the new digital radio?
  - If not, what problems were encountered?
  - Did the radio meet your operational needs?
  
4. Was the accessory equipment for the new digital radio easy to operate and effective?
  - Holster, batter clamshell, detachable microphone, and other?
  
5. How many operational shifts did the batteries last? Was the battery life acceptable?
  - Any other issues with the batteries or battery clamshell?
  
6. Did your new digital radio come to you programmed with all the frequencies you needed during the test?
  - If additional frequencies needed to be programmed into the radio for local or off unit assignments, how was this done?
  - Could you program channels/tones?
  - Could you change zones?
  - Could you clone the radio without losing home unit channels?
  
7. While on your unit did you have occasion to call other units - vehicle to vehicle?
  - During a wildfire situation, did you conduct administrative and aircraft radio communications?

Did your crew or you feel the new digital radio operated satisfactorily?  
If not, please give specific examples.

8. Did you use the new digital radio to call dispatch through a repeater? Was this during a wildfire situation, for administrative traffic, or another situation?

Was the experience you or your crew had using the digital radio satisfactory?  
If not, please explain.

9. Did you use the new digital radio off unit with another agency unit or a off unit cooperater?

Where there any programming issues?  
Where you and the other unit able to communicate satisfactorily to get the assignment completed?  
Did you have occasion to contact off unit aircraft?

10. Did you use the new digital radio to call an off unit dispatch center?  
Was this a wildfire assignment, administrative traffic or another situation?

11. Was the audio quality sufficient?  
Was it clear?  
Was it loud enough?  
Did you use the radio in a high noise environment?

12. Were the switches and keypad usable?  
Was the radio easy to change functions i.e. frequencies, zones, tones?  
Was the radio easily put into a mode/function that wasn't intended?

13. Any other suggestions or comments to the fire program before implementation of new digital radios?

14. Is there any reason the new digital (P-25) radios should not be used for fire operations?

15. What make and model of radio did you use?

