FEDERAL COMMUNICATIONS COMMISSION
445 TWELFTH STREET SW
WASHINGTON DC 20554

MEDIA BUREAU
AUDIO DIVISION
APPLICATION STATUS: (202) 418-2730
HOME PAGE: www.fcc.gov/mb/audio/

ENGINEER: Dale Bickel
TELEPHONE: (202) 418-2706
FACSIMILE: (202) 418-1410
E-MAIL: dale.bickel@fcc.gov

January 23, 2013

Mr. Ken Fate
Raven Radio Foundation, Inc.
2 Lincoln Street, Suite B
Sitka, AK 99835

Re: KCAW (FM), Sitka, AK
Raven Radio Foundation, Inc.
Facility Identification Number: 55213
Special Temporary Authority
BESTA-20130122AFZ

Dear Mr. Fate:

This is in reference to your request filed January 22, 2013, for Raven Radio Foundation, Inc. ("Raven").[1] Raven seeks authority to test a specially designed "portable" emergency transmitter unit for short periods on its licensed frequency (104.7 MHz) during regular broadcasting hours on February 1 and 2, 2013, in concert with other agencies and emergency personnel conducting a drill. This would "allow evaluation of the kit's performance and any interoperability issues with the other communication systems present and operating." The power level of the unit is variously listed as 100 watts, 250 watts (in a related e-mail), or 350 watts ERP. This request IS DENIED, for the reasons that follow.

First of all, a longstanding prohibition exists against the use of portable stations in the radio broadcast bands. The Federal Radio Commission ("FRC"), the predecessor of the Federal Communications Commission, discontinued authorization of portable stations in the AM broadcast band in 1928:

> They have been a constant source of interference both because of lack of proper equipment and because their changing geographical location made it impossible to avoid interference arising out too small a frequency separation as they moved into the vicinity of broadcast stations assigned to adjacent frequencies.[2]

The considerations that made portable stations untenable in 1928 are far more prevalent now, in today's crowded radio spectrum. We are not aware of any instance since 1928 where the FCC has authorized a broadcaster to use a portable station capable of transmitting in the AM and FM radio broadcasting bands, including portable use for emergency operations.

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[1] This request was originally (mis)filed as a request for experimental operation in the Office of Engineering and Technology's (OET) Experimental Licensing System. It has been manually entered into the FCC's CDBS broadcast licensing system.

[2] *Second Annual Report of the Federal Radio Commission to the Congress of the United States for the Fiscal Year Ended June 30, 1928,* http://transition.fcc.gov/fcc-bin/assemble/docno=281026 at page 14. *See also* the reference to FRC General Order No. 30, May 10, 1928, in the *Radio Service Bulletin No. 134, Department of Commerce,* http://transition.fcc.gov/ftp/Bureaus/Mass_Media/Databases/documents_collection/radio_service_bulletins/280531.pdf (May 31, 1928) ('no licenses or renewal or extension of existing licenses will be issued to portable broadcasting stations after July 1, 1928, and that on that date all portable broadcasting stations will cease operations.")

Raven apparently seeks to operate the portable unit from a single location for this two day period, ostensibly to test for interference. Such tests do not readily evaluate the potential for interference if the unit is operated elsewhere.[3] In the presence of a comparatively strong radiofrequency signal, other radio services and electrical devices can be adversely affected.[4]

Also, it is difficult to maintain predictable and reliable coverage and interference from a transmitting unit that can be moved to different locations. In the FM band, coverage is greatly dependent on factors such as terrain and power, and to a lesser extent, antenna orientation and line-of-sight. In today's emergency planning considerations, a known coverage area is essential for all radio services. That can only be known in advance from use of a fixed antenna site.

Raven provides no details as to the construction of its portable unit. We are therefore unable to conclude that safe operation of the unit is possible (e.g., electrical shocks, operation under adverse weather conditions). Nor do we have any information to suggest that the unit meets the radiofrequency exposure limits the Commission has set for the protection of workers and the general public (*see* Section 1.1307 of the Commission's Rules). Inasmuch as the unit is portable, the circumstances for radiofrequency exposure will change from place to place, particularly if there are nearby buildings, parked cars, light poles, or other metal objects. There is no practical means by which all the possibilities can be known in advance. The potential radiofrequency exposure safety issue alone is sufficient to merit denial of Raven's STA request.

KCAW presently has one licensed low powered (40 watts ERP) auxiliary (backup) facility which is at the same site as the station's licensed main antenna. We invite Raven to consider whether licensing a second auxiliary antenna, mounted at a different transmitter site at a higher elevation, would serve Raven's laudable goal of maintaining service in event of a community-wide emergency.

Sincerely,

Dale Bickel
Senior Engineer
Audio Division
Media Bureau

[3] It is easy to contemplate a situation where listeners who are accustomed to clearly receive an FM signal on one channel, to suddenly receive interference from operation of a portable unit operating on the same or adjacent channel. This scenario is well known from channel and site changes by FM translator stations (which are not portable, and operate at about the same power level proposed here). A sudden loss of service could be critical in a time of emergency.

[4] Instances have occurred where operation of FM stations have caused cross-service interference to aircraft operations, land mobile operations such as a county fire service, or (more commonly) low-level background audio in radio receivers of different services. Operation from a fixed site allows interference to be traced and corrected; operation from a portable unit may cause such interference sporadically, making the source far harder to locate, and so could compound an emergency.