LAW OFFICES
SCHWARTZ, WOODS & MILLER
SUITE 610, THE LION BUILDING
1233 20TH STREET, N.W.
WASHINGTON, D.C. 20036-7322

LAWRENCE M. MILLER
STEVEN C. SCHAFFER
MALCOLM G. STEVENSON

TELEPHONE: 202-833-1700
FACSIMILE: 202-833-2351
WRITER'S EMAIL: miller@swmlaw.com
WRITER'S EXTENSION: 213

ROBERT A. WOODS
(Retired)
TAX COUNSEL
MARK B. WEINBERG
LOUIS SCHWARTZ
(1918 - 2004)

June 18, 2010

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room TW-A325
Washington, D.C. 20554

Re: Station KOTZ(AM)
Kotzebue, Alaska
FIN 35440
FRN: 0005057245

Dear Ms. Dortch:

On behalf of Kotzebue Broadcasting, Inc., licensee of noncommercial educational Station KOTZ(AM), Kotzebue, Alaska, we hereby request the issuance of an experimental authorization, pursuant to Section 73.1510 of the rules, in order to operate the station for up to one year with controlled carrier amplitude determined by modulation density, referred to as "dynamic carrier control" (DCC). The station would otherwise be operated at normal license parameters.

As discussed in detail in the attached engineering statement, DCC is in widespread use throughout the world and results in very substantial power savings. Station KOTZ is a noncommercial station in remote rural Alaska, where electricity is extraordinarily expensive. The licensee, working with the Alaska Public Broadcasting Commission, wishes to experiment with DCC to test a variety of controlled carrier algorithms and to determine the extent to which DCC will in practice provide the anticipated savings. The experiment will investigate whether the DCC technology causes "carrier shift" and assess whether there is any degradation of audio quality, as well as measure power consumption. The results of the experiment will be of critical importance for the licensee and other similarly situated rural Alaska AM licensees that face budget challenges amid

very high electricity costs. The experiment, if successful, thereby promises to lead to improvement of the technical phases of AM broadcast operation.

Pursuant to Section 1.1116 of the rules, this application is not subject to a filing fee because the applicant is a noncommercial educational licensee requesting an experimental authorization.

We have been authorized to certify on behalf of the applicant that neither it nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.

Please address any questions concerning this application to this office.

Very truly yours,

SCHWARTZ, WOODS & MILLER

By: Lawrence M. Miller
Lawrence M. Miller

Attachment
LMM/nmc

BENJAMIN F. DAWSON III, PE
THOMAS M. ECKELS, PE
STEPHEN S. LOCKWOOD, PE
DAVID J. PINION, PE

ERIK C. SWANSON, PE
THOMAS S. GORTON, PE
MICHAEL H. MEHIGAN, EIT

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151
FACSIMILE (206) 789-9834
E-MAIL hatdaw@hatdaw.com

JAMES B. HATFIELD, PE
PAUL W. LEONARD, PE
CONSULTANTS

MAURY L. HATFIELD, PE
(1942-2009)

Engineering Statement

Request for Special Temporary Authority or Experimental Operation

Kotzebue Broadcasting Inc.
KOTZ(AM) Kotzebue, Alaska

May 25, 2010

This engineering statement has been prepared in support of a request by Kotzebue Broadcasting Inc., for Commission authorization to operate station KOTZ(AM) with controlled carrier amplitude determined by modulation density, or "dynamic carrier control."

KOTZ is a a CPB qualified non-commercial educational AM station. Similarly to many of the noncommercial educational stations in Alaska, KOTZ is located in a remote part of rural Alaska, north of the Arctic Circle on a peninsula in Kotzebue Sound, an arm of the Arctic ocean. Kotzebue is not served by an electric power grid connection, and so all AC power for the operation of KOTZ is generated by the local utility using diesel generators. The cost of AC power from the utility is more than 40¢ per KWH. As a consequence of this cost Alaska Public Broadcasting (which supplies technical services to qualified Alaska noncommercial stations) and the KOTZ licensee have determined that it is a practical and reasonable exercise to equip KOTZ for controlled carrier operation, and to test a variety of controlled carrier algorithms. Consequently, appropriate authority from the Commission is requested. It is believed that specific Commission authority is necessary (although there no longer is a maximum carrier shift requirement in the rules) to avoid violation of §73.1560(a) of the rules, which requires maintenance of carrier power level between 90% and 105% of authorized antenna input power. Operation with some modes of controlled carrier operation requires unmodulated carrier power of as low as 35% of nominal carrier power. One scheme reduces power for the modulated condition, with a resulting reduction of carrier power below the FCC tolerance for modulated conditions.#

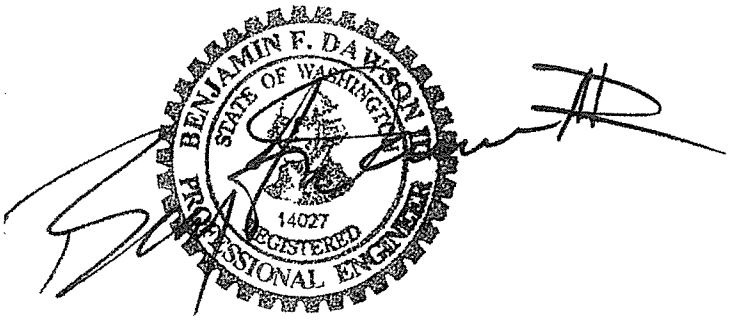
Dynamic carrier control is employed by the vast majority of high power medium wave and many shortwave stations throughout the world, and its characteristics result in very substantial power savings in high power transmitting systems. Because of the

---

#See, for example *Dynamic Carrier Control, DCC, a Valuable Method to Save Input Power of Medium Wave Transmitters*, IEEE Transactions on Broadcasting, V. 35, No. 2, June 1989, pp. 134-138, and *Implementation of Amplitude Modulation Compandering in the BBC MF National Networks*, ibid, pp. 139-146, and "Energy Conservation in AM Transmitters" (PowerPoint) available at http://nautel.com/ResourceCentre.aspx#P

extremely high cost of electric power, APB and the KOTZ licensee feel that its potential benefits require investigation for the remote Alaskan situation. The tests will include use of a variety of modulation control algorithms with different types of programming so that power consumption under different conditions can be determined.

Benj. F. Dawson III, P.E.



Stephen S. Lockwood, P.E.