ENGINEERING REPORT

FM Translator Minor Construction Permit Application

for

K294BG – Malone, WA

License No. BLFT-20050607AAF
Change in site location & City of License Change to Olympia, WA

July, 2009

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(Exhibit numbering is in response to FCC Online Form 349, Section III-A)

Discussion

This firm has been retained to prepare the required engineering report in support of a minor construction permit application for FM translator K294BG, Malone, WA, License No. BLFT-20050607AAF. K294BG is presently licensed on 106.7 MHz with 0.023 watts of directional power with an antenna COR of 470 meters AMSL. A new site location and higher COR AMSL is requested along with a decrease in power. Operation on CH294D with 10 watts ERP at a COR of 842 meters AMSL is requested. The translator will rebroadcast LPFM station KGHO-LP, Hoquiam, WA, CH253L1, Facility ID No. 134721.

The proposed facility will be mounted on an existing tower which does not require Antenna Structure Registration Number. A copy of USGS topographic mapping of the existing tower site has been included in ***Exhibit 12.1***. A copy of the vertical antenna system has been included in ***Exhibit 12.2***. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or facility. General allocation details are found in ***Exhibit 12.5***. There are two additional facilities close enough to merit protection, KOWA-LP – Olympia, WA and CH293D – Independence, WA File No. BNPFT-20030310BNJ. Contour protection studies toward both have been supplied in ***Exhibit 12.6***. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The translator site and proposed 60 dBu contour lie outside of the KGHO-LP 60 dBu contour, however the proposed operation remains in compliance with the Rules as KGHO-LP is an educational LPFM station and the proposed translator is an educational non-fill-in translator. A map of the proposed service area in relation to the primary station service contour has been included in ***Exhibit 12.4***.

Regarding protection of international concerns, the facility is and will remain within 320 km of the common border between the United States and Canada. Full protection will be afforded all Canadian concerns as noted in ***Exhibit 12.5***. In addition the applicant certifies the proposed 34 dBu f(50:10) contour does not extend beyond the domestic border. A copy of the 34 dBu contour will be supplied upon request.

The proposed operating parameters have been changed from the licensed values, however the proposed service contour serves a portion of the present service area as seen in ***Exhibit 12.3***.

The translator will employ two Nicom BKY/3 bay directional (yagi) antennas. One bay will be horizontally polarized and located at the max 842 meter AMSL (31 meter AGL) height. The other bay will be vertically polarized and located at a 839 meter AMSL (28 meter AGL) height or an approximate 1 wavelength spacing for operation on 106.7 MHz. Both antenna arrays will be oriented at a common bearing of 310.0°T. Information concerning the directional antenna pattern has been included in ***Exhibit 12.7***.

RADIATION PROTECTION: The Commission requires an engineering study regarding compliance with the guidelines for human protection from radiofrequency radiation. This report section is in response to that provision of the Rules. The current Federal Communications Commission guidelines for RF radiation protection are set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01).

Discussion (continued)

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1307(b)(3) of the Commission's rules concerning RF contributors of less than 5%. ***Exhibit 16.1*** provides the details of the study that was made to demonstrate compliance. The facility is or will be properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates if required. Any other means as may be required to protect employees and the general public will be employed.

In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.

DISTANCES TO CONTOURS: The following tabulation of the distances to the proposed service contours results from calculations performed in accordance with §73.313(d) and §73.333 Figure 1 utilizing the NGDC 30 terrain database.

N. Lat. = 465824.0 W. Lng. = 1230811.0
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	201.1	640.9	0.0066	-21.83	0.810	12.31
030	240.8	601.2	0.0028	-25.51	0.530	8.92
060	186.5	655.5	0.0008	-30.75	0.290	5.64
090	115.4	726.6	0.0005	-33.15	0.220	4.46
120	***101.7***	***740.3***	***0.0005***	***-32.77***	***0.230***	***4.66***
150	135.4	706.6	0.0005	-32.77	0.230	4.64
180	197.8	644.2	0.0005	-33.15	0.220	4.41
210	249.7	592.3	0.0013	-28.87	0.360	6.60
240	325.7	516.3	0.0040	-24.01	0.630	9.59
270	208.4	633.6	0.0077	-21.11	0.880	12.95
300	201.8	640.2	0.0098	-20.09	0.990	14.07
330	274.7	567.3	0.0094	-20.26	0.970	13.04

Ave El= 203.26 M HAAT= 638.74 M AMSL= 842