

ENGINEERING REPORT

FM Translator Construction Permit Application

K238BA – Mitchell, SD

License No. BLFT-20120717ACD

Facility ID No. 148217

Site Change & Power Increase

September, 2014

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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 Construction Permit Application for FM Translator K238BA – Mitchell, SD, License File Number BLFT-20120717ACD (Facility ID No. 148217). K238BA is licensed to operate on CH238D (95.5 MHz) with 0.011 kW ERP of non-directional power at an antenna COR of 433 meters AMSL. A new site and antenna COR height are requested in this minor change application. Continued operation on Channel CH238D (95.5 MHz) with a power of 0.250 kW ERP is requested from ASR Number 1205757. A circularly polarized non-directional Nicom BKG77-1 antenna will be utilized at the new antenna COR height of 486 meters AMSL. The translator will continue to rebroadcast primary station KMIT(FM) – Mitchell, SD, CH290C1 (Facility ID No. 43239) as a Fill-In FM Translator.

The applicant would like to note that FM Translator(s) K238BA – Mitchell, SD (Facility ID No. 148217) and K278BJ – Mitchell, SD (Facility ID No. 142012) are both filing concurrent, but not contingent applications proposing diplexed operation with one another. K238BA will continue to rebroadcast KMIT(FM) – Mitchell, SD (Facility ID No. 43239) while K278BJ will continue to rebroadcast KUQL(FM) – Ethan, SD (Facility ID No. 42113).

The facility will be located at the existing tower bearing Antenna Structure Registration Number 1205757. A copy of the existing ASR has been included in **Exhibit 13.1**. The vertical antenna system has been plotted in **Exhibit 13.2**. 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 13.5**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note the use of the NED 03 SEC Terrain Database for all allocation, contour and HAAT calculations contained here-in.

The proposed 60 dBμ contour of the Fill-In Translator lies wholly inside of the KMIT(FM) Primary 60 dBμ contour. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 13.4**.

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 13.3**.

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 17.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. 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 NED 03 second terrain database.

N. Lat. = 434205.0 W. Lng. = 980347.0						
HAAT and Distance to Contour,						
FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	394.9	91.1	0.2500	-6.02	1.000	12.30
030	391.1	94.9	0.2500	-6.02	1.000	12.54
060	390.1	95.9	0.2500	-6.02	1.000	12.61
090	396.5	89.5	0.2500	-6.02	1.000	12.20
120	401.5	84.5	0.2500	-6.02	1.000	11.87
150	402.5	83.5	0.2500	-6.02	1.000	11.80
180	408.9	77.1	0.2500	-6.02	1.000	11.38
210	418.4	67.6	0.2500	-6.02	1.000	10.72
240	424.9	61.1	0.2500	-6.02	1.000	10.26
270	420.9	65.1	0.2500	-6.02	1.000	10.55
300	405.9	80.1	0.2500	-6.02	1.000	11.58
330	400.2	85.8	0.2500	-6.02	1.000	11.95
Ave El= 404.66 M HAAT= 81.34 M AMSL= 486						