

# **ENGINEERING REPORT**

## **FM Translator Minor Change Modification**

for

**K218EO – Centerville, UT  
Frequency Change to CH217D  
& Site and Power Change**

Lic App No. BLFT-20080520ACM

May, 2008

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

## **Discussion**

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This firm has been retained to prepare the required engineering report in support of a minor change modification for FM "Fill In" translator K218EO, Centerville, UT, pending License No. BLFT-20080520ACM. K218EO will be licensed to operate on 91.5 MHz with 0.135 watts of non-directional vertical only power with an antenna COR of 1290 meters AMSL. Proposed operation on CH217D with 215 watts ERP vertical only polarization at a COR of 1829 meters AMSL from an alternate site location is requested. The facility will continue to be licensed to Centerville, UT.

The proposed site will be the existing tower identified by Antenna Structure Registration Number 1044646. This proposal will not increase the overall tower height, therefore the FAA need not be notified. A copy of the existing ASR has been included in **Exhibit 12.1**. A copy of the vertical antenna system has been included in **Exhibit 12.2**.

It has been determined the translator may be used in the area without interference to any existing FM broadcast station or translator with the exception of KRCL(FM) and KUFR(FM) both licensed to Salt Lake City, UT. Allocation details are found in **Exhibit 12.5**. Contour protection studies toward the closest of these concerns have been included in **Exhibit 12.8**. Protection towards KRCL(FM) and KUFR(FM) has been demonstrated in **Exhibit 12.7** through a 2nd and 3rd adjacent channel given interference waiver request. As seen in the exhibit, the proposed interference area resides in a remotely located area void of population, housing, buildings or major roads. The applicant would like to note the existence of deleted facility DK272DP, which is still in the database. Deleted facilities do not require protection. It is believed sufficient clearance exists with the remainder of the allocation precluding the need for additional contour protection showings

The translator site lies inside of the Class C1 primary service contour of KYFO-FM, and the 1 mV/m (60 dBu) contour of the proposed fill-in translator does not extend beyond the KYFO-FM primary contour, thus qualifying for fill-in translator status. A map of the proposed service area in relation to the primary station service contour has been included in **Exhibit 12.4**. The applicant would like to note the use of the NED 03 Second Terrain database for all calculations.

Protection of TV6 concerns has been demonstrated though the main allocation study as included in **Exhibit 12.5**.

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 proposed facility meets the requirements of the Rules for operation without a licensed operator in attendance. The transmitter site may be reached promptly at all hours and in all seasons. The transmitter will be equipped with proper control and interface circuits which will place the translator in a non-radiating condition in the event the proper incoming signal is absent. The transmitter and controls will be placed in a locked area to prevent unauthorized tampering with the equipment. A person or persons will be assigned to observe the signals of the station each day, and to take corrective action if required. The equipment proposed for operation is listed in the type-approved list of the Commission.

## Discussion (continued)

**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).

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 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.

N. Lat. = 404829.0    W. Lng. = 1115321.0						
HAAT and Distance to Contour - FCC Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	1341.2	487.8	0.2150	-6.68	1.000	27.54
030	1914.5	-85.5	0.2150	-6.68	1.000	6.83
060	2263.2	-434.2	0.2150	-6.68	1.000	6.83
090	2037.9	-208.9	0.2150	-6.68	1.000	6.83
120	1797.5	31.5	0.0428	-13.69	0.446	4.63
150	1426.0	403.0	0.0043	-23.69	0.141	9.09
180	1305.3	523.7	0.0043	-23.69	0.141	9.87
210	1293.4	535.6	0.0171	-17.67	0.282	15.10
240	1288.3	540.7	0.2150	-6.68	1.000	29.29
270	1286.0	543.0	0.2150	-6.68	1.000	29.37
300	1284.0	545.0	0.2150	-6.68	1.000	29.43
330	1293.4	535.6	0.2150	-6.68	1.000	29.13
Ave El= 1544.23 M    HAAT= 284.77 M    AMSL= 1829						