

ENGINEERING REPORT

FM Translator Minor Construction Permit Application

for

**K223BY – Knob Noster, MO
(Formerly K225AB)**

Facility ID No. 36255

June, 2011

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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 K223BY.L (formerly K225AB), Knob Noster, MO Facility ID No. 36255. K223BY presently operates on 92.5 MHz with 0.250 kW of directional power with an antenna COR of 292 meters AMSL. A slight increase in COR height to 295 meters AMSL with a vertical only non-directional antenna is requested from a new site location. Continued operation on channel CH223D, 92.5 MHz with 205 watts ERP is requested. The translator will continue to rebroadcast primary station KLRQ(FM) – Clinton, MO, CH241C0, Facility ID No. 3429 as a Fill-In Translator.

The proposed facility will be relocated to an existing 180 ft tower which does not require Antenna Structure Registration. A copy of the USGS Aerial Photo and Topographic Map of the existing structure has been included in **Exhibit(s) 13.1** and **13.2**. A copy of the vertical antenna system has been included in **Exhibit 13.3**. 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 13.6**. There are two facilities close enough to merit further protection showings. FMCommander™ maps and tabulations of contours toward KAYX(FM) – Richmond, MO and APP223D – Clinton, MO (BNPFT-20030310BHD) have been included in **Exhibit(s) 13.7** and **13.8**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The translator site and proposed 60 dBu contour lie inside of the KLRQ(FM) 60 dBu service contour. A map of the proposed service area in relation to the primary station 60 dBu service contour has been included in **Exhibit 13.5**.

Regarding protection of international concerns, the facility is and will remain more than 320 km of the common border between the United States and Canada or Mexico. As a result, it is believed no further international showings are required.

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 13.4**.

The applicant would like to note the use of the NGDC 30 second terrain database for all HAAT, allocation and contour showings used for this Form 349 Translator filing.

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 §1.1310 of the Commission's rules. ***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 NGDC 30 second terrain database.

| N. Lat. = 384144.0 W. Lng. = 940009.0 | | | | | | |
|--|-------|------|--------|-------|-------|-------|
| 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 | 249.2 | 45.8 | 0.2050 | -6.88 | 1.000 | 8.35 |
| 030 | 239.3 | 55.7 | 0.2050 | -6.88 | 1.000 | 9.33 |
| 060 | 262.3 | 32.7 | 0.2050 | -6.88 | 1.000 | 7.00 |
| 090 | 257.3 | 37.7 | 0.2050 | -6.88 | 1.000 | 7.50 |
| 120 | 260.2 | 34.8 | 0.2050 | -6.88 | 1.000 | 7.21 |
| 150 | 249.3 | 45.7 | 0.2050 | -6.88 | 1.000 | 8.35 |
| 180 | 247.4 | 47.6 | 0.2050 | -6.88 | 1.000 | 8.55 |
| 210 | 253.9 | 41.1 | 0.2050 | -6.88 | 1.000 | 7.86 |
| 240 | 250.6 | 44.4 | 0.2050 | -6.88 | 1.000 | 8.21 |
| 270 | 260.5 | 34.5 | 0.2050 | -6.88 | 1.000 | 7.19 |
| 300 | 274.2 | 20.8 | 0.2050 | -6.88 | 1.000 | 6.75 |
| 330 | 269.7 | 25.3 | 0.2050 | -6.88 | 1.000 | 6.75 |
| Ave El= 256.16 M HAAT= 38.84 M AMSL= 295 | | | | | | |