

# **ENGINEERING REPORT**

## **FM Translator “Long Form” Filing for Original Construction Permit Application**

**NEW279D – Ashland, WI**  
File No. BNPFT-20030314CHL  
Facility ID No. 138668

Long-Form Filing pursuant to  
DA 13-283 (AUC-03-83-D)  
“Auction 83 Singleton”

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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 “Long Form” Filing for FM Translator Application BNPFT-20030314CHL (Facility ID No. 138668). The Original “Short-Form” Application specified operation on CH279D (103.7 MHz) with 0.250 kW of non-directional power at an antenna COR of 238 meters AMSL. Amended Operation Parameters will be requested in this “Long-Form” Filing. The facility will operate on CH279D (103.7 MHz) with 0.038 kW ERP from a new site location. Diplexing into the existing W220EB – Ashland, WI (Facility ID No. 49771) Nicom BKG77-1 antenna is requested. The circularly polarized non-directional antenna is presently notified at an antenna COR height of 259 meters AMSL. The translator will rebroadcast new primary station KTIS-FM – Minneapolis, MN, CH253C0 (Facility ID No. 49787) as a regular (non-fill-in) non-commercial FM Translator.

Pursuant to Public Notice DA 13-283 (Report No. AUC-03-83-D) and its Attachment B, this “Long-Form” Filing proposes amended parameters more than 39 km from any Appendix A Market Grid. Therefore, the applicant is not required to submit supplemental LPFM Grid Test Showings. In addition, the amended site does not reside within any “out-of-grid” Top-50 Spectrum Limited Market Boundaries, therefore no supplemental Top-50 Transmitter Site Test Showings are required either.

The applicant would like to note that while it will holds two FM Translators authorized to serve the same area, each Translator will rebroadcast a different primary feed. This CH279D.P translator filing (Facility ID No. 138668), serves substantially the same area and is co-located with translator W220EB (Facility ID No. 49771). W220EB (Facility ID No. 49771) will continue to rebroadcast primary station KDNW(FM) – Duluth, MN (Facility ID No. 49797) as a non-fill-in translator. This CH279D.P (Facility ID No. 138668) proposal will rebroadcast new primary station KTIS-FM – Minneapolis, MN (Facility ID No. 49787) as a non-fill-in translator. In addition, the applicant (Northwestern College) further certifies it does not have any interest in any other application or an authorization for an FM translator station which serves substantially the same area and rebroadcasts the same signal as this proposed FM translator station.

The facility will be located at the existing tower bearing Antenna Structure Registration Number 1200096. 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 given 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 USGS 03 second terrain database for all allocation, contour and HAAT calculations contained here-in.

The proposed 60 dB $\mu$  contour of the Translator lies wholly outside of the KTIS-FM primary daytime 60 dB $\mu$  contour. A map of the proposed service contour in relation to the primary station service contour has been included in **Exhibit 13.4**. The Translator will rebroadcast KTIS-FM directly off-air as a regular (non-fill-in) FM Translator.

The proposed operating parameters have been changed from the original “Short-Form” values, however the proposed service contour serves a portion of the present service area as seen in **Exhibit 13.3**.

## 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 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 USGS 03 second terrain database.

N. Lat. = 463524.0    W. Lng. = 905013.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - USGS 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
<b>000</b>	<b>183.0</b>	<b>76.0</b>	<b>0.0380</b>	<b>-14.20</b>	<b>1.000</b>	<b>7.00</b>
030	183.3	75.7	0.0380	-14.20	1.000	6.99
060	187.7	71.3	0.0380	-14.20	1.000	6.79
090	204.4	54.6	0.0380	-14.20	1.000	5.98
120	214.5	44.5	0.0380	-14.20	1.000	5.39
150	225.0	34.0	0.0380	-14.20	1.000	4.67
180	231.1	27.9	0.0380	-14.20	1.000	4.38
210	246.4	12.6	0.0380	-14.20	1.000	4.38
240	238.1	20.9	0.0380	-14.20	1.000	4.38
270	210.3	48.7	0.0380	-14.20	1.000	5.65
300	233.6	25.4	0.0380	-14.20	1.000	4.38
330	217.6	41.4	0.0380	-14.20	1.000	5.19
Ave El= 214.57 M    HAAT= 44.43 M    AMSL= 259						