

BNPFT-20030313AHR

Gladstone, Michigan

Long Form Application

For New FM Translator

On Channel 280

by

Sister Grace, Inc.

Exhibit 13

Interference Analysis

August 2018

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 13, Interference Analysis, for Sister Grace, Inc., and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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Narrative

This Exhibit supports a minor modification application for FM translator BNPFT-20030313AHR, on Channel 280 in Gladstone, Michigan. Allocation details are provided in this exhibit. This proposal complies fully with the requirements of 74 C.F.R. §74.1204(a). The proposed modified facilities create no mutual exclusivities with any licensed facilities, construction permits, or applications as shown in the allocation table in this exhibit.

Figure 1 shows the original and proposed 60 dBu F(50,50) coverage areas. Figure 1 shows fill-in status confirmation. The 2 mV/m contour of primary AM station WDBC extends from 76 to 120 kilometers, well beyond the borders of the map and well beyond the 25 mile radius shown on Figure 1.

This is a long form application in response to a Media Bureau Public Notice announcing an FM Translator filing window for long-form applications¹. The short form application, File Number BNPFT-20030313AHR, application reference number 636898, is listed in Attachment A of that Notice.

This application changes the site and the height. As Figure 1 shows, this is a minor modification of the Tech Box facilities.

Allocations

This application proposes service to Gladstone, Michigan, on channel 280. An updated Table 1: Allocations is included in this exhibit with a list of the stations, construction permits, allocations, and applications studied. All are protected under §74.1204(a) contour protection

¹ See *Public Notice: Auction of FM Translator Construction Permits Closes, Winning Bidders Announced for Auction 83, DA 18-269*, released June 29, 2018.

by this application. The allocations table was prepared using the GLOBE 30 terrain database which is described below.

Table 1: Allocations

Allocation Study											
Sister Grace, Inc.											
REFERENCE	CH# 280D - 103.9 MHz, Pwr= 0.25 kw, HAAT= 81.1 M, COR= 293 M									DISPLAY DATES	
45 51 29.0 N.	Average Protected F(50-50)= 11.6 km									DATA 08-06-18	
87 03 06.0 W.	Omni-directional									SEARCH 08-06-18	
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
280D Gladstone	636898!	APP	C WI	154.3 334.3	2.67 BNPFT20030313AHR	45 50 11.0 87 02 12.0	0.250 6	209	---Reference--- Sister Grace, Inc.		
Short form application for which this is the long form application.											
280C2 Harbor Springs	WCMW-FM	LIC	CN MI	103.4 284.9	162.02 BLED19971212KC	45 30 08.0 85 01 44.0	12.000 305	133.9 569	56.3	15.3	61.5
										Central Michigan University	
277C1 Marquette	WFXD	LIC	CX MI	332.4 152.0	93.76 BLH20011220AAS	46 36 14.0 87 37 15.0	100.000 286	9.0 667	67.2	75.4	25.5
										Great Lakes Radio, Inc.	
279C3 Menominee	WHYB	LIC	CX MI	208.7 28.3	100.20 BLH20150526ABV	45 03 58.0 87 39 55.0	13.000 91	50.1 275	31.5	37.9	50.2
										Radio Plus Bay Cities, LLC	
280L1 Marquette	WNOA-LP	LIC	MI	338.6 158.3	82.15 BLL20141219AFE	46 32 42.6 87 26 39.6	0.100 30	318	54.1 Claves Regni Ministries, I		
226C1 Iron Mountain	WIMK	LIC	CX MI	267.3 86.6	77.02 BMLH20140402ACM	45 49 15.0 88 02 30.0	100.000 180	0.0 526	0.0	21.5R	55.5M
										Sovereign Communications,	

Terrain database is GLOBE 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM In & Out distances between contours are shown at closest points. Reference Zone= East Zone, Co to 3rd adj. All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected. Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X) < = Station meets FCC minimum distance spacing for its class.

Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments.

The contours were evaluated using terrain extracted from the GLOBE 30 arcsecond terrain database, formatted by V-Soft Communications to work with its allocation and mapping programs.

636898m
Proposed
Latitude: 45-51-29 N
Longitude: 087-03-06 W
ERP: 0.25 kW
Channel: 280 103.9 MHz
AMSL Height: 293.0 m
Elevation: 220.0 m
Horiz. Pattern: Omni

WDBC
BL19821206AB
Latitude: 45-45-53 N
Longitude: 087-05-48 W
Power: 10.0 kW
Frequency: 680 kHz

636898.A
BNPFT20030313AHR
Latitude: 45-50-11 N
Longitude: 087-02-12 W
ERP: 0.25 kW
Channel: 280 103.9 MHz
AMSL Height: 209.0 m
Elevation: 184.0 m
Horiz. Pattern: Omni

BNPFT-20030313AHR
Tech Box and Proposed Contours
Fill-In Demonstration
August 2018
Figure 1

Timothy L. Warner, Inc.

WDBC 25 mi

Proposed F(50-50) 70.00 dBu

Tech Box F(50-50) 70.00 dBu

