

File Number BNPFT-20030317IDO

Asheville, North Carolina

Application for a new FM Translator

On Channel 271

by

Isothermal Community College

Exhibit 1

Grid Preclusion Showing

August 2013

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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 1, Grid Preclusion Showing, for Isothermal Community College, 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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28 August 2013

Narrative

This Exhibit supports an amendment to an Auction 83 construction permit application for a new FM translator on Channel 271 in Asheville, North Carolina, file number BNPFT-20030317IDO. The tech box proposal (short form application) was filed in a filing window for Auction 83. This Exhibit provides a preclusion showing required in a Public Notice¹ of a window to file long form applications for further processing.

This application proposes a minor modification from the short form application. Specifically, the power is decreased. The minor modification creates no conflicts with any other Auction 83 tech box proposals, as will be shown in the Allocations Exhibit.

Required Showings

This facility is located inside the Market Grid of the Asheville (North Carolina) Market. The Asheville market is listed as a Spectrum Available Market using a 30 minute grid in Appendix B of the Fourth Report and Order.² The required showing is identified as Test C, in Attachment B to the Singleton Window PN.

This facility is in not with 39 kilometers of any other Appendix A Market. It is not within any out-of-grid Top 50 Spectrum Limited Market.

¹ *Public Notice, Media Bureau Announces FM Translator Auction 83 Filing Window and Filing Procedures, August 30, 2013 Deadline Set for Form 349 Applications for Certain Non-Mutually Exclusive Tech Box Proposals*, Report No. AUC-03-83-E, DA13-1675, released July 31, 2013.

² *In the Matter of Creation of a Low Power Radio Service, Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations, Fourth Report and Order and Third Order on Reconsideration*, FCC 12-19, released March 19, 2012.

Asheville Market Study

The Asheville market protected channel/point combinations were generated using the Commissions LPFM grid tool. A portion of the printout from the LPFM grid tool follows. The preliminary section confirms the parameters studied and provides a summary of the channels. There are no protected points on channel 271, proposed in this application. There are no protected points on first adjacent channels 270 or 272, or on second adjacent channels 269 or 273. No I.F. channel protection is required.

Asheville LPFM Grid Study Parameters and Overall Results

Asheville, NC
 Latitude 35-36-03
 Longitude 082-33-15
 Grid Size 31 x 31
 Micro FM 100 Watts at 30m HAAT
 Co-Channel and 1st Adjacent Protected
 2nd Adjacent Channel Protected
 3rd Adjacent Channel Not Protected
 I.F. Not Protected
 TV Channel 6 Protected
 CP Records Protected
 APP Records Protected
 FM Translators Protected
 TV Channel 6 Translators/LP Protected
 Auc83 FX App Records Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	61	260	0	280	3
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	306	283	0
204	0	224	0	244	0	264	58	284	0
205	0	225	0	245	0	265	322	285	0
206	0	226	0	246	0	266	0	286	44
207	0	227	0	247	0	267	0	287	509
208	0	228	0	248	31	268	0	288	0
209	0	229	0	249	4	269	0	289	0
210	0	230	0	250	21	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	0	292	0
213	0	233	0	253	0	273	0	293	0
214	0	234	0	254	0	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	10	297	0
218	0	238	28	258	0	278	16	298	0
219	0	239	116	259	0	279	2	299	0
								300	0

Total	1531								

Total allotments, least preclusive spacing: 30
 Total allotments, most preclusive spacing: 22

Note: Co-channel through second adjacent channel points shown highlighted above.

Translator Height Above Average Terrain and Distance to Contour

The proposed translator facilities Height Above Average Terrain for the 12 radials used for translators is 40 meters. The corresponding distance to the 60 dBu F(50,50) contour is 3.059 kilometers, using the FM Curves utility on the Audio Division website. This translator falls in the smallest classification for separation requirements in 47 C.F.R. §73.807(d)(1). The required separation for co-channel operation is 26 kilometers. The required separation for first adjacent channels is 15 kilometers, and the required separation distance for second adjacent channels is 8 kilometers.

Preclusion Study Description

Figure 1 shows the relationship of the proposed facilities to the Asheville market grid. This facility as proposed in the short form filing is plotted with its Application ID, 649980.A. The Tech Box 60 dBu F(50,50) contour (dashed blue line) is shown. The proposed modified facilities are identified as 1564408m. The proposed 60 dBu F(50,50) contour is shown as a solid red line.

A black line shows the 39 kilometer radius circle where a largest class translator could preclude a co-channel LPFM opportunity. The 39 kilometer co-channel preclusion circle does not reach any other market grid. The proposed facility does not preclude any identified points on co-channel through second adjacent channel in the Asheville market.

Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDDBS. 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 V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database.

1564408m
 Proposed
 Latitude: 35-35-42 N
 Longitude: 082-33-09 W
 ERP: 0.005 kW
 Channel: 271 102.1 MHz
 AMSL Height: 748.0 m
 Elevation: 674.0 m
 Horiz. Pattern: Directional

1564408.A
 BNPFT20030317IDO
 Latitude: 35-35-42 N
 Longitude: 082-33-09 W
 ERP: 0.015 kW
 Channel: 271 102.1 MHz
 AMSL Height: 748.0 m
 Elevation: 674.0 m
 Horiz. Pattern: Directional

649980.A
 BNPFT20030317IDO
 Latitude: 35-37-08 N
 Longitude: 082-34-20 W
 ERP: 0.027 kW
 Channel: 271 102.1 MHz
 AMSL Height: 683.0 m
 Elevation: 640.0 m
 Horiz. Pattern: Omni

WNCW
 BLED19981104KA
 Latitude: 35-44-06 N
 Longitude: 082-17-11 W
 ERP: 17.00 kW
 Channel: 204 88.7 MHz
 AMSL Height: 2022.0 m
 Elevation: 1991.0 m
 Horiz. Pattern: Directional

1564408 Asheville, North Carolina
Preclusion Showing
August 2013
Figure 1

Timothy L. Warner, Inc.

WNCW F(50-50) 75.00 dBu

Tech Box F(50-50) 60.00 dBu

649980.A
 Woodfin
 Asheville
 Lincombe
 1564408.A
 1564408m
 Proposed F(50-50) 60.00 dBu
 Swannanoa

Haywood
 Canton
 Waynesville

Royal Pines
 Fletcher

Henderson

Circle R = 39.0 km

Cullowhee

Hendersonville
 East Flat Rock

Brevard

Transylvania

