

File Number BNPFT-20030317JYV

Rocky Mount, North Carolina

Application for New FM Translator

On Channel 271

by

Shaw University

Exhibit 1

Grid Preclusion Showing

March 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 Shaw University, 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 long form Auction 83 construction permit application for an FM translator on Channel 271 in Rocky Mount, North Carolina, file number BNPFT-20030317JYV. 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 Notice<sup>1</sup> of a window to file long form applications for further processing.

This application proposes a minor modification from the original short form application. Specifically, the site is changed, the second adjacent channel is proposed, the antenna model is changed, height is increased, and the effective radiated power is decreased. The minor modification creates no conflicts with any other Auction 83 tech box proposals, as shown in the Allocations Exhibit.

## Required Showings

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

This facility is in the Rocky Mount-Wilson (North Carolina) market, which is not an Appendix A Market. It is within 39 kilometers of the Greenville-New Bern-Jacksonville

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<sup>1</sup> *Public Notice Media Bureau Announces FM Translator Auction 83 Filing Window and Filing Procedures*, DA 13-283, released February 26, 2013. (Singleton PN)

<sup>2</sup> *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.

(North Carolina) Appendix A Market grid. It is not within 39 kilometers of any other Appendix A Market grid. It is not within any out-of-grid Top 50 Spectrum Limited Market.

The Greenville-New Bern-Jacksonville 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 protected points on second adjacent channel 273. There are no other points on other channels + or - 2 channels. No I.F. channel protection is required.

LPFM Grid Study Parameters and Overall Results

Greenville, NC  
 Latitude 35-36-40  
 Longitude 077-22-23  
 Grid Size 21 x 21  
 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	0	260	110	280	0
201	0	221	0	241	6	261	79	281	0
202	51	222	0	242	116	262	0	282	0
203	0	223	0	243	57	263	0	283	0
204	0	224	26	244	0	264	0	284	0
205	0	225	0	245	0	265	0	285	0
206	0	226	0	246	0	266	0	286	141
207	0	227	0	247	0	267	0	287	21
208	0	228	0	248	21	268	0	288	130
209	0	229	0	249	0	269	0	289	76
210	0	230	3	250	0	270	0	290	204
211	0	231	0	251	0	271	0	291	35
212	0	232	0	252	0	272	0	292	0
213	0	233	0	253	0	273	26	293	0
214	0	234	0	254	0	274	7	294	0
215	0	235	0	255	0	275	3	295	60
216	0	236	0	256	0	276	0	296	233
217	0	237	0	257	0	277	0	297	245
218	0	238	0	258	0	278	0	298	0
219	0	239	4	259	0	279	0	299	0
									300
									0

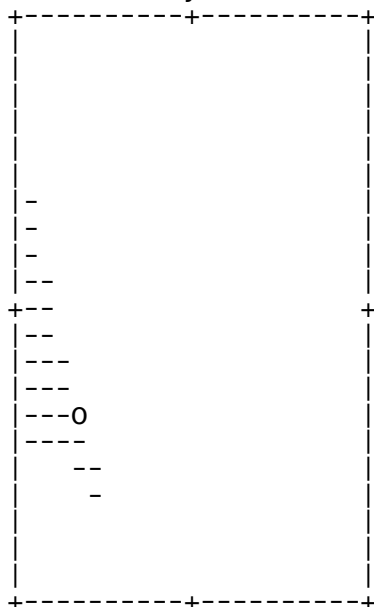
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 Total 1654

Total allotments, least preclusive spacing: 34  
 Total allotments, most preclusive spacing: 25

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

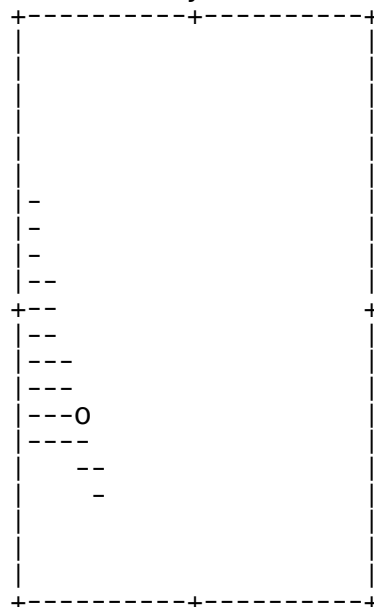
### LPFM Grid Study Specific Channel Points

Greenville, NC  
 Latitude 35-36-40  
 Longitude 077-22-23  
 Least preclusive siting  
 Availability of Channel 273 (X)



Point #364 at 35-32-40 077-29-23

Greenville, NC  
 Latitude 35-36-40  
 Longitude 077-22-23  
 Most preclusive siting  
 Availability of Channel 273 (X)



Point #364 at 35-32-40 077-29-23

### 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 110.7 meters. The corresponding distance to the 60 dBu F(50,50) contour is 6.564 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. For the identified points on second adjacent channel 273, the required separation is 8 kilometers.

### Preclusion Study Description

Figure 1 shows the relationship of the proposed facilities to the Rocky Mount-Wilson market. This facility as proposed in the short form filing is plotted with its Application ID, 650043. The 60 dBu F(50,50) contour (dashed colored line) is shown. The proposed modified facilities are identified as 650043m. The proposed 60 dBu F(50,50) contour is shown as a solid colored line.

A solid line shows the 26.0 kilometer radius circle where the proposed translator facilities could preclude an LPFM opportunity. There are no grids or identified channel/point combinations within the 26 kilometer co-channel distance, and therefore also no first- or second-adjacent preclusion possibilities.

### 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 V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database.



