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ENGINEERING REPORT

Cary, NC, Channel 227D FM Translator Application

ENGINEERING STATEMENT

Juan Alberto Ayala ("Applicant") submits this Long-form application that covers the Auction 83 pending short-form application for a new FM translator station at Cary, NC. The pending application file number is BNPFT-20030317IRZ.

There are no tech box changes being made by this long-form application.

CHANNEL STUDY

Attached as Figure EE1 is a channel study for the proposed channel 227D facility. All required protections are met by contour non-overlap pursuant to Section 74.1204), with the exception of protection to WKSL, Cary, NC, 230C. WKSL is protected, as discussed below.

CONTOUR OVERLAP SHOWING

No detailed study is required due to contour non-overlap clearance as listed in Figure EE1 for each protected facility (with the exception of WKSL, discussed below). The service and interference contour distances that are listed on Figure EE1 use the worst-case (greatest) distance along any bearing for each facility, and also considers each protected station as omni-directional. No contour overlap using this worst-case test means no possible contour overlap when applying Section 73.313 methodology.

PROTECTION TO WKSL

WKSL, Cary, NC, 230C, is third adjacent-channel to the proposed channel 227D facility and is located only 6.5 kilometers (at 157 degrees True bearing) from the proposed 227D transmitter site. The 60 dBu F50,50 service contour extends well beyond the 227D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to WKSL.

Note that a rule waiver of Section 74.1204 for this second/third adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to this station.

The F50,50 signal strength from WKSL at the proposed 227D transmitter site is 108 dBu (the “desired” signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, predicted interference to WKSL from the proposed 227D facility is a signal of greater than or equal to 148 dBu.

The 148 dBu signal based on a free space field determination is predicted to extend out less than 5 meters from the proposed 227D transmitter site. The interfering signal level will not reach any point at ground level or at 2 meters above ground level. Therefore, pursuant to Section 74.1204(d) of the FCC Rules, WKSL is adequately protected by the proposed facility.

SECTION 74.1204 CHANNEL STUDY

PROJECT: CARY, NC, 227D FROM PROPOSED SITE

STUDY COORDINATES: N 35-46-04.0; W 78-50-44.0(N D-M-S; W D-M-S)

Call Docket	Channel FacilityID	Class Service	Frequency ERP	Status DA?	City HAAT	State RCAMSL	Country RCAGL	File Number
Latitude	Longitude			ASRN	Dist (km)	Dist (mi)	Azimuth	
Licensee/Permittee								

 NEW 225 D FX 92.9 MHz APP MORRISVILLE NC US BNPFT-20030314BRQ
 - 139926 0.25 kW 60.5 m 162. m 50. m
 N 35 50 34.00 W 78 51 3.00 1056942 8.34 km 5.18 mi 356.74°
 CAPSTAR TX LIMITED PARTNERSHIP

Note: The Applicant's Long-form filing for its 227D proposal does not propose a change to the pending Short-form Tech Box of BNPFT-20030317IRZ and is deemed a "Singleton" Application that is not mutually-exclusive to this listed facility.

NEW 225 D FX 92.9 MHz APP RALEIGH NC US BNPFT-20030317KBC
 - 143608 0.25 kW DA 0. m 270. m 163. m
 N 35 41 7.00 W 78 43 14.00 1007840 14.55 km 9.04 mi 129.07°
 CAROLINA RADIO GROUP, INC.

Note: The Applicant's Long-form filing for its 227D proposal does not propose a change to the pending Short-form Tech Box of BNPFT-20030317IRZ and is deemed a "Singleton" Application that is not mutually-exclusive to this listed facility.

WPAW 226 C FM 93.1 MHz LIC WINSTON-SALEM NC US BMLH-20030303ABL
 - 40752 100. kW 335. m 568. m 288. m
 N 36 16 33.00 W 79 56 26.00 1005090 113.67 km 70.63 mi 300.16°
 ENTERCOM GREENSBORO LICENSE, LLC

**Protected Contour Dist: 77.3 km Prop 227D Interf Contour Dist: 9.8 km
 Result: 26.6 km CLEAR (WORST-CASE STUDY)**

NEW 226 D FX 93.1 MHz APP DURHAM NC US BNPFT-20030311ATV
 - 142785 0.099 kW DA 0. m 335. m 134. m
 N 36 6 13.00 W 78 57 57.00 1267862 38.81 km 24.12 mi 343.86°
 COMMUNITY PUBLIC RADIO, INC.

Note: The Applicant's Long-form filing for its 227D proposal does not propose a change to the pending Short-form Tech Box of BNPFT-20030317IRZ and is deemed a "Singleton" Application that is not mutually-exclusive to this listed facility.

NEW 226 D FX 93.1 MHz APP DURHAM NC US BNPFT-20130826AHV
 - 142785 0.099 kW DA 0. m 335. m 134. m
 N 36 6 13.00 W 78 57 57.00 1267862 38.81 km 24.12 mi 343.86°
 COMMUNITY PUBLIC RADIO, INC.

Note: The Applicant's Long-form filing for its 227D proposal does not propose a change to the pending Short-form Tech Box of BNPFT-20030317IRZ and is deemed a "Singleton" Application that is not mutually-exclusive to this listed facility.

WERO 227 C FM 93.3 MHz LIC WASHINGTON NC US BLH-19791206AF
 - 64609 100. kW 543. m 554. m 546. m
 N 35 21 55.00 W 77 23 38.00 - 138.97 km 86.35 mi 108.40°
 NM LICENSING LLC

**Protected Contour Dist: 89.7 km Prop 227D Interf Contour Dist: 23.0 km
 Result: 26.3 km CLEAR (WORST-CASE STUDY)**

SECTION 74.1204 CHANNEL STUDY

PROJECT: CARY, NC, 227D FROM PROPOSED SITE

STUDY COORDINATES: N 35-46-04.0; W 78-50-44.0(N D-M-S; W D-M-S)

Call Docket	Channel FacilityID	Class Service	Frequency ERP	Status DA?	City HAAT	State RCAMSL	Country RCAGL	File Number
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Licensee/Permittee								

NEW	227	D	FX	93.3 MHz	APP	CARY	NC US	BNPFT-20030317IRZ
-	156763			0.027 kW		0. m	170. m	40. m
N 35 46	4.00	W	78 50	44.00	1064054	0.00 km	0.00 mi	0.00°

JUAN ALBERTO AYALA
NOTE: THIS IS THE AUCTION 83 SHORT-FORM APPLICATION THAT IS BEING COVERED BY THIS LONG-FORM APPLICATION

WVDJ-LP	228	L1	FL	93.5 MHz	CP	RALEIGH	NC US	BPL-20130419AAA
-	133917			0.1 kW		30. m	135.5 m	11.5 m
N 35 52	54.00	W	78 42	57.00	-	17.24 km	10.71 mi	42.69°

TRIANGLE ACCESS BROADCASTING, INC.
Section 73.807 Requirement: 16 km 1.2 km CLEAR

NEW	228	D	FX	93.5 MHz	APP	BRIARCLIFF	NC US	BNPFT-20030317JBZ
-	156986			0.027 kW		0. m	167. m	75. m
N 35 57	42.10	W	78 59	53.80	1007494	25.56 km	15.88 mi	327.50°

RADIO TRAINING NETWORK, INC.
Note: The Applicant's Long-form filing for its 227D proposal does not propose a change to the pending Short-form Tech Box of BNPFT-20030317IRZ and is deemed a "Singleton" Application that is not mutually-exclusive to this listed facility.

WKSL	230	C	FM	93.9 MHz	LIC	CARY	NC US	BLH-20080416AAZ
-	53596			100. kW	DA	453. m	557. m	414. m
N 35 42	50.00	W	78 49	4.00	1008598	6.49 km	4.03 mi	157.29°

CAPSTAR TX LLC
NOTE: A SHOWING BASED ON THE LIVING WAY MINISTRIES METHODOLOGY TO THIS STATION IS INCLUDED WITH THIS APPLICATION THAT DEMONSTRATES PROTECTION TO THIS FACILITY.

Study Complete