

**WNCC-FM MINOR AMENDMENT TO
PENDING APPLICATION BPH-20091125AEJ**

This technical report has been developed in support of a minor amendment to the pending WNCC-FM application - BPH-20091125WEJ. The community of license is changed to specify the currently licensed community of Franklin, NC and a new transmitter site is proposed. The application is contingent on the construction of the recently granted WRBN application to change channel to 242A. Therefore, it is requested that the amended WNCC-FM application be granted with a condition requiring program test for WRBN prior to program test for WNCC-FM on 281A.

The following exhibits are provided for the form 301 application:

- E1 WNCC-FM channel study
- E2 WNCC-FM 70 dBu service to Franklin, NC
- E2A Longley-Rice tabulation
- E3 Towerair
- E4 281A Reference point channel study
- E5 Reference point 70 dbu

Allocation analysis:

A minor change from channel 244A to 281A is proposed. A channel study provided as E1 shows clearances to all facilities with the exception of WRBN which has a construction permit to move to channel 242A. An effective radiated power of 0.119 kW is proposed which yields a maximum class A 60 dBu contour of 28.45 km at 673 meters HAAT.

The WNCC-FM 281A facility is proposed at an existing tower at:

N 35-19-38 W 83-20-09 (NAD 27).

Franklin 281A reference point:

A fully spaced reference point is proposed at **N 35-13-47 W 83-27-28**. A channel study is provided as E4 and 70 dBu coverage of Franklin is demonstrated in exhibit E5.

SERVICE CONTOUR AND HAAT TABULATION

North Latitude = 35-19-38 West Longitude = 83-20-09
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	dBk	70-F5	60-F5
000	719.3	810.7	-9.24	16.71	31.50
045	919.5	610.5	-9.24	14.61	27.10
090	692.5	837.5	-9.24	16.91	32.13
135	1065.9	464.1	-9.24	12.86	23.20
180	769.1	760.9	-9.24	16.30	30.37
225	696.4	833.6	-9.24	16.89	32.03
270	1020.5	509.5	-9.24	13.29	24.52
315	971.4	558.6	-9.24	13.89	25.88

Ave El= 856.85 M HAAT= 673.15 M AMSL= 1530 M

Longley-Rice prediction is utilized to establish 70 dBu coverage of Franklin, NC:

Exhibit E-2 demonstrates that the WNCC-FM facility will place a 70 dBu contour over one hundred percent (100) of the Franklin, NC boundaries using the Longley-Rice “last occurrence” contour calculated using the V-Soft Probe 4 software and the FCC 30 second terrain database. Probe 4 is based on the NTIA Longley-Rice algorithm, and its use has been regularly accepted by the Commission in allocation proceedings in the past. The use of the last occurrence contour is justified in this instance because the cell based 70 dBu depicted on exhibit E2 in blue actually covers the entire community. Use of the usual “mean occurrence” contour would yield an incorrect result in this case due to the

small area between the transmitter site and the city which does not receive a 70 dBu signal.

Use of Longley-Rice is permitted based on Commission policy and the recent Hardinsburg, KY ruling, 25 FCC Rcd 13204 (2010), which allows its use when the Longley-Rice predicted 70 dBu exceeds the FCC predicted 70 dBu by at least 10% on a radial through the community of license. Exhibit E2A includes a tabulation of the FCC and Longley-Rice 70 dBu contours through the range of azimuths of 185 to 205 degrees true that encompass the entire Franklin, NC boundary. The Longley-Rice 70 dBu exceeds the FCC 70 dBu by more than 10% at all azimuths including the 195 degree azimuth directly through the community.

Antenna and RF calculation:

The proposed 281A facility will use a single bay Shively 6810 series circularly polarized antenna at twenty-three (23) meters above ground level. The RF contribution of the facility was calculated using the Commission's FMMODEL program to be 3.84 $\mu\text{W}/\text{cm}^2$ or 1.9% of the maximum permissible for general public exposure, and less than the 5% requiring consideration.

Conclusion:

It is concluded that the minor amendment of the WNCC-FM application is in full compliance with the Commission rules and policies.

August 23, 201

Charles M. Anderson
1519 Euclid Avenue
Bowling Green, KY 42103
270-782-0246

E1 WNCC-FM CHANNEL STUDY

REFERENCE		DISPLAY DATES
35 19 38.0 N.	CLASS = A	DATA 08-21-12
83 20 09.0 W.	Current Spacings to 3rd Adj.	SEARCH 08-21-12
----- Channel 281 - 104.1 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
WNCC-FM	APP-N 281A	Sylva	NC	320.8	0.08	114.5	-114.4
WNCC-FM	CP -N 281A	Franklin	NC	166.4	7.04	114.5	-107.5
WRBN_%	LIC-N 281A	Clayton	GA	188.8	47.21	114.5	-67.3 (1)
WIMZ-FM	LIC 278C	Knoxville	TN	338.8	96.28	94.5	1.8
WHLC	LIC 283A	Highlands	NC	155.1	32.57	30.5	2.1
WQONQ	LIC 282A	Fletcher	NC	73.4	79.35	71.5	7.9
WOLI-FM	LIC 280A	Easley	SC	126.2	91.50	71.5	20.0
WCLE-FM	CP -N 281A	Calhoun	TN	267.6	136.95	114.5	22.5
WCLE-FM	LIC-Z 281A	Calhoun	TN	267.6	136.95	114.5	22.5
WPPL	LIC-D 280A	Blue Ridge	GA	240.9	104.32	71.5	32.8
WALR-FM	CP -N 281C1	Palmetto	GA	209.3	233.19	199.5	33.7
WALR-FM	LIC-N 281C0	Greenville	GA	213.3	253.24	214.5	38.7

(1) WRBN has CP for channel 242A.

 % = Station Fails minimum 73.215 spacings
 All separation margins include rounding

WNCC-FM.A
BPH20091125AEJ
Latitude: 35-19-38 N
Longitude: 083-20-09 W
ERP: 0.119 kW
Channel: 281
Frequency: 104.1 MHz
AMSL Height: 1530.0 m
Elevation: 1507.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: Longley/Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast
FCC 30 SECOND TERRAIN

E2 70 DBU COVERAGE

FRANKLIN
COMMUNITY
BOUNDARY

WNCC-FM.A

Cullowhee

Jackson

70

Franklin

Macon

FCC 60 DBU

Scale 1:200,000

0 2 4 6 km

LONGLEY-RICE
70 DBU. NOTE THAT
CELL BASED 70 DBU
COVERS ENTIRE
COMMUNITY (BLUE)

Highlands

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195.0°

180°

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E2A LONGLEY-RICE CONTOUR TABULATION

Signal calculated using the last occurrence method at 70.0 dBu.

Transmitter Information:

Call Letters: WNCC-FM.A
File Number: BPH20091125AEJ
Latitude: 35-19-38 N
Longitude: 083-20-09 W
ERP: 0.119 kW
Channel: 281
Frequency: 104.1 MHz
AMSL Height: 1530.0 m
Elevation: 1507.0 m
HAAT: 673.0 m
Horiz. Antenna Pattern: Omni

Azimuth (deg)	FCC 70 dBu (km)	LR 70 dBu (km)	% increase	HAAT (m)
185.0	16.29	24.00	47.6	772.2
186.0	16.32	24.10	47.9	775.2
187.0	16.39	24.20	47.7	781.6
188.0	16.45	24.20	47.1	788.4
189.0	16.51	24.20	46.6	793.9
190.0	16.54	24.20	46.3	797.1
191.0	16.57	24.20	46.0	798.4
192.0	16.60	24.20	45.8	800.4
193.0	16.62	24.20	45.6	803.7
194.0	16.63	24.20	45.5	807.4
195.0	16.65	24.20	45.3	811.1
196.0	16.64	24.20	45.4	813.1
197.0	16.67	23.50	41.0	811.8
198.0	16.67	22.40	34.4	808.7
199.0	16.64	22.30	34.0	806.9
200.0	16.62	22.40	34.8	806.8
201.0	16.65	22.50	35.1	809.2
202.0	16.71	23.70	41.8	813.7
203.0	16.77	23.90	42.5	818.9
204.0	16.83	24.10	43.2	824.3
205.0	16.87	24.20	43.4	829.6

All Longley-Rice 70 dBu calculated using Probe 4 and FCC 30 second terrain data. LR 70 dBu is contained within FCC 60 dBu at all azimuths.

E3 TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.

Your Specifications

NAD83 Coordinates

Latitude	35-19-38.7 north
Longitude	083-20-08.9 west

Measurements (Meters)

Overall Structure Height (AGL)	24
Support Structure Height (AGL)	24
Site Elevation (AMSL)	1507

Structure Type

B - Building

[Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.AIR Search Results

CLOSE WINDOW

Output from NADCON for station

North American Datum Conversion

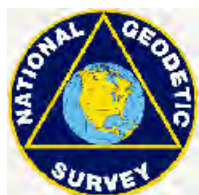
NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	35 19 38.34794	83 20 9.35236
NAD 83 datum values:	35 19 38.70000	83 20 8.90000
NAD 27 - NAD 83 shift values:	-0.35206	0.45236 (secs.)
	-10.850	11.425 (meters)
Magnitude of total shift:		15.756 (meters)



[NGS HOME PAGE](#)

E4 REFERENCE POINT CHANNEL STUDY

REFERENCE		DISPLAY DATES
35 13 47.0 N.	CLASS = A	DATA 08-22-12
83 27 28.0 W.	Current Spacings to 3rd Adj.	SEARCH 08-23-12
----- Channel 281 - 104.1 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
WNCC-FM	CP -N 281A	Franklin	NC	72.6	13.37	115.0	-101.1
WNCC-FM	APP-N 281A	Sylva	NC	45.3	15.50	115.0	-99.0
WRBN_%	LIC-N 281A	Clayton	GA	173.9	36.04	115.0	-78.5
WHLC	LIC 283A	Highlands	NC	127.0	31.12	31.0	0.6
WIMZ-FM	LIC 278C	Knoxville	TN	346.6	103.30	95.0	8.8
WCLE-FM	CP -N 281A	Calhoun	TN	272.3	125.84	115.0	11.3
WCLE-FM	LIC-Z 281A	Calhoun	TN	272.3	125.84	115.0	11.3
WPPL	LIC-D 280A	Blue Ridge	GA	243.5	89.46	72.0	18.0
WALR-FM	CP -N 281C1	Palmetto	GA	208.1	218.36	200.0	18.9
WQOQ	LIC 282A	Fletcher	NC	68.9	93.35	72.0	21.9
WALR-FM	LIC-N 281C0	Greenville	GA	212.4	238.12	215.0	23.6
WOLI-FM	LIC 280A	Easley	SC	116.9	95.35	72.0	23.9
WZTR	LIC-Z 282A	Dahlonega	GA	217.7	102.42	72.0	30.9

% = Station Fails minimum 73.215 spacings
All separation margins include rounding

Latitude: 35-13-47 N
Longitude: 083-27-28 W

E5 70 DBU COVERAGE FROM REFERENCE POINT

WNCC-FM.A

FRANKLIN
COMMUNITY
BOUNDARY
(YELLOW)

Franklin

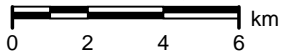
Macon

Jackson

CIRCULAR 16.2 KM
70 DBU CONTOUR

Highlands

Scale 1:200,000



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