

TECHNICAL STATEMENT  
IN SUPPORT OF AN  
APPLICATION FOR A MINOR MODIFICATION  
OF CONSTRUCTION PERMIT BNPED-20071018BDX  
TARBORO, NORTH CAROLINA

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## **Introduction**

This is an application by Nash Community College (the Applicant) for a minor modification to construction permit BNPED-20071018BDX.

### ***Basis of Calculations***

All exhibits accompanying the application were prepared using FCC 30-arc-second terrain data except where noted.

All population measurements were made using the most recent census block data available from the United States Bureau of the Census. That data is from the 2000 Census.

### ***Technical Parameters***

The proposed facility's 60 dBu contour encompasses 550.1 square kilometers. No large bodies of water exist with the area.

The U.S. population within the proposed facility's 60 dBu contour is estimated to be 26,194 people.

### ***Antenna Location***

It is proposed to locate the facility on an existing tower located by the NAD-27 coordinates of North Latitude 35 degrees 54 minutes 30 seconds, West Longitude 77 degrees 35 minutes 25 seconds. The tower possesses an Antenna Structure Registration Number of #1004832.

### ***Technical Facilities***

The applicant proposes at this time to utilize a four-bay, directional, circularly-polarized antenna. The FM antenna system will be side-mounted on the existing tower such that the radiation centerline is 67 meters above ground level (99 meters above mean sea level). The overall height of the tower is 82 meters above ground (114 meters above mean sea level).

A type-approved transmitter of adequate power for the required transmitter power output (TPO) will be installed at the time of construction. The appropriate TPO will be determined at license application filing to achieve an effective radiated power of 950 watts taking into consideration the losses in transmission line, transmission system losses and the power gain of the antenna system.

### ***Blanketing and Intermodulation Interference***

There are no known commercial or government receiving stations or cable head-end facilities located within the blanketing contour. In the event that blanketing or intermodulation interference, including RITOIE, occurs with any facilities or to radio receivers in use prior to grant of their application, the applicant will accept the responsibility to alleviate any interference resulting from the proposal.

## Tech Box Data

	'Azimuth'	'Field Value'
1) Channel 206	0	0.705
2) Class A	10	0.560
3) 35° 54' 30" N	20	0.445
77° 35' 25" W	30	0.353
4) Not Applicable	40	0.281
5) ASRN 1004832	50	0.230
6) 82 meters AGL	60	0.201
7) 99 meters (H) 99 meters (V) AMSL	70	0.193
8) 67 meters (H) 67 meters (V) AGL	80	0.199
9) 81 meters (H) 81 meters (V) HAAT	90	0.219
10) 0.950 kW (H) 0.950 kW (V)	100	0.249
11) Not Applicable	110	0.302
12) Rotation 0°	120	0.380
a) Consult Table on the left for values >>>	130	0.478
13) Yes. See Exhibit 13.	135	0.525
14) Yes. See Exhibit 14.	140	0.497
15) Yes.	150	0.473
a) Checked. See Exhibit 15a – Contour Overlap Requirements.	160	0.482
b) Checked. See Exhibit 15b – Spacing Requirements.	170	0.537
c) Not Checked. See Exhibit 15c – Grandfathered Short-Spaced.	180	0.663
d) Not Checked. See Exhibit 15d – Contour Protection.	190	0.835
e) Checked. See Exhibit 15e – Television Channel 6 Protection.	200	1.000
16) Not Applicable	210	1.000
17) Yes. See Exhibit 17.	220	1.000
18) Yes. See Exhibit 18.	230	1.000
19) Not Applicable	240	1.000
	250	1.000
	260	1.000
	270	1.000
	280	1.000
	290	1.000
	300	1.000
	310	1.000
	320	1.000
	330	1.000
	340	1.000
	350	0.887

## **Exhibit 13: Main Studio Location**

47 C.F.R. 73.1125 requires that the broadcast station's main studio be located within the station's community of license; at a location within the principal community contour of the station; or within twenty-five miles from the reference coordinates of the center of its community of license.

The instant application proposes a facility specified a community of license of Tarboro, NC. The reference coordinates of that community are North Latitude 35 degrees 53 minutes 49 seconds, West Longitude 77 degrees 32 minutes 9 seconds.

The applicant proposes to locate the main studio for the station on its campus located at 522 Old Carriage Road in Rocky Mount, NC. The coordinates at the site of the proposed studio are North Latitude 35 degrees 57 minutes 46 seconds, West Longitude 77 degrees 53 minutes 53 seconds.

The distance between the references coordinates of the proposed community of license and the location of the proposed studio (as determined in the manner described in 47 C.F.R. 73.208) is 20.8 miles. Therefore, the proposed location for the main studio meets the Commission's requirements by virtue of its location within twenty-five miles from the reference coordinates of the center of the proposed community of license.

### Exhibit 14: Community Coverage

The proposed facility is subject to 47 C.F.R. 73.515 because the instant application requests a channel in the reserved band. 47 C.F.R. 73.515 requires that a minimum field strength of 1 mV/m (60 dBu) be provided to at least 50 percent of the community of license or reach 50 percent of the population within the community.

The instant application identifies Tarboro, NC as the community of license. As demonstrated in the following illustration, that community lies almost entirely within the 60 dBu contour of the proposed facility. Therefore, the instant application complies with 47 C.F.R. 73.515.

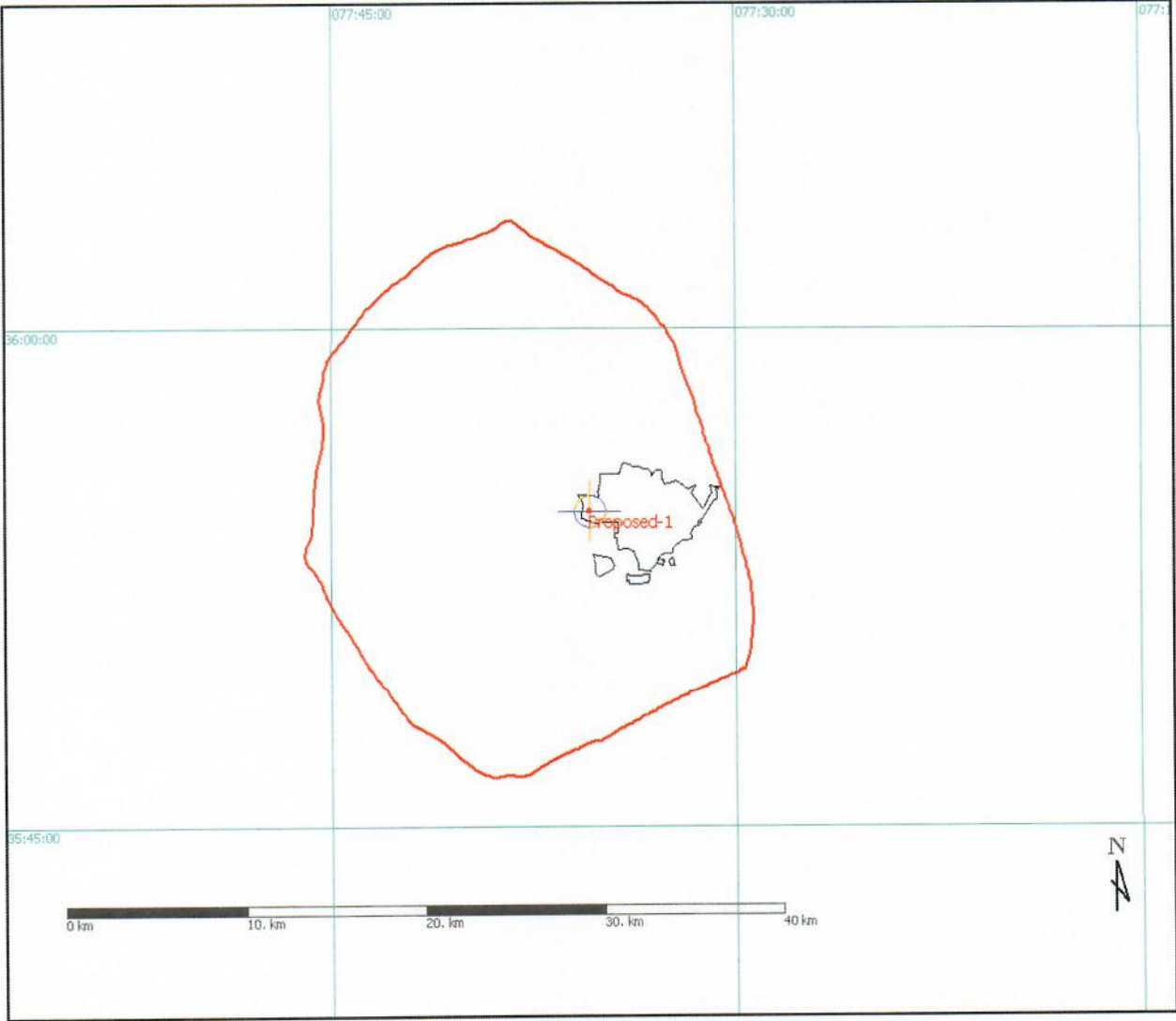


Illustration 14: Community of License (in purple) within 60dBu (red) contour of proposed facility.

## Exhibit 15a: Contour Overlap Requirements

### Co-Channel Stations

The following contour study demonstrates that the proposed facility complies with the provisions of 47 C.F.R. 73.509 in regards to each potentially affected co-channel station, construction permit and application.



Illustration 15a(1): This map is color coded so that prohibited overlap is indicated by LIKE color contours overlapping.

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### First Adjacent Stations

The following contour study demonstrates that the proposed facility complies with the provisions of 47 C.F.R. 73.509 in regards to each potentially affected first adjacent station, construction permit and application.

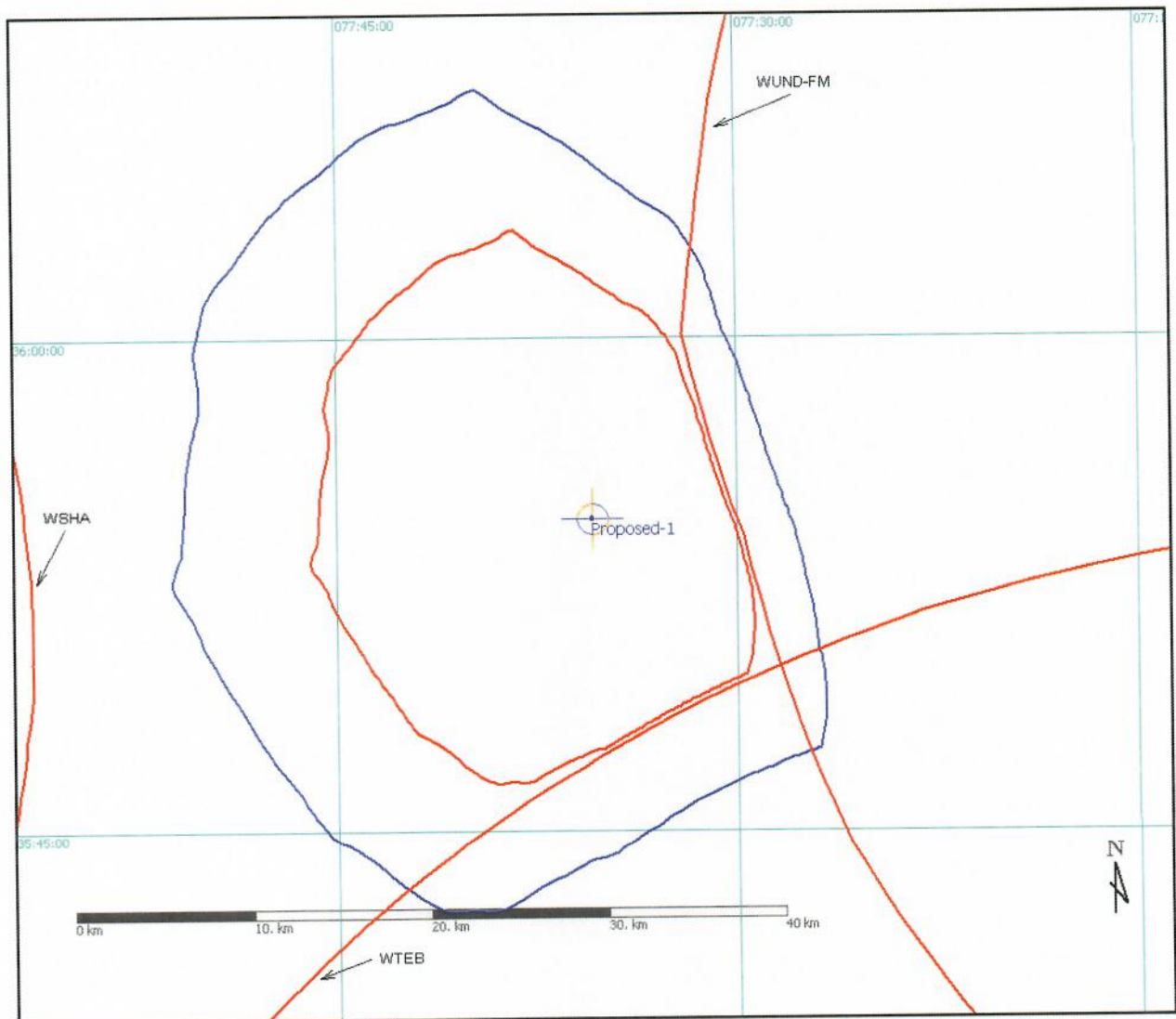


Illustration 15a(2): This map is color coded so that prohibited overlap is indicated by LIKE color contours overlapping.

### Second and Third Adjacent Stations

The following contour study demonstrates that the proposed facility complies with the provisions of 47 C.F.R. 73.509 in regards to each potentially affected second and third channel station, construction permit and application.

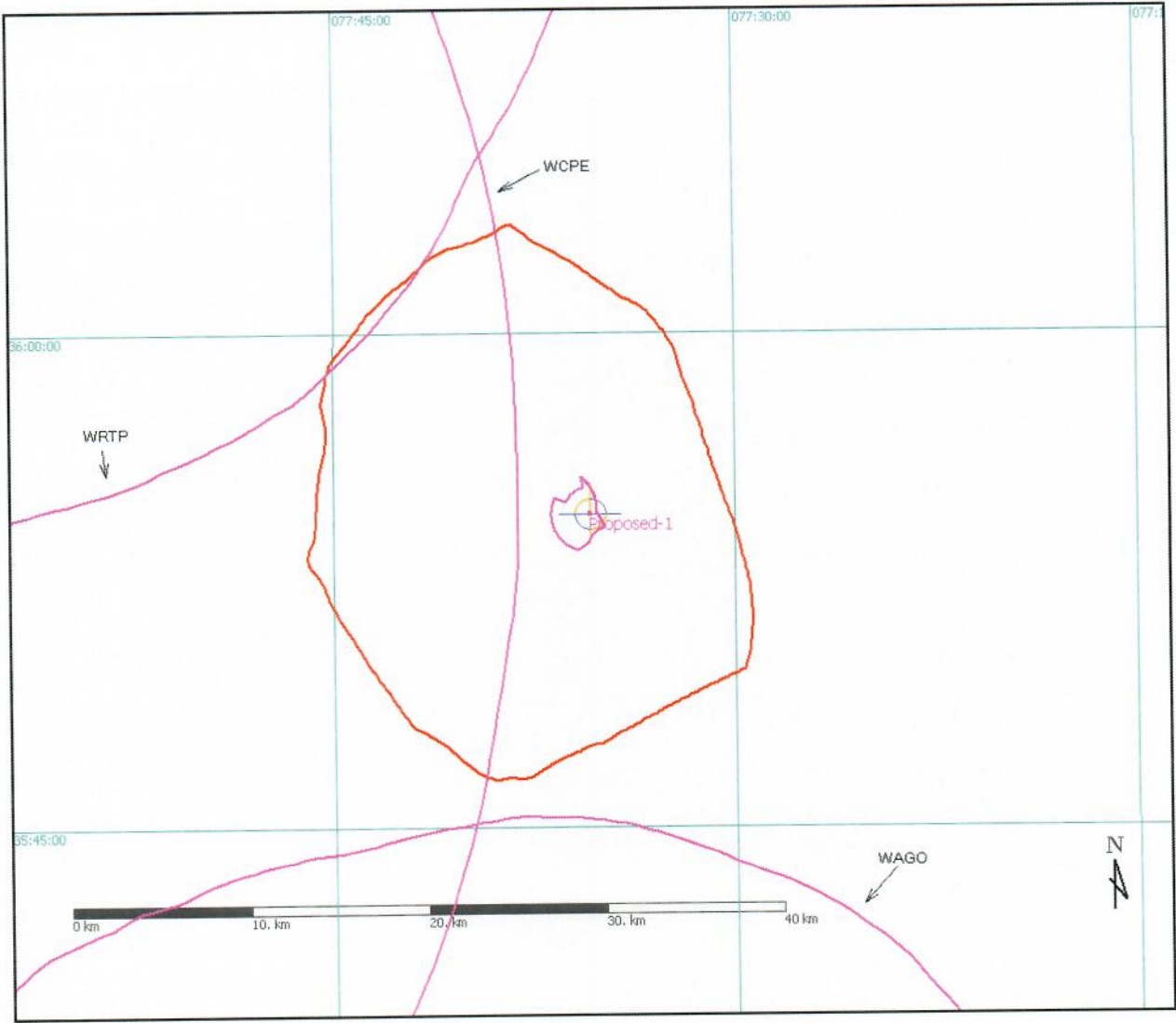


Illustration 15a(3): This map is color coded so that prohibited overlap is indicated by LIKE color contours overlapping.



### **Exhibit 15b: Spacing Requirements**

The proposed facility will operate on channel 206 and is not subject to 47 C.F.R. 73.207 except in regards to facilities operating on Channels 259 and 260. No facilities operating on those channels exist near enough to the proposed facility to warrant analysis.

### **Exhibit 15c: Grandfathered Short-Spaced**

The requirements of 47 C.F.R. 213(a) are not applicable in the instant application.

### **Exhibit 15d: Contour Protection**

The requirements of 47 C.F.R. 215 are not applicable in the instant application.

### **Exhibit 15e: Television Channel 6 Protection**

Pursuant to Public Notice DA 09-2214, the instant application is not required to show compliance with Section 73.525 with respect to decommissioned Channel 6 television stations.

## **Exhibit 17: International Borders**

The facility is not located within 320 kilometers of the common borders with Canada or Mexico.

## **Exhibit 18**

Operation of this facility will not have a significant environmental impact. To the best knowledge of the Applicant:

1. The existing structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species.
2. The proposed changes will not affect districts, sites, buildings, structures or objects significant in American history, architecture, engineering or culture that are listed in the National Register of Historic Places, or eligible for listing.
3. The site is not located in a flood plain. Nothing is proposed that would require significant changes in surface features such as wetland fill, deforestation or water diversion.
4. The structure is marked in accordance with FAA requirements.

### ***RADIOFREQUENCY RADIATION IMPACT***

The proposed facility will not result in human exposure to radiofrequency (RF) radiation in excess of safety standards specified in Section 1.1307(b). Effective October 15, 1997, the FCC adopted revised guidelines and procedures for evaluating the environmental effects of RF emissions. These revised guidelines incorporate two tiers of exposure limits based on whether exposure occurs in a "controlled" (occupational) situation or an "uncontrolled" (general population) situation. Based on the methods published in OET Bulletin No. 65 (entitled "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields"), the predicted power density value produced by the proposed facility will be well below the established ANSI guideline limits.

Verification of compliance with FCC-specified guidelines for human exposure to RF radiation was determined utilizing the equations and graphs set forth in OET Bulletin No. 65. The bulletin prescribes that the fraction of the recommended limit incurred within each frequency interval should be determined and that the sum of all fractional contributions should not exceed 100%.

The proposed facility will operate with a radiation centerline at 67.0 meters above ground level (AGL) and an ERP of 950 watts on Channel 206 operating with circular polarization. Utilizing FMMODEL it was determined that the highest value of power density occurs at 254 meters from the base of the tower which is 0.37 uW/cm<sup>2</sup> or 0.19% of the 200 uW/cm<sup>2</sup> MPE limit for uncontrolled/general exposures. It is 0.04% of the MPE for occupational/controlled areas.

Since the proposed power density is less than 100 percent of the ANSI guideline, the proposed facility complies with FCC requirements regarding radiofrequency radiation. In addition, the base of the tower will be fenced and warning signs will be posted at appropriate intervals to preclude casual access.

Furthermore, the applicant will ensure protection to station personnel working in the vicinity of their antenna. Access to the antenna supporting tower base will be restricted to authorized personnel only. The applicant for the proposed station will reduce power or cease operation, when appropriate and deemed necessary, during times of service or maintenance of the transmitting system or when work is being performed on the tower to avoid potentially harmful

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exposure to station personnel or workers. The applicant will initiate joint procedures with common users to be followed during times of service or maintenance of the transmission systems when necessary to avoid potentially harmful exposure to personnel.

It is submitted that the proposed facility will not constitute a potential hazard to the quality of the human environment. Accordingly, the instant application, as described herein, should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Rules.

## **SUMMARY**

It is submitted that the proposed facility described herein complies with the Rules and Regulations of the Federal Communications Commission.

This statement and attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: April 20, 2007

A handwritten signature in black ink, appearing to read "Jason Bennett", is written over the typed name.

Jason Bennett