

**ENGINEERING REPORT**  
**MINOR CONSTRUCTION PERMIT**  
**MODIFICATION APPLICATION**

For the NCE-FM Facilities of

**WOCG.CP – Livingston, TN**  
**CH206A – 89.1 MHz**

Original Construction Permit  
File Number  
BNPED-20071018AIC

February, 2013

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Discussion of Report

## **Main Studio Location**

- Exhibit 15.1 - Copy of USGS Topographic Map of Proposed Site
- Exhibit 15.2 - Copy of USGS Aerial Photograph of Proposed Site
- Exhibit 15.3 - Vertical Plan of Antenna System and Support Tower
- Exhibit 15.4 - Tabulation of Operating Conditions
- Exhibit 15.5 - Present vs Proposed Contour Study

## **Interference Requirements**

### **Contour Overlap Requirements**

- Exhibit 18.1 - Tabulation of Non-Commercial Allocation
- Exhibit 18.2 - Contour Protection Studies with WTTU(FM) – Cookeville, TN
- Exhibit 18.3 - Contour Protection Studies with WKYU-FM – Bowling Green, KY

**Spacing Requirements** (none)

**Grandfathered Short-Spaced Requirements** (none)

**Contour Protection Requirements** (none)

**TV Channel 6 Protection Requirements** (none)

### **RF Radiation Study Requirement**

- Exhibit 24.1 - RF Study

(Exhibit Numbering is in response to FCC Online Form 340, Section VII)

# **DISCUSSION OF REPORT**

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This firm was retained to prepare the required engineering report in support of this minor construction permit modification application for NCE-FM facility WOCG.CP (CH206A) – Livingston, TN, Construction Permit File Number BNPED-20071018AIC. Presently WOCG.CP is authorized to operate with Class A operating parameters of 1.2 kW at 198 meters HAAT. This minor modification application specifies Class A operating parameters of 1.4 kW at 203 meters HAAT from a new tower location. The proposed operation will continue to serve the community of Livingston, TN. Continued use of a non-directional antenna will be employed.

The proposed site for the Class A operation meets all §73.509 contour protection requirements towards other domestic stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 18.1**. There are two (2) other facilities, WTTU(FM) – Cookeville, TN and WKYU-FM – Bowling Green, KY deemed close enough to require further study. An FMCommander™ map of the relevant protected and interference contours toward the relevant facilities has been supplied in **Exhibit(s) 18.2 to 18.3**. It is believed there is sufficient clearance to preclude the need for further study with respect to the other domestic protected stations shown in the allocation study. Tabulations for each contour employed will be supplied to the FCC upon request.

The transmitter site is not located within 320 km of the common border between the United States and Canada or Mexico. As a result, no further international showings are believed required.

The Transmitter site is not located within the affected radius of any Channel 6 television facility; therefore no further TV-6 protection studies are required.

The proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted service contour is found as **Exhibit 15.5** of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT. However, the plotted contours shown in **Exhibit 15.5** are based on the use of a full 360 terrain radials and the NED 03 Second Terrain Database.

The antenna will be mounted on a new 60.7 meter (199 ft) AGL tower yet to be constructed. TOWAIR has been consulted and Antenna Structure Registration is not required. USGS Topographic Mapping and Aerial Photography of the proposed site have been included in **Exhibit(s) 15.1 to 15.2**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 15.3**.

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Form 340.

## **DISCUSSION OF REPORT** (continued)

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The FM Broadcast facility proposed in this application is within the uncontrolled limits as noted in the supplied **Exhibit 24.1** study. The RF radiation will not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. The facility will be properly marked with signs, and entry will be restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

***In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.***

**DISTANCES TO CONTOURS:** The table below shows the distances to the 1.0 mV/m contour from the proposed facility using an ERP of 1.4 kW at an AMSL of 498 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 362623.0    W. Lng. = 852427.0						
HAAT and Distance to Contour,						
FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	255.6	242.4	1.4000	1.46	1.000	30.48
045	310.7	187.3	1.4000	1.46	1.000	26.89
090	353.6	144.4	1.4000	1.46	1.000	23.96
135	339.7	158.3	1.4000	1.46	1.000	24.97
180	294.3	203.7	1.4000	1.46	1.000	27.95
225	281.5	216.5	1.4000	1.46	1.000	28.81
270	280.0	218.0	1.4000	1.46	1.000	28.91
315	241.1	256.9	1.4000	1.46	1.000	31.34
Ave El= 294.58 M    HAAT= 203.42 M    AMSL= 498						