

**ENGINEERING REPORT  
NEW STATION APPLICATION**

Requesting a NEW NCE-FM Facility  
for

**Leesport, PA  
CH202A – 88.3 MHz**

October, 2007

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- Exhibit 13.1 - Copy of Antenna Structure Registration
- Exhibit 13.2 - Vertical Plan of Antenna System and Support Tower
- Exhibit 13.3 - Tabulation of Operating Conditions
- Exhibit 13.4 - Proposed Contour Study

## **Interference Requirements**

### **Contour Overlap Requirements**

- Exhibit 16.1 - Tabulation of Non-Commercial Allocation
- Exhibit 16.2 - Contour Protections Toward Select Stations
- Exhibit 16.3 - Tabulation of Proposed Directional Antenna

<b>Spacing Requirements</b>	(none)
<b>Grandfathered Short-Spaced Requirements</b>	(none)
<b>Contour Protection Requirements</b>	(none)

### **TV Channel 6 Protection Requirements**

- Exhibit 19.1 - TV-6 Protection Study

**RF Radiation Study Requirement** (See Discussion)

(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 a new station application for a NEW NCE-FM facility for Leesport, PA. This application is being filed during the 10/12-19/07 window. This new facility application seeks Class A parameters of 0.67 kW at 84 meters HAAT from ASR Tower No. 1032934. The proposed operation will serve the community of Leesport, PA. A directional antenna pattern will be employed.

The proposed site for the Class A operation meets all the 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 16.1**. There are four (4) other facilities which are deemed close enough to require further study. FMCommander™ maps of the relevant protected and interference contours toward these facilities have been supplied in **Exhibit 16.2**. 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. The Transmitter site is located within the affected radius of Channel 6 television station WPVI-TV, Philadelphia, PA, therefore further TV-6 showings have been provided in **Exhibit 19.1**. Full protection will be afforded the TV-6 facility.

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 13.4** 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 13.4** are based on the use of a full 360 terrain radials and the NGDC 30 Second Terrain Database. All populations in this application were generated using V-Soft Communications FMCommander™ and Probe3™ programs. The programs calculate population using the block level 2000 U.S. SF1 census. Both programs use the population centroid inclusion method. The centroid is either totally in or totally out. The areas are computer generated in FMCommander™ and Probe3™ using numeric calculus.

The antenna will be mounted on the existing tower bearing Antenna Structure Registration No. 1032934. A copy of the existing Antenna Structure Registration has been included in **Exhibit 13.1**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 13.2**.

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)

The FM Broadcast facility proposed in this application is within the controlled and uncontrolled limits as set forth in the RF Exposure Compliance Worksheets, Worksheet #7, issue March, 2001. A copy of Worksheet #7 will be supplied upon request. 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 0.67 kW at an HAAT of 84 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 402809.0    W. Lng. = 760346.0 HAAT and Distance to Contour - FCC Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	196.7	43.3	0.0821	-10.86	0.350	6.39
045	140.7	99.3	0.0523	-12.81	0.280	8.76
090	119.7	120.3	0.4108	-3.86	0.783	16.12
135	124.0	116.0	0.6700	-1.74	1.000	18.13
180	127.0	113.0	0.6700	-1.74	1.000	17.88
225	117.3	122.7	0.2086	-6.81	0.558	13.58
270	154.3	85.7	0.0327	-14.85	0.221	7.18
315	265.1	-25.1	0.1461	-8.35	0.467	6.20
Ave El= 155.60 M    HAAT= 84.40 M    AMSL= 240						