

ENGINEERING REPORT

NEW STATION APPLICATION

**Requesting a NEW
NCE-FM Facility for**

**Harbor Springs, MI
CH211C3 – 90.1 MHz**

October, 2007

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(none)

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(none)

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(none)

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RF Radiation Study Requirement

Exhibit 22.1 - RF Study

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

DISCUSSION OF REPORT

This firm was retained to prepare the required engineering report in support of a new station application for a NEW NCE-FM facility for Harbor Springs, MI. This application is being filed during the 10/12-19/07 window. This new facility application seeks Class C3 parameters of 1.2 kW at 306 meters HAAT from ASR tower 1000703 serving Harbor Springs, MI. A directional antenna pattern will be employed.

The proposed site for the Class C3 operation meets all the contour protection requirements towards other stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 16.1**. There is one other facility, which has been deemed close enough to require further study. An FMCommander™ map of the relevant protected and interference contours towards WLJN-FM, Traverse City, MI has been included in **Exhibit 16.2**. Contour overlap does result with WLJN-FM, however the entire area of overlap has been contained over water. It is believed there is sufficient clearance to preclude the need for further study with respect to the other protected stations shown in the allocation study. Tabulations for each contour employed will be supplied to the FCC upon request.

In addition, the applicant would like to make note this proposal is being filed against APP211A, Pellston, MI, File No. BPED-19990607MF. BPED-19990607MF is no longer believed to require protection, as this application will be dismissed pursuant to the October 12 to October 19, 2007 New / Major Change NCE-FM Filing Window, Reference "FCC Public Notice, DA 07-3521, released August 9, 2007.

The transmitter site is located within 320 km of the common border between the United States and Canada. Full protection will be afforded all Canadian concerns as noted in the **Exhibit 16.1** NCE-FM allocation study.

The transmitter site proposed in this application is within the affected radius of one Channel 6 television station, therefore further TV-6 showings are required. Full protection towards WCML(TV), Alpena, MI will be provided. A TV-6 study has been included as **Exhibit 19.1** demonstrating compliance.

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.

DISCUSSION OF REPORT (continued)

The antenna will be mounted on the existing tower bearing Antenna Structure Registration No. 1000703. A copy of the existing ASR 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.

The potential for human exposure to non-ionizing radiofrequency radiation at the proposed transmitter site has been evaluated with regards to §1.1307(b)(3) concerning the five percent (5%) contribution rule for multiple transmitter sites. **Exhibit 22.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is 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 1.2 kW at an HAAT of 306 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 453008.0 W. Lng. = 850144.0						
HAAT and Distance to Contour - FCC Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	281.2	263.8	1.2000	0.79	1.000	30.60
045	251.6	293.4	1.2000	0.79	1.000	32.27
090	283.9	261.1	1.1856	0.74	0.994	30.37
135	234.7	310.3	0.1512	-8.20	0.355	20.32
180	211.1	333.9	0.0384	-14.15	0.179	14.85
225	187.7	357.3	0.0954	-10.20	0.282	19.39
270*	228.7	316.3	0.7489	-1.26	0.790	29.94
315	233.3	311.7	1.2000	0.79	1.000	33.26
Ave El= 239.02 M HAAT= 305.98 M AMSL= 545						
* Denotes truncation of radials pursuant to §73.313(d)(2)						