

**ENGINEERING REPORT  
ORIGINAL CONSTRUCTION  
PERMIT APPLICATION**

Post Auction 88 Amendment per Public  
Notice DA 10-1360  
(Released July 29, 2010)

for

**NEW(FM) – CH283A  
Traverse City, MI  
Original Paper Filing  
BPH-19941020MH**

August, 2010

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# **TABLE OF CONTENTS**

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Discussion of Report

## **Allotment Requirement**

Exhibit 24.1 - Copy of Existing Antenna Structure Registration

Exhibit 24.2 - Vertical Plan of Antenna System

Exhibit 24.3 - Tabulation of Operating Conditions

Exhibit 24.4 - Proposed Service Contour Study

**Community Coverage Requirement** (See Discussion)

**Main Studio Location Requirement** (see Discussion)

## **Interference Requirements**

Separation Requirements

Exhibit 27.1 - Tabulation of Commercial Spacings

47 C.F.R §73.215 (Short-Spaced) Requirements

Exhibit 31.1 - Contour Protection Studies Toward WSNX-FM – Muskegon, MI (max facilities)

## **RF Radiation Study Requirement**

Exhibit 32.1 - RF Radiation Study

(Exhibit Numbering is in response to FCC Online Form 301, Section III-B)

# **DISCUSSION OF REPORT**

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This firm was retained to prepare the required engineering report in support of this Original Construction Permit Application for a new CH283A facility for Traverse City, MI. This application is being filed as a Post Auction 88 Amendment per *Public Notice DA 10-1360* (Released July 29, 2010). This filing will amend original paper filing BPH-19941020MH. This application requests Class A facilities from ASR 1031838 with operating parameters of 1.75 kW ERP (H) & (V) at 419 meters AMSL. The facility will serve the community of Traverse City, MI.

The proposed site for the Class A operation meets all domestic spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation with the exception of WSNX-FM – Muskegon, MI. A tabulation of the existing and required spacing toward each of the other relevant stations is found in **Exhibit 27.1**. Short-spaced processing under §73.215 is requested toward WSNX-FM is requested. Per §73.215, full contour protection toward WSNX-FM at maximum Class B parameters of 50.0 kW at 150 meters HAAT has been demonstrated in **Exhibit(s) 31.1**. The applicant would like to note multiple former bidder applications and an Allotment Vacancy for CH283A – Traverse City, MI which no longer require protection by this winning bidder application amendment.

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 contours are found as **Exhibit 24.4** of this report. This exhibit shows the 3.16 mV/m contour which serves the community of license, and the overall service provided by the 1.0 mV/m contour of the facility. The plotted contours shown in **Exhibit 24.4**, are based on the use of a full 360 terrain radials. The applicant would like to note the use of the USGS 03 SEC terrain database for all allocation, contour and HAAT calculations contained here-in.

The proposed antenna will be mounted on the existing tower which is presently identified by Antenna Structure Registration No. 1031838. A copy of the existing ASR has been included in **Exhibit 24.1**. A copy of the vertical antenna plan has been included as **Exhibit 24.2**.

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 Online Form 301, Section III-B.

**RADIATION PROTECTION:** The Commission requires an engineering study regarding compliance with the guidelines for human protection from radiofrequency radiation. This report section is in response to that provision of the Rules. The current Federal Communications Commission guidelines for RF radiation protection are set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01).

## DISCUSSION OF REPORT (continued)

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1307(b)(3) of the Commission's rules concerning RF contributors of less than 5%. **Exhibit 32.1** 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.

**DISTANCES TO CONTOURS:** The table below shows the distances to the 3.16 mV/m and 1.0 mV/m contours from the proposed facility using an ERP of 1.75 kW at an HAAT of 187 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 444636.0    W. Lng. = 854102.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - USGS 03 SEC							
Azi.	AV EL	HAAT	ERP kW	dBk	Field	70-F5	60-F5
000	227.7	191.3	1.7500	2.43	1.000	16.50	28.55
045	178.5	240.5	1.7500	2.43	1.000	18.55	32.03
090	185.0	234.0	1.7500	2.43	1.000	18.30	31.59
135	241.8	177.2	1.7500	2.43	1.000	15.87	27.59
180	276.5	142.5	1.7500	2.43	1.000	14.03	25.04
225	269.4	149.6	1.7500	2.43	1.000	14.42	25.58
270	268.9	150.1	1.7500	2.43	1.000	14.45	25.62
315	208.6	210.4	1.7500	2.43	1.000	17.32	29.91
Ave El= 232.05 M    HAAT= 186.95 M    AMSL= 419							