

**ENGINEERING REPORT
ORIGINAL CONSTRUCTION
PERMIT APPLICATION**

Post Auction 94 Long Form
301-FM Filing per
Public Notice DA 13-1080
(Released May 14, 2013)

for

**NEW-249A – Ludington, MI
(Facility ID No. 191495)**

**Auction 94 FM Engineering
Proposal BSFH-20130204ADB**

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

DISCUSSION OF REPORT

This firm was retained to prepare the required engineering report in support of this Original Construction Permit Application for a new CH249A facility for Ludington, MI (Facility ID No. 191495). This application is being filed as a Post Auction 94 Long Form 301-FM filing per *Public Notice DA 13--1080* (Released May 14, 2013). This filing is associated with Auction 94 FM Engineering Proposal BSFH-20130204ADB. This Long Form 301-FM application requests Class A facilities from ASR 1044960 with operating parameters of 6.0 kW ERP (H&V) at 285 meters AMSL. The facility will serve the community of Ludington, 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. A tabulation of the existing and required spacing toward each of the other relevant stations is found in **Exhibit 30.1**. The applicant would like to note the existence of a former bidder application and an Allotment Vacancy for CH249A – Ludington, MI which no longer require protection by this winning bidder application. The allocation study also shows a short-spacing to WMLQ – Manistee, MI on CH249A. Per MB Docket No. 08-26, RM-11418, this station will be moved to CH282A, thereby eliminating the short-spacing.

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 27.6** 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 27.6** are based on the use of a full 360 terrain radials. The applicant would like to note the use of the NGDC 30 SEC terrain database for all allocation, contour and HAAT calculations contained here-in.

The antenna will be mounted on an existing 93.2 meter AGL tower bearing ASR number 1044960. A copy of the antenna structure registration is included as **Exhibit 27.1**. A copy of USGS Topographic Mapping showing the existing site has been included in **Exhibit 27.2**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 27.4**

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 §1.1310 of the Commission's rules. This study demonstrates the maximum contribution for the uncontrolled environment to be less than 200 $\mu\text{W}/\text{cm}^2$ as set forth by §1.1310 for a single source operation. **Exhibit 35.1** 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 6.0 kW at an HAAT of 93 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 440340.0 W. Lng. = 862503.0 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC							
Azi.	AV EL	HAAT	ERP kW	dBk	Field	70-F5	60-F5
000	194.6*	90.4	6.0000	7.78	1.000	15.23	26.97
045	198.2	86.8	6.0000	7.78	1.000	14.89	26.46
090	205.6	79.4	6.0000	7.78	1.000	14.23	25.39
135	205.8	79.2	6.0000	7.78	1.000	14.21	25.36
180	191.8	93.2	6.0000	7.78	1.000	15.50	27.37
225	181.6*	103.4	6.0000	7.78	1.000	16.49	28.74
270	179.2	105.8	6.0000	7.78	1.000	16.72	29.06
315	179.4	105.6	6.0000	7.78	1.000	16.69	29.02

Ave El= 192.03 M HAAT= 92.98 M AMSL= 285 M

*Denotes radial truncated at Lake Michigan shoreline.