ENGINEERING REPORT

MINOR MODIFICATION OF CONSTRUCTION PERMIT APPLICATION

For the FM Facilities of

WKHI(FM) – Fruitland, MD
CH299B1 – 107.7 MHz
Facility ID No. 4107

File No.
BMPH-20140827ABY

March, 2015

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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 Minor Change Modification of Construction Permit Application for WKHI(FM) – Fruitland, MD (Facility ID No. 4107). Presently WKHI(FM) operates under License BLH-20090326ABY with 5.3 kW ERP (H&V) at 120 meters AMSL. The station holds a construction permit, BMPH-20140827ABY, for a change in transmitter site, an upgrade in Class from A to B1, an increase in ERP to 23.5 kW and decrease in radiation center height to 117 meters AMSL, employing a directional antenna. This application modified the original application, BPH-20120723AEM. It is proposed to remain at the licensed site with Class B1 parameters of 23 kW ERP (H&V) at 118.3 meters AMSL. The existing 2-Bay antenna will be replaced with a 3-bay antenna. The facility will continue to serve the currently authorized community of Fruitland, MD.

The proposed site for the Class B1 operation meets all domestic and international spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation, with the exception of WLZL(FM) – Annapolis/College Park, MD. A tabulation of the existing and required spacing toward each of the other relevant stations is found in ***Exhibit 30.1***. A detailed §73.215 protection showing towards WLZL(FM) is provided in ***Exhibit 30.2***. A copy of the proposed directional antenna pattern is included as ***Exhibit 30.3***.

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 27.4*** 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 0.7 mV/m contour of the facility. The plotted contours shown in ***Exhibit 27.4***, 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.

As stated before, the antenna will be mounted on an existing tower presently bearing Antenna Structure Registration number 1036465. A copy of the existing ASR has been included in ***Exhibit 27.1***. A vertical antenna plan depicting the placement of the antenna on the tower has been included in ***Exhibit 27.2***. As this proposal will not increase the overall tower height, it is believed the FAA need not be notified

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)

Inspection of the graph in Exhibit 35.1 shows the maximum contribution for the uncontrolled environment to be less than 200 μW/cm² as set forth by §1.1310. Therefore, the facility is in compliance with FCC guidelines. In addition to the protection afforded by the proposed antenna height above ground, the facility is or will be properly marked with signs, and/or entry to the facility will be restricted by means of fencing with locked doors and/or gates if required. Any other means that may be required to protect employees and the general public will also 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 3.16 mV/m and 0.7 mV/m contours from the proposed facility using an ERP of 23 kW at an HAAT of 105 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 382300.0 W. Lng. = 752453.0
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	57-F5
000	15.7	102.6	23.0000	13.62	1.000	23.08	44.48
045	11.2	107.1	23.0000	13.62	1.000	23.56	45.23
090	9.5	108.8	23.0000	13.62	1.000	23.73	45.50
135	7.3	111.0	23.0000	13.62	1.000	23.94	45.85
180	13.9	104.4	23.0000	13.62	1.000	23.27	44.78
225	15.6	102.7	23.0000	13.62	1.000	23.09	44.50
270	15.2	103.1	18.3824	12.64	0.894	21.95	42.69
315	19.9	98.4	7.4073	8.70	0.567	16.99	34.66

Ave El= 13.55 M HAAT= 104.75 M AMSL= 118.3 M