

ENGINEERING REPORT

Requesting a Minor Change Application
for FM Station

WBLD(FM) – Orchard Lake, MI

License Number BLED-1268

Facility ID #71544

Site Change & Power Increase Application

March, 2015

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Spacing Requirements	(none)
Grandfathered Short-Spaced Requirements	(none)
Contour Protection Requirements	(none)

TV Channel 6 Protection Requirements	(none)
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RF Radiation Study Requirement (See Discussion)

Exhibit 24.1 – RF Radiation 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 this minor change license modification application for Non-Commercial FM station WBLD(FM), Orchard Lake, MI, License Number BLED-1268. WBLD(FM) presently operates on Channel 207D, 89.3 MHz with 0.015 kW at 315 meters AMSL utilizing a non-directional antenna. The licensee proposes operation at a new site, on an existing tower on Channel 207D, 89.3 MHz, with 0.044 kW at 313.3 meters AMSL employing a directional antenna pattern. The facility will continue to serve Orchard Lake, MI.

The proposed Class D operation will continue to meet all contour protection requirements towards other stations in the allocation. An FMCommander™ present allocation study as supplied by V-Soft® Communications has been included in **Exhibit 18.1**. The proposed allocation study is included as **Exhibit 18.2**. There are two (2) existing facilities close enough to merit further study. Contour protection maps and tabulations have been supplied for these three facilities as noted in **Exhibit(s) 18.3 to 18.4**. 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. **Exhibit 18.6** is a plot and tabulation of the proposed directional antenna pattern.

The transmitter site is located within 320 km of the common border between the United States and Canada. Full protection is afforded all international facilities as noted **Exhibit 18.5**, a map showing the proposed 34 dBu 50:10 interference contour does not enter Canada. The transmitter site proposed in this application is not located within the affected radius of any TV-6 facility as noted in the FCC CDBS database at the time of this filing.

The antenna will be mounted on an existing tower. The structure does not require Antenna Structure Registration (ASR). A Topographical Map showing the proposed site is included as **Exhibit 15.1**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 15.2**. The structure has an FAA Determination of No Hazard but does not require Antenna Structure Registration. **Exhibit 15.3** is a tabulation of the proposed operating parameters.

The proposed service contour has been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The present and proposed plotted contours are found as **Exhibit 15.4** of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m (60 dBu) 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 15.4** are based on the use of a full 360 terrain radials and the NED 03 Second Terrain Database.

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.

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).

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 concerning single source contributors.

DISCUSSION OF REPORT (continued)

Exhibit 24.1 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 0.044 kW at an HAAT of 313.3 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 423411 W. Lng. = 832140 HAAT and Distance to Contour, FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	291.4	21.9	0.0440	-13.57	1.000	4.55
045	284.1	29.2	0.0176	-17.54	0.632	3.62
090	254.9	58.4	0.0137	-18.63	0.558	4.84
135	225.8	87.5	0.0251	-16.00	0.756	6.82
180	238.0	75.3	0.0399	-13.99	0.952	7.05
225	284.1	29.2	0.0440	-13.57	1.000	4.55
270	284.4	28.9	0.0440	-13.57	1.000	4.55
315	299.2	14.1	0.0440	-13.57	1.000	4.55
Ave El= 270.24 M HAAT= 43.06 M AMSL= 313.3 M						