

COMPREHENSIVE TECHNICAL EXHIBIT

APPLICATION FOR AUTHORITY TO CONSTRUCT OR MAKE
CHANGES IN AN FM TRANSLATOR STATION

W294AI MARQUETTE, MI
BETHESDA CHRISTIAN BROADCASTING

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INTRODUCTION

This technical exhibit has been prepared in support of a minor change to translator station W294AI Marquette, MI (Facility ID #20620).

SUMMARY OF PROPOSED STATION DATA

Output Channel: 291
Output Frequency: 106.1 MHz
ERP: 0.055 kilowatts
HAAT: -15 meters
ANTENNA: Non-directional, SWR Model FMEC-1
SITE LOCATION: 46-32-39 N, 87-23-32 W (NAD 27)
SITE ASRN: 1240358

MINOR CHANGE QUALIFICATION

The proposed frequency of 106.1 MHz is a third-adjacent frequency of the currently licensed frequency of 106.7 MHz. Also, there is no site change proposed, so the 1 mV/m coverage area would certainly overlap. Therefore, this application can be processed as a minor change under 47 CFR § 74.1233.

INTERFERENCE DISCUSSION

Contour Overlap

The lack of any prohibited field contour overlap of the proposed station with any first, second, or third adjacent stations is shown in Figures 1 and 2.

Spacing to Intermediate Frequency Stations

The proposed station would operate with an effective radiated power of 55.0 watts. Because the proposed ERP is less than 100 watts, the proposed station is not subject to the spacing requirements set forth in 47 CFR § 74.1204(g).

Canadian Border

The site of the proposed station is 134 kilometers from the Canadian border. Figure 3 shows that the 34 dBu interfering contour does not extend beyond 32 kilometers in any direction. Therefore, the proposed station believed to be in compliance with 47 CFR § 74.1235(d)(3).

Contour Calculations

All contour and HAAT values were calculated using the NGDC 30-second terrain database.

ENVIRONMENTAL CONSIDERATIONS

The proposed station would operate with an effective radiated power of 55.0 watts from a non-directional antenna. Because the proposed station would operate with less than 100 watts, it is in compliance with 47 CFR § 1.1307(b)(4)(i).

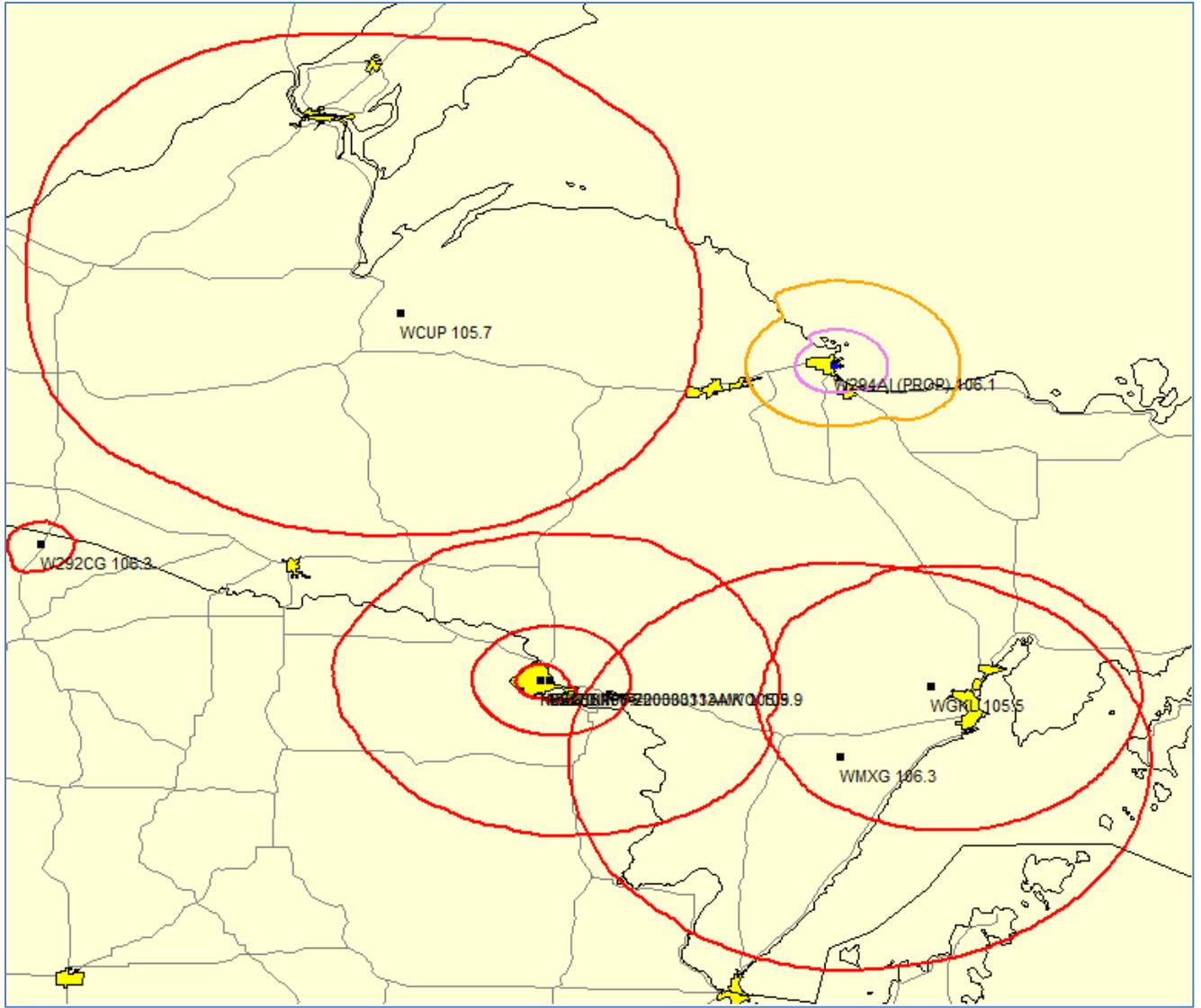


Figure 1. Pertinent contours of the proposed station and first, second, and third adjacent stations.

(RED = 60 dBu, PINK=54 dBu interfering, ORANGE=40 dBu interfering, and BLUE=100 dBu interfering)

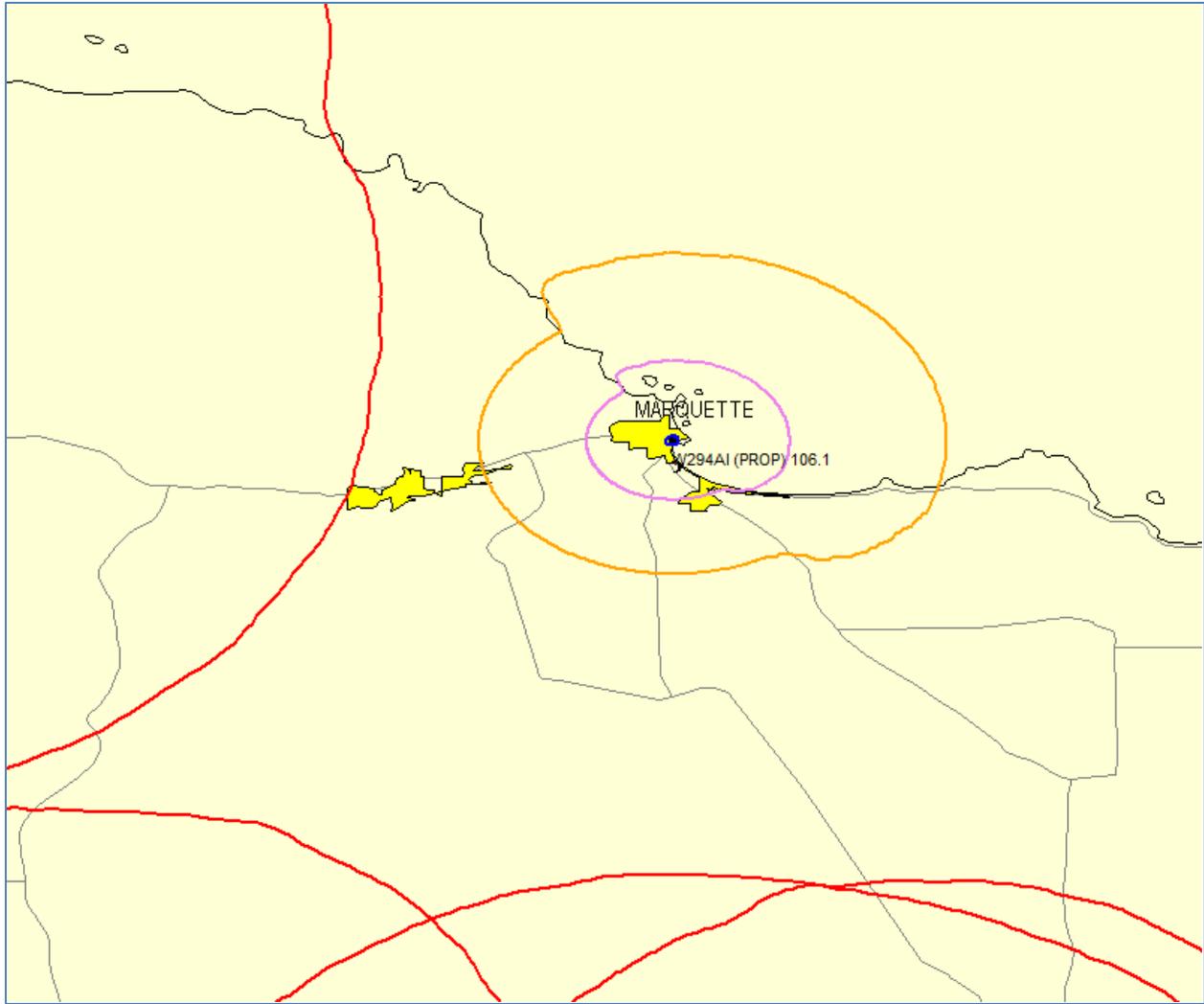


Figure 2. Detail view of Figure 1.

(RED = 60 dBu, PINK=54 dBu interfering, ORANGE=40 dBu interfering, and BLUE=100 dBu interfering)

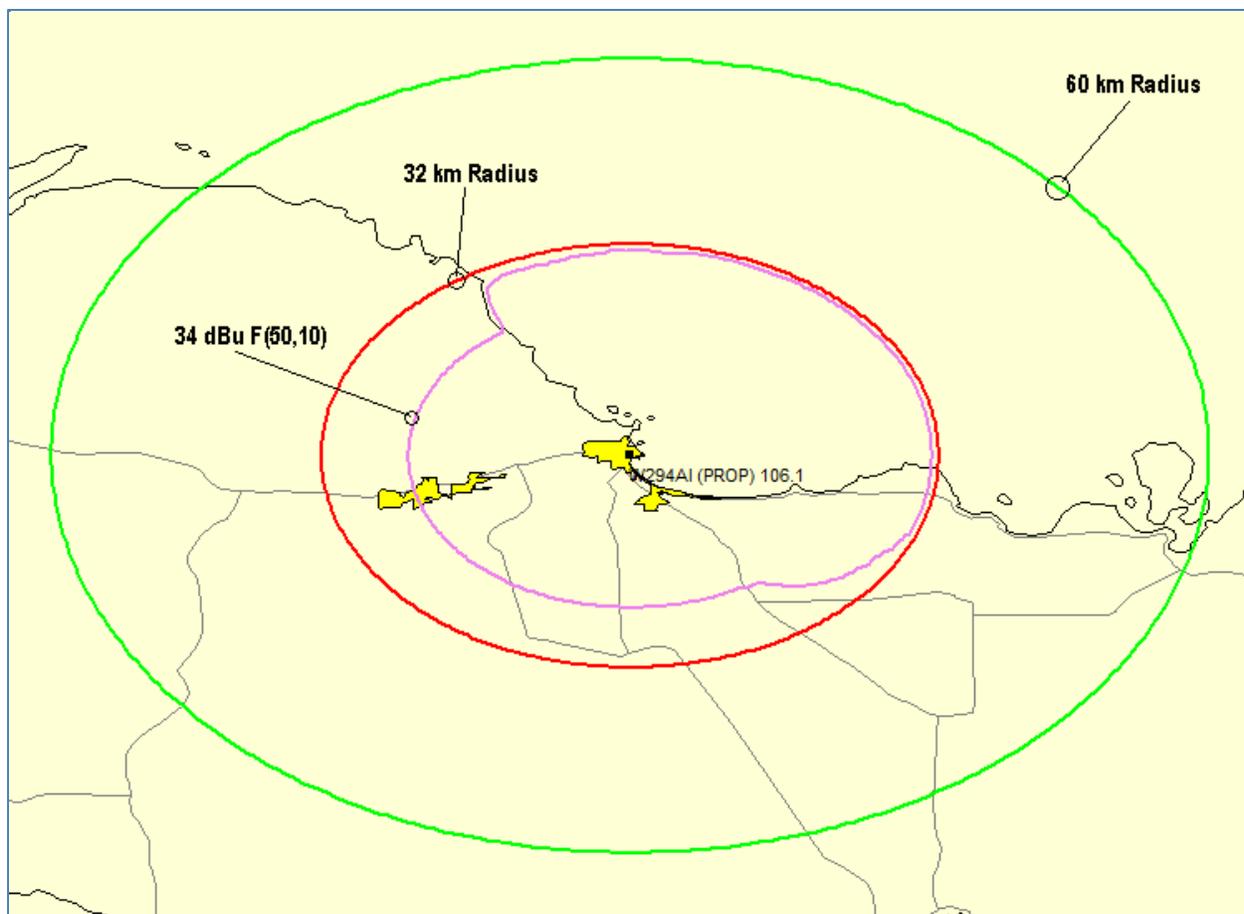


Figure 3. The 34 dBu interfering contour of the proposed station, contained within a 32 kilometer radius.