

## **Comprehensive Technical Statement**

Lenawee Broadcasting Company, Licensee  
Minor Modification to Construction Permit BPFT- 20190524AAJ  
FM Translator W243AD, FCC Facility ID # 61995, Adrian, MI

### **Introduction**

This modification proposes to change the antenna model and configuration from a Shively two-bay antenna to a Nicom one-bay.

No other changes are proposed.

### **Data Sources**

Distances were calculated using the FCC method defined in 73.208 of the Commission's Rules.

All contours shown in this report were generated using antenna center above mean sea level, NAD-27 coordinates, and the FCC online HAAT calculator, set to use 30-second terrain data.

Dates shown on the maps represent the last change date in the CDBS downloads in use at the time this statement was prepared.

### **Detailed Interference Study**

The following collection of maps and the narrative accompanying each show that no prohibited overlap will occur between the proposed facility and any potentially conflicting facility or proposal. Interfering f(50,10) contours are shown as red polygons, and protected f(50,50) contours are shown as black polygons.

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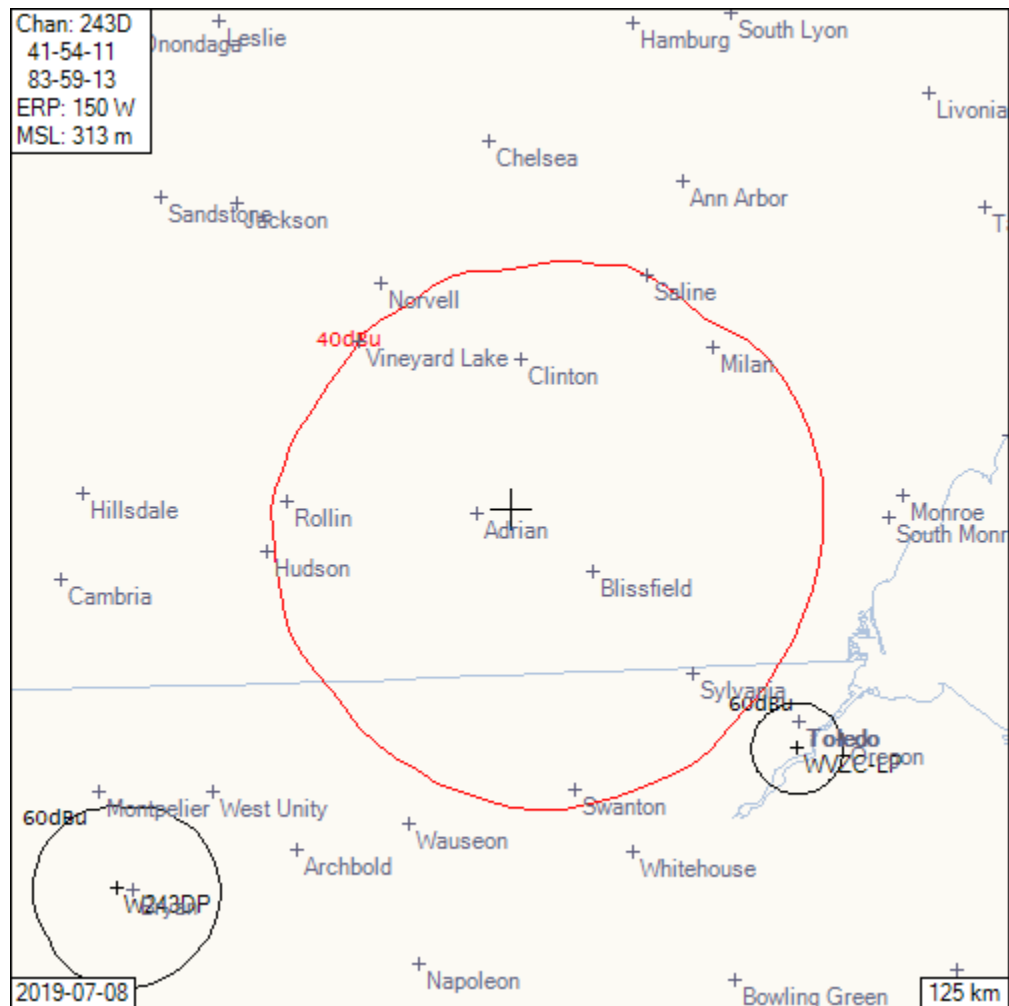
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## Map 1 – Co-channel Outbound Interference



The only nearby US co-channel conflicts are WVZC-LP and W243BP. Both are protected to the 60 dBu f(50,50) contour. There is no overlap of the interfering contour with the protected contour of either of these stations.

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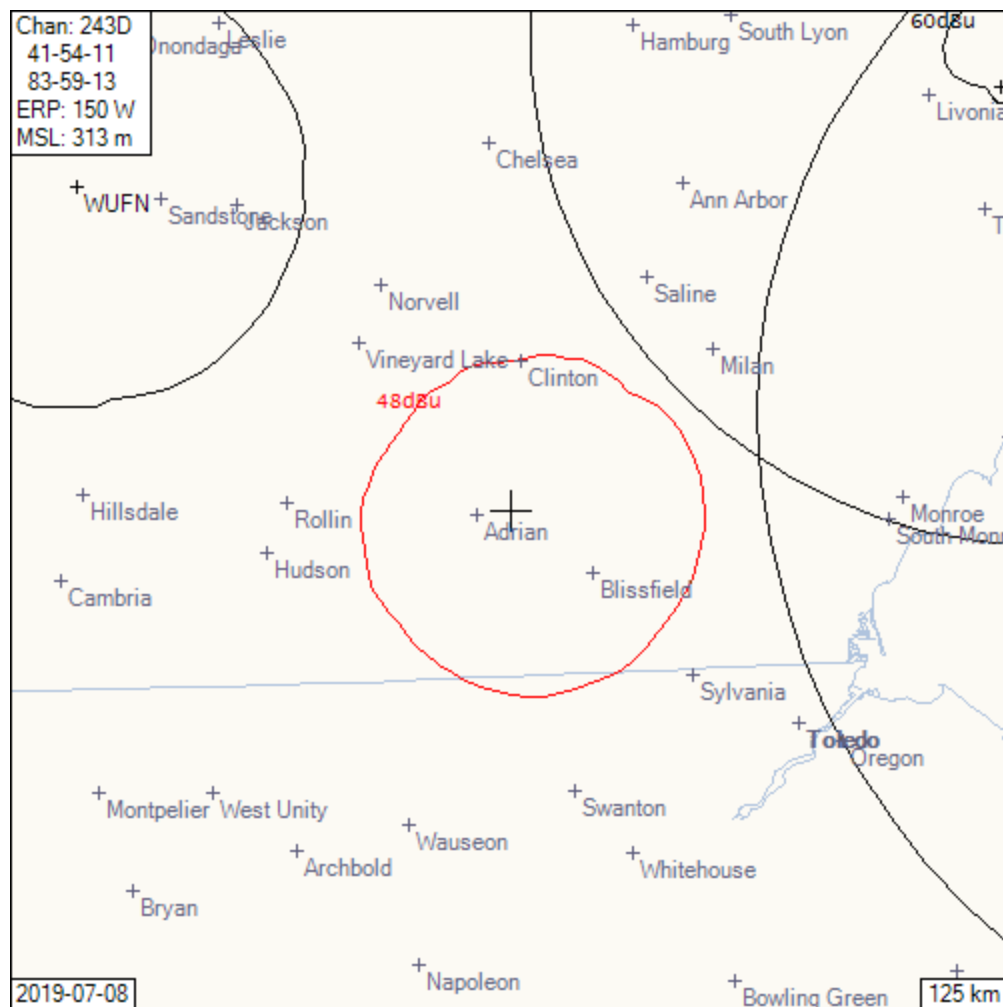
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## Map 2 – First Adjacent Outbound Interference



WDVD to the northeast is Class B, protected to the 54 dBu contour. The 48 dBu interfering contour does not overlap.

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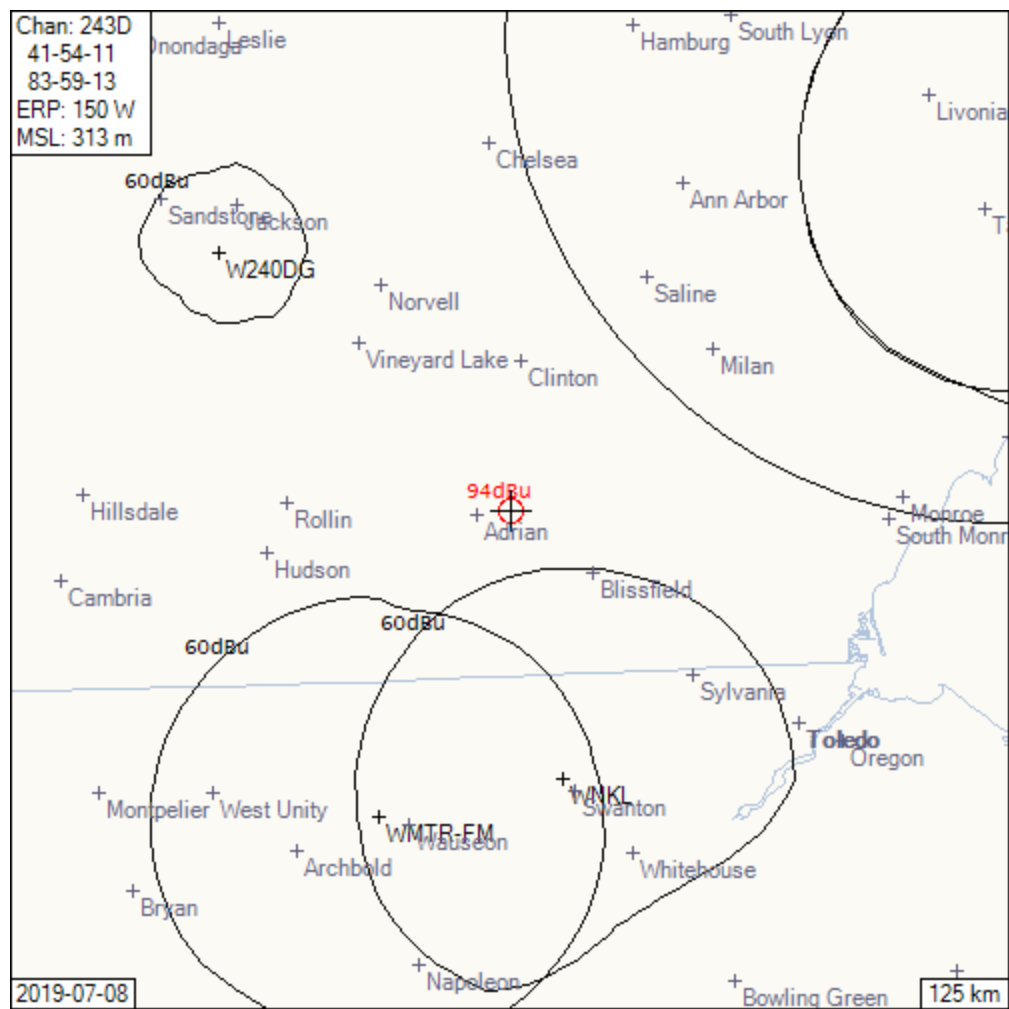
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### Map 3 – Second/Third Adjacent Outbound Interference Detail



There is no overlap of the interfering contour with the protected contour of any second- or third-adjacent station or proposal.

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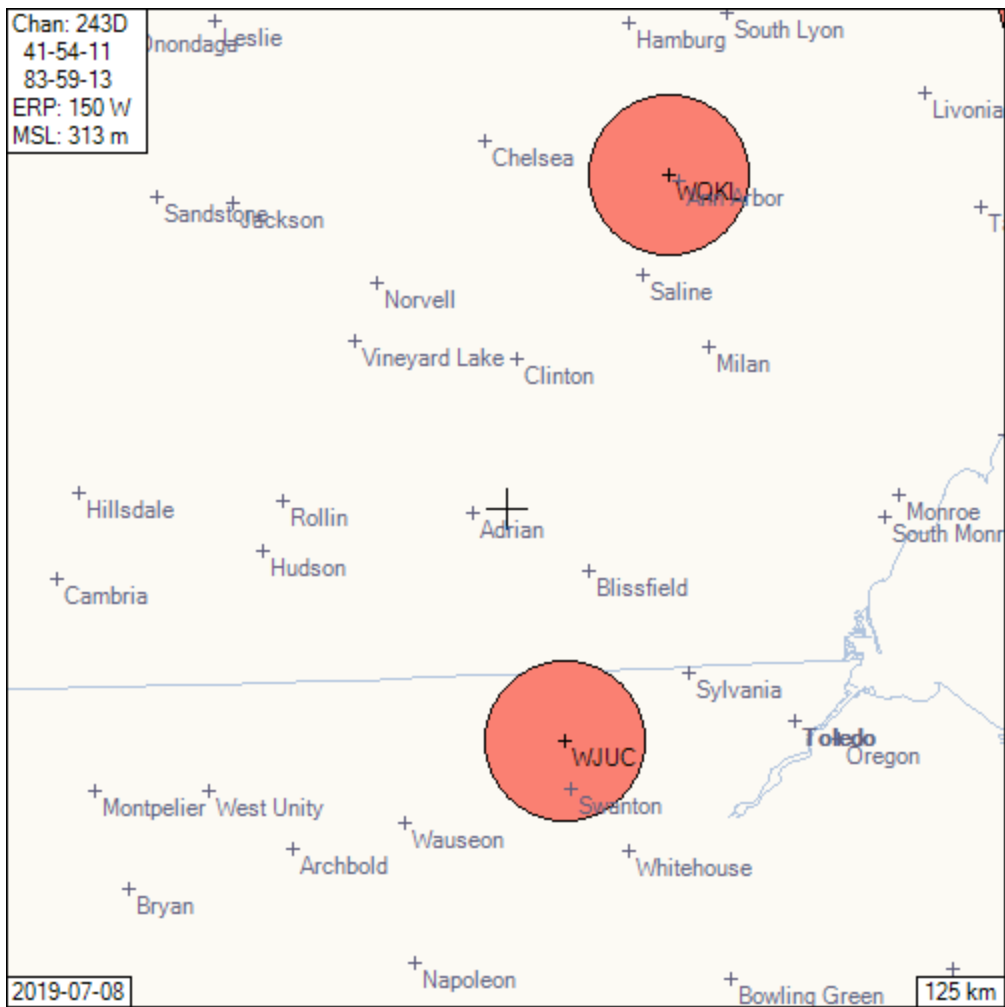
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## IF Separation requirements



The proposal meets the spacing requirements to all IF-separated station and proposals.

## Channel 6 Interference

The proposed facility is not on a channel that is implicated in channel 6 interference.

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## **International**

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 64.5 km from the proposed site. Evaluation with respect to Canadian facilities and proposals is required. The maximum extent of the proposed 34 dBu f(50,10) contour is 55.1 km. It is therefore self-evident that the contour does not cross the border. The 60 km limit on the 34 dBu contour contained in the 1977 revision of the US-Canada Working Agreement is also satisfied.

The distance to the nearest point along the US/Mexico border is 2,061 km. Coordination with Mexico is not required.

## **Quiet Zones**

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

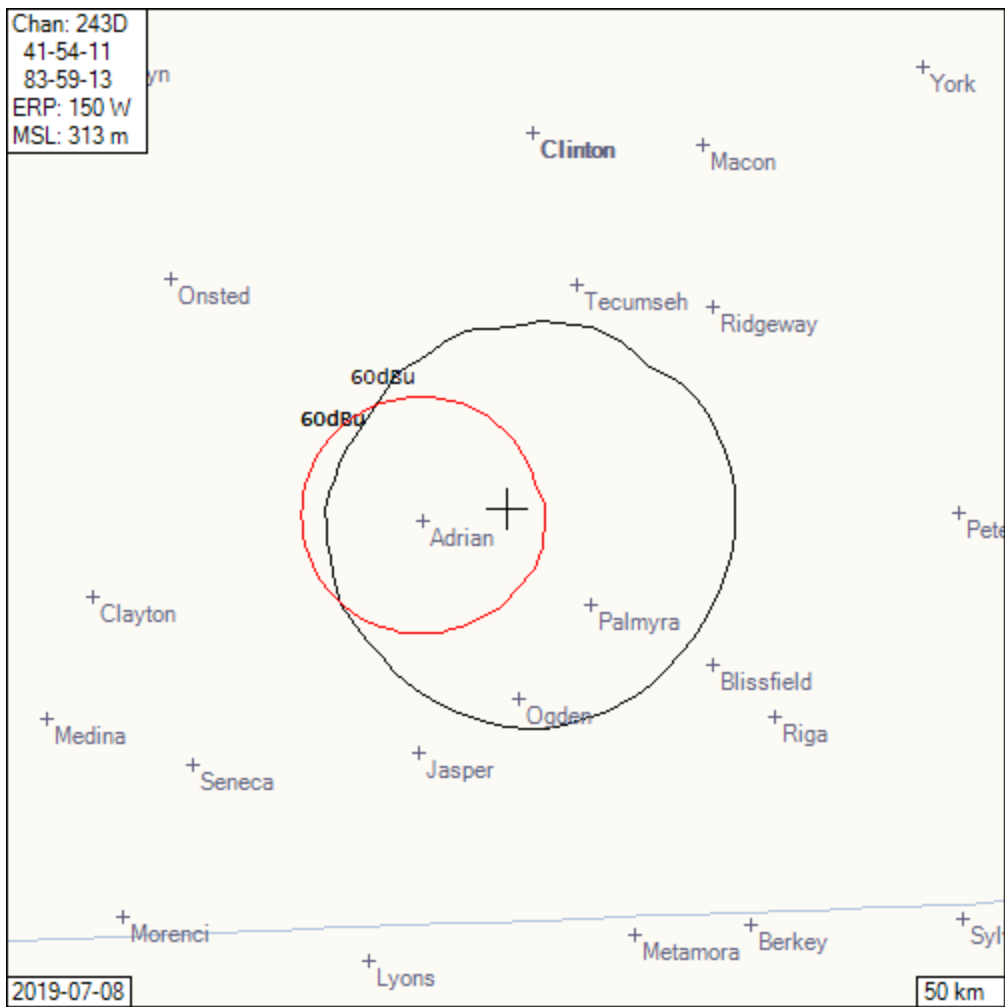
The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100 km extension of the Table Mountain Radio Receiving Zone in Colorado.

## **Protected Monitoring Stations**

The nearest Protected Monitoring Station is 180 km distant, in Allegan, MI. This is well beyond any potential 80 dBu contour.

## Minor Change



The presently licensed 60 dBu contour is shown in red. The proposed 60 dBu contour is shown in black. The contours overlap. No change in frequency is proposed. Therefore, the proposal is for a minor change.

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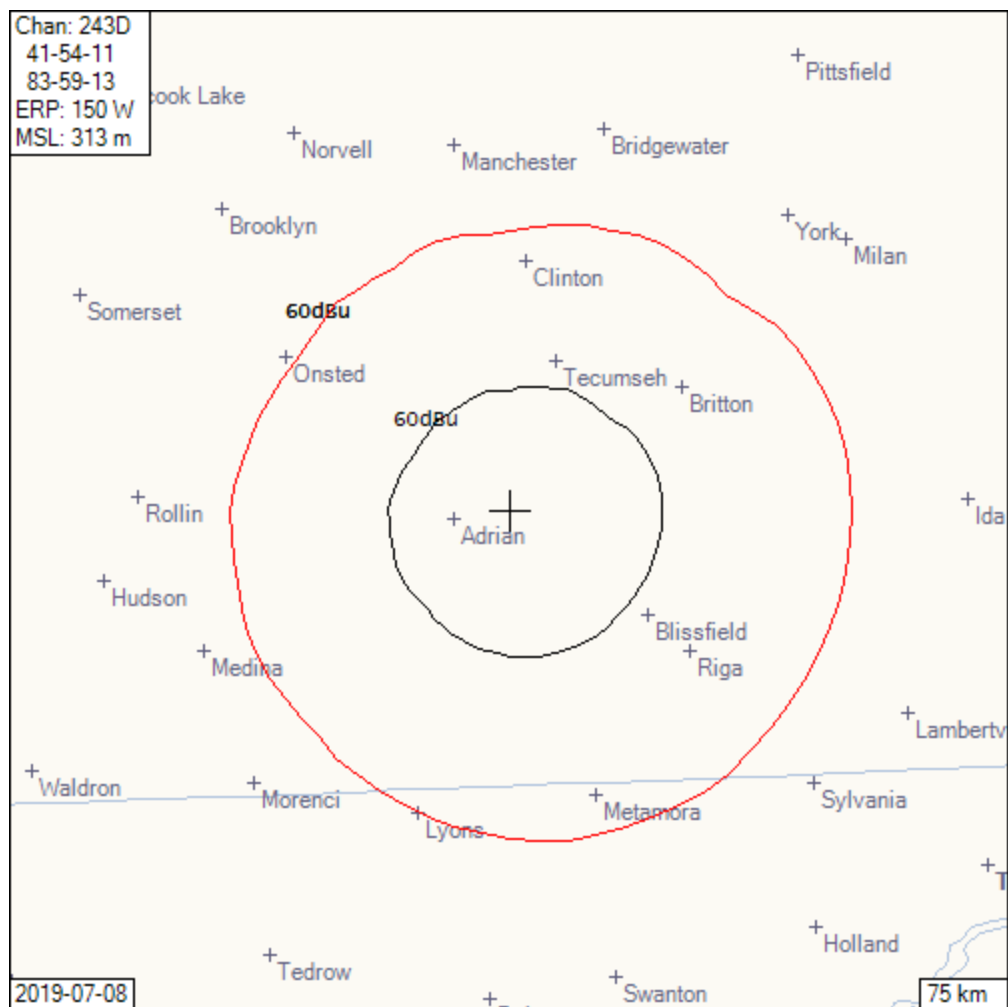
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## Fill-In Translator



The primary station is WLEN (HD2), Adrian, MI, FCC Facility ID # 37019.

The proposed 60 dBu f(50,50) contour is shown as a black polygon. The WLEN 60 dBu f(50,50) contour is shown as a red polygon.

The proposed 60 dBu f(50,50) contour falls entirely within the primary station's 60 dBu f(50,50) contour. The translator is commonly owned with the primary station. The proposal therefore qualifies as fill-in service.

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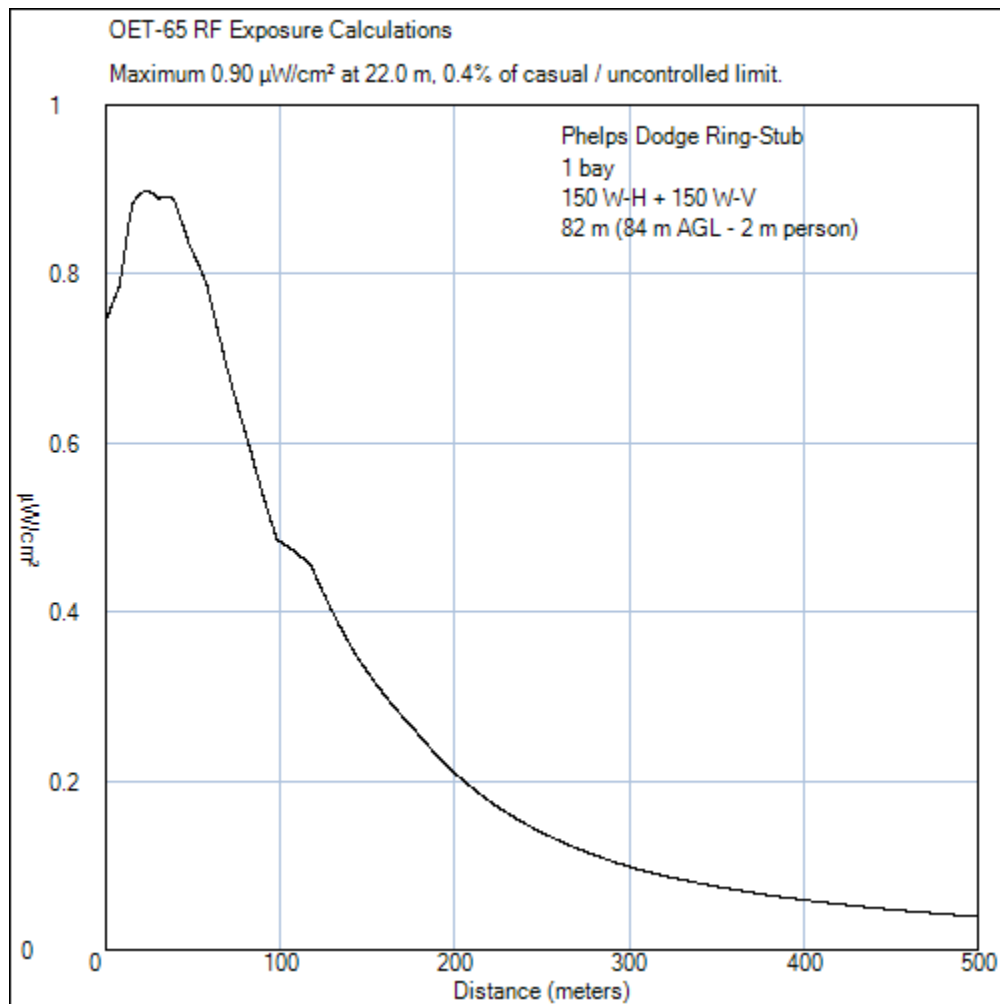


## Environmental

The proposed site is an existing tower, ASR # 1003465. No construction, excavation, or increase to the height of the tower is proposed.

The proposed effective radiated power is 150 W-H + 150 W-V. The one-bay antenna will be mounted 84 m above ground level.

Assuming the worst-case OET Type 1 antenna model, the OET-65 algorithm returns a maximum exposure of 0.4% of the limit for casual / uncontrolled exposure:



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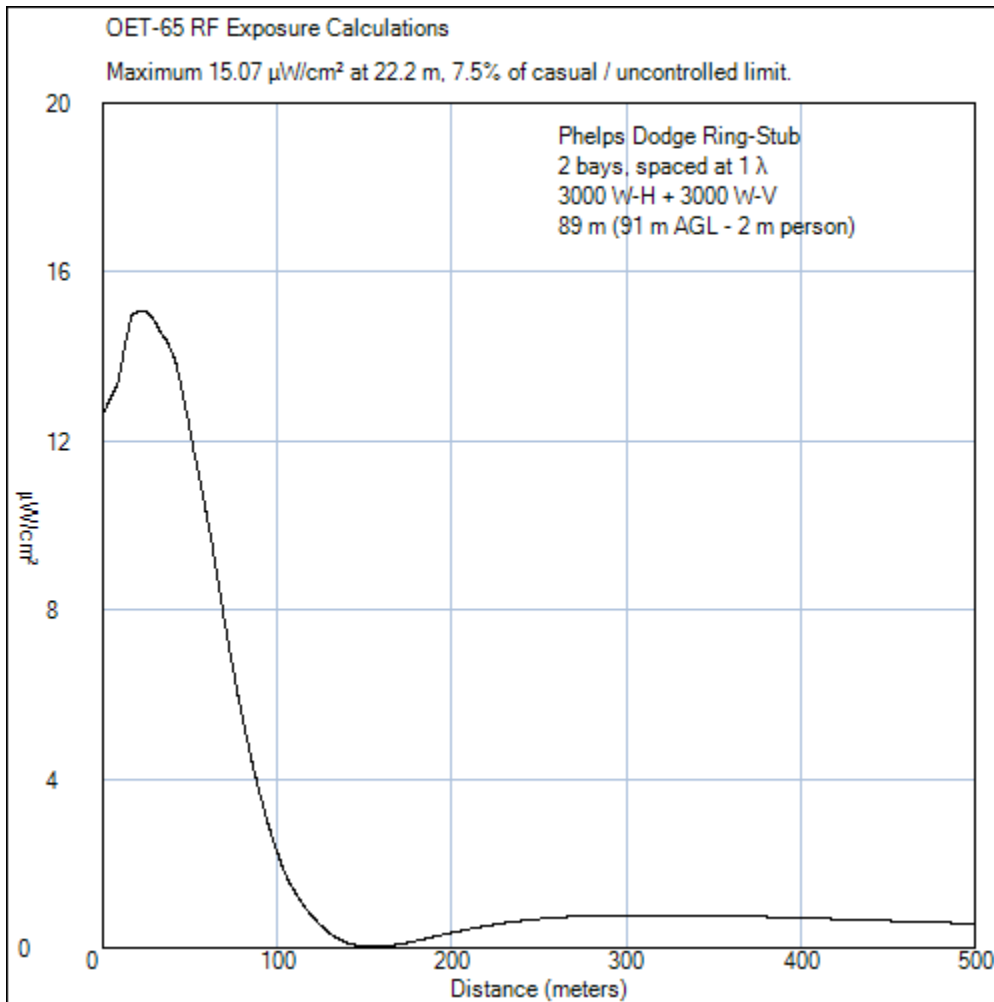
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Also on this tower is WLEN, with 3 kW-H + 3 kW-V with a two-bay RCA BFH-2A antenna centered at 91 m above the ground:



Again assuming the worst case antenna, WLEN contributes 7.5% of the limit for casual / uncontrolled exposure.

A conservative estimate of total RF exposure adds the exposure from each antenna to arrive at a maximum combined exposure of 7.9% of the limit for casual / uncontrolled exposure.

Appropriate access controls and safety signage are provided. The applicant agrees to coordinate with other users of the site to reduce power or shut down in order to protect workers at the site.

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**Form 349 Tech Box Data**

Channel	243
Primary Station	Facility ID 37019 Call Sign WLEN City, State Adrian, MI
Delivery Method	Terrestrial
Coordinates (NAD-27)	41 54 11 N Lat 83 59 13 W Lon
Coordinates (NAD-83)	41 54 11 N Lat 83 59 13 W Lon
ASR	1003465
Site Elevation AMSL	229 m
Overall Tower Height AGL	99 m
Radiation Center AGL	84 m
Effective Radiated Power	150 W-H + 150 W-V
Antenna type	Non-Directional
Manufacturer / Model	NIC BKG-77-1

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