

W47EA-D DISPLACEMENT APPLICATION FOR CH 36 7.5 kW DA
BARABOO, WISCONSIN
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
JULY 2021

The proposed facility qualifies for displacement as described in FCC PN DA 18-124 released February 9, 2018. W47EA-D is an LPTV facility authorized in file number BNPDTL-20100125AAZ. The W47EA-D facility is clearly displaced since it is assigned out of core Channel 47. The proposed site is located 10.23 kilometers from the CP site and there is significant duplication of the CP and proposed 51 dBu F(50,90) contours.

The proposed antenna system is a Kathrein 75010210, two bay, horizontally polarized panel antenna system without beam tilt. The maximum relative field in the elevation pattern across the depression angle range of 25 to 90 degrees is less than 0.32 with a radiation center 61 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.32 has been used to calculate the power density 2 meters above ground. The maximum power density is 7.4 uw/cm squared calculated for an ERP of 7,500 watts H. polarization. This value is 1.83% of the Public Exposure MPE per section 1.1310. Based on this analysis it is believed that the proposed facility is in compliance with OET-65 Guidelines.

The applicant will reduce power or cease transmission as required to meet FCC OET-65 Guidelines.

The proposed tower is at an existing site with, building, access road and power.

Attached is a copy of the TVStudy interference analysis for CH 36 based on the proposed 7.5 kW ERP and DA antenna described above with an orientation of 135 degrees. As can be seen at the conclusion there is no ISIX above FCC tolerances and no received interference in excess of 2%.

It is believed that the proposed facility provides full protection to other television facilities.

REPORT

Study created: 2021.07.02 15:02:34

Study build station data: LMS TV 2021-07-01

Proposal: W47EA-D D36 LD CP BARABOO, WI
File number: BNPDTL20100125AAZ
Facility ID: 184168
Station data: User record
Record ID: 838
Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KRIN	D35	DT	LIC	WATERLOO, IA	BLEDT20050218ABQ	205.1 km
No	K35PC-D	D35	LD	CP	ROCHESTER, MN	BLANK0000072045	157.3
No	KSTP-TV	D35	DT	CP	ST. PAUL, MN	BLANK0000036053	251.5
No	KSTP-TV	D35	DT	LIC	ST. PAUL, MN	BLCDT20090622ABR	251.5
Yes	WEZY-LP	D35	LD	CP	TOMAH, WI	BDISDTL20120511AEI	11.0
No	KFPX-TV	D36	DT	LIC	NEWTON, IA	BLANK0000063434	343.4
No	WRJK-LP	D36-	LD	APP	ARLINGTON HEIGHTS, IL	BLANK0000105856	317.9
No	WMEC	D36	DT	LIC	MACOMB, IL	BLANK0000113434	384.6
No	WQRF-TV	D36	DT	LIC	ROCKFORD, IL	BLANK0000107925	203.1
No	WCCU	D36	DT	LIC	URBANA, IL	BLANK0000099910	470.2
No	WHME-TV	D36	DT	LIC	SOUTH BEND, IN	BLANK0000087036	431.4
No	W36FA-D	D36	LD	LIC	HESPERIA, MI	BLANK0000067768	356.5
No	W36FH-D	D36	LD	CP	TRAVERSE CITY, MI	BLANK0000138945	390.1
No	KAAL	D36	DT	LIC	AUSTIN, MN	BLCDT20091110AAF	167.6
No	K36MW-D	D36	LD	CP	DAKOTA, MN	BNPDTL20100510AKE	75.7
No	K36KW-D	D36	LD	LIC	REDWOOD FALLS, MN	BLDTT20120604AAT	367.3
No	KMQV-LD	D36	LD	LIC	ROCHESTER, MN	BLANK0000080612	255.8
No	WACY-TV	D36	DT	LIC	APPLETON, WI	BLANK0000074905	205.7
No	WMKE-CD	D36	DC	LIC	MILWAUKEE, WI	BLANK0000116313	222.6
No	WLEF-TV	D36	DT	CP	PARK FALLS, WI	BLANK0000035675	233.0
No	WLEF-TV	D36	DT	LIC	PARK FALLS, WI	BLEDT20110323ABO	233.0
No	W21EF-D	N36-	TX	LIC	WAUPACA, WI	BLTT20060824AAL	138.2
No	W36EI-D	D36	LD	CP	WAUSAU, WI	BNPDTL20100507ACQ	142.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D36
Mask: Full Service
Latitude: 43 51 10.10 N (NAD83)
Longitude: 90 27 36.50 W
Height AMSL: 479.3 m
HAAT: 0.0 m
Peak ERP: 7.50 kW
Antenna: KAT 75010210 135.0 deg
Elev Pattn: Generic

50.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.019 kW	138.5 m	13.3 km
45.0	0.019	152.3	14.0
90.0	1.80	154.7	36.3
135.0	7.50	127.5	41.8
180.0	1.80	84.6	30.4
225.0	0.019	171.6	15.0
270.0	0.019	97.0	11.2
315.0	0.108	107.9	18.2

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 129 m

Distance to Canadian border: 461.6 km

Distance to Mexican border: 1839.5 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 109.3 degrees Distance: 390.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 256.4 degrees Distance: 1284.9 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

----- Below is IX received by proposal BNPDTL20100125AAZ -----

Proposal receives 20.44% interference from scenario 1

Proposal receives 20.44% interference from scenario 2

No IX check failures found.

Based on the information supplied herein, and accompanying application for construction permit, it is believed that the proposed facilities meet all applicable FCC requirements for construction permit.

The foregoing was prepared on behalf of Baraboo Broadcasting Corporation by Clarence M. Beverage of Communications Technologies, Inc., Medford, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that the statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



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Medford, New Jersey
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