

STEPHEN S. LOCKWOOD, PE, PMP

THOMAS M. ECKELS, PE
ERIK C. SWANSON, PE, PMP
THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
STEPHEN PUMPLE, M.Eng, MBA, PMP
CONSULTANTS

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151

E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
(1942-2009)
PAUL W. LEONARD, PE
(1925-2011)

**Engineering Statement
Minor Modification of WDG-TLD
Channel 5 at Miami, FL
February 2023**

I. Background

This Engineering Statement has been prepared on behalf of Bridge News, LLC, licensee of low-power station WDG-TLD Miami. This material has been prepared in connection with an application for minor change of the licensed facility.

II. Interference Study

Study has been made of all cochannel and adjacent-channel facilities in the vicinity of the proposed operation, including a detailed Longley-Rice interference study to demonstrate that the proposed operation will not cause interference to any authorized or pending proposed facilities. This study was performed using the Commission's *TVStudy* software.

The results of this study indicate that the proposed facility is predicted to cause zero additional interference to any of the listed stations, beyond the allowed values of 0.5% to full-power and Class A stations, and 2.0% to low-power stations, with one exception as addressed below. Based on the foregoing interference study, it is believed that the proposed facility can operate without risk of interference to other stations.

The *TVStudy* results indicate 10.25% interference caused to cochannel WEF-LD Ch5 Jupiter (0000135158). Bridge News, LLC is the licensee of both WDG-TLD and WEF-LD, and consents to this level of interference to WEF-LD.

Study created: 2023.02.14 16:08:02

Study build station data: LMS TV 2023-02-06

Proposal: WDTG-LD D5 LD APP MIAMI, FL
File number: WDTG-8020
Facility ID: 6046
Station data: User record
Record ID: 1462
Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WEWF-LD	D5	LD	LIC	Jupiter, FL	BLANK0000135158	88.9 km
No	WDTO-LD	D5	LD	LIC	ORLANDO, FL	BLANK0000143440	302.5
No	W05CO-D	D5z	LD	LIC	SARASOTA, FL	BLANK0000194619	289.7
No	W05CO-D	D5z	LD	APP	SARASOTA, FL	BLANK0000202053	289.7
No	W05CO-D	N5z	TX	LIC	SARASOTA, FL	BLTVL20050412AEI	271.2
No	WFIB-LD	D6-	LD	LIC	KEY WEST, FL	BLANK0000021275	224.5
No	WEYS-LD	N6+	TX	LIC	MIAMI, FL	BLTVL20090910AAQ	0.0
No	WEYS-LD	D6+	LD	LIC	MIAMI, FL	BLANK0000158023	0.0
No	WVWW-LD	D6	LD	APP	Vero Beach, FL	BLANK0000071852	182.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D5
Mask: Full Service
Latitude: 25 58 16.00 N (NAD83)
Longitude: 80 12 31.00 W
Height AMSL: 227.5 m
HAAT: 0.0 m
Peak ERP: 3.00 kW
Antenna: SCA-CL-46-8020 0.0 deg
Elev Pattn: Generic

43.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.732 kW	225.1 m	50.7 km
45.0	0.300	226.1	43.9
90.0	0.001	226.8	14.3
135.0	0.003	226.4	17.4
180.0	1.32	224.2	55.3
225.0	2.33	226.0	60.0
270.0	0.035	225.9	29.2
315.0	0.035	225.8	29.1

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 226 m

Distance to Canadian border: 1757.2 km

Distance to Mexican border: 1669.1 km

Conditions at FCC monitoring station: Vero Beach FL

Bearing: 347.0 degrees Distance: 186.6 km

Proposal is not within the West Virginia quiet zone area

Hatfield & Dawson Consulting Engineers

Conditions at Table Mountain receiving zone:
Bearing: 310.5 degrees Distance: 2795.8 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%

**IX check failure to BLANK0000135158 LIC scenario 1, 10.25% interference caused

III. RF Exposure Study

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.4 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

"Worst case" calculation of the power density levels produced by the proposed WDGT-LD facility were calculated for an elevation of 2 meters above ground at the base of the tower (i.e. 224 meters below the antenna center of radiation) assuming that the antenna will radiate 100% power straight down. Under this worst-case assumption, the highest calculated power density from the proposed antenna alone occurs at the base of the antenna support structure. At this point the power density from the proposed facility is calculated to be 2.0 $\mu W/cm^2$, which is 1% of 200 $\mu W/cm^2$ (the FCC maximum for uncontrolled environments at the Channel 5 frequency).

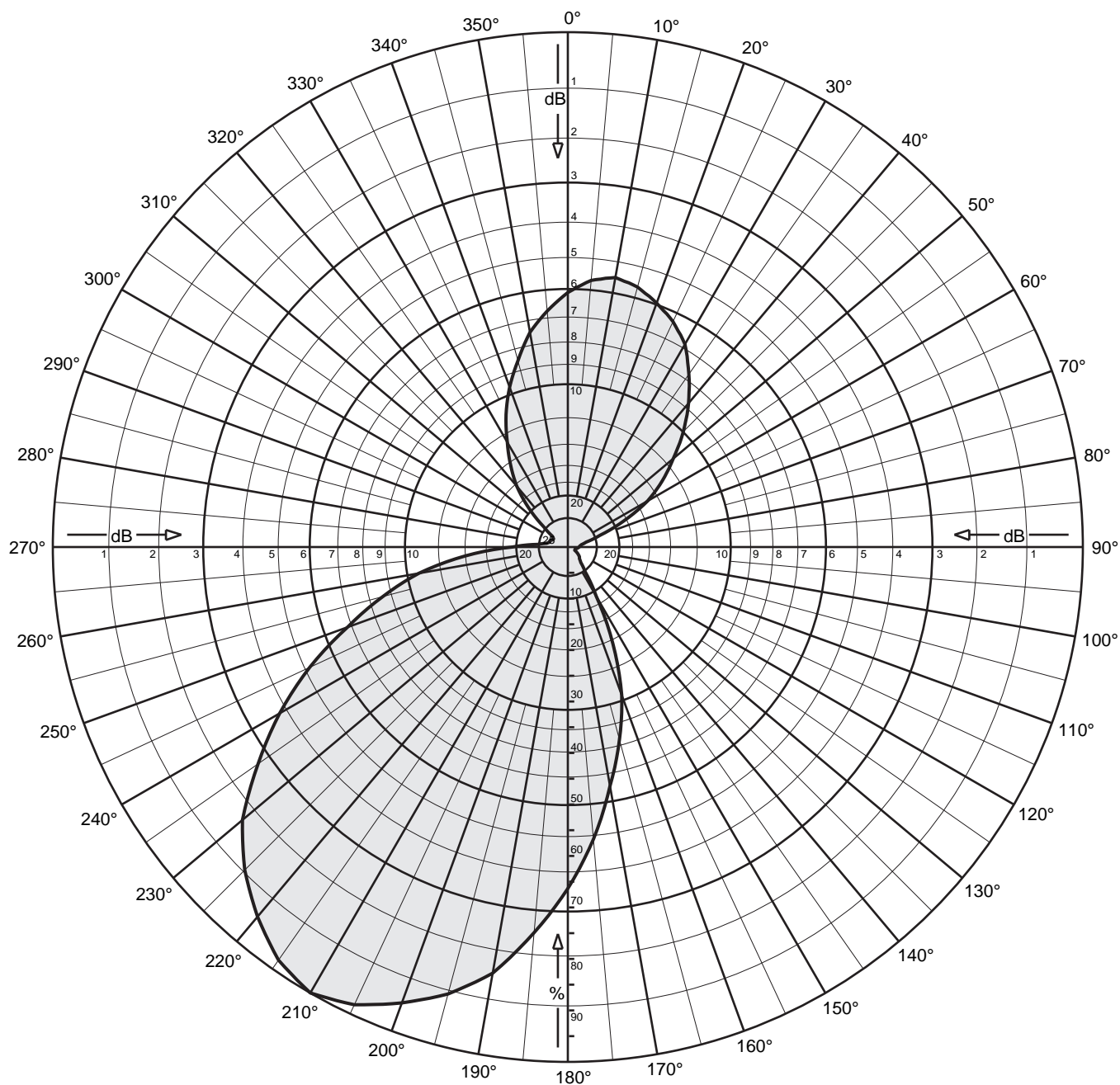
These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of WDGT-LD alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307 of the Commission's Rules exempts applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than

5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken. The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

February 24, 2023

Erik C. Swanson, P.E.



6xCL-46/HRM/HV ch 5 Log periodic array

4 antenna skewed @ 210°

2 antenna skewed @ 10°

All equal fed in Power with 7.2° phase step

Max gain: 11.3 dB (power-x: 13.49)

Horizontal polarization

Horizontal plane pattern

SCALA

A Kathrein Broadcast Brand