

ENGINEERING STATEMENT
SUPPORTING REQUEST FOR WAIVER
CLASS A TELEVISION STATION WOCB-CD
(FACILITY ID NO. 9939)
MARION, OHIO
CHANNEL 22

Background

This statement was prepared on behalf of Central Ohio Association of Christian Broadcasters, licensee of WOCB-CD, Marion, Ohio, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for Class A television station WOCB-CD in the Cleveland-Akron (Canton) DMA^{*}. WOCB-CD is licensed for operation on RF Channel 39 with a maximum directional effective radiated power (ERP) of 2.4 kW and an antenna height above mean sea level (AMSL) of 338 m.[†]

As a result of the FCC's Incentive Auction repack process, the WOCB-CD facility was originally reassigned to RF Channel 32. However, in a subsequent filing, WOCB-CD changed from Channel 32 to Channel 22, for which it received a construction permit (C.P.) from the FCC.[‡] The WOCB-CD C.P. facility will operate on Channel 22 with a maximum directional ERP of 15 kW and an antenna height AMSL of 338 m using a different antenna azimuth pattern from the licensed and original repack facilities. The technical details of the WOCB-CD C.P. facility are shown in a summary sheet attached hereto for reference.

Central Ohio Association of Christian Broadcasters seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow WOCB-CD to make the transition to Channel 22 earlier than its given phase transition date. Specifically, the target date for WOCB-CD to complete its early transition operation on Channel 22 is April 12, 2019.

^{*} Nielsen Designated Market Area abbreviated as DMA.

[†] See FCC File No. BLDTA-20111205AAD.

[‡] See FCC File No. 0000034205. Application granted on January 17, 2018.

This statement demonstrates that WOCB-CD can transition to Channel 22 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of WOCB-CD on Channel 22 pursuant to its C.P. will have no adverse interference consequences, either caused or received, under the current allocation environment.

Assigned Phase

WOCB-CD was assigned to transition Phase 8, with a testing begin date of January 18, 2020. This is based on the latest FCC Phase Assignment spreadsheet dated February 9, 2018.

Linked Station Sets and Linked Station Neighbor Stations

An inspection of the latest FCC Linked Station Set (LSS) and Linked Station Neighbor (LSN) spreadsheet databases indicates that the WOCB-CD facility is not part of any LSSs or LSNs. These are based on the latest LSS and LSN spreadsheets available from the FCC, both dated January 11, 2018.

Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the WOCB-CD Channel 22 C.P. facility utilizing the latest version[§] of the FCC's *TVStudy* coverage and interference analysis prediction software. The report of the results is attached hereto entitled 'Interference Caused Analysis for WOCB-CD Channel 22 C.P. Facility Under Current Allocation Environment.'

The results of the analysis indicate that there are no cases of outgoing (caused) interference exceeding the normal 0.5% rounding tolerance level to any other protected full-power or Class A television stations now operating.

[§] TVStudy Version 2.2.4

Interference Received Analysis Under Current Allocation Environment

An interference analysis specifically for the ‘received case’ of interference was conducted for the WOCB-CD Channel 22 C.P. facility utilizing the FCC’s *TVStudy* prediction software. The report of the results is attached hereto entitled ‘Interference Received Analysis for WOCB-CD Channel 22 C.P. Facility Under Current Allocation Environment.’ The purpose of this study is to evaluate all current environment records in the received interference analysis.

The results of the analysis indicate that there are no relevant cases of incoming (received) interference exceeding 0.5% to the WOCB-CD Channel 22 C.P. facility.**

Effects on Linked Station Sets

Based on these results, the transition of the WOCB-CD facility to Channel 22 as authorized in its C.P. in advance of its phase transition date will not create any pairwise interference cases or new linked station sets.

Conclusion

It is concluded that the early transition of the WOCB-CD facility on Channel 22 as authorized in its C.P. will not result in any interference cases, either caused or

** As noted in the Interference Received Analysis exhibit, there is one case of interference received to the WOCB-CD C.P. facility that was previously accepted by the licensee of WOCB-CD in order to facilitate FCC approval of its migration to Channel 22. This case of accepted interference is not relevant to the instant early-transition interference analysis.

received, that would result in the creation or alteration of any linked station sets established in the Incentive Auction repack process.



Louis R. du Treil, Jr., P.E.

du Treil, Lundin & Rackley, Inc.
3135 Southgate Circle
Sarasota, Florida 34239

February 26, 2018

TV Inquiry

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida



Callsign: WOCB-CD **Service:** DC **Status:** CP **App. Status:** GRANT **Border Code:** **Rec. Type:** C
Channel: 22 **Offset:** **Zone:** **Docket Number:** **DTV Type:** POSTTRAN
Fac. ID: 9939 **Assoc. ID:** **Application File No.:** BLANK-0000034205 **DT Emission Mask:** F
City: MARION **State:** OH **Country:** US **CP Expiration Date:**
Party Name: CENTRAL OHIO ASSOCIATION OF CHRISTIAN BROADCASTERS **Last Change Date:** 2/12/2018

RCMSL (m): 338 **Height AGL (m):** 54 **Polarization:** E
Site Elevation AMSL (m): 284 **Overall Height AGL (m):** 57 **Electrical Tilt (°):** 1.5
HAAT (m): **ERP (kW):** 15 **Mechanical Tilt (°):**
Maximum HAAT (m): **Maximum ERP (kW):** **Mechanical Tilt Azimuth (°):**
 Maximum ERP (dBk): 11.8 **Degrees True (°):**
 Maximum ERP at any Angle (kW): **Antenna Make:**
 Antenna Model:

Antenna Type: D **Antenna ID:** 20360 **Rotation (°):** 160

0° 0.930	90° 0.920	180° 0.260	270° 0.920
10° 0.930	100° 0.840	190° 0.260	280° 0.980
20° 0.940	110° 0.740	200° 0.260	290° 1.000
30° 0.940	120° 0.620	210° 0.300	300° 1.000
40° 0.960	130° 0.490	220° 0.380	310° 0.980
50° 0.980	140° 0.380	230° 0.490	320° 0.960
60° 1.000	150° 0.300	240° 0.620	330° 0.940
70° 1.000	160° 0.260	250° 0.740	340° 0.940
80° 0.980	170° 0.260	260° 0.840	350° 0.930

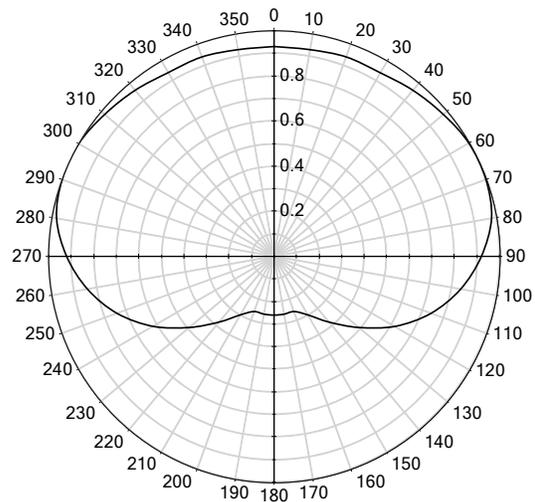
Standard Pattern: Y

Antenna Make: PSI

Antenna Model: PSILP12EC

Last Change Date:

Note: Rotation or tilt is not applied to the pattern shown



Type: TOWER	ASRN: 1015652	FAA Study No.:	Structure Height (m): 52.0
Latitude (NAD 27): 040-18-46.8	Date Received: 09/15/2008	Structure Height (ft): 170.6	
Longitude (NAD 27): 083-03-04.3	Date Entered: 09/16/2008	Ground Elevation (m): 284.0	
Latitude (NAD 83): 40-18-47.0	Date Issued: 09/16/2008	Ground Elevation (ft): 931.8	
Longitude (NAD 83): 083-03-04.0	Date Constructed: 01/01/1959	Overall Height AGL (m): 57.0	
Struct. Address:	Date Dismantled:	Overall Height AGL (ft): 187.0	
1.4 MI NE		Overall Height AMSL (m): 341.0	
DELAWARE	OH	Overall Height AMSL (ft): 1118.8	

Entity Name: CONSOLIDATED ELECTRIC COOPERATIVE INC

INTERFERENCE CAUSED ANALYSIS FOR WOGB-CD CHANNEL 22 C.P. FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.4 (Z2Qgz3)

Database: localhost, Study: wocb22e2, Model: Longley-Rice

Study build station data: LMS TV 2018-02-26 (142)

Proposal: WOGB22E2 D22 DC CP MARION, OH
 File number: wocb22e2
 Facility ID: 9939
 Station data: User record
 Record ID: 2264
 Country: U.S.

Build options:
 Protect pre-transition records not on baseline channel
 Protect LPTV records from Class A

Search options:
 Non-U.S. records included
 All post-transition APP, CP, and baseline records excluded

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WLQP-LP	N18z	TX	LIC	LIMA, OH	BLTTL19990407JA	104.1 km
No	WLWD-LD	N20+	TX	LIC	SPRINGFIELD, OH	BLTT20051219ADW	79.3
No	W21DJ-D	D21	LD	CP	FORT WAYNE, IN	BNPDTL20091228AAU	187.2
No	WMYD	D21	DT	LIC	DETROIT, MI	BLCDT20040524AOG	237.5
No	WQDI-LD	D21	LD	LIC	Cleveland, OH	BLDTL20150129ABN	133.7
No	WJW	D21	LD	CP	CLEVELAND, OH	BDRTCDT20101123AOJ	192.3
No	WBNS-TV	D21	DT	LIC	COLUMBUS, OH	BLCDT20021025ABK	38.1
No	W22DW-D	D22	LD	CP	LAFAYETTE, IN	BLANK0000036239	341.6
No	W22DV-D	D22	LD	CP	MARION, IN	BLANK0000036661	185.6
No	WSBT-TV	D22	DT	LIC	SOUTH BEND, IN	BLCDT20090224ABF	302.6
No	WVUT	D22	DT	LIC	VINCENNES, IN	BLEDT20090709AFJ	422.1
No	WBXV-LP	D22+	LD	CP	LOUISVILLE, KY	BLANK0000013264	323.0
No	WNEM-TV	D22	DT	LIC	BAY CITY, MI	BLCDT20050615ACI	357.0
Yes	WCPO-TV	D22	DT	LIC	CINCINNATI, OH	BLCDT20101216AAF	181.0
No	W22DE	N22+	TX	LIC	DAYTON, OH	BLTTL20100511AAU	122.3
No	WFND-LD	D22	LD	LIC	FINDLAY, OH	BLDTL20130114ACF	102.0
Yes	WIVD-LD	D22	LD	LIC	NEWCOMERSTOWN, OH	BLDTL20090617AAR	131.5
No	WFXP	D22	DT	LIC	ERIE, PA	BLCDT20081023ABA	314.8
No	WTAE-TV	D22	LD	APP	PITTSBURGH, PA	BLANK0000030312	261.8
No	WTAE-TV	D22	LD	LIC	PITTSBURGH, PA	BLCDT20091223AKV	261.8
No	W41DT-D	D22	LD	APP	STAUNTON, VA	BLANK0000032223	400.7
No	W22CY	D22	LD	CP	CLARKSBURG, WV	BDFCDTL20120329AOH	262.1
No	W22CY	N22-	TX	LIC	CLARKSBURG, WV	BLTTL20060120ADM	262.1
Yes	WOVA-LD	D22	LD	LIC	PARKERSBURG, WV	BLDTL20120904ABM	166.0
No	W22ES-D	D22	LD	CP	SUTTON, WV	BNPDTL20100514AAM	276.0
No	WIPB	D23	DT	LIC	MUNCIE, IN	BLEDT20090717ABL	200.2
No	WVPX-TV	D23	DT	LIC	AKRON, OH	BLCDT20110630AGP	149.3
Yes	W23BZ-D	D23	LD	LIC	COLUMBUS, OH	BLDTL20110318AAC	46.8
No	W23DE-D	D23	LD	LIC	LIMA, OH	BLDTL20090406AHU	104.1
No	WDMY-LP	D23	LD	CP	TOLEDO, OH	BDISDTL20100303AAB	155.4
No	WSAZ-TV	D23	DT	LIC	HUNTINGTON, WV	BLANK0000001039	212.7
No	CICO-DT-28D22		DT	LIC	KITCHENER, ON	BLANKCANADA183	392.4

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:

WDLR 1550 L DA2 D DELAWARE, OH BL
 WDLR 1550 L DA2 N DELAWARE, OH BL

Record parameters as studied:

Channel: D22

Mask: Full Service

Latitude: 40 18 47.00 N (NAD83)

Longitude: 83 3 4.00 W

Height AMSL: 338.0 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: PSI-PSILP12EC (ID 20360) 160.0 deg

INTERFERENCE CAUSED ANALYSIS FOR WOCB-CD CHANNEL 22 C.P. FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Elev Pattn: Generic
Elec Tilt: 1.50

49.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1.01 kW	54.2 m	24.4 km
45.0	6.94	42.2	30.7
90.0	15.0	47.2	35.7
135.0	13.3	53.9	36.8
180.0	13.3	71.6	39.8
225.0	15.0	54.0	37.4
270.0	8.21	50.9	33.8
315.0	1.18	52.5	24.8

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 53 m

Proposal 24.56 dBu contour does not cross Canadian border
Distance to Canadian border: 154.7 km

Distance to Mexican border: 2027.4 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 317.4 degrees Distance: 351.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 276.7 degrees Distance: 1876.7 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%

Interference to BLCDT20101216AAF LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCPO-TV	D22	DT	LIC	CINCINNATI, OH	BLCDT20101216AAF	
Undesireds:	WOCB22E2	D22	DC	CP	MARION, OH	wocb22e2	181.0 km
	WUPX-TV	D21	DT	LIC	MOREHEAD, KY	BLCDT20040901ACJ	154.9
	WBNS-TV	D21	DT	LIC	COLUMBUS, OH	BLCDT20021025ABK	157.3
	WSBT-TV	D22	DT	LIC	SOUTH BEND, IN	BLCDT20090224ABF	312.8
	WVUT	D22	DT	LIC	VINCENNES, IN	BLEDT20090709AFJ	263.0
	WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	336.3
	WIPB	D23	DT	LIC	MUNCIE, IN	BLEDT20090717ABL	132.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
30403.1	3,329,194	29981.9	3,316,086	29657.9
		3,305,751	29641.9	3,303,696
				0.05
				0.06

Undesired	Total IX	Unique IX, before	Unique IX, after
WOCB22E2 D22 DC CP	31.1	5,134	16.0
WUPX-TV D21 DT LIC	129.5	2,394	119.5
WBNS-TV D21 DT LIC	18.8	394	18.8
WSBT-TV D22 DT LIC	43.2	4,100	29.1
WVUT D22 DT LIC	15.0	120	13.0
WCTE D22 DT LIC	45.2	1,095	33.2
WIPB D23 DT LIC	98.3	2,731	84.2
			2,541

INTERFERENCE CAUSED ANALYSIS FOR WOVB-CD CHANNEL 22 C.P. FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Interference to BLDLTL20090617AAR LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WIVD-LD	D22	LD	LIC	NEWCOMERSTOWN, OH	BLDRTL20090617AAR	
Undesireds:	WOVB22E2	D22	DC	CP	MARION, OH	wocb22e2	131.5 km
	WTAE-TV	D22	LD	APP	PITTSBURGH, PA	BLANK0000030312	130.4
	W22CY	D22	LD	CP	CLARKSBURG, WV	BDFCDTL20120329AOH	158.4
	WOVA-LD	D22	LD	LIC	PARKERSBURG, WV	BLDRTL20120904ABM	112.3
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	1987.7	62,696	1880.5	54,141	1851.4	53,239	1851.4 53,239 0.00 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WOVB22E2	D22 DC CP		1.0		0	0.0	0
WTAE-TV	D22 LD APP		10.0		146	9.0	134
WOVA-LD	D22 LD LIC		20.1		768	19.1	756

Interference to BLDLTL20090617AAR LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WIVD-LD	D22	LD	LIC	NEWCOMERSTOWN, OH	BLDRTL20090617AAR	
Undesireds:	WOVB22E2	D22	DC	CP	MARION, OH	wocb22e2	131.5 km
	WQDI-LD	D21	LD	LIC	Cleveland, OH	BLDRTL20150129ABN	2.4
	WTAE-TV	D22	LD	APP	PITTSBURGH, PA	BLANK0000030312	130.4
	W22CY	D22	LD	CP	CLARKSBURG, WV	BDFCDTL20120329AOH	158.4
	WOVA-LD	D22	LD	LIC	PARKERSBURG, WV	BLDRTL20120904ABM	112.3
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	1987.7	62,696	1880.5	54,141	1843.4	53,096	1843.4 53,096 0.00 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WOVB22E2	D22 DC CP		1.0		0	0.0	0
WQDI-LD	D21 LD LIC		8.0		143	8.0	143
WTAE-TV	D22 LD APP		10.0		146	9.0	134
WOVA-LD	D22 LD LIC		20.1		768	19.1	756

Interference to BLDLTL20120904ABM LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOVA-LD	D22	LD	LIC	PARKERSBURG, WV	BLDRTL20120904ABM	
Undesireds:	WOVB22E2	D22	DC	CP	MARION, OH	wocb22e2	166.0 km
	WOCW-LP	N21+	TX	LIC	CHARLESTON, WV	BLTTL20051114AGM	108.5
	WIVD-LD	D22	LD	LIC	NEWCOMERSTOWN, OH	BLDRTL20090617AAR	112.3
	W22CY	D22	LD	CP	CLARKSBURG, WV	BDFCDTL20120329AOH	109.5
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	8138.5	261,709	7755.5	248,731	7737.6	248,493	7736.6 248,493 0.01 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WOVB22E2	D22 DC CP		1.0		0	1.0	0
WIVD-LD	D22 LD LIC		4.0		77	4.0	77
W22CY	D22 LD CP		13.9		161	13.9	161

INTERFERENCE CAUSED ANALYSIS FOR WOVB-CD CHANNEL 22 C.P. FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Interference to BLDTL20120904ABM LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WOVA-LD	D22	LD	LIC	PARKERSBURG, WV	BLDTL20120904ABM	
Undesireds:	WOVB22E2	D22	DC	CP	MARION, OH	wovb22e2	166.0 km
	WOCW-LP	N21+	TX	LIC	CHARLESTON, WV	BLTTL20051114AGM	108.5
	WIVD-LD	D22	LD	LIC	NEWCOMERSTOWN, OH	BLDTL20090617AAR	112.3
	W22CY	N22-	TX	LIC	CLARKSBURG, WV	BLTTL20060120ADM	109.5
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	8138.5	261,709	7755.5	248,731	7731.7	248,471	7730.7 248,471 0.01 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WOVB22E2 D22 DC CP		1.0	0		1.0	0	
WIVD-LD D22 LD LIC		4.0	77	4.0	77	77	
W22CY N22- TX LIC		19.8	183	19.8	183	183	

Interference to BLDTL20110318AAC LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	W23BZ-D	D23	LD	LIC	COLUMBUS, OH	BLDTL20110318AAC	
Undesireds:	WOVB22E2	D22	DC	CP	MARION, OH	wovb22e2	46.8 km
	WUEA-LD	D23	LD	LIC	South Bend, IN	BLANK0000004243	324.2
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	6177.4	1,583,397	6148.3	1,577,538	6148.3	1,575,856	6143.3 1,575,856 0.08 0.11
Undesired			Total IX		Unique IX, before	Unique IX, after	
WOVB22E2 D22 DC CP		5.0	1,682		5.0	1,682	

INTERFERENCE RECEIVED ANALYSIS FOR WOGB-CD CHANNEL 22 C.P. FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.4 (Z2Qqz3)

Database: localhost
 Station Data: LMS TV 2018-01-24 (122)
 Study: LMS180123
 Model: Longley-Rice
 Scenario: wocb22e2r

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
WOGB22E2 D22 DC CP MARION, OH	3521.9	939,480	3521.9	939,480	3150.3	578,785
WSBT-TV D22 DT LIC SOUTH BEND, IN	0.0	0	0.0	0	0 (0.00%)	
WCPO-TV D22 DT LIC CINCINNATI, OH	15.0	11,816	7.0	244	244 (0.03%)	
WBNS-TV D21 DT LIC COLUMBUS, OH	364.6	360,451	356.6	348,879	348,879 (37.1%)*	
WFXP D22 DT LIC ERIE, PA	0.0	0	0.0	0	0 (0.00%)	

* This predicted interference was accepted by the licensee of WOGB-CD in order to accommodate its migration from channel 22. See FCC File No. 0000034205, "Request for Alternate Channel 22 Instead of WOGB-CD Assigned Channel 32." WBNS-TV is not involved in the Incentive Auction repack process.