

ENGINEERING NARRATIVE
IN SUPPORT OF APPLICATION FOR CONSTRUCTION PERMIT
FOR INCENTIVE AUCTION REASSIGNMENT CHANNEL

Prepared for

WORD BROADCASTING CORPORATION

WJDE-LD CH 23 Facility ID 61026 4.45 kW DA RC 315 M AMSL

NASHVILLE, TENNESSEE

Summary

Word Broadcasting Corporation ("Word") specifies herein its post-auction CH 23 transmission facilities. The proposed facility is based on relocation to FCC Tower Registration 1023532 using a custom, elliptically polarized, antenna pattern designed for the station's CH 23 operation. The horizontally polarized ERP will exceed the vertically polarized ERP at all azimuth bearings. At this site and RC AMSL of 315 meters the ERP is limited to 4.45 kW to maintain the proposed 49.7 dBu F(50,90) contour inside the baseline 49.7 dBu F(50,90). The entire city of Nashville community boundary is located well within the noise limited contour and thus the Grade B contour.

Attached herein is the TVStudy version 2.2.2 output which demonstrates that the proposed facility complies with the requirements for expedited processing in that there is no new interference to any station, the proposed population is 96.7 percent of the baseline population and the proposed coverage contour does not exceed the baseline contour.

Environmental

The proposed site is an existing broadcast site and the tower is existing.

The proposed antenna system consists of a PSI model PSILP8JDE-23-EP, elliptically polarized, UHF TV antenna. The relative field in the elevation pattern across the depression angle range of 20 to 90 degrees does not exceed 0.2 with a radiation center 140 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.2 has been used to calculate the power density 2 meters above ground. The maximum power density is 0.406 uw/cm squared calculated for an ERP OF 4,450 watts H. polarization and 1,335 watts V. polarization. This value is 0.116% of the General Population exposure 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 Worker Safety Guidelines.

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

OET-69 Bulletin, TVStudy Output

Study created: 2017.06.21 16:14:07

Study build station data: LMS TV 2017-05-21 (5)

Proposal: WJDE-LD D23 DC BL NASHVILLE, TN
File number: PROPOSED
Facility ID: 61026
Station data: User record
Record ID: 53
Country: U.S.

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WFIQ	D22	DT	LIC	FLORENCE, AL	BLEDT20060718ACG	206.4 km
WTVW	D22	DT	BL	EVANSVILLE, IN	DTVBL3661	206.0
WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	126.8
WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	317.8
WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	348.8
WKTB-CD	D23	DC	BL	NORCROSS, GA	DTVBL35418	346.9

WUSI-TV	D23	DT	BL	OLNEY, IL	DTVBL4301	313.7
WDTI	D23	DT	BL	INDIANAPOLIS, IN	DTVBL7908	409.5
WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	180.1
WKPD	D23	DT	BL	PADUCAH, KY	DTVBL65758	195.8
WKPI-TV	D23	DT	BL	PIKEVILLE, KY	DTVBL34200	394.3
WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	175.4
WTWV	D23	DT	LIC	MEMPHIS, TN	BLEDT20090619AAW	298.9
WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	167.8
WNKY	D24	DT	BL	BOWLING GREEN, KY	DTVBL61217	102.7
WUWT-CD	D24	DC	BL	UNION CITY, TN	DTVBL32216	205.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23
Mask: Full Service
Latitude: 36 14 7.00 N (NAD83)
Longitude: 86 45 18.00 W
Height AMSL: 315.0 m
HAAT: 0.0 m
Peak ERP: 4.45 kW
Antenna: ENVELOPE WJDK 220.0 deg

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1.25 kW	111.8 m	33.0 km
45.0	0.901	164.4	34.8
90.0	1.40	168.9	37.3
135.0	2.09	160.9	38.9
180.0	3.69	161.7	41.9
225.0	4.45	171.1	43.5
270.0	3.37	135.4	39.7
315.0	1.85	97.3	33.5

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 146 m

Proposal service area is within baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 699.7 km

Distance to Mexican border: 1493.7 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 144.4 degrees Distance: 322.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 290.6 degrees Distance: 1667.1 km

Study cell size: 2.00 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%

No IX check failures found.

OET-69 Bulletin, TVStudy tvix Output

tvstudy v2.2.2
Database: 127.0.0.1, Study: PROPOSED, Model: Longley-Rice
Start: 2017.06.21 16:14:28

Study created: 2017.06.21 16:14:07

Study build station data: LMS TV 2017-05-21 (5)

Proposal: WJDE-LD D23 DC BL NASHVILLE, TN
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WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	317.8
WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	348.8
WKTB-CD	D23	DC	BL	NORCROSS, GA	DTVBL35418	346.9
WUSI-TV	D23	DT	BL	OLNEY, IL	DTVBL4301	313.7
WDTI	D23	DT	BL	INDIANAPOLIS, IN	DTVBL7908	409.5
WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	180.1
WKPD	D23	DT	BL	PADUCAH, KY	DTVBL65758	195.8
WKPI-TV	D23	DT	BL	PIKEVILLE, KY	DTVBL34200	394.3
WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	175.4
WTWV	D23	DT	LIC	MEMPHIS, TN	BLEDT20090619AAW	298.9
WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	167.8
WNKY	D24	DT	BL	BOWLING GREEN, KY	DTVBL61217	102.7
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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 BLEDT20060718ACG LIC, scenario 1
 Proposal causes no interference.

 Interference to BLEDT20060718ACG LIC, scenario 2
 Proposal causes no interference.

 Interference to DTVBL3661 BL, scenario 1
 Proposal causes no interference.

 Interference to BLEDT20110413ACS LIC, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	
Undesireds:	WJDE-LD	D23	DC	BL	NASHVILLE, TN	DTVBL61026	128.8 km
	WJDE-LD	D23	DC	BL	NASHVILLE, TN	PROPOSED	126.8
	WUXP-TV	D21	DT	LIC	NASHVILLE, TN	BLCDT20060414AAU	130.5
	WFIQ	D22	DT	LIC	FLORENCE, AL	BLEDT20060718ACG	283.5
	WHSB-TV	D22	DT	BL	MONROE, GA	DTVBL68058	278.5
	WTVW	D22	DT	BL	EVANSVILLE, IN	DTVBL3661	272.6
	WCVN-TV	D22	DT	BL	COVINGTON, KY	DTVBL34204	326.0
	WKPT-CD	D22	DC	LIC	KINGSPORT, TN	BLDTA20120420ACJ	249.9
	WSAZ-TV	D22	DT	BL	HUNTINGTON, WV	DTVBL36912	379.0
	WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	173.4
	WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	107.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
26428.0	612,760	24262.8	541,314	23211.9	508,861	23211.9	508,861	0.00	0.00

Undesired	Total IX	Unique IX, before	Unique IX, after			
WJDE-LD D23 DC BL	28.0	494	0.0	0		
WJDE-LD D23 DC BL	0.0	0	0.0	0		
WUXP-TV D21 DT LIC	468.1	22,537	363.9	20,413	371.9	20,466
WFIQ D22 DT LIC	184.7	2,884	100.4	1,412	100.4	1,412
WHSB-TV D22 DT BL	229.5	3,987	140.8	2,914	140.8	2,914
WTVW D22 DT BL	167.8	3,887	111.7	2,085	111.7	2,085
WKPT-CD D22 DC LIC	4.0	0	0.0	0	0.0	0
WSAZ-TV D22 DT BL	8.0	328	4.0	82	4.0	82

WFLI-TV D23 DT BL	205.6	2,921	129.0	1,982	129.0	1,982
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Interference to DTVBL31649 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000001646 LIC, scenario 1
Proposal causes no interference.

Interference to DTVBL35418 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL4301 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL7908 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL34181 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL65758 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL34200 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL72060 BL, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	
Undesireds:	WJDE-LD	D23	DC	BL	NASHVILLE, TN	DTVBL61026	172.1 km

WJDE-LD	D23	DC	BL	NASHVILLE, TN	PROPOSED	175.4
WHSB-TV	D22	DT	BL	MONROE, GA	DTVBL68058	178.0
WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	107.4
WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	217.3
WVUA-CD	D23	DC	LIC	TUSCALOOSA/NORTHPORT, AL	BLANK0000001646	306.9
WKTG-CD	D23	DC	BL	NORCROSS, GA	DTVBL35418	174.2
WPGA-TV	D23	DT	BL	PERRY, GA	DTVBL54728	315.9
WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	279.4
WKPD	D23	DT	BL	PADUCAH, KY	DTVBL65758	369.7
WKPI-TV	D23	DT	BL	PIKEVILLE, KY	DTVBL34200	337.8
WBTB	D23	DT	LIC	CHARLOTTE, NC	BLCDDT19991025AEB	371.5
WAPW-CD	D23	DC	BL	ABINGDON, ETC., VA	DTVBL77676	384.6
WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	125.5
WGTA	D24	DT	LIC	TOCCOA, GA	BLANK0000001315	186.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
25277.9 1,276,905	21621.5 1,152,786	21301.9 1,139,679	21293.8 1,139,679	0.04 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WJDE-LD D23 DC BL 24.2	192	12.1 119	
WJDE-LD D23 DC BL 24.3	119		20.2 119
WHSB-TV D22 DT BL 8.0	292	0.0 0	0.0 0
WCTE D22 DT LIC 92.5	2,061	80.4 1,988	84.4 2,061
WOIL-CD D23 DC BL 111.5	3,148	91.6 3,068	91.6 3,068
WKTG-CD D23 DC BL 123.4	7,851	91.5 7,479	91.5 7,479
WHIQ D24 DT LIC 4.0	8	4.0 8	4.0 8

Interference to BLEDT20090619AAW LIC, scenario 1
Proposal causes no interference.

Interference to BLANK0000004828 LIC, scenario 1
Proposal causes no interference.

Interference to BLANK0000004828 LIC, scenario 2
Proposal causes no interference.

Interference to DTVBL61217 BL, scenario 1

Desired:	Call WNKY	Chan D24	Svc DT	Status BL	City, State BOWLING GREEN, KY	File Number DTVBL61217	Distance
Undesireds:	WJDE-LD	D23	DC	BL	NASHVILLE, TN	DTVBL61026	110.7 km
	WJDE-LD	D23	DC	BL	NASHVILLE, TN	PROPOSED	102.7
	WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	77.9
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	257.3
	WJTS-CD	D24	DC	BL	JASPER, IN	DTVBL168419	161.7
	WKON	D24	DT	BL	OWENTON, KY	DTVBL34211	204.7
	WETP-TV	D24	DT	BL	SNEEDVILLE, TN	DTVBL18252	276.8
	WUWT-CD	D24	DC	BL	UNION CITY, TN	DTVBL32216	262.9
	WJFB	D25	DT	BL	LEBANON, TN	DTVBL7651	99.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
14015.4	378,478	13787.8	376,218	13532.7
		371,727	371,727	0.00
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WJDE-LD D23 DC BL	8.0	367	0.0
WJDE-LD D23 DC BL	0.0	0	0.0
WKZT-TV D23 DT BL	87.6	1,708	83.6
WHIQ D24 DT LIC	71.8	1,444	35.9
WJTS-CD D24 DC BL	59.9	863	27.9
WKON D24 DT BL	20.0	191	12.0
WETP-TV D24 DT BL	31.9	267	16.0
WJFB D25 DT BL	43.8	1,212	27.9

Interference to DTVBL61217 BL, scenario 2

Desired:	Call WNKY	Chan D24	Svc DT	Status BL	City, State BOWLING GREEN, KY	File Number DTVBL61217	Distance
Undesireds:	WJDE-LD	D23	DC	BL	NASHVILLE, TN	DTVBL61026	110.7 km
	WJDE-LD	D23	DC	BL	NASHVILLE, TN	PROPOSED	102.7
	WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	77.9
	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	257.3
	WJTS-CD	D24	DC	BL	JASPER, IN	DTVBL168419	161.7
	WKON	D24	DT	BL	OWENTON, KY	DTVBL34211	204.7
	WETP-TV	D24	DT	BL	SNEEDVILLE, TN	DTVBL18252	276.8
	WUWT-CD	D24	DC	BL	UNION CITY, TN	DTVBL32216	262.9

WJFB	D25	DT	BL	LEBANON, TN	DTVBL7651	99.5
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
14015.4	378,478	13787.8	376,218	13532.7	371,727	13532.7 371,727 0.00 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after			
WJDE-LD D23 DC BL	8.0	367	0.0	0		
WJDE-LD D23 DC BL	0.0	0		0.0	0	
WKZT-TV D23 DT BL	87.6	1,708	83.6	1,640	83.6	1,640
WHIQ D24 DT LIC	71.8	1,444	35.9	615	35.9	615
WJTS-CD D24 DC BL	59.9	863	27.9	102	27.9	102
WKON D24 DT BL	20.0	191	12.0	42	12.0	42
WETP-TV D24 DT BL	31.9	267	16.0	102	16.0	102
WJFB D25 DT BL	43.8	1,212	27.9	728	31.9	952

Interference to DTVBL32216 BL, scenario 1
Proposal causes no interference.

Interference to proposal, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WJDE-LD	D23	DC	BL	NASHVILLE, TN	PROPOSED	
Undesireds:	WCTE	D22	DT	LIC	COOKEVILLE, TN	BLEDT20110413ACS	126.8 km
	WOIL-CD	D23	DC	BL	TALLADEGA, AL	DTVBL31649	317.8
	WUSI-TV	D23	DT	BL	OLNEY, IL	DTVBL4301	313.7
	WKZT-TV	D23	DT	BL	ELIZABETHTOWN, KY	DTVBL34181	180.1
	WKPD	D23	DT	BL	PADUCAH, KY	DTVBL65758	195.8
	WFLI-TV	D23	DT	BL	CLEVELAND, TN	DTVBL72060	175.4
	WTWV	D23	DT	LIC	MEMPHIS, TN	BLEDT20090619AAW	298.9
	WNKY	D24	DT	BL	BOWLING GREEN, KY	DTVBL61217	102.7

Service area	Terrain-limited	IX-free	Percent IX
4549.0	1,114,077	4280.4	1,060,817
4256.4	1,056,570	0.56	0.40
Undesired	Total IX	Unique IX	Prcnt Unique IX
WKZT-TV D23 DT BL	4.0	682	4.0 682 0.09 0.06
WFLI-TV D23 DT BL	20.0	3,565	20.0 3,565 0.47 0.34

Coverage Baseline for Post-Auction Table of Allotments

Noise Limited Ter. limited Interfer. Free

61026	BLDTA20110627AAU	WJDE-LD	23	NASHVILLE	TN	DC	4841.3	1137804	4572.8	1096770	4516.8	1093201
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Proposed population 96.7% of Baseline.

Conclusion

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 Word Broadcasting Corporation by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, 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.



By _____

Clarence M. Beverage

for Communications Technologies, Inc.

Marlton, New Jersey

July 11, 2017

FIGURE 1

WJDE-LD BASELINE AND PROPOSED 49.7 dBu F(50,90) CONTOURS

GREEN – BASELINE RED - PROPOSED

