

ENGINEERING STATEMENT
SUPPORTING REQUEST FOR WAIVER
TELEVISION STATION WGBO-DT
(FACILITY ID NO. 12498)
JOLIET, ILLINOIS
CHANNEL 35

Background

This statement was prepared on behalf of WGBO License Partnership, G.P., licensee of WGBO-DT, Joliet, IL, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for television station WGBO-DT in the Chicago DMA^{*}. WGBO-DT is licensed for operation on RF Channel 38 with a maximum directional effective radiated power (ERP) of 600 kW and an antenna height above average terrain (HAAT) of 401.4 m.[†]

As a result of the FCC's Incentive Auction repack process, the WGBO-DT facility was reassigned to RF Channel 35. WGBO-DT now holds a construction permit for operation on Channel 35 with a maximum directional ERP of 615 kW and an antenna HAAT of 418 m.[‡] An FCC engineering database summary sheet for the WGBO-DT construction permit facility is attached hereto for reference. The WGBO-DT construction permit facility is the subject early transition facility.

In coordination with the wireless carrier T-Mobile, WGBO License Partnership, G.P. seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow WGBO-DT to make the transition to Channel 35 earlier than its given phase transition date. Specifically, the target date for WGBO-DT to begin operations on Channel 35 is on or before October 18, 2019. This will facilitate the early deployment of new 600 MHz band wireless broadband services.

This statement demonstrates that the WGBO-DT facility can transition to Channel 35 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of WGBO-DT on Channel 35

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

[†] See FCC File No. BLCDDT-20100709AJT.

[‡] See FCC File No. 0000034007.

will have no adverse interference consequences, either caused or received, under the current allocation environment.

Assigned Phase

WGBO-DT is 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 October 23, 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 WGBO-DT 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 October 23, 2018.

It is noted that there are dependencies with respect to the following stations: WNIT (Facility ID 41671), WLPD-CD (Facility ID 189058), WISN-TV (Facility ID 65680), and WEDE-CD (Facility ID 66978). All of these stations are in Phase 6. As described below, the WGBO-DT facility will not make its early transition until after the above listed facilities have completed their respective scheduled Phase 6 transitions.

Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the WGBO-DT Channel 35 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 WGBO-DT Channel 35 Construction Permit Facility Under Current Allocation Environment.'

The results of the analysis indicate that the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations.

[§] *TVStudy* version 2.2.5

The following is noted:

1. WNIT is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WNIT facility will transition from Channel 35 to Channel 31. Therefore, the WGBO-DT early transition will occur following the transition of WNIT and its facility record was omitted from the study.
2. WLPD-CD is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WLPD-CD facility will transition from Channel 35 to Channel 32. Therefore, the WGBO-DT early transition will occur following the transition of WLPD-CD and its facility record was omitted from the study.
3. WISN-TV is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WISN-TV facility will transition from Channel 34 to Channel 28. Therefore, the WGBO-DT early transition will occur following the transition of WISN-TV and its facility record was omitted from the study.
4. WEDE-CD is in repack Phase 6, which begins on September 7, 2019 and is completed on October 18, 2019. The WEDE-CD facility will transition from Channel 34 to Channel 28. Therefore, the WGBO-DT early transition will occur following the transition of WEDE-CD and its facility record was omitted from the study.

Interference Received Analysis Under Current Allocation Environment

An interference analysis specifically for the ‘received case’ of interference was conducted for the WGBO-DT Channel 35 early transition facility utilizing the FCC’s *TVStudy* prediction software. The report of the results is attached hereto entitled ‘Interference Received Analysis for WGBO-DT Channel 35 Construction Permit 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 the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations.

It is noted that the WNIT, WLPD-CD, WISN-TV and WEDE-CD facility records were omitted from the study for the reasons outlined above.

Effects on Linked Station Sets

Because the WGBO-DT early transition will occur following the transitions of stations WNIT, WLPD-CD, WISN-TV and WEDE-CD, the early transition of the WGBO-DT facility to Channel 35 in advance of its phase transition date will not create any pairwise interference cases or new linked station sets.

Conclusion

Based on the early transition of WGBO-DT following the respective phase transitions of stations WNIT, WLPD-CD, WISN-TV and WEDE-CD, it is concluded that the early transition of the WGBO-DT facility on Channel 35, as described herein, will not result in any interference caused or received cases that would result in the creation of any new linked station sets or dependencies established in the Incentive Auction repack process.



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October 26, 2018



Callsign: WGBO-DT **Service:** DT **Status:** CP MOD **App. Status:** GRANT **Border Code:** **Rec. Type:** C
Channel: 35 **Offset:** **Zone:** 1 **Docket Number:** **DTV Type:** POSTTRAN
Fac. ID: 12498 **Assoc. ID:** **Application File No.:** BLANK-0000034007 **DT Emission Mask:**
City: JOLIET **State:** IL **Country:** US **CP Expiration Date:**
Party Name: WGBO LICENSE PARTNERSHIP, G.P. **Last Change Date:** 3/16/2018

Latitude (NAD 83): 41-53-56.1 **Height AGL (m):** 416.7 **Polarization:** E
Longitude (NAD 83): 087-37-23.2 **Overall Height AGL (m):** 425.2 **Electrical Tilt (°):** 0.75
ERP (kW): 615 **Mechanical Tilt (°):**
Maximum ERP (kW): **Mechanical Tilt Azimuth (°):**
Maximum ERP (dBk): 27.9 **Degrees True (°):**
RCAMSL (m): 597.4 **Antenna Make:**
Site Elevation AMSL (m): 180.7 **Antenna Model:**
HAAT (m): 418
Maximum HAAT (m):

Antenna Type: D **Antenna ID:** 1002175 **Rotation (°):** 267

0° 0.992 90° 0.974 180° 0.195 270° 0.979 293° 1.000
 10° 0.987 100° 0.921 190° 0.193 280° 0.993
 20° 0.966 110° 0.811 200° 0.228 290° 0.999
 30° 0.938 120° 0.695 210° 0.348 300° 0.996
 40° 0.935 130° 0.604 220° 0.495 310° 0.972
 50° 0.963 140° 0.504 230° 0.602 320° 0.941
 60° 0.989 150° 0.363 240° 0.691 330° 0.937
 70° 0.994 160° 0.235 250° 0.803 340° 0.963
 80° 0.987 170° 0.190 260° 0.917 350° 0.985

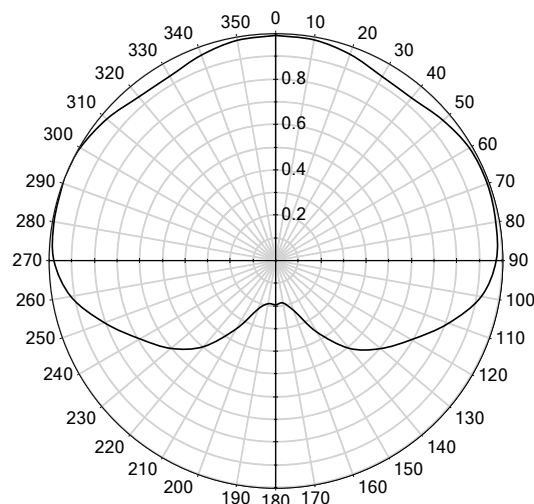
Standard Pattern:

Antenna Make: RFS

Antenna Model: SAA25-ATW_C1-J300-ES6R-35

Last Change Date:

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



Type: BTWR **ASRN:** 1009013 **FAA Study No.:** 2018-AGL-9503-OE **Structure Height (m):** 337.4
Latitude (NAD 27): 041-53-56 **Date Received:** 07/23/2018 **Structure Height (ft):** 1107.0
Longitude (NAD 27): 087-37-23 **Date Entered:** 07/23/2018 **Ground Elevation (m):** 180.7
Latitude (NAD 83): 41-53-56.1 **Date Issued:** 07/23/2018 **Ground Elevation (ft):** 592.8
Longitude (NAD 83): 087-37-23.2 **Date Constructed:** 01/01/1968 **Overall Height AGL (m):** 425.2
Struct. Address: **Date Dismantled:** **Overall Height AGL (ft):** 1395.0
 WEST TOWER 875 N MICHIGAN AVE **Overall Height AMSL (m):** 605.9
 CHICAGO IL **Overall Height AMSL (ft):** 1987.9
Entity Name: American Towers, LLC.

INTERFERENCE CAUSED ANALYSIS FOR WGB0-DT CHANNEL 35 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: wgbo35e3, Model: Longley-Rice

Study build station data: LMS TV 2018-10-24

Proposal: WGB0-DT D35 DT CP JOLIET, IL
File number: BLANK0000034007
Facility ID: 12498
Station data: LMS TV 2018-10-24
Record ID: 25076f915f0d91b4015f1700e459147e
Country: U.S.
Zone: I

Build options:

Protect pre-transition records not on baseline channel

Search options:

All post-transition APP, CP, and baseline records excluded

Individual records excluded:

0000034510 WLPD-CD D35 DC LIC PLANO, IL BLANK0000034510 (WLPD-CD will have completed its Phase 6 transition by October 18, 2019.)
20020801ABI WJYS D36 DT LIC HAMMOND, IN BLCDDT20020801ABI (This is an old license facility record for WJYS that should be archived in the FCC database.)
20101104AAA WISN-TV D34 DT LIC MILWAUKEE, WI BLCDDT20101104AAA (WISN-TV will have completed its Phase 6 transition by October 18, 2019.)
20110516ADN WNIT D35 DT LIC SOUTH BEND, IN BLEDDT20110516ADN (WNIT will have completed its Phase 6 transition by October 18, 2019.)
20140430ACQ WEDE-CD D34 DC LIC ARLINGTON HEIGHTS, IL BLDDTA20140430ACQ (WEDE-CD will have completed its Phase 6 transition by October 18, 2019.)

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KQIN	D34	DT	LIC	DAVENPORT, IA	BLEDDT20120921ADS	238.2 km
Yes	KRIN	D35	DT	LIC	WATERLOO, IA	BLEDDT20050218ABQ	352.3
No	KSDK	D35	DT	LIC	ST. LOUIS, MO	BLCDDT19991202ABM	435.7
No	WLWT	D35	DT	LIC	CINCINNATI, OH	BLCDDT20050502ABC	404.7
No	WOHL-CD	D35	DC	LIC	LIMA, OH	BLDDTA20090817ACL	318.3
No	KWQC-TV	D36	DT	LIC	DAVENPORT, IA	BLCDDT20090708AGG	238.2
No	WFFT-TV	D36	DT	LIC	FORT WAYNE, IN	BLCDDT20090521AAQ	220.3
Yes	WJYS	D36	DT	LIC	HAMMOND, IN	BLCDDT20100922ABI	2.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D35
Latitude: 41 53 56.10 N (NAD83)
Longitude: 87 37 23.20 W
Height AMSL: 597.4 m
HAAT: 418.0 m
Peak ERP: 615 kW
Antenna: RFS-SAA25-ATW_C1-J300-ES6R-35 (ID 1002175) 267.0 deg
Elev Pattnr: Generic
Elec Tilt: 0.75

40.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	565 kW	422.0 m	103.0 km
45.0	169	422.3	92.7
90.0	23.2	421.9	79.2
135.0	207	422.3	94.3
180.0	595	415.8	102.9
225.0	552	415.7	102.2
270.0	603	411.3	102.7
315.0	564	415.0	102.4

Distance to Canadian border: 370.0 km

Distance to Mexican border: 1827.9 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 59.6 degrees Distance: 158.1 km

INTERFERENCE CAUSED ANALYSIS FOR WGBO-DT CHANNEL 35 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 268.4 degrees Distance: 1486.0 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%

----- Interference to BLEDT20050218ABQ LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KRIN	D35	DT	LIC	WATERLOO, IA	BLEDT20050218ABQ	
Undesireds:	WGBO-DT	D35	DT	CP	JOLIET, IL	BLANK0000034007	352.3 km
	KHIN	D35	DT	LIC	RED OAK, IA	BLANK0000030114	301.4
	KSTP-TV	D35	DT	APP	ST. PAUL, MN	BLANK0000036053	322.1
	KAAL	D36	DT	LIC	AUSTIN, MN	BLCDT20091110AAF	157.1
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
36428.2	949,313	36012.2	923,735	35860.8	922,344	35784.7	920,790 0.21 0.17
Undesired		Total IX		Unique IX, before		Unique IX, after	
WGBO-DT D35 DT CP		76.1	1,554			76.1	1,554
KHIN D35 DT LIC		20.2	334	20.2	334	20.2	334
KSTP-TV D35 DT APP		83.5	926	63.6	814	63.6	814
KAAL D36 DT LIC		67.6	243	47.7	131	47.7	131

----- Interference to BLEDT20050218ABQ LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KRIN	D35	DT	LIC	WATERLOO, IA	BLEDT20050218ABQ	
Undesireds:	WGBO-DT	D35	DT	CP	JOLIET, IL	BLANK0000034007	352.3 km
	KHIN	D35	DT	LIC	RED OAK, IA	BLANK0000030114	301.4
	KSTP-TV	D35	DT	LIC	ST. PAUL, MN	BLCDT20090622ABR	322.1
	KAAL	D36	DT	LIC	AUSTIN, MN	BLCDT20091110AAF	157.1
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
36428.2	949,313	36012.2	923,735	35880.7	922,416	35804.5	920,862 0.21 0.17
Undesired		Total IX		Unique IX, before		Unique IX, after	
WGBO-DT D35 DT CP		76.1	1,554			76.1	1,554
KHIN D35 DT LIC		20.2	334	20.2	334	20.2	334
KSTP-TV D35 DT LIC		51.7	817	43.8	742	43.8	742
KAAL D36 DT LIC		67.6	243	59.6	168	59.6	168

----- Interference to BLCDT20100922ABI LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WJYS	D36	DT	LIC	HAMMOND, IN	BLCDT20100922ABI	
Undesireds:	WGBO-DT	D35	DT	CP	JOLIET, IL	BLANK0000034007	2.5 km
	KWQC-TV	D36	DT	LIC	DAVENPORT, IA	BLCDT20090708AGG	236.6
	WFFT-TV	D36	DT	LIC	FORT WAYNE, IN	BLCDT20090521AAQ	220.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
25450.5	9,647,321	25446.5	9,647,299	24744.0	9,585,472	24715.8	9,574,896 0.11 0.11
Undesired		Total IX		Unique IX, before		Unique IX, after	
WGBO-DT D35 DT CP		32.2	11,323			28.2	10,576
KWQC-TV D36 DT LIC		500.7	49,014	500.7	49,014	496.7	48,267
WFFT-TV D36 DT LIC		201.8	12,813	201.8	12,813	201.8	12,813

INTERFERENCE RECEIVED ANALYSIS FOR WGBO-DT CHANNEL 35 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)

Database: localhost
Station Data: LMS TV 2018-10-11
Study: LMS181011
Model: Longley-Rice
Scenario: wgbo35e4r

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
WGBO-DT D35 DT CP JOLIET, IL	29856.6	9,843,918	29816.6	9,841,461	29699.7	9,829,050
KRIN D35 DT LIC WATERLOO, IA	16.0	1,905	16.0		1,905 (0.02%)	
WJYS D36 DT LIC HAMMOND, IN	100.8	10,506	100.8		10,506 (0.11%)	
WOHL-CD D35 DC LIC LIMA, OH	0.0	0	0.0		0	

Note:

1. WLPD-CD D35 DC LIC PLANO, IL BLANK0000034510 (WLPD-CD will have completed its Phase 6 transition by October 18, 2019.)
2. WISN-TV D34 DT LIC MILWAUKEE, WI BLCDDT20101104AAA (WISN-TV will have completed its Phase 6 transition by October 18, 2019.)
3. WNIT D35 DT LIC SOUTH BEND, IN BLEDDT20110516ADN (WNIT will have completed its Phase 6 transition by October 18, 2019.)
4. WEDE-CD D34 DC LIC ARLINGTON HEIGHTS, IL BLDDTA20140430ACQ (WEDE-CD will have completed its Phase 6 transition by October 18, 2019.)