

ENGINEERING STATEMENT
SUPPORTING REQUEST FOR WAIVER
TELEVISION STATION WEDH
(FACILITY ID NO. 13602)
HARTFORD, CONNECTICUT
CHANNEL 30

Background

This statement was prepared on behalf of Connecticut Public Broadcasting, Inc., licensee of WEDH, Hartford, Connecticut, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for television station WEDH in the Hartford-New Haven DMA*. WEDH is licensed for operation on RF Channel 45 with a maximum directional effective radiated power (ERP) of 490 kW and an antenna height above average terrain (HAAT) of 505 m.[†]

As a result of the FCC's Incentive Auction repack process, the WEDH facility was reassigned to RF Channel 30. WEDH now holds a construction permit for operation on Channel 30 with a maximum directional ERP of 497 kW and an antenna HAAT of 506 m.[‡] An FCC engineering database summary sheet for the WEDH construction permit facility is attached hereto for reference. The WEDH construction permit facility is the subject early transition facility.

Connecticut Public Broadcasting, Inc. seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow WEDH to make its transition to Channel 30 earlier than its given phase transition date. Specifically, the target date for WEDH to begin operations on Channel 30 is on or before August 2, 2019. This will facilitate the early deployment of new 600 MHz band wireless broadband services.

This statement demonstrates that the WEDH facility can transition to Channel 30 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of WEDH on Channel 30 will have no

* Nielsen Designated Market Area abbreviated as DMA.

[†] See FCC File No. BLEDT-20090618ACA.

[‡] See FCC File No. 0000034543.

adverse interference consequences, either caused or received, under the current allocation environment.

Assigned Phase

WEDH is assigned to transition Phase 7, with a testing begin date of October 19, 2019. This is based on the latest FCC Phase Assignment spreadsheet dated December 28, 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 WEDH 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 November 30, 2018.

It is noted that there are dependencies with respect to the following stations: WBZ-TV (Facility ID 25456), WUTF-TV (Facility ID 30577) and WFUT-DT (Facility ID 60555). All three of these stations are in Phase 4. As described below, the WEDH facility will not make its early transition until after the above listed facilities have completed their respective scheduled Phase 4 transitions.

Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the WEDH Channel 30 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 WEDH Channel 30 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. WBZ-TV is in repack Phase 4, which begins on June 22, 2019 and is completed on August 2, 2019. The WBZ-TV facility will transition from Channel 30 to Channel 20. Therefore, the WEDH early transition will occur following the transition of WBZ-TV and its facility record was omitted from the study.
2. WUTF-TV is in repack Phase 4, which begins on June 22, 2019 and is completed on August 2, 2019. The WUTF-TV facility will transition from Channel 29 to Channel 19. Therefore, the WEDH early transition will occur following the transition of WUTF-TV and its facility record was omitted from the study.
3. WFUT-DT is in repack Phase 4, which begins on June 22, 2019 and is completed on August 2, 2019. The WFUT-DT facility will transition from Channel 30 to Channel 26. Therefore, the WEDH early transition will occur following the transition of WFUT-DT 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 WEDH Channel 30 early transition facility utilizing the FCC’s *TVStudy* prediction software. The report of the results is attached hereto entitled ‘Interference Received Analysis for WEDH Channel 30 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 with the exception of stations WFXT, Boston, MA (Facility ID 6463) and WPXN-TV, New York, NY (Facility ID 73356). In the cases of stations WFXT and

WPXN-TV, the FCC's temporary permissible transitional interference limit of 2% is met.^{**}

It is noted that the WBZ-TV, WUTF-TV and WFUT-DT facility records were omitted from the study for the reasons outlined above.

Effects on Linked Station Sets

Because the WEDH early transition will occur following the respective phase transitions of stations WBZ-TV, WUTF-TV and WFUT-DT, the early transition of the WEDH facility to Channel 30 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 WEDH following the respective phase transitions of stations WBZ-TV, WUTF-TV and WFUT-DT, it is concluded that the early transition of the WEDH facility to Channel 30, 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.



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

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

January 11, 2019

^{**} It is noted that both WFXT and WPXN-TV are in Phase 4 and will have made their respective phase transitions by August 2, 2019. But these stations are not dependencies with respect to the WEDH early transition as proposed herein.

TV Inquiry

WEDH EARLY TRANSITION FACILITY

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



Callsign: WEDH **Service:** DT **Status:** CP MOD **App. Status:** GRANT **Border Code:** **Rec. Type:** C
Channel: 30 **Offset:** **Zone:** 1 **Docket Number:** **DTV Type:** Y
Fac. ID: 13602 **Assoc. ID:** **Application File No.:** BLANK-0000034543 **DT Emission Mask:**
City: HARTFORD **State:** CT **Country:** US **CP Expiration Date:**
Party Name: CONNECTICUT PUBLIC BROADCASTING, INC. **Last Change Date:** 3/15/2018

Height AGL (m): 388 **Polarization:** E
Overall Height AGL (m): 408.1 **Electrical Tilt (°):** 1
Latitude (NAD 83): 041-42-13.0 **ERP (kW):** 497 **Mechanical Tilt (°):**
Longitude (NAD 83): 072-49-55.0 **Maximum ERP (kW):** **Mechanical Tilt Azimuth (°):**
RCAMSL (m): 604.4 **Maximum ERP (dBk):** 27 **Degrees True (°):**
Site Elevation AMSL (m): 216.4 **Maximum ERP at any Angle (kW):** **Antenna Make:**
HAAT (m): 506 **Antenna Model:**
Maximum HAAT (m):

Antenna Type: D **Antenna ID:** 1002375 **Rotation (°):** 0

0°	0.936	90°	0.963	180°	0.302	270°	0.437
10°	0.917	100°	0.988	190°	0.218	280°	0.588
20°	0.905	110°	1.000	200°	0.207	290°	0.733
30°	0.900	120°	0.987	210°	0.232	300°	0.854
40°	0.899	130°	0.940	220°	0.245	310°	0.940
50°	0.900	140°	0.854	230°	0.232	320°	0.987
60°	0.905	150°	0.733	240°	0.207	330°	1.000
70°	0.917	160°	0.588	250°	0.218	340°	0.988
80°	0.936	170°	0.437	260°	0.302	350°	0.963

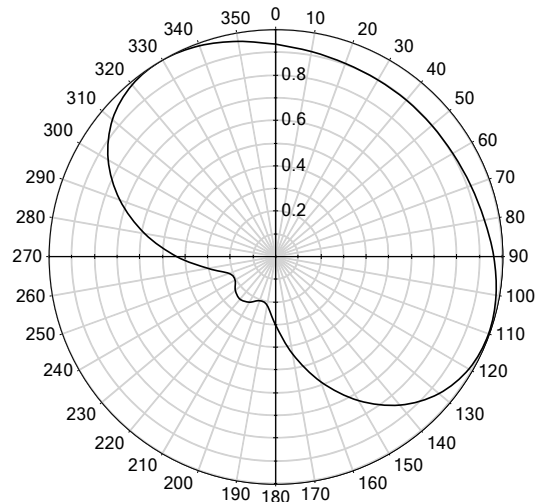
Standard Pattern:

Antenna Make: DIE

Antenna Model: TFU-16DSC/VP-R C170

Last Change Date:

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



Type:	ASRN: 1041624	FAA Study No.: 83-ANE-0395-OE	Structure Height (m): 393.8
Latitude (NAD 27): 041-42-12.6	Date Received: 08/24/2015	Structure Height (ft): 1292.0	
Longitude (NAD 27): 072-49-56.6	Date Entered: 08/24/2015	Ground Elevation (m): 216.4	
Latitude (NAD 83): 41-42-13.0	Date Issued: 08/24/2015	Ground Elevation (ft): 710.0	
Longitude (NAD 83): 072-49-55.0	Date Constructed: 09/01/1984	Overall Height AGL (m): 408.1	
Struct. Address:	Date Dismantled:	Overall Height AGL (ft): 1338.9	
200 COLT HIGHWAY RT. 6		Overall Height AMSL (m): 624.5	
FARMINGTON	CT	Overall Height AMSL (ft): 2048.9	
Entity Name: COMMUNICATIONS SITE MANAGEMENT, LLC			

INTERFERENCE CAUSED ANALYSIS FOR WEDH CHANNEL 30 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: wedh_e3, Model: Longley-Rice

Study build station data: LMS TV 2019-01-10 #327

Proposal: WEDH_E3 D30 DT CP HARTFORD, CT
File number: wedh_e3
Facility ID: 13602
Station data: User record
Record ID: 3552
Country: U.S.
Zone: I

Build options:
Protect pre-transition records not on baseline channel

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

Individual records excluded:

0000001072 WUTF-TV D29 DT LIC WORCESTER, MA BLANK0000001072 (WUTF-TV will have completed its Phase 4 transition by August 2, 2019.)
0000037827 WFUT-DT D30 DT LIC NEWARK, NJ BLANK0000037827 (WFUT-DT will have completed its Phase 4 transition by August 2, 2019.)
20060420ABG WBZ-TV D30 DT LIC BOSTON, MA BLCDT20060420ABG (WBZ-TV will have completed its Phase 4 transition by August 2, 2019.)

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WKTU	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	232.6 km
No	WSKA	D30	DT	LIC	CORNING, NY	BLEDT20060705ABL	354.4
Yes	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
No	WTIC-TV	D31	DT	LIC	HARTFORD, CT	BLCDT20101222AAE	0.0
No	WPPX-TV	D31	DT	LIC	WILMINGTON, DE	BLCDT20031203AFL	273.8
Yes	WFXT	D31	DT	LIC	BOSTON, MA	BLCDT20090422ABH	149.0
No	WNCE-CD	D31	DC	LIC	GLENS FALLS, NY	BLDTA20100812ABN	191.4
No	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
No	WSWB	D31	DT	LIC	SCRANTON, PA	BLCDT20140326AAZ	242.7
No	CFKS-DT	D30	DT	LIC	SHERBROOKE, QC	BLANKCANADA312	403.9

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
WLAT 910 L DAN D NEW BRITAIN, CT BMML20150928AGK
WLAT 910 L DAN N NEW BRITAIN, CT BMML20150928AGK

Record parameters as studied:

Channel: D30
Latitude: 41 42 13.00 N (NAD83)
Longitude: 72 49 55.00 W
Height AMSL: 604.4 m
HAAT: 506.0 m
Peak ERP: 497 kW
Antenna: DIE-TFU-16DSC/VP-R C170 (ID 1002375) 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

40.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	435 kW	541.7 m	111.0 km
45.0	402	548.1	110.7
90.0	461	562.7	112.8
135.0	400	567.8	111.8
180.0	45.3	459.7	86.1
225.0	28.3	467.2	83.3
270.0	94.9	448.9	90.7
315.0	461	450.2	104.4

Distance to Canadian border: 368.0 km

Distance to Mexican border: 2812.0 km

INTERFERENCE CAUSED ANALYSIS FOR WEDH CHANNEL 30 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

Conditions at FCC monitoring station: Canandaigua NY
Bearing: 291.7 degrees Distance: 388.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 277.2 degrees Distance: 2709.7 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 BLCDT20040217ADC LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	
Undesireds:	WEDH_E3	D30	DT	CP	HARTFORD, CT	wedh_e3	250.3 km
	WKTV	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	19.7
	CIVO-DT	D30	DT	LIC	GATINEAU, QC	BLANKCANADA265	267.5
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
14107.6	526,114	12682.2	481,957	10610.9	444,334	10574.9 443,986	0.34 0.08
Undesired				Total IX	Unique IX, before	Unique IX, after	
WEDH_E3	D30	DT	CP	151.3 4,300		35.9 348	
WKTV	D29	DT	LIC	2035.5 37,311	1991.6 36,818	1896.1 33,197	
CIVO-DT	D30	DT	LIC	79.8 805	35.8 312	31.9 255	

----- Interference to BLCDT20090422ABH LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WFXT	D31	DT	LIC	BOSTON, MA	BLCDT20090422ABH	
Undesireds:	WEDH_E3	D30	DT	CP	HARTFORD, CT	wedh_e3	149.0 km
	WTIC-TV	D31	DT	LIC	HARTFORD, CT	BLCDT20101222AAE	149.0
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	292.1
	WBPX-TV	D32	DT	LIC	BOSTON, MA	BLANK0000048989	0.7
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
28275.1	7,366,667	27489.0	7,306,757	25416.6	7,115,816	25416.6 7,115,816	0.00 0.00
Undesired				Total IX	Unique IX, before	Unique IX, after	
WEDH_E3	D30	DT	CP	60.1 2,783		0.0 0	
WTIC-TV	D31	DT	LIC	2028.4 185,216	1943.9 179,679	1895.9 177,130	
WPXN-TV	D31	DT	LIC	76.4 5,031	4.0 156	4.0 156	
WBPX-TV	D32	DT	LIC	52.1 6,231	40.1 5,569	40.1 5,569	

INTERFERENCE RECEIVED ANALYSIS FOR WEDH CHANNEL 30 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)

Database: localhost
Station Data: LMS TV 2019-01-10 #327
Study: LMS190110A
Model: Longley-Rice
Scenario: wedh_e4r

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
WEDH_E3 D30 DT CP HARTFORD, CT	32652.9	5,328,800	28701.4	4,724,167	28259.6	4,610,818
WTIC-TV D31 DT LIC HARTFORD, CT	0.0	0	0.0	0		
WFXT D31 DT LIC BOSTON, MA	324.9	73,618	324.9	73,618	(1.56%)(See Note 4)	
WSKA D30 DT LIC CORNING, NY	0.0	0	0.0	0		
WNCE-CD D31 DC LIC GLENS FALLS, NY	0.0	0	0.0	0		
WPXN-TV D31 DT LIC NEW YORK, NY	97.0	39,420	97.0	39,420	(0.83%)(See Note 4)	
WUTR D30 DT LIC UTICA, NY	20.0	311	20.0	311	(0.01%)	

Notes:

1. Individual record excluded: WUTF-TV D29 DT LIC WORCESTER, MA BLANK0000001072 (WUTF-TV will have completed its Phase 4 transition by August 2, 2019.)
2. Individual record excluded: WFUT-DT D30 DT LIC NEWARK, NJ BLANK0000037827 (WFUT-DT will have completed its Phase 4 transition by August 2, 2019.)
3. Individual record excluded: WBZ-TV D30 DT LIC BOSTON, MA BLCDT20060420ABG (WBZ-TV will have completed its Phase 4 transition by August 2, 2019.)
4. Stations WFXT and WPXN-TV are both in transition Phase 4. Therefore, both WFXT and WPXN-TV will have completed their respective transitions by August 2, 2019. However, since the predicted pairwise interference received from either of stations WFXT and WPXN-TV is less than the temporary permissible transitional 2% level, these stations present no dependencies on the WEDH early transition to Channel 30.