

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Digital Television Station Construction Permit

prepared for

CBS LITV LLC

WLNY-TV Riverhead, NY
Facility ID 73206
Ch. 29 790 kW 194 m

CBS LITV LLC (“*CBS*”) is the licensee of digital television station WLNY-TV, Channel 47, Facility ID 73206, Riverhead, NY. *CBS* herein proposes construction of the WLNY-TV post-auction facility on Channel 29. Reassignment of WLNY-TV from Channel 47 to Channel 29 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice* (“*CCRPN*”, DA 17-317, released April 13, 2017).

The proposed Channel 29 operation will employ a new antenna system to be top-mounted on the WLNY-TV tower in lieu of the existing Channel 47 antenna. The tower structure corresponds to FCC Antenna Structure Registration number 1006717. No change to the overall structure height will result.

The proposed antenna is a circularly polarized directional Jampro model JAM-16/D29 TCCP. *CBS* proposes to operate WLNY-TV with an effective radiated power (“ERP”) of 790 kW at 194 meters antenna height above average terrain (“HAAT”). The directional antenna’s azimuthal pattern is supplied in Figure 1 and the elevation pattern is depicted in Figure 2.

A map is supplied as Figure 3 which depicts the standard predicted coverage contours. This map includes the location of Riverhead, WLNY-TV’s principal community. As demonstrated thereon, the proposed facility complies with §73.625(a)(1) as the entire principal community will be encompassed by the 48 dB μ contour.

The proposed noise limited service contour (“NLSC”) extends beyond that of the *CCRPN* parameters of 703 kW ERP and 193 meters HAAT.¹ The proposal complies with §73.3700(b)(1)(ii) as described in the following.

WLNY-TV’s reassignment facility experiences a loss of interference-free coverage area within the NLSC when compared to that of its baseline² pre-auction facility. Detailed analysis shows that an area of 24.3 square kilometers having a population of 4,426 persons which received interference-free service from the baseline WLNY-TV facility does not receive interference-free service from the reassignment parameters. A map is supplied as Figure 4 which shows the interference-free results for the *CCRPN* parameters and the baseline interference-free individual cells that are lost at reassignment. Therefore, WLNY-TV qualifies under §73.3700(b)(1)(ii)(A) for a contour extension due the loss of interference-free coverage area resulting from the new channel assignment.

Interference study per FCC OET Bulletin 69³ shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby post-auction full service and Class A television stations and reassignments as required by §73.616. The interference study output report is provided as Table 1. This satisfies §73.3700(b)(1)(ii)(C) for the proposed NLSC extension.

The amount of NLSC extension does not exceed one percent in any direction. Figure 5 supplies a coverage contour comparison of the proposed WLNY-TV facility to the reassignment facility’s contour and a one percent extension distance of the reassignment facility’s contour. Here, the contour level is adjusted with the dipole factor to match FCC application processing.

¹There is no change in antenna height above ground and above mean sea level. The proposed WLNY-TV antenna HAAT is recalculated to be 193.9 meters, based on FCC 30 meter terrain data developed by OET.

²“*Final Digital Television Baseline Coverage Area And Population Served Information Related To Incentive Auction Repacking*,” DA 15-1296, Public Notice, Released November 12, 2015.

³FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). This analysis employed the FCC’s current “TVStudy” software with the default application processing template settings, 2 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC’s implementation of TVStudy show excellent correlation.

Table 1’s results also demonstrate that the proposed contour is within the baseline contour plus one percent. Therefore the proposed contour extension complies with §73.3700(b)(1)(ii)(B).

The proposed WLNY-TV facility’s terrain-limited population provides a 107.0 percent match of the *CCRPN* baseline facility, as detailed in the following table. The OET Bulletin 69 report summary in Table 1 also concludes that the proposed service area population is more than 95 percent of the baseline population.

Terrain Limited Population - Match of Reassignment

Population Summary (2010 Census) OET Bulletin 69: TVStudy	Reassignment Parameters	Proposed
Within Noise Limited Contour	5,983,123	6,412,268
Not affected by terrain losses	5,960,248	6,377,199
Match of Reassignment	---	107.00%

The nearest FCC monitoring station is 385 km distant at Laurel, MD. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with “quiet” zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 kilometers of the site. The site location is beyond the border areas requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC’s OET Bulletin Number 65. Based on OET-65 equation (10), and considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 20 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 15.1 $\mu\text{W}/\text{cm}^2$, which is 4.0 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal’s contribution is less than five percent.

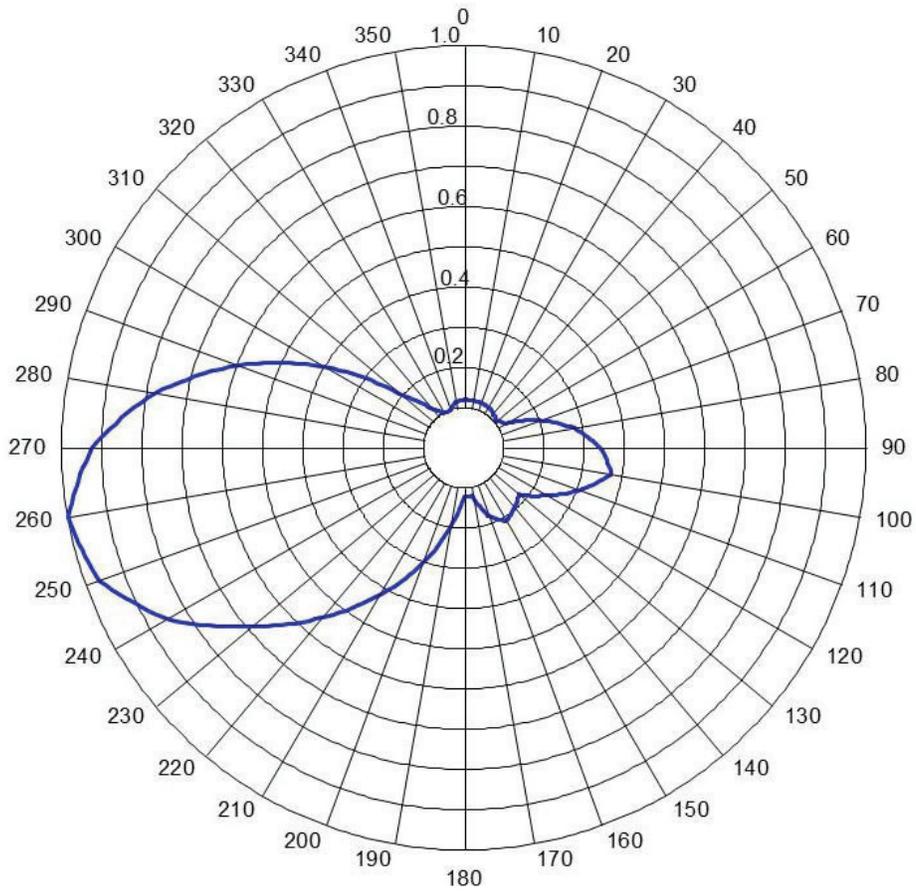
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Antenna Elevation Pattern
Figure 3	Proposed Coverage Contours
Figure 4	Reassignment Service Loss
Figure 5	Proposed Contour Expansion
Table 1	OET Bulletin 69 Interference Study
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E. July 9, 2017
207 Old Dominion Road Yorktown, VA 23692 703-650-9600



Values in Relative Field

Site: WLNY
Channel: D29

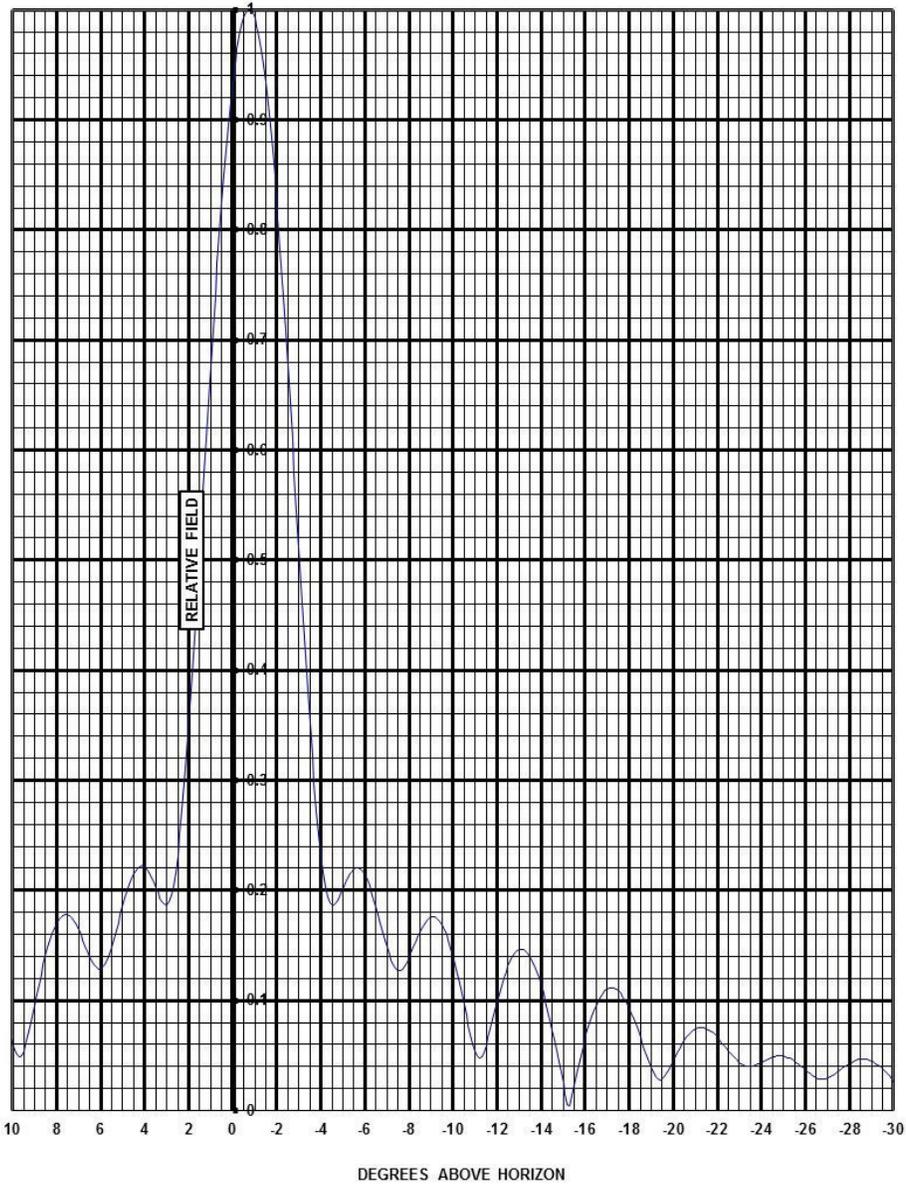
Model: JAM-16/D29 TCCP
Description: UHF Slot Antenna
Notes: Circularly Polarized



Figure 1
Antenna Azimuthal Pattern
WLNY-TV Riverhead, NY
Facility ID 73206
Ch. 29 790 kW 194 m

prepared for
CBS LITV LLC

July, 2017



Site: WLNY-TV
Channel: 29

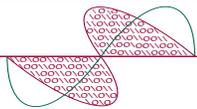
Model: JSM-16 / 29 TCCP
Description: UHF Slot Antenna
-0.75° Beam Tilt, 18% Null Fill



Figure 2
Antenna Elevation Pattern
WLNY-TV Riverhead, NY
Facility ID 73206
Ch. 29 790 kW 194 m

prepared for
CBS LITV LLC

July, 2017



Chesapeake RF Consultants, LLC
 Radiofrequency Consulting Engineers
 Digital Television and Radio

Figure 3
Proposed Coverage Contours
WLNY-TV Riverhead, NY
Facility ID 73206
Ch. 29 790 kW 194 m

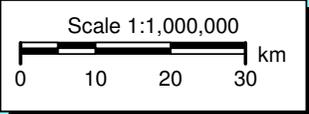
prepared for
CBS LITV LLC

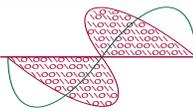
July, 2017



Proposed WLNY-TV
 48 dBμ
 (Principal Community)
 41 dBμ
 (Noise Limited Service Contour)

Riverhead, NY



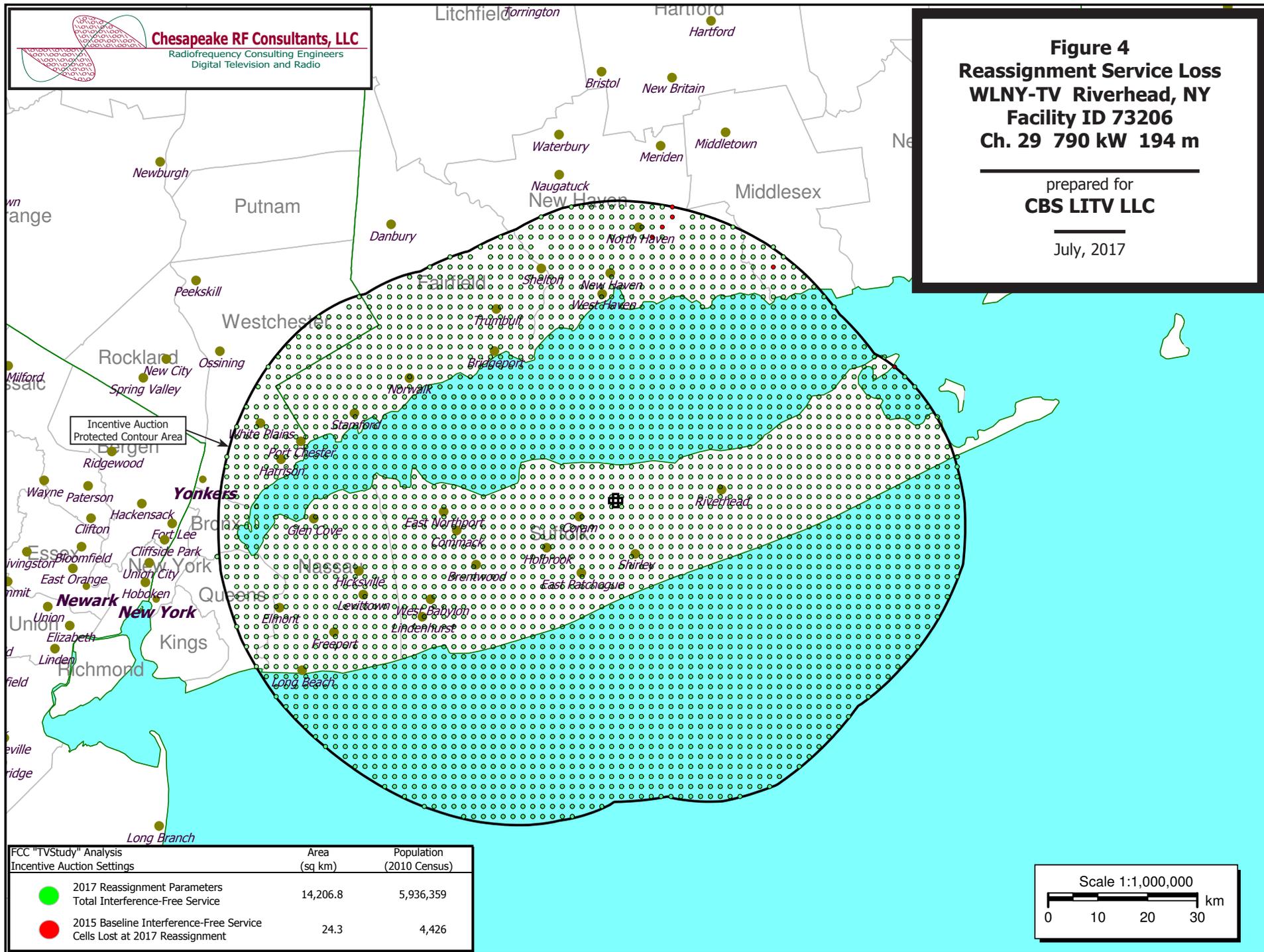


Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 4
Reassignment Service Loss
WLNY-TV Riverhead, NY
Facility ID 73206
Ch. 29 790 kW 194 m

prepared for
CBS LITV LLC

July, 2017



FCC "TVStudy" Analysis Incentive Auction Settings	Area (sq km)	Population (2010 Census)
2017 Reassignment Parameters Total Interference-Free Service	14,206.8	5,936,359
2015 Baseline Interference-Free Service Cells Lost at 2017 Reassignment	24.3	4,426

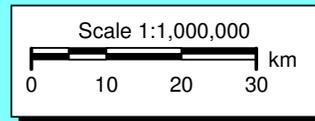


Table 1 WLNY-TV OET Bulletin 69 Interference Study
 (page 1 of 4 – condensed to show first scenarios only)



tvstudy v2.2.2

Database: localhost, Study: WLNY-TV 790KW, Model: Longley-Rice
 Start: 2017.07.08 20:20:23

Study created: 2017.07.08 20:20:14

Study build station data: LMS TV 2017-07-08 LMSTV

Proposal: WLNY-TV D29 DT APP RIVERHEAD, NY
 File number: WLNY-TV 790KW
 Facility ID: 73206
 Station data: User record
 Record ID: 815
 Country: U.S.
 Zone: I

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WHPX-TV	D28	DT	BL	NEW LONDON, CT	DTVBL51980	83.3 km
WEPT-CD	D28	DC	BL	NEWBURGH, NY	DTVBL30429	164.8
WCAU	D28	DT	APP	PHILADELPHIA, PA	BLANK0000026896	218.1
WCAU	D28	DT	BL	PHILADELPHIA, PA	DTVBL63153	218.1
WWPB	D29	DT	CP	HAGERSTOWN, MD	BLANK0000025180	450.5
WWPB	D29	DT	BL	HAGERSTOWN, MD	DTVBL65943	450.5
WMDT	D29	DT	BL	SALISBURY, MD	DTVBL16455	359.2
WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	256.6
WNEU	D29	DT	BL	MERRIMACK, NH	DTVBL51864	256.6
WKTU	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	296.7
WQMY	D29	DT	LIC	WILLIAMSPORT, PA	BLCDT20090223ABU	354.0
WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000025283	89.9
WEDH	D30	DT	BL	HARTFORD, CT	DTVBL13602	89.9
KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000024874	218.5
KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	218.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D29
 Latitude: 40 53 50.30 N (NAD83)
 Longitude: 72 54 54.20 W
 Height AMSL: 216.4 m
 HAAT: 193.9 m
 Peak ERP: 790 kW
 Antenna: JAM-16-D29 TCCP 20170707 0.0 deg

40.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	11.4 kW	203.1 m	60.9 km
45.0	9.56	195.1	59.5
90.0	92.4	196.3	70.8
135.0	27.8	198.7	65.0
180.0	11.8	202.7	61.0
225.0	304	183.1	76.0
270.0	677	179.2	80.3
315.0	22.4	193.1	63.6

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

Distance to Canadian border: 440.7 km

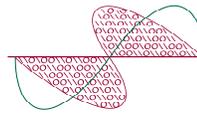
Distance to Mexican border: 2761.0 km

Conditions at FCC monitoring station: Laurel MD
 Bearing: 241.2 degrees Distance: 384.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Table 1 WLNY-TV OET Bulletin 69 Interference Study
 (page 2 of 4 – condensed to show first scenarios only)



Chesapeake RF Consultants, LLC
 Radiofrequency Consulting Engineers
 Digital Television and Radio

Bearing: 279.0 degrees Distance: 2715.5 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.

 Interference to DTVBL51980 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHPX-TV	D28	DT	BL	NEW LONDON, CT	DTVBL51980	
Undesireds:	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	83.3 km
	WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	83.3
	WUTF-DT	D27	DT	LIC	MARLBOROUGH, MA	BLCDT20120821ABC	122.2
	WNYW	D27	DT	BL	NEW YORK, NY	DTVBL22206	167.2
	WEPT-CD	D28	DC	BL	NEWBURGH, NY	DTVBL30429	174.3
	WWDG-CD	D28	DC	CP	UTICA, NY	BLANK0000001360	311.0
	WCAU	D28	DT	APP	PHILADELPHIA, PA	BLANK0000026896	298.1
	WVTB	D28	DT	BL	ST. JOHNSBURY, VT	DTVBL69940	351.4
	WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	181.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
25200.4	4,852,560	24650.3	4,684,221	24125.2
		4,558,169	4,558,050	0.02
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WLNY-TV D29 DT BL	151.4	23,662	123.5
WLNY-TV D29 DT APP	155.4	23,781	127.5
WUTF-DT D27 DT LIC	188.3	70,291	188.3
WNYW D27 DT BL	4.1	782	4.1
WEPT-CD D28 DC BL	165.2	28,866	145.1
WCAU D28 DT APP	64.2	8,519	20.2

 Interference to DTVBL30429 BL, scenario 1
 Proposal causes no interference.

 Interference to BLANK0000026896 APP, scenario 1
 Proposal causes no interference.

 Interference to DTVBL63153 BL, scenario 1
 Proposal causes no interference.

 Interference to BLANK0000025180 CP, scenario 1
 Proposal causes no interference.

 Interference to DTVBL65943 BL, scenario 1
 Proposal causes no interference.

 Interference to DTVBL16455 BL, scenario 1
 Proposal causes no interference.

 Interference to BLANK0000026884 APP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	
Undesireds:	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	256.6 km
	WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	256.6
	WKTV	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	272.6

Table 1 WLNY-TV OET Bulletin 69 Interference Study
 (page 3 of 4 – condensed to show first scenarios only)



Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
16155.6 3,508,833	14707.1 3,391,747	14595.3 3,384,730	14595.3 3,384,730	0.00 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
WLNY-TV D29 DT BL	4.0 181	0.0 0		
WLNY-TV D29 DT APP	4.0 181		0.0 0	
WKTU D29 DT LIC	111.9 7,017	107.8 6,836	107.8 6,836	

 Interference to DTVBL51864 BL, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WNEU	D29	DT	BL	MERRIMACK, NH	DTVBL51864	
Undesireds: WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	256.6 km
WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	256.6
WKTU	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	272.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
16043.9 3,471,700	14627.2 3,356,289	14535.3 3,350,013	14535.3 3,350,013	0.00 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
WLNY-TV D29 DT BL	4.0 181	0.0 0		
WLNY-TV D29 DT APP	4.0 181		0.0 0	
WKTU D29 DT LIC	91.9 6,276	87.9 6,095	87.9 6,095	

 Interference to BLCDT20060630ACL LIC, scenario 1
 Proposal causes no interference.

 Interference to BLCDT20090223ABU LIC, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQMY	D29	DT	LIC	WILLIAMSPORT, PA	BLCDT20090223ABU	
Undesireds: WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	354.0 km
WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	354.0
WWPB	D29	DT	CP	HAGERSTOWN, MD	BLANK0000025180	186.6
WMDT	D29	DT	BL	SALISBURY, MD	DTVBL16455	322.4
WBGT-CD	D29	DC	APP	ROCHESTER, NY	BLANK0000026215	223.6
WKTU	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	277.4
WNEO	D29	DT	BL	ALLIANCE, OH	DTVBL49439	319.4
WWAT-CD	D29	DC	BL	CHARLEROI, PA	DTVBL257	266.6
WYDC	D30	DT	APP	CORNING, NY	BLANK0000026202	104.7

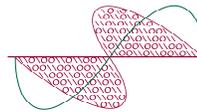
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
13077.4 410,269	9677.6 254,586	9411.9 252,980	9411.9 252,980	0.00 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
WLNY-TV D29 DT BL	4.1 47	4.1 47		
WLNY-TV D29 DT APP	4.1 47		4.1 47	
WWPB D29 DT CP	185.2 1,231	140.9 968	140.9 968	
WKTU D29 DT LIC	88.8 579	48.5 316	48.5 316	
WNEO D29 DT BL	32.0 12	28.1 12	28.1 12	

 Interference to BLANK0000025283 CP, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000025283	
Undesireds: WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9 km
WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	89.9
WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	175.2
WYDC	D30	DT	APP	CORNING, NY	BLANK0000026202	354.4
WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000024874	274.1
WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
WNCE-CD	D31	DC	LIC	GLENS FALLS, NY	BLDTA20100812ABN	191.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
31028.8 5,031,424	27373.8 4,534,744	26879.0 4,452,013	26870.9 4,449,286	0.03 0.06

Table 1 WLNY-TV OET Bulletin 69 Interference Study
 (page 4 of 4 – condensed to show first scenarios only)



Undesired		Total IX	Unique IX, before	Unique IX, after
WLNY-TV D29 DT BL	84.2	28,594	39.8	14,702
WLNY-TV D29 DT APP	96.2	31,321		47.8
WUTR D30 DT LIC	16.0	126	12.0	38
KYW-TV D30 DT CP	334.6	56,919	294.2	44,168
WVIT D31 DT BL	108.4	11,072	100.4	9,843

 Interference to DTVBL13602 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	BL	HARTFORD, CT	DTVBL13602	
Undesireds:	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9 km
	WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	89.9
	WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	175.2
	WYDC	D30	DT	APP	CORNING, NY	BLANK0000026202	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000024874	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WNCE-CD	D31	DC	LIC	GLENS FALLS, NY	BLDTA20100812ABN	191.4
	Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
	30992.6	5,030,270	27333.7	4,533,203	26830.9	4,449,460	26826.8
							4,448,632
							0.02
							0.02

Undesired		Total IX	Unique IX, before	Unique IX, after
WLNY-TV D29 DT BL	84.1	29,264	43.8	16,601
WLNY-TV D29 DT APP	88.2	30,092		47.8
WUTR D30 DT LIC	20.0	179	16.0	91
KYW-TV D30 DT CP	338.6	56,959	294.2	44,208
WVIT D31 DT BL	104.4	10,092	104.4	10,092

 Interference to BLANK0000024874 CP, scenario 1
 Proposal causes no interference.

 Interference to DTVBL25453 BL, scenario 1
 Proposal causes no interference.

 Interference to proposal, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WLNY-TV	D29	DT	APP	RIVERHEAD, NY	WLNY-TV 790KW	
Undesireds:	WHPX-TV	D28	DT	BL	NEW LONDON, CT	DTVBL51980	83.3 km
	WMDT	D29	DT	BL	SALISBURY, MD	DTVBL16455	359.2
	WNEU	D29	DT	APP	MERRIMACK, NH	BLANK0000026884	256.6
	WKTU	D29	DT	LIC	UTICA, NY	BLCDT20060630ACL	296.7
	WQMY	D29	DT	LIC	WILLIAMSPORT, PA	BLCDT20090223ABU	354.0
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000025283	89.9
	Service area	Terrain-limited	IX-free	Percent IX			
	14508.2	6,412,268	14472.0	6,377,199	14423.5	6,367,739	0.33
							0.15
Undesired		Total IX	Unique IX	Prct Unique IX			
WHPX-TV D28 DT BL	8.0	1,399	8.0	1,399	0.06	0.02	
WKTU D29 DT LIC	16.2	1,878	12.1	1,855	0.08	0.03	
WEDH D30 DT CP	28.3	6,206	24.3	6,183	0.17	0.10	

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	73206
	State	New York
	City	RIVERHEAD
	DTV Channel	29
Facility Type	Facility Type	Commercial
	Station Type	Main
Zone	Zone	1

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1006717
Coordinates (NAD83)	Latitude	40° 53' 50.3" N+
	Longitude	072° 54' 54.2" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	195.6 meters
	Support Structure Height	183.9 meters
	Ground Elevation (AMSL)	27.4 meters
Antenna Data	Height of Radiation Center Above Ground Level	189 meters
	Height of Radiation Center Above Average Terrain	193.9 meters
	Height of Radiation Center Above Mean Sea Level	216.4 meters
	Effective Radiated Power	790 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	JAM
	Model	JAM-16/D29 TCCP
	Rotation	0 degrees
	Electrical Beam Tilt	0.75
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Circular
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	V _A (Authorized Value)						
0	0.120	90	0.342	180	0.122	270	0.926
10	0.120	100	0.373	190	0.203	280	0.781
20	0.120	110	0.307	200	0.309	290	0.598
30	0.119	120	0.237	210	0.424	300	0.403
40	0.114	130	0.180	220	0.551	310	0.209
50	0.106	140	0.195	230	0.690	320	0.128
60	0.120	150	0.211	240	0.852	330	0.100
70	0.200	160	0.179	250	0.965	340	0.098
80	0.280	170	0.121	260	1.000	350	0.115

Additional Azimuths

Degree	V _A
--------	----------------

**Construction
Permit
Certifications**

Section	Question	Response
<p>Post-Incentive Auction Expedited Processing</p>	<p>It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice.</p>	<p>Yes</p>
	<p>It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice.</p>	<p>No</p>
	<p>It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice.</p>	<p>Yes</p>
	<p>The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.</p>	<p>Yes</p>
<p>Environmental Effect</p>	<p>Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.)</p>	<p>No</p>
<p>Broadcast Facility</p>	<p>The proposed facility complies with the applicable engineering standards and assignment requirements of 47 C.F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125.</p>	<p>Yes</p>