

**WCRN-LD MINOR MODIFICATION TO CONSTRUCTION PERMIT FOR CH 30 15 kW DIRECTIONAL
FACILITY ID 9154 FILE NUMBER 0000053832
PROVIDENCE, RHODE ISLAND
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
APRIL 2019**

WCRN-LD is authorized for operation on CH 30. This application proposes a minor change to those CP facilities, 0000053832. The proposed facility qualifies as a minor change as there is no change in channel of operation, there is no change in site location or ERP and thus believed to be in compliance with 74.787 (b) (iii). FCC TVStudy software was utilized to determine the interference levels associated with the proposed WCRN-LD facility and they are pasted in below.

The applicant proposes herein to move to remain at FCC Tower Registration ASR 1002111. The proposed antenna system consists of a PSI model PSILP8CRN-30-CP antenna with a cardioid pattern oriented at 85 degrees True. The antenna is a UHF slot antenna, circularly polarized with 1.0 degree of beam tilt. The maximum relative field in the elevation pattern across the depression angle range of 30 to 90 degrees is less than 0.2 with a radiation center 143 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.20 has been used to calculate the power density 2 meters above ground. The maximum power density is 2.01 uw/cm squared calculated for an ERP OF 15,000 watts H. polarization and 15,000 watts V. polarization. This value is 0.53% of the Public Exposure MPE per section 1.1310. Based on this analysis it is believed that the proposed facility follows OET-65 Guidelines.

The applicant will reduce power or cease transmission as required to meet FCC OET-65 Guidelines.

The proposed tower is existing along with the transmitter building, access road and power.

Below is a copy of the TVStudy interference analysis for CH 26 based on the facilities described above with the antenna orientation of 200 degrees true. As can be seen at the conclusion of the report there is no impermissible ISIX interference. **It is believed that the proposed facility provides full protection to other television facilities based on the following:**

TVStudy Report: Proposed facility

Study created: 2019.03.15 18:55:06

Study build station data: LMS TV 2019-03-10

Proposal: WCRN-LD D30+ LD CP PROVIDENCE, RI
 File number: BLANK0000053832
 Facility ID: 9154
 Station data: User record
 Record ID: 166
 Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WTXX-LD	D29	LD	APP	NEW HAVEN, CT	BLANK0000053148	133.7 km
No	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	23.9
No	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	193.4
Yes	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	139.5
No	WCKD-LP	N30	TX	LIC	BANGOR, ME	BLTT20140930AJL	362.7
No	WNJJ-LD	D30	LD	APP	PATERSON, NJ	BLANK0000054813	290.9
No	W30AZ-D	D30	LD	LIC	ELLENVILLE, NY	BLDTL20141229AGO	290.1
No	WYXN-LD	D30	LD	APP	NEW YORK, NY	BLANK0000054668	289.5
No	WNYN-LD	D30	LD	APP	NEW YORK, NY	BLANK0000048135	271.3
No	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	343.1
No	W43CO-D	D30	LD	CP	KINGSTON, PA	BLANK0000054197	396.1
No	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	406.3
No	W30DM-D	D30	LD	LIC	MANCHESTER, ETC., VT	BLDTT20111118ARB	194.7
No	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	139.6
No	WCSH	D31	DT	CP	PORTLAND, ME	BLANK0000034813	200.4
No	WMPX-LP	N33z	TX	LIC	DENNIS, MA	BLTTL20041202ACZ	86.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30+
Mask: Full Service
Latitude: 42 5 44.10 N (NAD83)
Longitude: 71 13 48.60 W
Height AMSL: 260.9 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: CUSTOM ENVELOPE 10.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

50.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.930 kW	198.5 m	36.1 km
45.0	12.5	208.6	50.2
90.0	15.0	191.6	50.1
135.0	9.54	212.8	49.0
180.0	0.254	208.5	29.9
225.0	0.007	175.9	12.2
270.0	0.000	182.7	2.1
315.0	0.007	209.8	13.3

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 199 m

Distance to Canadian border: 325.1 km

Distance to Mexican border: 2948.5 km

Conditions at FCC monitoring station: Belfast ME

Bearing: 32.9 degrees Distance: 313.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 277.2 degrees Distance: 2835.7 km

Study cell size: 0.50 km
Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

---- Below is IX received by proposal BLANK0000053832 ----

Proposal receives 27.99% interference from scenario 1
No IX check failures found.

Tvix

tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1, Study: BLANK0000053832 #253, Model: Longley-Rice
Start: 2019.03.15 18:55:06

Study created: 2019.03.15 18:55:06

Study build station data: LMS TV 2019-03-10

 Proposal: WCRN-LD D30+ LD CP PROVIDENCE, RI
 File number: BLANK0000053832
 Facility ID: 9154
Station data: User record
 Record ID: 166
 Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WTXX-LD	D29	LD	APP	NEW HAVEN, CT	BLANK0000053148	133.7 km
No	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	23.9

No	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	193.4
Yes	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	139.5
No	WCKD-LP	N30	TX	LIC	BANGOR, ME	BLTT20140930AJL	362.7
No	WNJJ-LD	D30	LD	APP	PATERSON, NJ	BLANK0000054813	290.9
No	W30AZ-D	D30	LD	LIC	ELLENVILLE, NY	BLDTL20141229AGO	290.1
No	WYXN-LD	D30	LD	APP	NEW YORK, NY	BLANK0000054668	289.5
No	WNYN-LD	D30	LD	APP	NEW YORK, NY	BLANK0000048135	271.3
No	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	343.1
No	W43CO-D	D30	LD	CP	KINGSTON, PA	BLANK0000054197	396.1
No	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	406.3
No	W30DM-D	D30	LD	LIC	MANCHESTER, ETC., VT	BLDTT20111118ARB	194.7
No	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	139.6
No	WCSH	D31	DT	CP	PORTLAND, ME	BLANK0000034813	200.4
No	WMPX-LP	N33z	TX	LIC	DENNIS, MA	BLTTL20041202ACZ	86.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30+
Mask: Full Service
Latitude: 42 5 44.10 N (NAD83)
Longitude: 71 13 48.60 W
Height AMSL: 260.9 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: CUSTOM ENVELOPE 10.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

50.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.930 kW	198.5 m	36.1 km
45.0	12.5	208.6	50.2
90.0	15.0	191.6	50.1
135.0	9.54	212.8	49.0
180.0	0.254	208.5	29.9
225.0	0.007	175.9	12.2
270.0	0.000	182.7	2.1
315.0	0.007	209.8	13.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 199 m

Distance to Canadian border: 325.1 km

Distance to Mexican border: 2948.5 km

Conditions at FCC monitoring station: Belfast ME
Bearing: 32.9 degrees Distance: 313.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 277.2 degrees Distance: 2835.7 km

Study cell size: 0.50 km
Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLANK0000034543 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	32652.9	5,333,780	29740.2	4,855,509	29284.4	4,727,410	29221.0 4,704,327 0.22 0.49
Undesired				Total IX	Unique IX, before		Unique IX, after
WCRN-LD D30+ LD CP				68.6	23,734	63.4	23,083
WNEU D29 DT CP				51.5	20,289	51.5	20,289
WLNY-TV D29 DT CP				268.5	74,529	176.8	47,549
WUTR D30 DT LIC				5.7	124	5.2	84
KYW-TV D30 DT CP				206.4	53,959	105.4	23,244

WVIT D31 DT CP	2.0	1,208	1.7	863	1.7	863
WPXN-TV D31 DT LIC	88.3	31,487	6.9	1,396	6.9	1,396

Interference to BLANK0000034543 CP scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
Service area		Terrain-limited		IX-free, before		IX-free, after	
32652.9 5,333,780		29740.2 4,855,509		29335.9 4,747,699		29267.3 4,723,965	
						Percent New IX	
						0.23 0.50	

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	68.6 23,734	
WLNY-TV D29 DT CP	268.5 74,529	176.8 47,549	176.8 47,549
WUTR D30 DT LIC	5.7 124	5.2 84	5.2 84
KYW-TV D30 DT CP	206.4 53,959	105.4 23,244	105.4 23,244
WVIT D31 DT CP	2.0 1,208	1.7 863	1.7 863
WPXN-TV D31 DT LIC	88.3 31,487	6.9 1,396	6.9 1,396

Interference to BLANK0000034543 CP scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
Service area		Terrain-limited		IX-free, before		IX-free, after	
32652.9 5,333,780		29740.2 4,855,509		29285.6 4,728,273		29222.3 4,705,190	
						Percent New IX	
						0.22 0.49	

Undesired			Total IX	Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP	68.6		23,734			63.4	23,083
WNEU D29 DT CP	51.5		20,289	51.5	20,289	46.3	19,638
WLNY-TV D29 DT CP	268.5		74,529	176.8	47,549	176.8	47,549
WUTR D30 DT LIC	5.7		124	5.2	84	5.2	84
KYW-TV D30 DT CP	206.4		53,959	105.4	23,244	105.4	23,244
WVIT D31 DT BL	0.5		0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3		31,487	6.9	1,396	6.9	1,396

Interference to BLANK0000034543 CP scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
Service area		Terrain-limited		IX-free, before		IX-free, after	
32652.9	5,333,780	29740.2	4,855,509	29337.1	4,748,562	29268.5	4,724,828
						Percent New IX	0.23 0.50

Undesired			Total IX	Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP	68.6		23,734			68.6	23,734
WLNY-TV D29 DT CP	268.5		74,529	176.8	47,549	176.8	47,549
WUTR D30 DT LIC	5.7		124	5.2	84	5.2	84
KYW-TV D30 DT CP	206.4		53,959	105.4	23,244	105.4	23,244
WVIT D31 DT BL	0.5		0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3		31,487	6.9	1,396	6.9	1,396

Interference to BLANK0000034543 CP scenario 5

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4

WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
32652.9 5,333,780	29740.2 4,855,509	29369.2 4,747,585	29305.8 4,724,502	0.22 0.49

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	63.4 23,083	
WNEU D29 DT CP	51.5 20,289	46.3 19,638	
WLNY-TV D29 DT BL	125.6 39,041	92.0 27,374	
WUTR D30 DT LIC	5.7 124	5.2 84	
KYW-TV D30 DT CP	206.4 53,959	116.4 25,096	
WVIT D31 DT CP	2.0 1,208	1.7 863	
WPXN-TV D31 DT LIC	88.3 31,487	12.5 3,573	

Interference to BLANK0000034543 CP scenario 6

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
32652.9 5,333,780	29740.2 4,855,509	29420.7 4,767,874	29352.1 4,744,140	0.23 0.50

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	68.6 23,734	
WLNY-TV D29 DT BL	125.6 39,041	92.0 27,374	
WUTR D30 DT LIC	5.7 124	5.2 84	
KYW-TV D30 DT CP	206.4 53,959	116.4 25,096	
WVIT D31 DT CP	2.0 1,208	1.7 863	
WPXN-TV D31 DT LIC	88.3 31,487	12.5 3,573	

Interference to BLANK0000034543 CP scenario 7

Desired:	Call WEDH	Chan D30	Svc DT	Status CP	City, State HARTFORD, CT	File Number BLANK0000034543	Distance
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
	Service area				Terrain-limited		
	32652.9	5,333,780	29740.2	4,855,509	IX-free, before 29370.4	IX-free, after 4,725,365	Percent New IX 0.22 0.49

Undesired			Total IX	Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP	68.6		23,734			63.4	23,083
WNEU D29 DT CP	51.5		20,289	51.5	20,289	46.3	19,638
WLNY-TV D29 DT BL	125.6		39,041	92.0	27,374	92.0	27,374
WUTR D30 DT LIC	5.7		124	5.2	84	5.2	84
KYW-TV D30 DT CP	206.4		53,959	116.6	25,441	116.6	25,441
WVIT D31 DT BL	0.5		0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3		31,487	12.5	3,573	12.5	3,573

Interference to BLANK0000034543 CP scenario 8

Desired:	Call WEDH	Chan D30	Svc DT	Status CP	City, State HARTFORD, CT	File Number BLANK0000034543	Distance
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	CP	PHILADELPHIA, PA	BLANK0000033618	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
	Service area				Terrain-limited		
	32652.9	5,333,780	29740.2	4,855,509	IX-free, before 29421.9	IX-free, after 4,745,003	Percent New IX 0.23 0.50

Undesired			Total IX	Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP	68.6		23,734			68.6	23,734
WLNY-TV D29 DT BL	125.6		39,041	92.0	27,374	92.0	27,374
WUTR D30 DT LIC	5.7		124	5.2	84	5.2	84

KYW-TV D30 DT CP	206.4	53,959	116.6	25,441	116.6	25,441
WVIT D31 DT BL	0.5	0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3	31,487	12.5	3,573	12.5	3,573

Interference to BLANK0000034543 CP scenario 9

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	32652.9	5,333,780	29740.2	4,855,509	29295.4	4,732,041	0.22 0.49

Undesired		Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6	23,734	63.4	23,083
WNEU D29 DT CP	51.5	20,289	46.3	19,638
WLNY-TV D29 DT CP	268.5	74,529	186.9	48,011
WUTR D30 DT LIC	5.7	124	5.0	84
KYW-TV D30 DT BL	179.9	46,950	94.4	18,613
WVIT D31 DT CP	2.0	1,208	1.7	863
WPXN-TV D31 DT LIC	88.3	31,487	9.6	1,641

Interference to BLANK0000034543 CP scenario 10

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
32652.9	5,333,780	29740.2	4,855,509	29346.9	4,752,330	29278.4	4,728,596	0.23 0.50

Undesired		Total IX		Unique IX, before		Unique IX, after
WCRN-LD D30+ LD CP	68.6	23,734			68.6	23,734
WLNY-TV D29 DT CP	268.5	74,529	186.9	48,011	186.9	48,011
WUTR D30 DT LIC	5.7	124	5.0	84	5.0	84
KYW-TV D30 DT BL	179.9	46,950	94.4	18,613	94.4	18,613
WVIT D31 DT CP	2.0	1,208	1.7	863	1.7	863
WPXN-TV D31 DT LIC	88.3	31,487	9.6	1,641	9.6	1,641

Interference to BLANK0000034543 CP scenario 11

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
32652.9	5,333,780	29740.2	4,855,509	29296.7	4,732,904	29233.3	4,709,821	0.22 0.49

Undesired		Total IX		Unique IX, before		Unique IX, after
WCRN-LD D30+ LD CP	68.6	23,734			63.4	23,083
WNEU D29 DT CP	51.5	20,289	51.5	20,289	46.3	19,638
WLNY-TV D29 DT CP	268.5	74,529	186.9	48,011	186.9	48,011
WUTR D30 DT LIC	5.7	124	5.0	84	5.0	84
KYW-TV D30 DT BL	179.9	46,950	94.4	18,613	94.4	18,613
WVIT D31 DT BL	0.5	0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3	31,487	9.6	1,641	9.6	1,641

Interference to BLANK0000034543 CP scenario 12

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km

WLNY-TV	D29	DT	CP	RIVERHEAD, NY	BLANK0000034023	89.9
WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
WUTR	D30	DT	LIC	UTICA, NY	BLCDDT20040217ADC	250.3
KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
32652.9 5,333,780	29740.2 4,855,509	29348.2 4,753,193	29279.6 4,729,459	0.23 0.50

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	68.6 23,734	
WLNY-TV D29 DT CP	268.5 74,529	186.9 48,011	186.9 48,011
WUTR D30 DT LIC	5.7 124	5.0 84	5.0 84
KYW-TV D30 DT BL	179.9 46,950	94.4 18,613	94.4 18,613
WVIT D31 DT BL	0.5 0	0.5 0	0.5 0
WPXN-TV D31 DT LIC	88.3 31,487	9.6 1,641	9.6 1,641

Interference to BLANK0000034543 CP scenario 13

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds: WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
WUTR	D30	DT	LIC	UTICA, NY	BLCDDT20040217ADC	250.3
KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
32652.9 5,333,780	29740.2 4,855,509	29386.5 4,752,600	29323.1 4,729,517	0.22 0.49

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	63.4 23,083	
WNEU D29 DT CP	51.5 20,289	46.3 19,638	46.3 19,638
WLNY-TV D29 DT BL	125.6 39,041	95.8 27,452	95.8 27,452
WUTR D30 DT LIC	5.7 124	5.0 84	5.0 84
KYW-TV D30 DT BL	179.9 46,950	99.0 20,081	99.0 20,081
WVIT D31 DT CP	2.0 1,208	1.7 863	1.7 863
WPXN-TV D31 DT LIC	88.3 31,487	18.3 5,903	18.3 5,903

Interference to BLANK0000034543 CP scenario 14

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	CP	NEW BRITAIN, CT	BLANK0000034341	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
32652.9 5,333,780		29740.2 4,855,509		29438.0 4,772,889		29369.4 4,749,155	0.23 0.50
Undesired		Total IX		Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP		68.6 23,734				68.6 23,734	
WLNY-TV D29 DT BL		125.6 39,041		95.8 27,452		95.8 27,452	
WUTR D30 DT LIC		5.7 124		5.0 84		5.0 84	
KYW-TV D30 DT BL		179.9 46,950		99.0 20,081		99.0 20,081	
WVIT D31 DT CP		2.0 1,208		1.7 863		1.7 863	
WPXN-TV D31 DT LIC		88.3 31,487		18.3 5,903		18.3 5,903	

Interference to BLANK0000034543 CP scenario 15

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	148.0
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
32652.9 5,333,780		29740.2 4,855,509		29387.7 4,753,463		29324.4 4,730,380	0.22 0.49
Undesired		Total IX		Unique IX, before		Unique IX, after	
WCRN-LD D30+ LD CP		68.6 23,734				63.4 23,083	

WNEU D29 DT CP	51.5	20,289	51.5	20,289	46.3	19,638
WLNY-TV D29 DT BL	125.6	39,041	95.8	27,452	95.8	27,452
WUTR D30 DT LIC	5.7	124	5.0	84	5.0	84
KYW-TV D30 DT BL	179.9	46,950	99.3	20,426	99.3	20,426
WVIT D31 DT BL	0.5	0	0.5	0	0.5	0
WPXN-TV D31 DT LIC	88.3	31,487	18.3	5,903	18.3	5,903

Interference to BLANK0000034543 CP scenario 16

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	
Undesireds:	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	139.5 km
	WLNY-TV	D29	DT	BL	RIVERHEAD, NY	DTVBL73206	89.9
	WYDC	D30	DT	CP	CORNING, NY	BLANK0000034651	354.4
	WUTR	D30	DT	LIC	UTICA, NY	BLCDT20040217ADC	250.3
	KYW-TV	D30	DT	BL	PHILADELPHIA, PA	DTVBL25453	274.1
	WVIT	D31	DT	BL	NEW BRITAIN, CT	DTVBL74170	0.3
	WPXN-TV	D31	DT	LIC	NEW YORK, NY	BLANK0000037694	147.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
32652.9 5,333,780	29740.2 4,855,509	29439.3 4,773,752	29370.7 4,750,018	0.23 0.50

Undesired	Total IX	Unique IX, before	Unique IX, after
WCRN-LD D30+ LD CP	68.6 23,734	68.6 23,734	
WLNY-TV D29 DT BL	125.6 39,041	95.8 27,452	95.8 27,452
WUTR D30 DT LIC	5.7 124	5.0 84	5.0 84
KYW-TV D30 DT BL	179.9 46,950	99.3 20,426	99.3 20,426
WVIT D31 DT BL	0.5 0	0.5 0	0.5 0
WPXN-TV D31 DT LIC	88.3 31,487	18.3 5,903	18.3 5,903

Interference to proposal scenario 1
27.99% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCRN-LD	D30+	LD	CP	PROVIDENCE, RI	BLANK0000053832	
Undesireds:	WNEU	D29	DT	CP	MERRIMACK, NH	BLANK0000034700	23.9 km
	WEDH	D30	DT	CP	HARTFORD, CT	BLANK0000034543	139.5

Service area	Terrain-limited	IX-free	Percent IX
3887.4 2,666,483	3866.6 2,643,851	3313.2 1,903,714	14.31 27.99

Undesired		Total IX		Unique IX	Prcnt Unique IX	
WNEU D29 DT CP	532.2	735,998	485.5	725,795	12.56	27.45
WEDH D30 DT CP	67.9	14,342	21.2	4,139	0.55	0.16

The foregoing was prepared on behalf of Tyche Media, LLC by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements she believes them to be true and correct.



Clarence M. Beverage
for Communications Technologies, Inc.
Marlton, New Jersey
April 17, 2019