



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
POST REPACK CONSTRUCTION PERMIT
WCWN - SCHENECTADY, NEW YORK
DTV - CH. 22 - 389 kW - 426 m HAAT**

Prepared for: WCWN LICENSEE, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

GENERAL

This office has been authorized by WCWN LICENSEE, LLC, licensee of WCWN, channel 43, facility ID number 73264, licensed to Schenectady, New York, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for construction permit, in accordance with the Incentive Auction Closing and Channel Reassignment Public Notice, DA 17-314, and the technical information provided in the confidential reassignment letter from the FCC announcing the substitution of DTV channel 22 for DTV channel 43 to be used by WCWN for its post-reassignment broadcasting.

NON-DIRECTIONAL ANTENNA

The applicant proposes to use WCWN's existing Dielectric model TUD-O5-12/60-1-B horizontally polarized omni-directional transmitting antenna with its center of radiation located at a height above ground of 139 meters, and a height above average terrain of 426 meters. The antenna manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 2.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (39.56 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Schenectady, New York.

ALLOCATION CONSIDERATIONS

Post-Transition DTV Considerations

A study was performed, using the FCC's software, tv_study, v. 2.2.2, to determine if the instant application for construction permit is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. The study also shows that WCWN's proposed service area is within the baseline plus 1%.

International DTV Considerations

The WCWN site is located 247.1 kilometers from the nearest point on the US-Canadian border. Note that two Canadian DTV facilities are listed in the study as "potentially affected" and are included in the interference analysis. The study results show that neither of the two is affected by the instant proposal. (See Appendix B)

BLANKETING AND INTERMODULATION INTERFERENCE

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WCWN site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

RADIO FREQUENCY IMPACT

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations, and for "uncontrolled" environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 200 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) for an "uncontrolled" environment, and is 1000 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) for a "controlled" environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF TV stations, is determined for an "uncontrolled" environment by dividing the operating frequency in MHz

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by 1.5, and is similarly determined for a “controlled” environment by dividing the operating frequency in MHZ by 0.3.

The predicted emissions of WCWN must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WCWN, which will operate on television Channel 22 (518-524 MHZ), the MPE is 347.3 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and $1,736.7 \mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WCWN facility will operate with a maximum ERP of 389 kW from an horizontally polarized non-directional transmitting antenna with a centerline height of 139 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WCWN facility is predicted to produce a power density at two meters above ground level of $62.30 \mu\text{W}/\text{cm}^2$, which is 17.94% of the FCC guideline value for an “uncontrolled” environment, and 3.59% of the FCC’s guideline value for “controlled” environments. There are five other full-power DTV stations and one FM station located at the WCWN site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 68.95% of the limit applicable to “uncontrolled” environments, and 13.79% of the limit for “controlled” environments. (See Appendix A)

OCCUPATIONAL SAFETY

The licensee of WCWN is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WCWN antenna, and is committed to

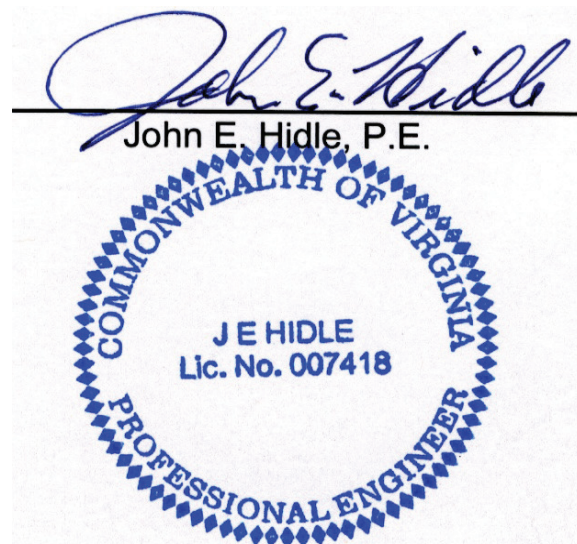
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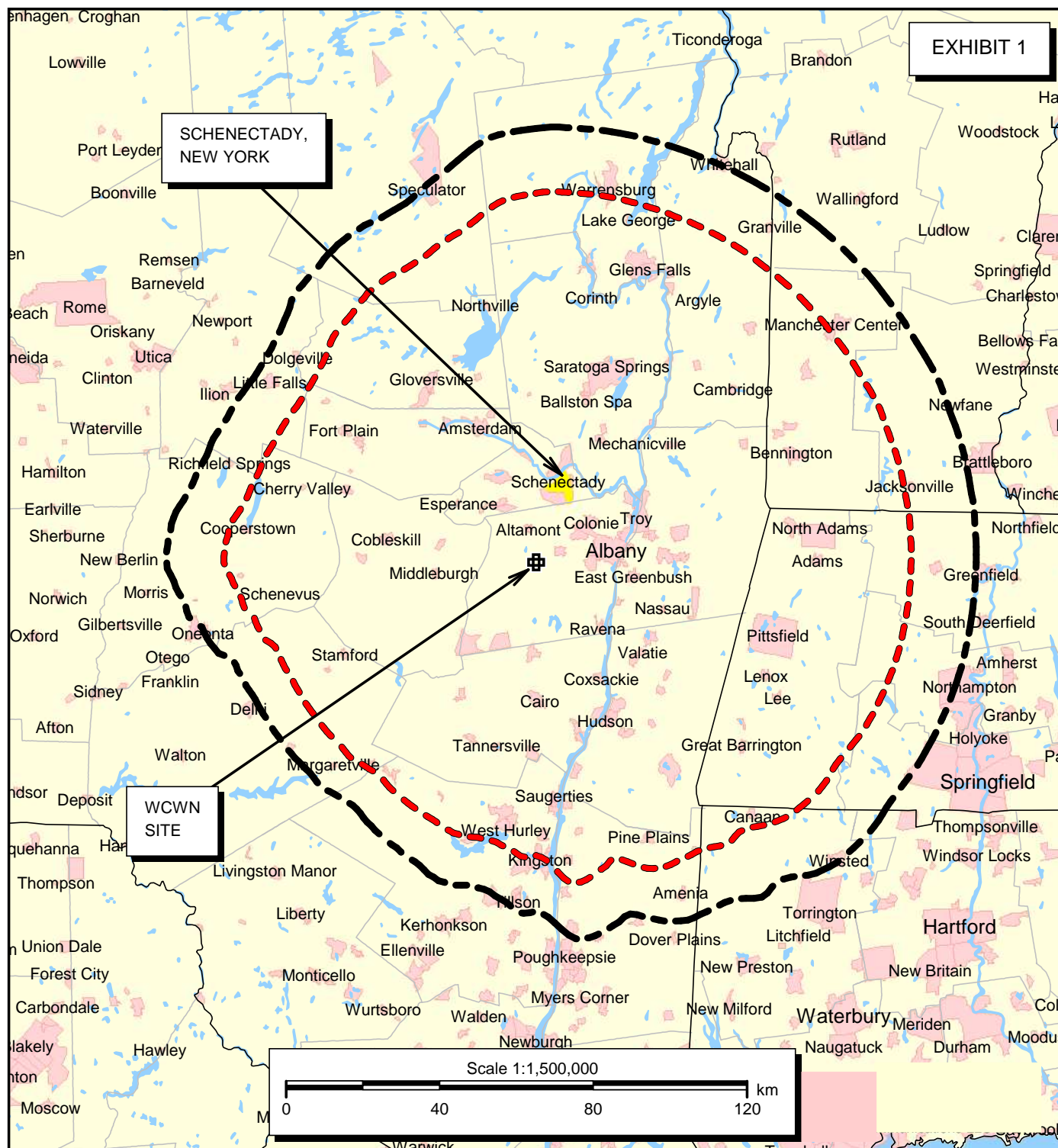
reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

SUMMARY

It is submitted that the instant application for construction permit to change WCWN from channel 43 to channel 22, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: June 8, 2017





PREDICTED COVERAGE CONTOURS

WCWN - SCHENECTADY, NEW YORK
DTV Channel 22 - 389 kW ERP - 426 M HAAT
JUNE, 2017

Predicted Noise Limited 39.56 dBu
F(50,90) Coverage Contour



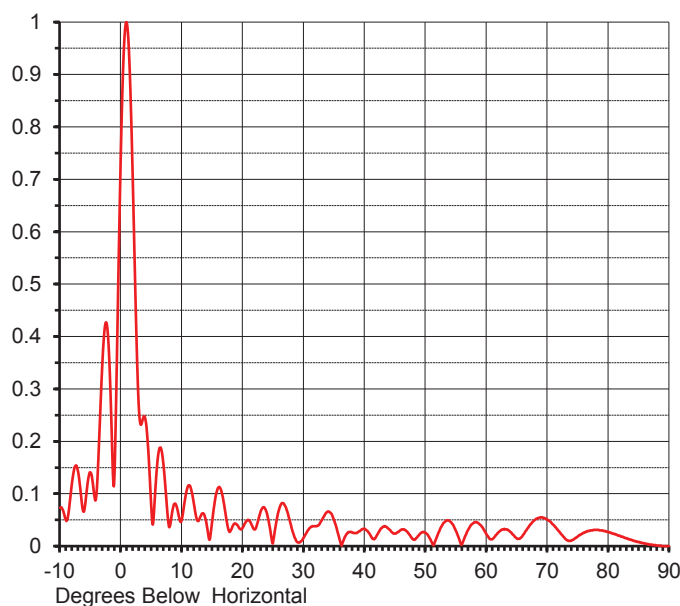
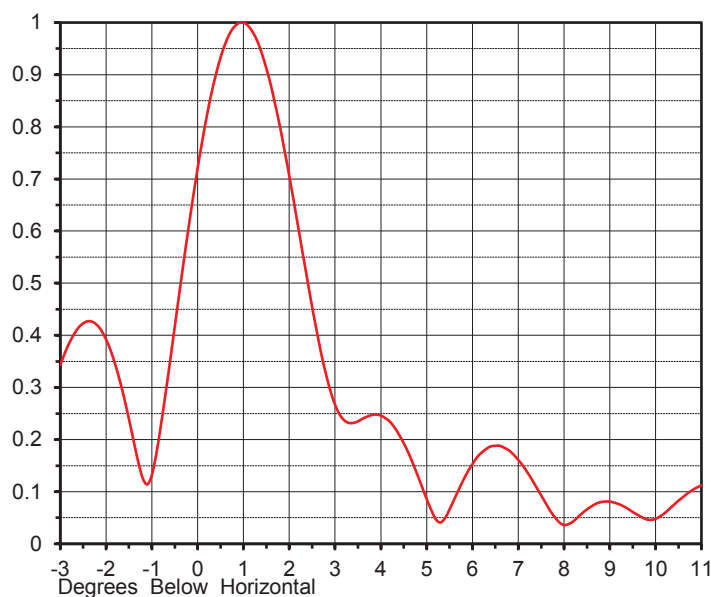
Predicted Principal Community 48 dBu
F(50,90) Coverage Contour

ELEVATION PATTERN

Proposal No. **C-70039**
 Date **27-Mar-17**
 Call Letters **WCWN**
 Channel **22**
 Frequency **521 MHz**
 Antenna Type **TDU-O5-12/60H-1-B**

RMS Directivity at Main Lobe **23.0 (13.62 dB)**
 RMS Directivity at Horizontal **13.7 (11.37 dB)**
Calculated

Beam Tilt **0.75 deg**
 Pattern Number **12U230075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.073	10.0	0.053	30.0	0.017	50.0	0.025	70.0	0.050
-9.0	0.048	11.0	0.115	31.0	0.035	51.0	0.007	71.0	0.040
-8.0	0.126	12.0	0.077	32.0	0.038	52.0	0.023	72.0	0.026
-7.0	0.138	13.0	0.056	33.0	0.051	53.0	0.045	73.0	0.013
-6.0	0.071	14.0	0.044	34.0	0.066	54.0	0.047	74.0	0.011
-5.0	0.140	15.0	0.052	35.0	0.048	55.0	0.028	75.0	0.019
-4.0	0.106	16.0	0.112	36.0	0.007	56.0	0.005	76.0	0.026
-3.0	0.366	17.0	0.072	37.0	0.023	57.0	0.032	77.0	0.030
-2.0	0.371	18.0	0.030	38.0	0.026	58.0	0.045	78.0	0.031
-1.0	0.174	19.0	0.041	39.0	0.028	59.0	0.040	79.0	0.030
0.0	0.773	20.0	0.036	40.0	0.033	60.0	0.022	80.0	0.027
1.0	0.994	21.0	0.049	41.0	0.019	61.0	0.014	81.0	0.023
2.0	0.656	22.0	0.032	42.0	0.021	62.0	0.027	82.0	0.019
3.0	0.248	23.0	0.069	43.0	0.037	63.0	0.032	83.0	0.015
4.0	0.241	24.0	0.059	44.0	0.032	64.0	0.026	84.0	0.011
5.0	0.065	25.0	0.012	45.0	0.024	65.0	0.014	85.0	0.008
6.0	0.166	26.0	0.073	46.0	0.031	66.0	0.022	86.0	0.005
7.0	0.150	27.0	0.075	47.0	0.027	67.0	0.039	87.0	0.003
8.0	0.038	28.0	0.034	48.0	0.013	68.0	0.051	88.0	0.001
9.0	0.079	29.0	0.007	49.0	0.023	69.0	0.055	89.0	0.000
								90.0	0.000

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**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**

WCWN, Schenectady, New York
CHANNEL 22, 389 kW ERP, 426 m HAAT
MAY, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT.</u>		<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
							<u>RELATIVE FIELD FACTOR</u>	<u>FACTOR</u>			
WMHT-FM	FM	206	89.1	H & V	82	6.100	<note 1>		0.00149	0.200	0.75%
WCWN	DT	22	521	H	137	389.000	0.300		0.06230	0.347	17.94%
WRGB	DT	6	85	H	104	30.200	0.300		0.00839	0.200	4.20%
WXXA-TV	DT	8	183	H	147	15.000	0.300		0.00209	0.200	1.04%
WNYT	DT	12	207	H	124	30.000	0.300		0.00586	0.200	2.93%
WTEN	DT	24	533	H	137	669.000	0.300		0.10715	0.355	30.15%
WMHT	DT	25	539	H	137	268.000	0.300		0.04292	0.359	11.94%
TOTAL PERCENTAGE OF ANSI VALUE=											68.95%

note 1: FM Model Antenna: EPA Type 1; 5-bay, half-wave spaced antenna

** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.



WCWN - SCHENECTADY, NEW YORK Longley-Rice Interference Analysis

tvstudy v2.2.2

Database: localhost, Study: WCWN_22_427H_389K_B, Model: Longley-Rice
Start: 2017.06.05 13:27:48

Study created: 2017.06.05 13:27:42

Study build station data: LMS TV 2017-06-02 (13)

Proposal: WCWN D22 DT APP SCHENECTADY, NY
File number: WCWN_22_427H_389K_B
Facility ID: 73264
Station data: User record
Record ID: 531
Country: U.S.
Zone: I

Non-U.S. records included

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	164.5 km
WSBK-TV	D21	DT	CP	BOSTON, MA	BLANK0000024678	230.1
WSBK-TV	D21	DT	BL	BOSTON, MA	DTVBL73982	230.1
WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	119.5
WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	162.4
WPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	231.2
WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	141.4
WMPB	D22	DT	BL	BALTIMORE, MD	DTVBL65944	422.7
WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	208.6
WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	300.3
WXXI-TV	D22	DT	BL	ROCHESTER, NY	DTVBL57274	296.5
WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	222.1
WPXG-TV	D23	DT	BL	CONCORD, NH	DTVBL48406	227.7
WETM-TV	D23	DT	BL	ELMIRA, NY	DTVBL60653	241.9
WNPI-DT	D23	DT	LIC	NORWOOD, NY	BLEDT20050715ABZ	218.3
WFTY-DT	D23	DT	LIC	SMITHTOWN, NY	BLCDT20120427ABO	211.9
CICO-DT-53D	D22	DT	LIC	BELLEVILLE, ON	BLANKCANADA164	318.8
CHCH-DT-1	D22	DT	LIC	OTTAWA, ON	BLANKCANADA201	313.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D22
Latitude: 42 37 31.30 N (NAD83)
Longitude: 74 0 36.70 W
Height AMSL: 681.8 m
HAAT: 427.0 m
Peak ERP: 389 kW
Antenna: Omnidirectional

Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 2

39.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	389 kW	560.4 m	112.7 km
45.0	389	586.3	114.1
90.0	389	592.0	114.4
135.0	389	522.2	110.3
180.0	389	296.8	90.7
225.0	389	214.3	80.6
270.0	389	344.9	96.1
315.0	389	300.4	91.2

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

**Proposal is within coordination distance of Canadian border
Distance to Canadian border: 247.1 km

Distance to Mexican border: 2785.3 km

Conditions at FCC monitoring station: Canandaigua NY
Bearing: 278.0 degrees Distance: 267.6 km
ERP: 389 kW Field strength: 15.1 dBu, 0.0 mV/m

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 274.6 degrees Distance: 2602.6 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 DTVBL13594 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL13594 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL13594 BL, scenario 3
Proposal causes no interference.

Interference to DTVBL13594 BL, scenario 4
Proposal causes no interference.

Interference to BLANK0000024678 CP, scenario 1
Proposal causes no interference.

Interference to BLANK0000024678 CP, scenario 2
Proposal causes no interference.

Interference to DTVBL73982 BL, scenario 1

Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 3

Proposal causes no interference.

Interference to DTVBL73982 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL2650 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL2650 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL2650 BL, scenario 3
Proposal causes no interference.

Interference to DTVBL2650 BL, scenario 4
Proposal causes no interference.

Interference to DTVBL74214 BL, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	162.4 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	162.4
	WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	75.9
	WSBK-TV	D21	DT	CP	BOSTON, MA	BLANK0000024678	122.2
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	62.0
	WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	123.0
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	147.5
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	165.3
	WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	291.6
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	288.7
	WFTY-DT	D23	DT	LIC	SMITHTOWN, NY	BLCDT20120427ABO	99.3

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
3665.0 1,132,297	3371.2 1,087,642	3278.4 1,071,042	3278.4 1,071,042	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL 84.7 15,087	56.4 4,776		
WCWN D22 DT APP 84.7 15,087	56.4 4,776		
WBPX-TV D22 DT BL 12.1 1,294	4.0 867		
WVMA-CD D22 DC BL 28.3 10,592	4.0 646		
WFTY-DT D23 DT LIC 4.0 300	0.0 0		

Interference to DTVBL74214 BL, scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	162.4 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	162.4
	WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	75.9
	WSBK-TV	D21	DT	BL	BOSTON, MA	DTVBL73982	122.3
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	62.0

Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 4

WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	123.0
WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	147.5
WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	165.3
WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	291.6
WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	288.7
WFTY-DT	D23	DT	LIC	SMITHTOWN, NY	BLCDT20120427ABO	99.3

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
3665.0 1,132,297	3371.2 1,087,642	3278.4 1,071,042	3278.4 1,071,042	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	84.7 15,087	56.4 4,776	
WCWN D22 DT APP	84.7 15,087		56.4 4,776
WBPX-TV D22 DT BL	12.1 1,294	4.0 867	4.0 867
WVMA-CD D22 DC BL	28.3 10,592	4.0 646	4.0 646
WFTY-DT D23 DT LIC	4.0 300	0.0 0	0.0 0

Interference to DTVBL7692 BL, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	
Undesireds: WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	231.2 km
WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	231.2
WSBK-TV	D21	DT	CP	BOSTON, MA	BLANK0000024678	1.1
WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	117.0
WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	123.0
WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	123.5
WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	287.8
WPXG-TV	D23	DT	BL	CONCORD, NH	DTVBL48406	97.8

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
19918.3 6,736,080	19673.9 6,703,089	19033.5 6,620,315	19029.5 6,620,297	0.02 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	132.1 10,958	28.0 3,484	
WCWN D22 DT APP	136.1 10,976		32.0 3,502
WSBK-TV D21 DT CP	124.1 17,967	104.1 14,103	104.1 14,103
WUTH-CD D22 DC BL	68.1 6,265	32.1 3,328	32.1 3,328
WVMA-CD D22 DC BL	264.5 25,617	176.4 18,135	176.4 18,135
WPXG-TV D23 DT BL	203.7 37,848	175.8 32,386	175.8 32,386

Interference to DTVBL7692 BL, scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	
Undesireds: WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	231.2 km
WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	231.2
WSBK-TV	D21	DT	BL	BOSTON, MA	DTVBL73982	1.1
WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	117.0
WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	123.0
WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	123.5
WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	287.8
WPXG-TV	D23	DT	BL	CONCORD, NH	DTVBL48406	97.8

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
19918.3 6,736,080	19673.9 6,703,089	19049.6 6,622,013	19045.5 6,621,995	0.02 0.00

Appendix B - Interference Analysis
WCWN - Schenectady, New York
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Undesired		Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	132.1	10,958	28.0	3,484
WCWN D22 DT APP	136.1	10,976		32.0
WSBK-TV D21 DT BL	112.1	18,249	88.1	12,405
WUTH-CD D22 DC BL	68.1	6,265	32.1	3,328
WVMA-CD D22 DC BL	264.5	25,617	172.4	16,155
WPXG-TV D23 DT BL	203.7	37,848	175.8	32,386

Interference to DTVBL48413 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	141.4 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	141.4
	WSBK-TV	D21	DT	CP	BOSTON, MA	BLANK0000024678	122.5
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	89.8
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	147.5
	WPXG-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	123.5
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	287.1
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	354.4
	WPXG-TV	D23	DT	BL	CONCORD, NH	DTVBL48406	86.7
	CHCH-DT-1	D22	DT	LIC	OTTAWA, ON	BLANKCANADA201	352.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9480.3	313,884	6522.4	184,902	6239.0
				179,388
				6243.0
				179,488
				-0.06
				-0.06

Undesired		Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	99.7	2,016	71.8	652
WCWN D22 DT APP	95.8	1,916		67.8
WUTH-CD D22 DC BL	4.0	52	4.0	52
WPXG-TV D22 DT BL	207.7	4,810	179.7	3,446

Interference to DTVBL48413 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	141.4 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	141.4
	WSBK-TV	D21	DT	BL	BOSTON, MA	DTVBL73982	122.5
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	89.8
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	147.5
	WPXG-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	123.5
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	287.1
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	354.4
	WPXG-TV	D23	DT	BL	CONCORD, NH	DTVBL48406	86.7
	CHCH-DT-1	D22	DT	LIC	OTTAWA, ON	BLANKCANADA201	352.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9480.3	313,884	6522.4	184,902	6239.0
				179,388
				6243.0
				179,488
				-0.06
				-0.06

Undesired		Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	99.7	2,016	71.8	652
WCWN D22 DT APP	95.8	1,916		67.8
WUTH-CD D22 DC BL	4.0	52	4.0	52
WPXG-TV D22 DT BL	207.7	4,810	179.7	3,446

Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 6

Interference to DTVBL65944 BL, scenario 1
 Proposal causes no interference.

 Interference to DTVBL168834 BL, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	208.6 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	208.6
	WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	89.4
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	165.3
	WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	287.8
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	287.1
	WMPB	D22	DT	BL	BALTIMORE, MD	DTVBL65944	278.1
	WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	126.6
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	165.3
	WNJS	D23	DT	BL	CAMDEN, NJ	DTVBL48481	134.8
	WFTY-DT	D23	DT	LIC	SMITHTOWN, NY	BLCDT20120427ABO	88.3

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
4909.5 11,643,085	4753.4 11,575,993	4689.5 11,055,784	4689.5 11,055,784	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	4.0 227	4.0 227	
WCWN D22 DT APP	4.0 227		4.0 227
WPHY-CD D22 DC BL	4.0 1,693	4.0 1,693	4.0 1,693
WOLF-TV D22 DT BL	55.9 518,289	55.9 518,289	55.9 518,289

 Interference to DTVBL74464 BL, scenario 1
 Proposal causes no interference.

 Interference to DTVBL57274 BL, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WXXI-TV	D22	DT	BL	ROCHESTER, NY	DTVBL57274	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	296.5 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	296.5
	WROC-TV	D21	DT	BL	ROCHESTER, NY	DTVBL73964	0.0
	WTOO-CD	D22	DC	BL	BOLIVAR, PA	DTVBL68403	326.5
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	258.9
	WETM-TV	D23	DT	BL	ELMIRA, NY	DTVBL60653	128.4
	WHSU-CD	D23	DC	BL	SYRACUSE, NY	DTVBL629	115.4
	CICO-DT-53D22	DT	LIC		BELLEVEILLE, ON	BLANKCANADA164	134.3
	CICO-DT-28D22	DT	LIC		KITCHENER, ON	BLANKCANADA183	232.2
	CHCH-DT-1 D22	DT	LIC		OTTAWA, ON	BLANKCANADA201	281.9
	CKWS-DT-1 D23	DT	LIC		BRIGHTON, ON	BLANKCANADA165	102.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
13488.2 1,171,189	13163.3 1,157,239	13015.6 1,152,672	13015.6 1,152,672	0.00 0.00
31.6 0	31.6 0	27.6 0	27.6 0	0.00 0.00

(in Canada)

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	28.0 1,301	4.0 44	
WCWN D22 DT APP	28.0 1,301		4.0 44
WOLF-TV D22 DT BL	51.9 1,632	20.0 255	20.0 255

Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 7

CICO-DT-53 D22 DT LIC	95.8	1,667	79.8	1,275	79.8	1,275	
CICO-DT-53 D22 DT LIC	3.9	0	3.9	0	3.9	0	(in Canada)
CICO-DT-28 D22 DT LIC	15.9	1,665	12.0	1,616	12.0	1,616	

Interference to DTVBL73375 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	
Undesireds:	WCWN	D22	DT	BL	SCHENECTADY, NY	DTVBL73264	222.1 km
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	222.1
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	288.7
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	354.4
	WMPB	D22	DT	BL	BALTIMORE, MD	DTVBL65944	207.8
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	165.3
	WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	136.0
	WXXI-TV	D22	DT	BL	ROCHESTER, NY	DTVBL57274	258.9
	WTOO-CD	D22	DC	BL	BOLIVAR, PA	DTVBL68403	247.6
	WWKH-CD	D22	DC	BL	UNIONTOWN, PA	DTVBL68409	352.5
	WNJS	D23	DT	BL	CAMDEN, NJ	DTVBL48481	183.5
	WETM-TV	D23	DT	BL	ELMIRA, NY	DTVBL60653	132.1
	WHSU-CD	D23	DC	BL	SYRACUSE, NY	DTVBL629	209.8
	CICO-DT-53D22	DT	LIC		BELLEVILLE, ON	BLANKCANADA164	364.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
33647.2 2,982,113	28638.8 2,496,903	27788.3 2,439,929	27784.3 2,439,838	0.01 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCWN D22 DT BL	365.7 19,915	249.2 13,998	
WCWN D22 DT APP	365.6 19,647		253.2 14,089
WMPB D22 DT BL	236.4 16,203	180.3 11,540	180.3 11,540
WDVB-CD D22 DC BL	112.3 6,025	43.9 3,215	48.0 3,674
WPHY-CD D22 DC BL	92.2 18,514	72.2 16,702	72.2 16,702
WXXI-TV D22 DT BL	136.4 3,009	60.2 1,603	60.2 1,503
WTOO-CD D22 DC BL	28.0 587	28.0 587	28.0 587
WETM-TV D23 DT BL	72.2 1,545	48.2 897	48.2 897

Interference to DTVBL48406 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL60653 BL, scenario 1
Proposal causes no interference.

Interference to BLEDT20050715ABZ LIC, scenario 1
Proposal causes no interference.

Interference to BLCDT20120427ABO LIC, scenario 1
Proposal causes no interference.

Interference to BLANKCANADA164 LIC, scenario 1
Proposal causes no interference.

Interference to BLANKCANADA201 LIC, scenario 1
Proposal causes no interference.

**Appendix B - Interference Analysis
WCWN - Schenectady, New York
Channel 22 - 389 kW - Page 8**

Interference to proposal, scenario 1
1.22% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	
Undesireds:	WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	164.5 km
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	119.5
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	162.4
	WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	231.2
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	141.4
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	208.6
	WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	300.3
	WXXI-TV	D22	DT	BL	ROCHESTER, NY	DTVBL57274	296.5
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	222.1
	WHSU-CD	D23	DC	BL	SYRACUSE, NY	DTVBL629	182.2
	CICO-DT-53D22	DT	LIC		BELLEVILLE, ON	BLANKCANADA164	318.8
	CHCH-DT-1 D22	DT	LIC		OTTAWA, ON	BLANKCANADA201	313.8

Service area		Terrain-limited		IX-free		Percent IX	
32672.0	1,698,469	27524.1	1,539,972	26451.8	1,521,226	3.90	1.22
Undesired		Total IX		Unique IX		Prcnt Unique IX	
WUTH-CD	D22 DC BL	460.2	5,925	244.0	2,807	0.89	0.18
WBPX-TV	D22 DT BL	256.2	2,993	32.0	349	0.12	0.02
WVMA-CD	D22 DC BL	388.2	4,633	144.0	1,696	0.52	0.11
WDVB-CD	D22 DC BL	8.0	0	0.0	0	0.00	0.00
WXXI-TV	D22 DT BL	52.0	734	32.0	445	0.12	0.03
WOLF-TV	D22 DT BL	372.0	10,452	279.9	9,070	1.02	0.59

Interference to proposal, scenario 2
1.22% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCWN	D22	DT	APP	SCHENECTADY, NY	WCWN_22_427H_389K_B	
Undesireds:	WEDW	D21	DT	BL	BRIDGEPORT, CT	DTVBL13594	164.5 km
	WFXQ-CD	D21	DC	BL	SPRINGFIELD, MA	DTVBL2650	119.5
	WUTH-CD	D22	DC	BL	HARTFORD, CT	DTVBL74214	162.4
	WBPX-TV	D22	DT	BL	BOSTON, MA	DTVBL7692	231.2
	WVMA-CD	D22	DC	BL	WINCHENDON, MA	DTVBL48413	141.4
	WDVB-CD	D22	DC	BL	EDISON, NJ	DTVBL168834	208.6
	WPHY-CD	D22	DC	BL	TRENTON, NJ	DTVBL74464	300.3
	WXXI-TV	D22	DT	BL	ROCHESTER, NY	DTVBL57274	296.5
	WOLF-TV	D22	DT	BL	HAZLETON, PA	DTVBL73375	222.1
	WHSU-CD	D23	DC	BL	SYRACUSE, NY	DTVBL629	182.2
	CICO-DT-53D22	DT	LIC		BELLEVILLE, ON	BLANKCANADA164	318.8
	CHCH-DT-1 D22	DT	LIC		OTTAWA, ON	BLANKCANADA201	313.8

Service area		Terrain-limited		IX-free		Percent IX	
32672.0	1,698,469	27524.1	1,539,972	26451.8	1,521,226	3.90	1.22
Undesired		Total IX		Unique IX		Prcnt Unique IX	
WUTH-CD	D22 DC BL	460.2	5,925	244.0	2,807	0.89	0.18
WBPX-TV	D22 DT BL	256.2	2,993	32.0	349	0.12	0.02
WVMA-CD	D22 DC BL	388.2	4,633	144.0	1,696	0.52	0.11
WDVB-CD	D22 DC BL	8.0	0	0.0	0	0.00	0.00
WXXI-TV	D22 DT BL	52.0	734	32.0	445	0.12	0.03
WOLF-TV	D22 DT BL	372.0	10,452	279.9	9,070	1.02	0.59



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WCWN is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WCWN antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

The predicted emissions of WCWN must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WCWN, which will operate on television Channel 22 (518-524 MHz), the MPE is 347.3 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,736.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WCWN facility will operate with a maximum ERP of 389 kW from an horizontally polarized non-directional transmitting antenna with a centerline height of 139 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WCWN facility is predicted to produce a power density at two meters above ground level of 62.30 $\mu\text{W}/\text{cm}^2$, which is 17.94% of the FCC guideline value for an “uncontrolled” environment, and 3.59% of the FCC’s guideline value for “controlled” environments. There are five other full-power DTV stations and one FM station located at the WCWN site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 68.95% of the limit applicable to “uncontrolled” environments, and 13.79% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
WCWN, Schenectady, New York
CHANNEL 22, 389 kW ERP, 426 m HAAT
MAY, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WMHT-FM	FM	206	89.1	H & V	82	6.100	<note 1>	0.00149	0.200	0.75%
WCWN	DT	22	521	H	137	389.000	0.300	0.06230	0.347	17.94%
WRGB	DT	6	85	H	104	30.200	0.300	0.00839	0.200	4.20%
WXXA-TV	DT	8	183	H	147	15.000	0.300	0.00209	0.200	1.04%
WNYT	DT	12	207	H	124	30.000	0.300	0.00586	0.200	2.93%
WTEN	DT	24	533	H	137	669.000	0.300	0.10715	0.355	30.15%
WMHT	DT	25	539	H	137	268.000	0.300	0.04292	0.359	11.94%
TOTAL PERCENTAGE OF ANSI VALUE=										68.95%

note 1: FM Model Antenna: EPA Type 1; 5-bay, half-wave spaced antenna

** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.