

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C.**

In re:

Amendment of DTV Table of Allotments	)	
Noncommercial Educational TV Station	)	MB Docket No. ____
WCBB(TV), Augusta, ME	)	RM-_____
(Facility ID 39659)	)	

**PETITION FOR RULEMAKING**

Maine Public Broadcasting Corporation (“MPB”), the licensee of noncommercial educational PBS member television station WCBB(TV), Augusta, Maine (“WCBB”), by its counsel and pursuant to Section 1.401 of the Commission’s Rules, petitions the Commission to amend the DTV Table of Allotments by substituting UHF Channel \*20 for WCBB in place of its current VHF Channel \*10 at Augusta, Maine. Moving from VHF to UHF would allow WCBB to be equivalent to other market stations, particularly in terms of over-the-air reception.

The proposed channel substitution would serve the public interest. Currently, WCBB is one of only two full power stations in the market to broadcast on a VHF channel, which puts WCBB at a distinct disadvantage. Moving to a UHF channel would put WCBB on par with the other broadcast stations in the market. Moreover, moving to a UHF channel would improve the community’s access to WCBB’s PBS and other public television programming by improving indoor reception.

**I. THE SUBSTITUTION OF CHANNEL \*20 IN AUGUSTA, MAINE SATISFIES TECHNICAL AND REGULATORY REQUIREMENTS.**

MPB proposes that the Commission substitute UHF Channel \*20 for WCBB's existing VHF Channel \*10. As shown in the attached Engineering Statement of Cindy Hutter Cavell of Cavell Mertz & Associates, Inc., this channel substitution satisfies the minimum geographic spacing requirements with regard to all other DTV stations and complies with the community coverage requirements of Section 73.625(a). *See* Engineering Statement.

The Engineering Statement also analyzes the potential population loss associated with the proposed channel substitution. Although the proposed Channel 20 facilities will result in a slight reduction in WCBB's predicted population served, much of the predicted loss area is located outside the state of Maine (and, thus, WCBB's DMA) and the vast majority is served by either Maine Public Broadcasting stations WMEB-TV and WMEA-TV (which broadcast substantially identical programming to WCBB) or by other PBS member stations like WENH-TV, WLED-TV, and WVTB). As demonstrated in the Engineering Statement, once terrain-limitations are factored into the analysis the proposed change would result in the loss of PBS programming to just 144 persons, well below the level the Commission considers *de minimis* in this context.<sup>1</sup> Thus, the channel substitution complies with the technical and regulatory requirements of the Commission's Rules.

**II. SUBSTITUTING CHANNEL \*20 WOULD IMPROVE A VALUABLE SOURCE OF NONCOMMERCIAL EDUCATIONAL TV PROGRAMMING.**

At present, WCBB is one of only two full-power VHF stations in the Augusta market. Given the difference in propagation characteristics of VHF and UHF television, being one of the

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<sup>1</sup> *See, e.g., Application of WSET, INCORPORATED (WSET-TV), Lynchburg, Virginia for Construction Permit*, 80 F.C.C.2d 233, 246 (1980) (finding loss area of population of 500 *de minimis*).

only VHF stations places WCBB at a distinct disadvantage. The Commission has recognized that “VHF channels have certain characteristics that have posed challenges for their use in providing digital television service,” including “propagation characteristics of these channels [that] allow undesired signals and noise to be receivable at relatively farther distances,” the tendency of “nearby electrical devices ... to emit noise in this band that can cause interference,” and the fact that “reception of VHF signals requires physically larger antennas that are generally not well suited to the mobile applications expected under flexible use, relative to UHF channels.”<sup>2</sup> The Commission further noted that independent studies by a private engineering firm and the Commission’s own staff both found “large variability in the performance (especially intrinsic gain) of indoor antennas available to consumers, with most antennas receiving fairly well at UHF and the substantial majority not so well to very poor at high-VHF.”<sup>3</sup> Substituting an available UHF channel would improve WCBB’s VHF propagation issues and improve TV signal reception.

Moreover, the Communications Act supports FCC action to improve WCBB’s noncommercial educational service to citizens in its community of license and service area:

It is in the public interest for the Federal Government to ensure that all citizens of the United States have access to public telecommunications services through all appropriate available telecommunications distribution technologies.<sup>4</sup>

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<sup>2</sup> *Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, NPRM, 25 FCC Rcd 16498, 16511 ¶ 42 (2010) (“*VHF Improvements NPRM*”).

<sup>3</sup> *Id.* at 16512 ¶ 44. See also *Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, Second R&O, 25 FCC Rcd 10732, 10750 ¶ 37 (2011)

<sup>4</sup> 47 U.S.C. § 396(a)(9).

Grant of this Petition would help to achieve that goal. The proposed channel substitution would enhance the ability of WCBB to serve its community with PBS and other public television/telecommunications programming and services.

WCBB provides the type of high quality, local programming that the Commission has long expected from noncommercial educational stations. *See, e.g., Educational TV Assignment at Terre Haute, Indiana*, 19 RR 2d 1850, 1853 (1970) (“We have repeatedly announced our policy to forward local programming in the broadcast services. Local programming is essential particularly in the field of education in that local programming can most effectively deal with the specific problems, needs, and interests in the community being served.”) WCBB currently broadcasts locally produced programs focused on Maine issues in addition to PBS programs and children’s programming.<sup>5</sup> The proposed substitution will allow WCBB to improve signal reception and expand its service using UHF TV capabilities. MPB respectfully requests, based on long-standing, consistent and ample past Commission precedent regarding maintaining TV allotments reserved for noncommercial educational use, that the UHF Channel 20 (when substituted for VHF Channel 10) continue to be reserved for noncommercial educational use, as shown by the “\*” designation. In addition, as noted in the Engineering Statement, MPB respectfully requests that coordination with Canada regarding the proposal set forth herein commence as soon as possible, as the WCBB tower site is just 136.8 km from the Canadian border.

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<sup>5</sup> *See, e.g.,* <https://www.pbs.org/show/maine-public-original-productions/>.

**Conclusion**

For all of these reasons, MPB requests that the Commission institute a rulemaking proceeding to substitute UHF Channel \*20 for VHF Channel \*10 in the DTV Table of Allotments.

Respectfully submitted,

MAINE PUBLIC BROADCASTING  
CORPORATION

By: \_\_\_\_\_

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# Engineering Statement

## WCBB(TV) Augusta, Maine

### Nature of the Application

This engineering statement has been prepared on behalf of Maine Public Broadcasting Corporation (“MPB”) licensee of digital television station WCBB(TV), Channel 10, Facility ID 39659, Augusta, Maine, in support of a Petition for Rulemaking to amend Section 73.622(j) by substituting UHF Channel 20 for VHF Channel 10 at Augusta, Maine for WCCB. In connection with the channel change, MPB proposes to leave the HAAT for the WCCB facility unchanged at 304 meters and to increase power from 30 kW to 1000 kW. WCCB would continue to operate from its existing antenna structure (ASRN 1035353) located at 44° 09’ 15.0” N, 70° 00’ 35.0” W.

### Allocation Considerations

Section 73.622(f)(8) of the FCC Rules limits the maximum allowable ERP for DTV stations on channels 14-36 with a HAAT of less than 365 meters to 1000 kW. With a proposed HAAT of 304 meters, WCBB(TV) would satisfy this criterion. **Figure 1** shows the TVStudy V2.2.5<sup>1</sup> study for the licensed station, and the TV Study interference study in **Figure 2** indicates that Channel 20 as proposed with an omnidirectional antenna at 1000 kW at 304 meters HAAT does not result in any interference or allocation issues for WCBB(TV).

The proposed location of the WCBB(TV) tower is 136.8 km from the Canadian border, which is within coordination distance, and MPB respectfully requests that coordination with Canada commence as soon as possible. Canadian stations have been taken into consideration in the TV Study interference analysis. WCBB(TV) is more than 3100 km from the Mexican border. Belfast, ME is the closest FCC monitoring station, 80.6 km away, which exceeds the 80 km distance in Section 73.1030 of the Commission’s rules for which coordination is recommended. At 2,912.9 km distant, this proposal is not a factor for the Table Mountain receiving zone. There are no non-directional AM stations found within the notification distances specified in sections 1.30002(a) and (b) of the Commission’s rules.

Required spacing between co-channel DTV facilities in Section 73.623(d)(2) for Region 1 is 196.3 km. WCAX (Channel 20, Burlington, VT) is 227.3 km from the proposed facility, and WBZ (Channel 20, Boston, MA) is 227.5 km distant. The proposed facility satisfies this requirement.

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<sup>1</sup> All Studies with TVStudy V 2.2.5 were run with a cell size of 2.0 km and a profile point spacing of 1.0 km.

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DTV spacing from Land Mobile services is set forth in Section 73.623(e). The proposed WCBB(TV) facility is more than 632 km away from the Philadelphia Land Mobile Channel 20 coordinates of 39° 56' 58" (NAD 83), which exceeds the 250 km minimum.

### Community of License

The map in **Figure 3** shows that the Principal Community contours F(50,90) 43 dB $\mu$  for Channel 10 and F(50,90) 46.4 dB $\mu$  for Channel 20 completely cover the entirety of WCBB(TV)'s community of license, Augusta, Maine, for both the licensed facility and the proposed facility. The contours were generated using V-Soft Probe 5 (version 5.27). The theoretical population within the protected contours of the licensed and proposed facilities is also shown. The proposed Channel 20 F(50,90) 39.4 dB $\mu$  contour contains 918,479 persons (terrain-limited) as opposed to the licensed Channel 10 F(50,90) 36 dB $\mu$  contour, which contains 910,222. From the TV Study V2.2.5 studies, the interference-free population for Channel 10 is 895,912 persons and the interference-free population for Channel 20 is 890,373 persons.

### Population Loss Analysis

The FCC weighs the public interest when a television broadcast facility proposes a service area contraction. The FCC defines "white area" as locations where the population does not receive any over-the-air television service, "gray area" as locations where the population receives only one over-the-air television service and "underserved area" where the population receives fewer than five other existing services. A terrain-limited contour analysis of the licensed and proposed WCBB facilities performed in TVStudy V2.2.5 shows that the licensed facility F(50,90) 36 dB $\mu$  contour has a terrain-limited coverage area of 29,550.7 km<sup>2</sup>, while the proposed facility F(50,90) 39.4 dB $\mu$  contour has a coverage area of 29,818.8 km<sup>2</sup>.

While the channel change proposed herein would result in a slight reduction of service, the move would not create any new underserved areas, and the white and gray areas created by the move would (both separately and in the aggregate) be *de minimis*. Utilizing geographical coverage from TVStudy V2.2.5, the map in **Figure 4** provides an overlay of the Channel 20 coverage area on top of the Channel 10 coverage area. The resulting pink-colored sliver of area contains a total of 3,785 persons. Maine Public Broadcasting stations WMEA and WMEB (which broadcast programming substantially identical to that on WCBB) already cover 1,568 of the

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3,785 persons, which leaves 2,217 persons uncovered in the loss area. Moreover, as shown in **Figure 5**, there are a number of other NCE stations which serve the vast majority of the loss area (PBS member stations WENH, WLED and WVTB). After the channel change proposed herein, there would be 144 persons in the loss area with no PBS programming service, and 32 persons covered by one PBS programming service. The rest of the loss area would still be served by two or more PBS programming services. As such, there are a total of 176 persons which would be served by fewer than two other PBS member stations, which would be considered *de minimis*.

### **Other Concerns**

The number of households with over the air (“OTA”) television reception has been growing at a steady pace in recent years. Many OTA television viewers in the Portland-Auburn DMA utilize “high gain” DTV antennas, usually located indoors or in the attic of the home. But modern commercially available “high gain” television antennas are optimized to receive UHF signals and are functionally of little use when receiving a VHF television signal. Still other OTA viewers utilize small “patch” antennas on indoor television sets. Further, VHF penetration of buildings is poorer than that of UHF, and the proliferation of dimmable LED and fluorescent lighting fixtures and switching power supplies has made VHF viewing inside the home increasingly untenable.

The additional power density advantage inherent in the UHF signal with the elliptically polarized antenna to reach far more of the population is evident as shown in **Figures 6 and 6a**. Increased signal density is critical to digital TV reception of the UHF signal and will help more people in the DMA receive WCBB(TV) over the air with an indoor UHF antenna. Further, the predominance of television stations in the Portland-Auburn market operate on UHF frequencies, putting WCBB(TV) at a distinct competitive coverage disadvantage.

### **Human Exposure to Radio Frequency Radiation**

For completeness, the proposed operation was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission’s OET Bulletin No. 65 (“OET 65”). OET 65 describes a means of determining whether a proposed facility meets the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as

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demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

An omnidirectional, elliptically-polarized antenna has been specified for the Channel 20 operation and will be top-mounted on the tower with a radiation center of 178 meters above ground level. The general population/uncontrolled maximum permitted exposure (“MPE”) limit specified in §1.1310 for 509 MHz is  $339.3 \mu\text{W}/\text{cm}^2$ . The RFR study in **Figure 7**, utilizing the elevation pattern of this antenna, demonstrates that the peak exposure at a maximum of  $0.87 \mu\text{W}/\text{cm}^2$  is 0.44% of the most restrictive permissible exposure threshold.

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## WCBB(TV) Augusta, Maine

### Figure 1 – TV Study Interference Study for WCBB(DT) as Licensed

tvstudy v2.2.5 (4uoc83)

Database: 192.168.0.58, Study: WCBB\_Lic\_Ch10\_30kW\_Omni\_2km, Model: Longley-Rice  
Start: 2022.02.16 10:54:37

Study created: 2022.02.16 10:54:37

Study build station data: LMS TV 2022-02-16

Proposal: WCBB D10 DT LIC AUGUSTA, ME  
File number: BLANK0000068517  
Facility ID: 39659  
Station data: LMS TV 2022-02-16  
Record ID: 25076ff362062982016220768fdalf32  
Country: U.S.  
Zone: I

#### Build options:

Protect pre-transition records not on baseline channel

#### Search options:

Non-U.S. records included

Baseline record excluded if station has CP

#### Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WMEB-TV	D9	DT	LIC	ORONO, ME	BLEDT20020508AAS	95.8 km
No	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	182.0
No	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	182.0
No	WVER	D9	DT	LIC	RUTLAND, VT	BLANK0000079969	254.0
Yes	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	386.9
Yes	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	252.6
Yes	WMED-TV	D10	DT	LIC	CALAIS, ME	BLEDT20030307AAM	233.8
Yes	WMEM-TV	D10	DT	LIC	PRESQUE ISLE, ME	BLEDT20090121ABS	317.0
Yes	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	254.0
Yes	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	145.3
Yes	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	145.3
No	CHMG-TV	D10	DC	LIC	QUBEC, QC	BLANKCANLP412	307.3
Yes	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	218.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

#### Record parameters as studied:

Channel: D10  
Latitude: 44 9 15.00 N (NAD83)  
Longitude: 70 0 35.00 W  
Height AMSL: 386.7 m  
HAAT: 304.0 m  
Peak ERP: 30.0 kW  
Antenna: Omnidirectional  
Elev Pattn: Generic  
Elec Tilt: 1.00

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## WCBB(TV) Augusta, Maine

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	30.0 kW	313.8 m	102.0 km
45.0	30.0	323.5	102.7
90.0	30.0	318.1	102.3
135.0	30.0	307.3	101.5
180.0	30.0	294.7	100.7
225.0	30.0	303.9	101.2
270.0	30.0	286.5	100.3
315.0	30.0	280.9	100.0

ERP exceeds maximum

ERP: 30.0 kW ERP maximum: 30.0 kW

\*\*Proposal is within coordination distance of Canadian border

Distance to Canadian border: 136.8 km

Distance to Mexican border: 3149.0 km

Conditions at FCC monitoring station: Belfast ME

Bearing: 66.0 degrees Distance: 80.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 273.6 degrees Distance: 2912.9 km

Study cell size: 2.00 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%

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Interference to BLEDT20020508AAS LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WMEB-TV	D9	DT	LIC	ORONO, ME	BLEDT20020508AAS	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	95.8 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	95.8
	WMTW	D8	DT	LIC	POLAND SPRING, ME	BLCDT20090622ACH	164.3
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	277.5
	CKLT-DT	D9	DT	LIC	SAINT JOHN, NB	BLANKCANADA131	239.3

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
27398.8	511,761	25435.0	490,582	24851.4 468,213 24843.4 467,849

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	463.7	21,196	439.7 20,793
WCBB D10 DT LIC	471.7	21,560	447.7 21,157
WMTW D8 DT LIC	24.0	692	4.0 113 4.0 113
WMUR-TV D9 DT LIC	56.1	850	32.1 445 32.1 445
CKLT-DT D9 DT LIC	75.8	390	75.8 390 75.8 390

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Interference to BLEDT20020508AAS LIC scenario 2

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## WCBB(TV) Augusta, Maine

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WMEB-TV	D9	DT	LIC	ORONO, ME	BLEDT20020508AAS			
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	95.8 km		
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	95.8		
	WMTW	D8	DT	LIC	POLAND SPRING, ME	BLCDT20090622ACH	164.3		
	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	277.5		
	CKLT-DT	D9	DT	LIC	SAINT JOHN, NB	BLANKCANADA131	239.3		
	<b>Service area</b>	<b>Terrain-limited</b>	<b>IX-free, before</b>		<b>IX-free, after</b>		<b>Percent New IX</b>		
27398.8	511,761	25435.0	490,582	24650.6	465,323	24642.6	464,959	0.03	0.08

Undesired		Total IX	Unique IX, before		Unique IX, after	
WCBB D10 DT BL	463.7	21,196	355.7	18,514		
WCBB D10 DT LIC	471.7	21,560			363.7	18,878
WMTW D8 DT LIC	24.0	692	0.0	0	0.0	0
WMUR-TV D9 DT APP	349.0	6,315	233.0	3,335	233.0	3,335
CKLT-DT D9 DT LIC	75.8	390	75.8	390	75.8	390

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Interference to BLANK0000160005 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005			
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	386.9 km		
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	386.9		
	WEDN	D9	DT	LIC	NORWICH, CT	BLEDT20090618ACB	66.2		
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	171.2		
	WHTM-TV	D10	DT	LIC	HARRISBURG, PA	BLANK0000176940	357.9		
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	248.8		
	WWLP	D11	DT	LIC	SPRINGFIELD, MA	BLANK0000125118	76.4		
	WPIX	D11	DT	LIC	NEW YORK, NY	BLANK0000163151	114.6		
	<b>Service area</b>	<b>Terrain-limited</b>	<b>IX-free, before</b>		<b>IX-free, after</b>		<b>Percent New IX</b>		
29879.7	7,845,782	27814.0	7,320,278	26150.1	6,177,006	26150.1	6,177,006	0.00	0.00

Undesired		Total IX	Unique IX, before		Unique IX, after	
WCBB D10 DT BL	4.0	222	4.0	222		
WCBB D10 DT LIC	4.0	222			4.0	222
WEDN D9 DT LIC	371.0	48,581	318.6	42,482	318.6	42,482
WWDP D10 DT LIC	338.3	123,970	233.9	38,321	233.9	38,321
WHTM-TV D10 DT LIC	4.0	1,048	0.0	0	0.0	0
WVER D10 DD LIC	72.3	10,327	56.3	8,627	56.3	8,627
WWLP D11 DT LIC	512.0	224,964	504.0	222,638	504.0	222,638
WPIX D11 DT LIC	470.8	820,381	438.8	744,761	438.8	744,761

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Interference to BLANK0000059580 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	252.6 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	252.6
	WEDN	D9	DT	LIC	NORWICH, CT	BLEDT20090618ACB	107.8
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	117.0
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	171.2

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WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	248.6
WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	130.2

	Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
17970.0	5,792,048	16654.8	5,542,033	15112.8 5,418,147	15108.8 5,416,349	0.03 0.03

Undesired		Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	240.8	69,272	96.3 43,455	
WCBB D10 DT LIC	252.8	72,159		100.3 45,253
WEDN D9 DT LIC	16.1	539	0.0 0	0.0 0
WMUR-TV D9 DT LIC	8.0	3,358	0.0 0	0.0 0
WTNH D10 DT LIC	1429.7	73,521	1265.1 50,525	1261.0 50,525
WVER D10 DD LIC	48.2	13,311	4.0 335	4.0 335
WENH-TV D11 DT LIC	16.0	4,671	0.0 0	0.0 0

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Interference to BLANK0000059580 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	252.6 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	252.6
	WEDN	D9	DT	LIC	NORWICH, CT	BLEDT20090618ACB	107.8
	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	117.0
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	171.2
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	248.6
	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	130.2

	Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
17970.0	5,792,048	16654.8	5,542,033	15096.7 5,411,425	15092.7 5,409,627	0.03 0.03

Undesired		Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	240.8	69,272	92.3 41,288	
WCBB D10 DT LIC	252.8	72,159		96.3 43,086
WEDN D9 DT LIC	16.1	539	0.0 0	0.0 0
WMUR-TV D9 DT APP	36.1	16,359	16.1 6,722	16.1 6,722
WTNH D10 DT LIC	1429.7	73,521	1265.1 50,525	1261.0 50,525
WVER D10 DD LIC	48.2	13,311	4.0 335	4.0 335
WENH-TV D11 DT LIC	16.0	4,671	0.0 0	0.0 0

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Interference to BLANK0000059580 LIC scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	252.6 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	252.6
	WEDN	D9	DT	LIC	NORWICH, CT	BLEDT20090618ACB	107.8
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	117.0
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	171.2
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	248.6
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	130.2

	Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
17970.0	5,792,048	16654.8	5,542,033	15108.8 5,415,793	15104.8 5,413,995	0.03 0.03

Undesired		Total IX	Unique IX, before	Unique IX, after
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# Engineering Statement

## WCBB(TV) Augusta, Maine

WCBB D10 DT BL	240.8	69,272	96.3	43,455		
WCBB D10 DT LIC	252.8	72,159			100.3	45,253
WEDN D9 DT LIC	16.1	539	0.0	0	0.0	0
WMUR-TV D9 DT LIC	8.0	3,358	0.0	0	0.0	0
WTNH D10 DT LIC	1429.7	73,521	1265.1	50,525	1261.0	50,525
WVER D10 DD LIC	48.2	13,311	4.0	335	4.0	335
WENH-TV D11 DT APP	24.1	9,294	4.0	2,354	4.0	2,354

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Interference to BLANK0000059580 LIC scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	252.6 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	252.6
	WEDN	D9	DT	LIC	NORWICH, CT	BLEDT20090618ACB	107.8
	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	117.0
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	171.2
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	248.6
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	130.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
17970.0	5,792,048	16654.8	5,542,033	15092.7
				5,409,071
				15088.7
				5,407,273
				0.03
				0.03

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	240.8	69,272	92.3
WCBB D10 DT LIC	252.8	72,159	96.3
WEDN D9 DT LIC	16.1	539	0.0
WMUR-TV D9 DT APP	36.1	16,359	16.1
WTNH D10 DT LIC	1429.7	73,521	1265.1
WVER D10 DD LIC	48.2	13,311	4.0
WENH-TV D11 DT APP	24.1	9,294	4.0

-----

Interference to BLEDT20030307AAM LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WMED-TV	D10	DT	LIC	CALAIS, ME	BLEDT20030307AAM	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	233.8 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	233.8
	WMEM-TV	D10	DT	LIC	PRESQUE ISLE, ME	BLEDT20090121ABS	173.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9086.0	30,488	8178.1	29,915	7544.7
6977.0	28,455	6258.3	27,565	5481.1
				28,401
				26,331
				7540.7
				28,358
				0.05
				0.15
Canada)				5477.1
				26,331
				0.07
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	179.3	538	111.7
WCBB D10 DT LIC	187.3	581	115.7
WCBB D10 DT BL	111.9	0	48.1
WCBB D10 DT LIC	116.0	0	52.2
WMEM-TV D10 DT LIC	521.7	1,054	454.2
WMEM-TV D10 DT LIC	729.1	1,234	665.3

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Interference to BLEDT20090121ABS LIC scenario 1

# Engineering Statement

## WCBB(TV) Augusta, Maine

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	WMEM-TV	D10	DT	LIC	PRESQUE ISLE, ME	BLEDT20090121ABS				
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	317.0 km			
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	317.0			
	WMED-TV	D10	DT	LIC	CALAIS, ME	BLEDT20030307AAM	173.4			
	<b>Service area</b>	<b>Terrain-limited</b>	<b>IX-free, before</b>		<b>IX-free, after</b>		<b>Percent New IX</b>			
	15112.7	71,700	14141.8	67,374	13938.6	66,988	13938.6	66,988	0.00	0.00
	16345.9	73,008	14326.1	66,846	14018.1	66,220	14018.1	66,220	0.00	0.00 (in

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	87.6	198	39.8
WCBB D10 DT LIC	87.6	198	39.8
WCBB D10 DT BL	15.9	0	8.0
WCBB D10 DT LIC	15.9	0	8.0
WMED-TV D10 DT LIC	163.4	316	115.6
WMED-TV D10 DT LIC	300.0	626	292.1

(in Canada)

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Interference to BLANK0000123122 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	254.0 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	254.0
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	143.8
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	248.8
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	248.6
	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	162.4
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	196.1

	Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX			
	33943.4	888,756	29332.3	768,292	29013.2	764,013	29013.2	764,013	0.00	0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	79.7	1,160	55.8
WCBB D10 DT LIC	79.7	1,160	55.8
WMUR-TV D9 DT LIC	8.0	122	0.0
WTNH D10 DT LIC	123.7	1,488	115.7
WWDP D10 DT LIC	39.9	294	23.9
WENH-TV D11 DT LIC	19.9	284	12.0
CKMI-DT-2 D10 DT LIC	87.7	1,445	79.8

-----

Interference to BLANK0000123122 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	254.0 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	254.0
	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	143.8
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	248.8
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	248.6
	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	162.4

# Engineering Statement

## WCBB(TV) Augusta, Maine

CKMI-DT-2 D10 DT LIC SHERBROOKE, QC BLANKCANADA310 196.1

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX			
33943.4	888,756	29332.3	768,292	29013.2	764,013	29013.2	764,013	0.00	0.00

Undesired	Total IX	Unique IX, before		Unique IX, after	
WCBB D10 DT BL	79.7	1,160	55.8	778	
WCBB D10 DT LIC	79.7	1,160			55.8 778
WMUR-TV D9 DT APP	8.0	122	0.0	0	0.0 0
WTNH D10 DT LIC	123.7	1,488	115.7	1,442	115.7 1,442
WWDP D10 DT LIC	39.9	294	23.9	205	23.9 205
WENH-TV D11 DT LIC	19.9	284	12.0	97	12.0 97
CKMI-DT-2 D10 DT LIC	87.7	1,445	79.8	1,329	79.8 1,329

-----  
Interference to BLANK0000123122 LIC scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	254.0 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	254.0
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	143.8
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	248.8
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	248.6
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	162.4
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	196.1

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX			
33943.4	888,756	29332.3	768,292	29013.2	764,013	29013.2	764,013	0.00	0.00

Undesired	Total IX	Unique IX, before		Unique IX, after	
WCBB D10 DT BL	79.7	1,160	55.8	778	
WCBB D10 DT LIC	79.7	1,160			55.8 778
WMUR-TV D9 DT LIC	8.0	122	0.0	0	0.0 0
WTNH D10 DT LIC	123.7	1,488	115.7	1,442	115.7 1,442
WWDP D10 DT LIC	39.9	294	23.9	205	23.9 205
WENH-TV D11 DT APP	19.9	284	12.0	97	12.0 97
CKMI-DT-2 D10 DT LIC	87.7	1,445	79.8	1,329	79.8 1,329

-----  
Interference to BLANK0000123122 LIC scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	254.0 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	254.0
	WMUR-TV	D9	DT	APP	MANCHESTER, NH	BLANK0000145084	143.8
	WTNH	D10	DT	LIC	NEW HAVEN, CT	BLANK0000160005	248.8
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	248.6
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	162.4
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	196.1

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX			
33943.4	888,756	29332.3	768,292	29013.2	764,013	29013.2	764,013	0.00	0.00

Undesired	Total IX	Unique IX, before		Unique IX, after	
WCBB D10 DT BL	79.7	1,160	55.8	778	

# Engineering Statement

## WCBB(TV) Augusta, Maine

WCBB D10 DT LIC	79.7	1,160			55.8	778
WMUR-TV D9 DT APP	8.0	122	0.0	0	0.0	0
WTNH D10 DT LIC	123.7	1,488	115.7	1,442	115.7	1,442
WWDP D10 DT LIC	39.9	294	23.9	205	23.9	205
WENH-TV D11 DT APP	19.9	284	12.0	97	12.0	97
CKMI-DT-2 D10 DT LIC	87.7	1,445	79.8	1,329	79.8	1,329

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Interference to BLEDT20090817ABS LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	145.3 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	145.3
	WWLP	D11	DT	LIC	SPRINGFIELD, MA	BLANK0000125118	172.2
	WPIX	D11	DT	LIC	NEW YORK, NY	BLANK0000163151	354.3
	WNAC-TV	D12	DT	LIC	PROVIDENCE, RI	BLCDT20090612AFT	144.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
31050.2	4,500,498	28567.8	4,288,108	28435.5
		28435.5	4,248,084	0.00
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	16.1	1,661	16.1
WCBB D10 DT LIC	16.1	1,661	16.1
WWLP D11 DT LIC	108.1	35,704	100.1
WPIX D11 DT LIC	12.0	1,881	4.0
WNAC-TV D12 DT LIC	4.0	2,102	4.0

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Interference to BLANK0000035771 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	145.3 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	145.3
	WWLP	D11	DT	LIC	SPRINGFIELD, MA	BLANK0000125118	172.2
	WPIX	D11	DT	LIC	NEW YORK, NY	BLANK0000163151	354.3
	WNAC-TV	D12	DT	LIC	PROVIDENCE, RI	BLCDT20090612AFT	144.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
33373.3	4,846,443	30802.8	4,633,780	30614.4
		30614.4	4,610,208	0.00
				0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCBB D10 DT BL	32.2	1,852	32.2
WCBB D10 DT LIC	32.2	1,852	32.2
WWLP D11 DT LIC	144.2	14,860	132.2
WPIX D11 DT LIC	16.0	1,763	4.0
WNAC-TV D12 DT LIC	8.0	6,846	8.0

-----

Interference to BLANKCANADA310 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	
Undesireds:	WCBB	D10	DT	BL	AUGUSTA, ME	DTVBL39659	218.2 km
	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	218.2

# Engineering Statement

## WCBB(TV) Augusta, Maine

WVER	D10	DD	LIC	RUTLAND, VT	BLANK0000123122	196.1
CFTM-DT	D11	DT	LIC	MONTRAL, QC	BLANKCANADA272	107.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX						
7720.1	103,304	6154.1	76,749	5991.0	72,588	5991.0	72,588	0.00	0.00	(in U.S.)
16152.3	889,618	15769.0	847,496	15633.0	807,137	15633.0	807,137	0.00	0.00	

Undesired	Total IX	Unique IX, before	Unique IX, after				
WCBB D10 DT BL	15.9	75	11.9	75	(in U.S.)		
WCBB D10 DT LIC	11.9	75	11.9	75	(in U.S.)		
WCBB D10 DT BL	12.0	0	12.0	0			
WCBB D10 DT LIC	16.0	1,088	12.0	0			
WVER D10 DD LIC	151.2	4,086	147.3	4,086	151.2	4,086	(in U.S.)
WVER D10 DD LIC	8.0	412	4.0	412	4.0	412	
CFTM-DT D11 DT LIC	120.0	39,947	116.0	39,947	112.0	38,859	

-----  
 Interference to proposal scenario 1  
 0.90% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired:	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	
Undesireds:	WMEB-TV	D9	DT	LIC	ORONO, ME	BLEDT20020508AAS	95.8 km
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	182.0
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	252.6
	WMED-TV	D10	DT	LIC	CALAIS, ME	BLEDT20030307AAM	233.8
	WMEM-TV	D10	DT	LIC	PRESQUE ISLE, ME	BLEDT20090121ABS	317.0
	WENH-TV	D11	DT	LIC	DURHAM, NH	BLEDT20090817ABS	145.3
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	218.2

Service area	Terrain-limited	IX-free	Percent IX				
32203.5	964,079	29534.3	910,698	29052.2	902,528	1.63	0.90

Undesired	Total IX	Unique IX	Prcnt Unique IX			
WMEB-TV D9 DT LIC	366.2	6,401	298.4	4,878	1.01	0.54
WWDP D10 DT LIC	19.8	831	19.8	831	0.07	0.09
WMED-TV D10 DT LIC	107.9	721	64.0	392	0.22	0.04
WMEM-TV D10 DT LIC	56.1	1,370	16.2	52	0.05	0.01
WENH-TV D11 DT LIC	7.9	464	7.9	464	0.03	0.05
CKMI-DT-2 D10 DT LIC	4.0	0	4.0	0	0.01	0.00

-----  
 Interference to proposal scenario 2  
 \*\*MX: 0.95% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired:	WCBB	D10	DT	LIC	AUGUSTA, ME	BLANK0000068517	
Undesireds:	WMEB-TV	D9	DT	LIC	ORONO, ME	BLEDT20020508AAS	95.8 km
	WMUR-TV	D9	DT	LIC	MANCHESTER, NH	BLANK0000143119	182.0
	WWDP	D10	DT	LIC	NORWELL, MA	BLANK0000059580	252.6
	WMED-TV	D10	DT	LIC	CALAIS, ME	BLEDT20030307AAM	233.8
	WMEM-TV	D10	DT	LIC	PRESQUE ISLE, ME	BLEDT20090121ABS	317.0
	WENH-TV	D11	DT	APP	DURHAM, NH	BLANK0000035771	145.3
	CKMI-DT-2	D10	DT	LIC	SHERBROOKE, QC	BLANKCANADA310	218.2

Service area	Terrain-limited	IX-free	Percent IX
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# Engineering Statement

## WCBB(TV) Augusta, Maine

32203.5      964,079      29534.3      910,698      29044.3      902,074      1.66      0.95

Undesired		Total IX		Unique IX	Prcnt	Unique IX
WMEB-TV D9 DT LIC	366.2	6,401	298.4	4,878	1.01	0.54
WWDP D10 DT LIC	19.8	831	19.8	831	0.07	0.09
WMED-TV D10 DT LIC	107.9	721	64.0	392	0.22	0.04
WMEM-TV D10 DT LIC	56.1	1,370	16.2	52	0.05	0.01
WENH-TV D11 DT APP	15.9	918	15.9	918	0.05	0.10
CKMI-DT-2 D10 DT LIC	4.0	0	4.0	0	0.01	0.00

# Engineering Statement

WCBB(TV) Augusta, Maine

## Figure 2 – TV Study Interference Study for WCBB(DT) Channel 20 1000kW

tvstudy v2.2.5 (4uoc83)

Database: 192.168.0.58, Study: WCBB\_Ch20\_1000kW\_Omni, Model: Longley-Rice

Start: 2022.03.18 11:42:24

Study created: 2022.03.18 11:42:24

Study build station data: LMS TV 2022-03-07

Proposal: WCBB D20 DT APP AUGUSTA, ME

File number: WCBB\_Ch20\_1000kW\_Omni

Facility ID: 39659

Station data: User record

Record ID: 838

Country: U.S.

Zone: I

Build options:

Protect pre-transition records not on baseline channel

Search options:

Non-U.S. records included

Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WUTF-TV	D19	DT	LIC	WORCESTER, MA	BLANK0000120256	227.8 km
Yes	WBZ-TV	D20	DT	LIC	BOSTON, MA	BLANK0000117666	227.8
Yes	WBZ-TV	D20	DT	CP	BOSTON, MA	BLANK0000127484	227.8
Yes	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK0000090403	226.8
No	WSBK-TV	D21	DT	LIC	BOSTON, MA	BLANK0000117438	227.8
No	CIHF-DT-5	D20	DT	LIC	WOLFFVILLE, NS	BLANKCANADA156	458.2
No	CKMI-DT	D20	DT	LIC	QUBEC, QC	BLANKCANADA286	318.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20

Latitude: 44 9 15.00 N (NAD83)

Longitude: 70 0 35.00 W

Height AMSL: 386.7 m

HAAT: 304.0 m

Peak ERP: 1000 kW

Antenna: Omnidirectional

Elev Pattn: Generic

Elec Tilt: 0.75

39.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1000 kW	313.8 m	101.7 km
45.0	1000	323.5	102.7
90.0	1000	318.1	102.2
135.0	1000	307.3	101.1

# Engineering Statement

## WCBB(TV) Augusta, Maine

180.0	1000	294.7	99.6
225.0	1000	303.9	100.7
270.0	1000	286.5	98.6
315.0	1000	280.9	97.9

\*\*Proposal is within coordination distance of Canadian border

Distance to Canadian border: 136.8 km

Distance to Mexican border: 3149.0 km

Conditions at FCC monitoring station: Belfast ME

Bearing: 66.0 degrees Distance: 80.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 273.6 degrees Distance: 2912.9 km

No land mobile station failures found

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%

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Interference to BLANK0000117666 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBZ-TV	D20	DT	LIC	BOSTON, MA	BLANK0000117666	
Undesireds:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	227.8 km
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK0000090403	277.3
	WFXQ-CD	D21	DC	LIC	SPRINGFIELD, MA	BLANK0000125116	116.0
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	36719.8	7,960,556	34798.6	7,730,847	34343.4	7,691,949	2.52 0.45
Undesired			Total IX	Unique IX, before		Unique IX, after	
WCBB D20 DT APP		1060.4	55,656		865.0	34,947	
WCAX-TV D20 DT LIC		439.2	36,713	411.2	35,251	239.7	16,912
WFXQ-CD D21 DC LIC		44.0	3,647	16.0	2,185	4.0	291

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Interference to BLANK0000127484 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBZ-TV	D20	DT	CP	BOSTON, MA	BLANK0000127484	
Undesireds:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	227.8 km
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK0000090403	277.3
	WFXQ-CD	D21	DC	LIC	SPRINGFIELD, MA	BLANK0000125116	116.0
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	37256.7	8,008,999	35259.5	7,758,391	34800.3	7,719,211	2.66 0.47

# Engineering Statement

## WCBB(TV) Augusta, Maine

Undesired		Total IX	Unique IX, before		Unique IX, after	
WCBB D20 DT APP	1112.2	57,509			924.7	36,602
WCAX-TV D20 DT LIC	439.2	36,671	419.3	35,243	255.7	17,006
WFXQ-CD D21 DC LIC	39.9	3,937	20.0	2,509	4.0	291

Interference to BLANK000090403 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK000090403	
Undesireds:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	226.8 km
	WBZ-TV	D20	DT	LIC	BOSTON, MA	BLANK0000117666	277.3
	WCNY-TV	D20	DT	LIC	SYRACUSE, NY	BLANK0000105277	318.1
	CBFT-DT	D19	DT	LIC	MONTRAL, QC	BLANKCANADA275	124.8
	CJMT-DT-2	D20	DT	LIC	OTTAWA, ON	BLANKCANADA200	229.7
	CBMT-DT	D21	DT	LIC	MONTRAL, QC	BLANKCANADA276	124.8

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX	
38475.1	784,748	32835.4	665,685	31949.9	652,319	0.65	0.30
11839.8	2,366,568	11282.5	2,252,019	10696.3	2,100,298	0.79	0.10 (in Canada)

Undesired		Total IX	Unique IX, before		Unique IX, after	
WCBB D20 DT APP	264.1	2,469			208.0	1,977
WCBB D20 DT APP	84.2	2,050			84.2	2,050 (in Canada)
WBZ-TV D20 DT LIC	276.1	3,131	276.1	3,131	220.1	2,639
WCNY-TV D20 DT LIC	63.9	143	39.9	128	39.9	128
CBFT-DT D19 DT LIC	349.8	9,474	0.0	0	0.0	0
CBFT-DT D19 DT LIC	445.6	147,433	0.0	0	0.0	0 (in Canada)
CJMT-DT-2 D20 DT LIC	505.6	9,825	163.7	434	163.7	434
CJMT-DT-2 D20 DT LIC	44.3	1,010	4.0	0	4.0	0 (in Canada)
CBMT-DT D21 DT LIC	381.9	9,658	8.0	56	8.0	56 (in Canada)
CBMT-DT D21 DT LIC	582.2	151,721	136.6	4,288	136.6	4,288 (in Canada)

Interference to BLANK000090403 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK000090403	
Undesireds:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	226.8 km
	WBZ-TV	D20	DT	CP	BOSTON, MA	BLANK0000127484	277.3
	WCNY-TV	D20	DT	LIC	SYRACUSE, NY	BLANK0000105277	318.1
	CBFT-DT	D19	DT	LIC	MONTRAL, QC	BLANKCANADA275	124.8
	CJMT-DT-2	D20	DT	LIC	OTTAWA, ON	BLANKCANADA200	229.7
	CBMT-DT	D21	DT	LIC	MONTRAL, QC	BLANKCANADA276	124.8

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX	
38475.1	784,748	32835.4	665,685	31941.8	652,227	0.65	0.30
11839.8	2,366,568	11282.5	2,252,019	10696.3	2,100,298	0.79	0.10 (in Canada)

Undesired		Total IX	Unique IX, before		Unique IX, after	
WCBB D20 DT APP	264.1	2,469			208.0	1,977
WCBB D20 DT APP	84.2	2,050			84.2	2,050 (in Canada)
WBZ-TV D20 DT CP	284.2	3,223	284.2	3,223	228.1	2,731
WCNY-TV D20 DT LIC	63.9	143	39.9	128	39.9	128
CBFT-DT D19 DT LIC	349.8	9,474	0.0	0	0.0	0

# Engineering Statement

## WCBB(TV) Augusta, Maine

CBFT-DT D19 DT LIC	445.6	147,433	0.0	0	0.0	0	(in Canada)
CJMT-DT-2 D20 DT LIC	505.6	9,825	163.7	434	163.7	434	
CJMT-DT-2 D20 DT LIC	44.3	1,010	4.0	0	4.0	0	(in Canada)
CBMT-DT D21 DT LIC	381.9	9,658	8.0	56	8.0	56	
CBMT-DT D21 DT LIC	582.2	151,721	136.6	4,288	136.6	4,288	(in Canada)

Interference to proposal scenario 1  
3.06% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	
Undesireds:	WBZ-TV	D20	DT	LIC	BOSTON, MA	BLANK0000117666	227.8 km
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK0000090403	226.8

Service area	Terrain-limited	IX-free	Percent IX
31788.5	948,183	29818.8	918,479
28894.9	890,373	3.10	3.06

Undesired	Total IX	Unique IX	Prcnt Unique IX
WBZ-TV D20 DT LIC	804.1	26,710	772.2
WCAX-TV D20 DT LIC	151.6	2,000	119.8
		26,106	1,396
		2.59	0.15

Interference to proposal scenario 2  
3.18% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WCBB	D20	DT	APP	AUGUSTA, ME	WCBB_Ch20_1000kW_Omni	
Undesireds:	WBZ-TV	D20	DT	CP	BOSTON, MA	BLANK0000127484	227.8 km
	WCAX-TV	D20	DT	LIC	BURLINGTON, VT	BLANK0000090403	226.8

Service area	Terrain-limited	IX-free	Percent IX
31788.5	948,183	29818.8	918,479
28843.1	889,317	3.27	3.18

Undesired	Total IX	Unique IX	Prcnt Unique IX
WBZ-TV D20 DT CP	863.9	28,106	824.1
WCAX-TV D20 DT LIC	151.6	2,000	111.8
		27,162	1,056
		2.76	0.11

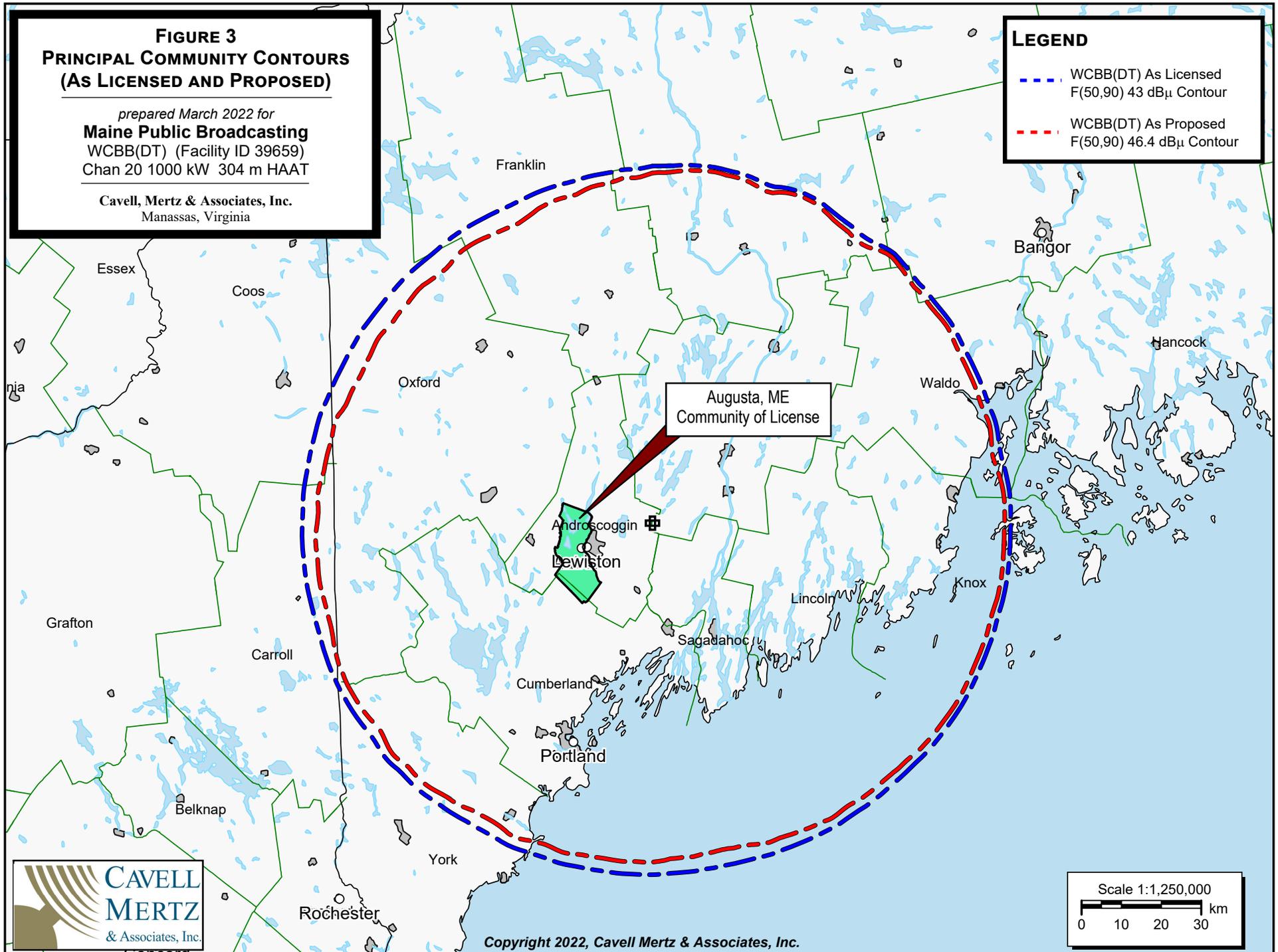
**FIGURE 3  
PRINCIPAL COMMUNITY CONTOURS  
(AS LICENSED AND PROPOSED)**

*prepared March 2022 for*  
**Maine Public Broadcasting**  
WCBB(DT) (Facility ID 39659)  
Chan 20 1000 kW 304 m HAAT

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Manassas, Virginia

**LEGEND**

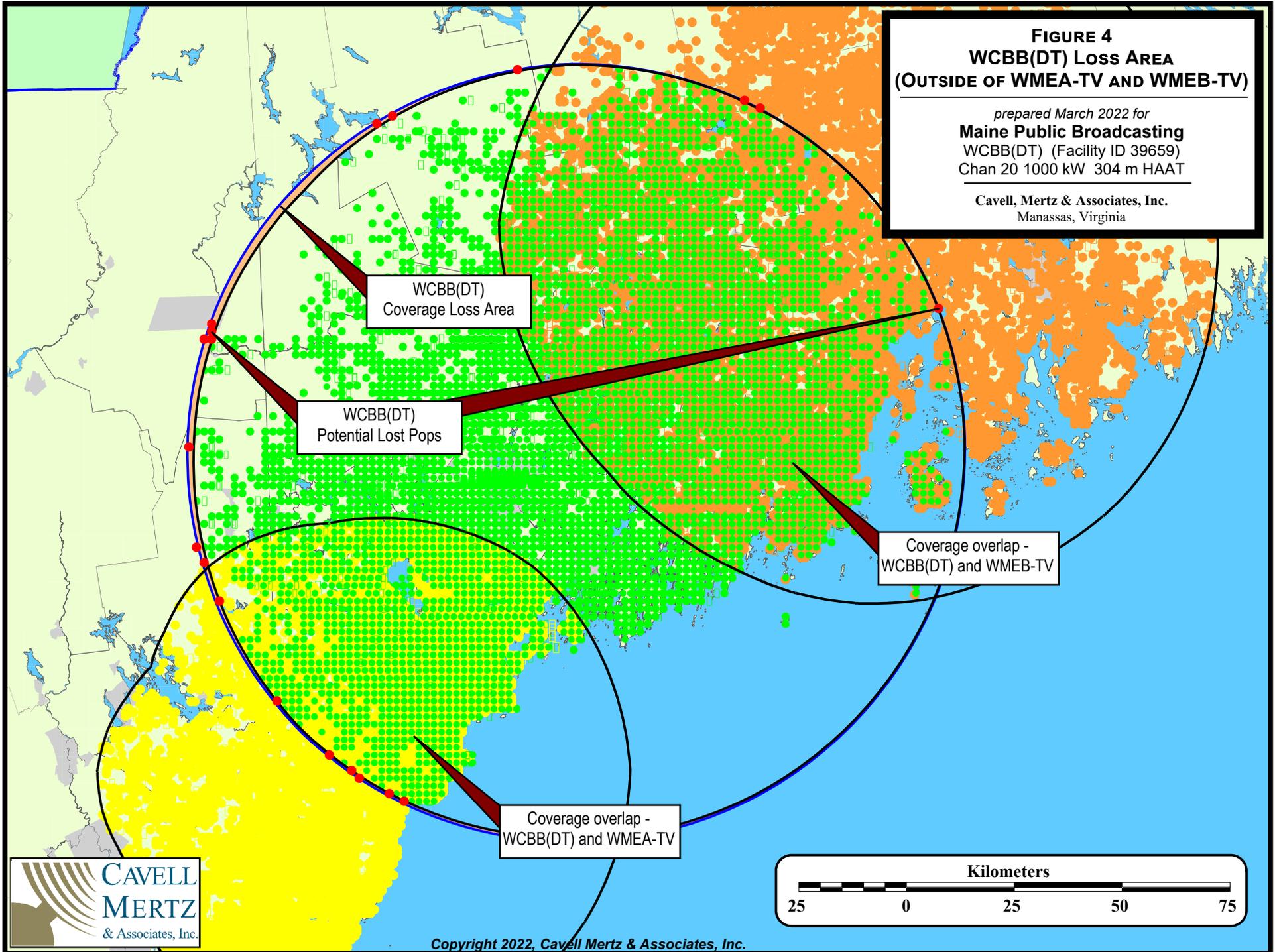
- WCBB(DT) As Licensed  
F(50,90) 43 dB $\mu$  Contour
- WCBB(DT) As Proposed  
F(50,90) 46.4 dB $\mu$  Contour



**FIGURE 4**  
**WCBB(DT) Loss Area**  
**(OUTSIDE OF WMEA-TV AND WMEB-TV)**

*prepared March 2022 for*  
**Maine Public Broadcasting**  
WCBB(DT) (Facility ID 39659)  
Chan 20 1000 kW 304 m HAAT

Cavell, Mertz & Associates, Inc.  
Manassas, Virginia

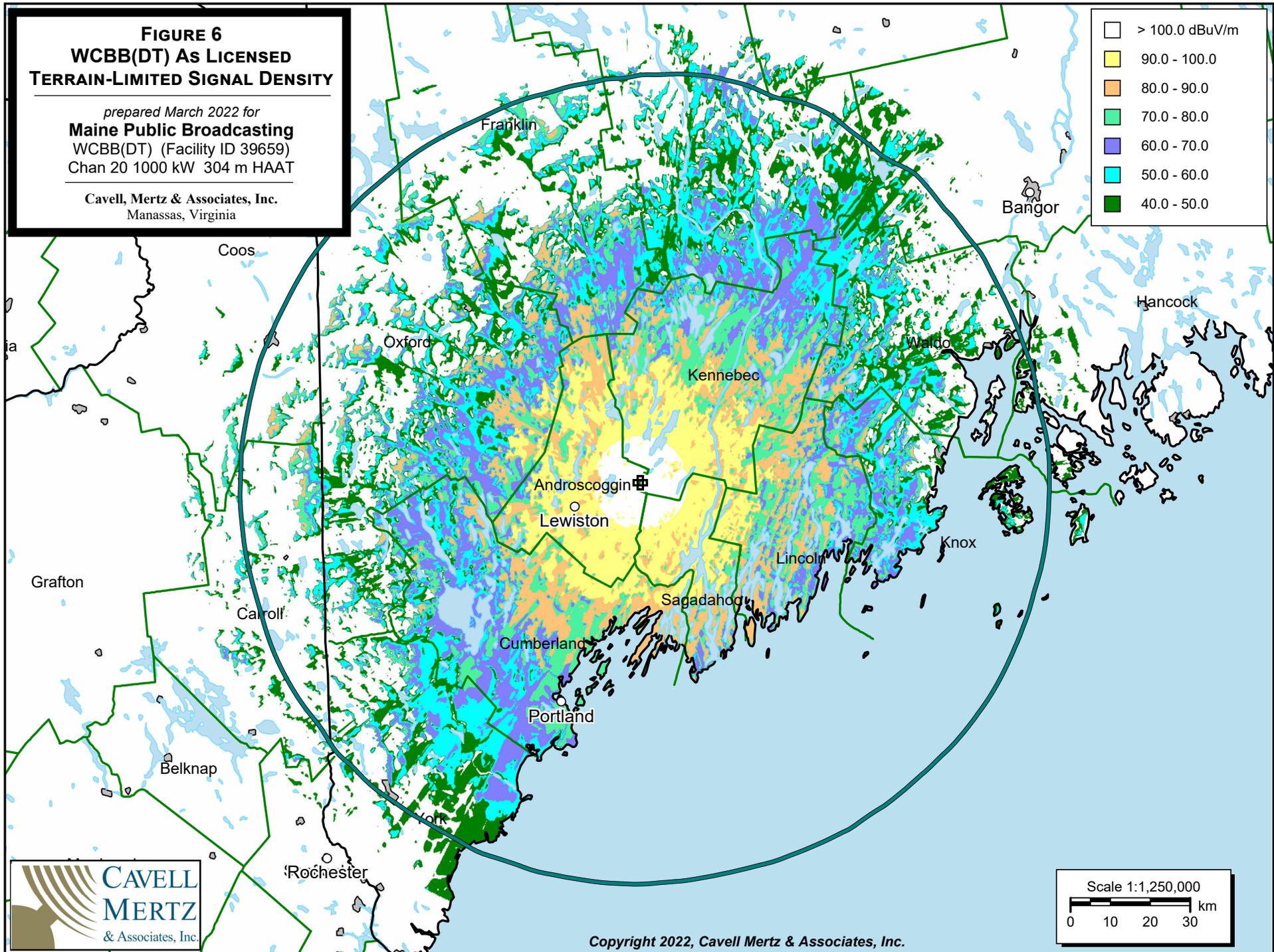
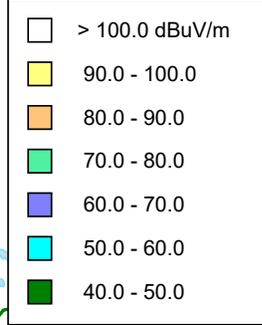




**FIGURE 6**  
**WCBB(DT) AS LICENSED**  
**TERRAIN-LIMITED SIGNAL DENSITY**

*prepared March 2022 for*  
**Maine Public Broadcasting**  
WCBB(DT) (Facility ID 39659)  
Chan 20 1000 kW 304 m HAAT

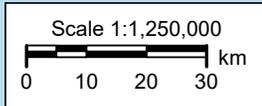
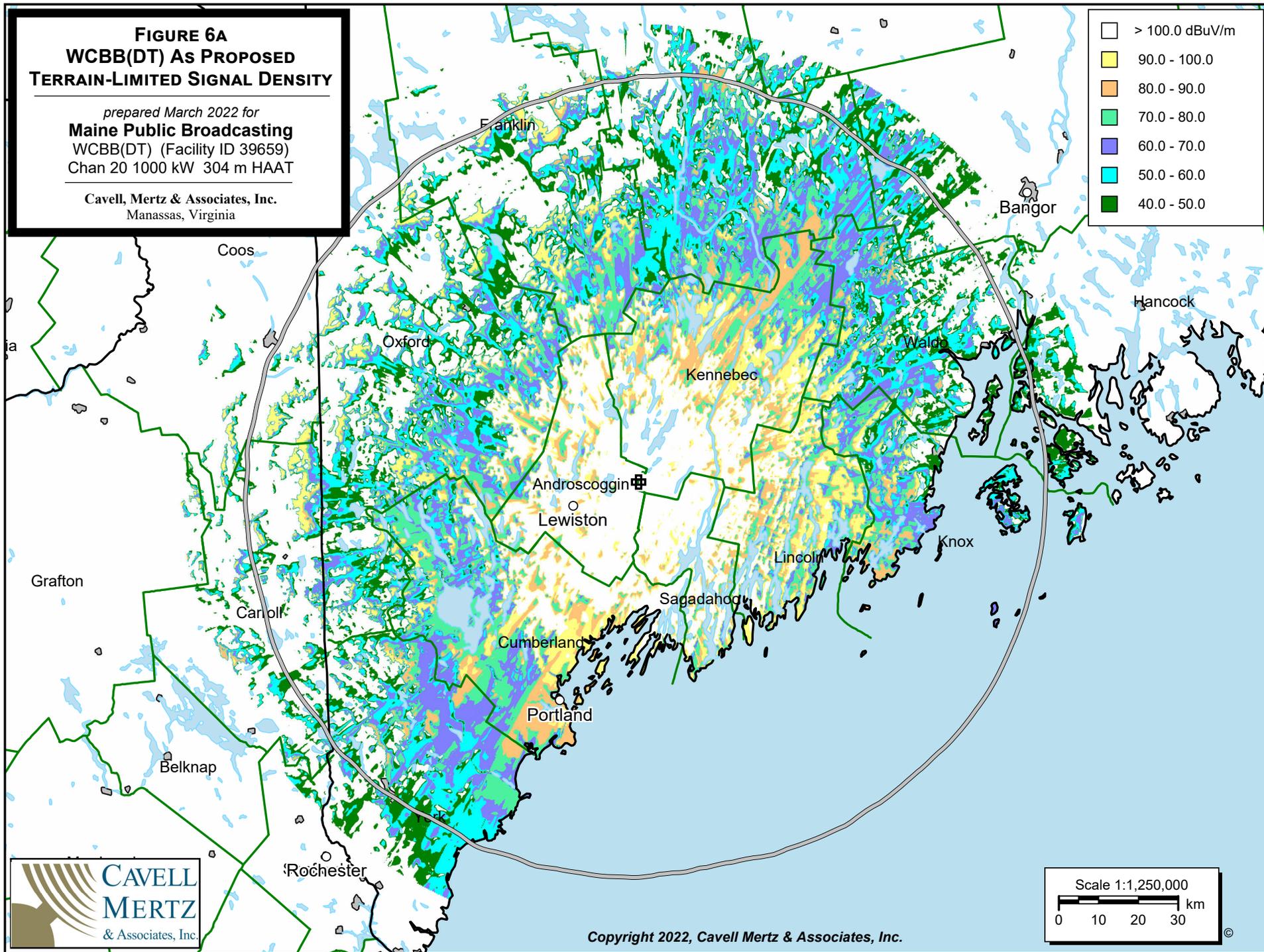
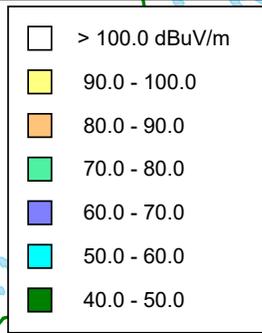
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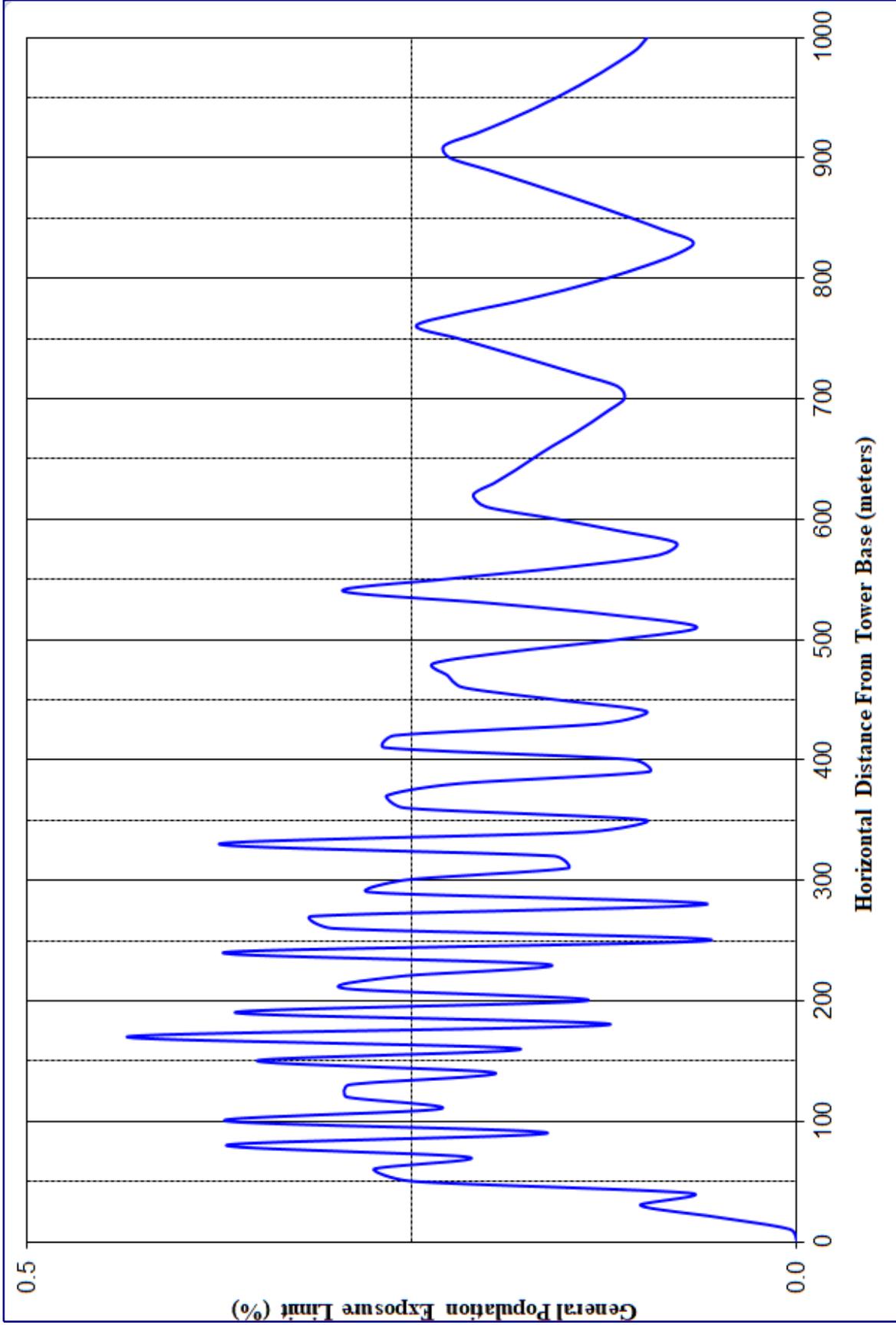


**FIGURE 6A**  
**WCBB(DT) As PROPOSED**  
**TERRAIN-LIMITED SIGNAL DENSITY**

*prepared March 2022 for*  
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WCBB(DT) (Facility ID 39659)  
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**FIGURE 7**  
**WCBT(DT)**  
**EXPOSURE TO RF EMISSIONS**

*prepared March 2022 for*  
**Maine Public Broadcasting**  
 WCBT(DT) (Facility ID 39659)  
 Chan 20 1000 kW 304 m HAAT

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