

July 2013
FM Translator W284AP
Buffalo, New York Channel 284D
Allocation Study

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules.

The proposed translator transmitter site is located within the 54 dBu protected contour of third-adjacent channel station WHTT-FM 281B Buffalo. The proposed site is 13.03 km from the WHTT-FM transmitter site at a bearing of 350 degrees True. Given the WHTT-FM antenna's 134 meter HAAT and 50 kW ERP along this radial, WHTT-FM places an 85.2 dBu contour at the translator transmitter site. The corresponding interfering contour from the translator is $85.2 + 40 = 125.2$ dBu. This contour extends at most 61 meters from the antenna per a Free Space calculation, and does not reach ground level. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to WHTT-FM.

The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

Protection of Canadian Stations

The proposed facility will operate within the vicinity of three Canadian stations which required further study to demonstrate compliance with the US-Canada FM Agreement. Allocation study maps are attached to demonstrate that the relevant interfering contour from the proposed facility will not overlap the Canadian station's protected service radius over Canadian territory. The three Canadian stations studied were:

CIHR-FM 284B1 Woodstock: The cochannel 34 dBu F(50,10) contour does not overlap the CIHR-FM protected service radius.

CHUM-FM 283C1 Toronto: The first-adjacent channel 48 dBu F(50,10) contour does not overlap the CHUM-FM protected service radius except over US land area.

CFLZ-FM 286B Niagara Falls: The second-adjacent channel 74 dBu F(50,10) contour does not overlap the CFLZ-FM protected service radius except over US land area.

Furthermore, the 34 dBu F(50,10) contour does not extend more than 60 kilometers in the direction of Canadian land area, except where it falls over water area of Lake Ontario. This is believed to comply with the requirements of Section 4.3 of the US-Canada FM Agreement.

LPFM Preclusion Study Not Required

The licensed W284AP facility is already located within the Buffalo-Niagara Falls Arbitron market. Therefore, the instant application is not subject to the requirement for an LPFM preclusion study, since such study is not required for intramarket minor modification applications.

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SEARCH PARAMETERS FM Database Date: 130726

Channel: 284A 104.7 MHz
 Latitude: 42 56 46
 Longitude: 78 49 39
 Safety Zone: 50 km
 Job Title: W284AP AT 1013994

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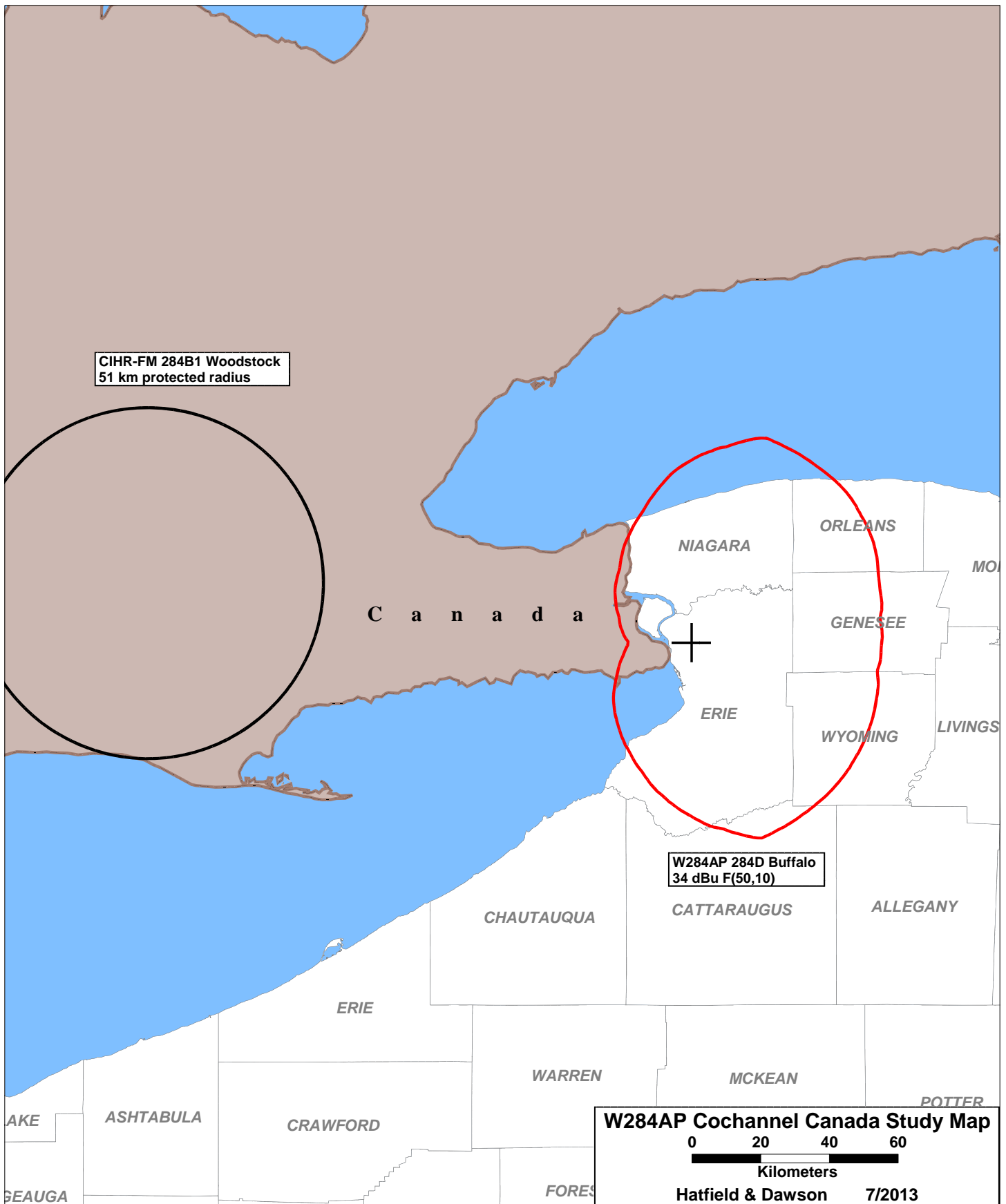
Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
WHTTaux LIC	BUFFALO NY	BLH-970523KG	281B 104.1	50.000 68.0	42-49-51 078-48-00	170.1	13.00 0.00	0 AUX
WHTT-FM LIC	BUFFALO NY	BLH-970523KA	281B 104.1	50.000 118.0	42-49-50 078-48-01	170.2	13.03 -55.97	69 SHORT
W282BQ LIC	AVON NY	BLFT-11102AJC	282D 104.3	0.110 101.0	42-56-32 077-53-59	90.0	75.72 0.00	0 TRANS
CHUMFM	TORONTO ON	-	283C1 104.5	40.000 421.0	43-38-33 079-23-15	329.9	89.73 -78.27	168 SHORT
W283BR LIC	DANVILLE NY	BLFT-20223AEO	283D 104.5	0.010 429.0	42-30-39 077-38-06	116.0	108.98 0.00	0 TRANS
W283AU LIC	EAGLE NY	BLFT-30506ABA	283D 104.5	0.030 DA 145.0	42-33-56 078-14-55	131.6	63.51 0.00	0 TRANS
	HUNTSVILLE ON	-	284C1 104.7	0.000 0.0	45-24-38 079-15-22	353.0	275.97 32.97	243 CLEAR
	PORT CARLING ON	-	284B 104.7	0.000 0.0	45-06-46 079-35-09	346.1	248.30 38.30	210 CLEAR
CIHR-FM	WOODSTOCK ON	-90305CAN	284B1 104.7	20.000 DA 99.5	43-06-07 080-46-18	276.9	159.41 -24.59	184 SHORT
CIHR-FM	WOODSTOCK ON	-10331CA1	284B1 104.7	20.000 DA 99.5	43-06-07 080-46-18	276.9	159.41 -24.59	184 SHORT
W284BX LIC	ALFRED NY	BLFT-90527AHA	284D 104.7	0.005 DA 184.0	42-16-41 077-46-11	130.3	114.20 0.00	0 TRANS
W284AP LIC	BUFFALO NY	BLFT-20618AAA	284D 104.7	0.019 DA 104.0	42-54-03 078-51-58	212.0	5.94 0.00	0 TRANS
WBBSaux LIC	FULTON NY	BXLH-50622AAY	284B 104.7	23.500 138.0	43-12-50 076-23-47	80.6	200.21 0.00	0 AUX
WBBS LIC	FULTON NY	BMLH-50125ABT	284B 104.7	50.000 150.0	43-12-50 076-23-47	80.6	200.21 22.21	178 CLEAR

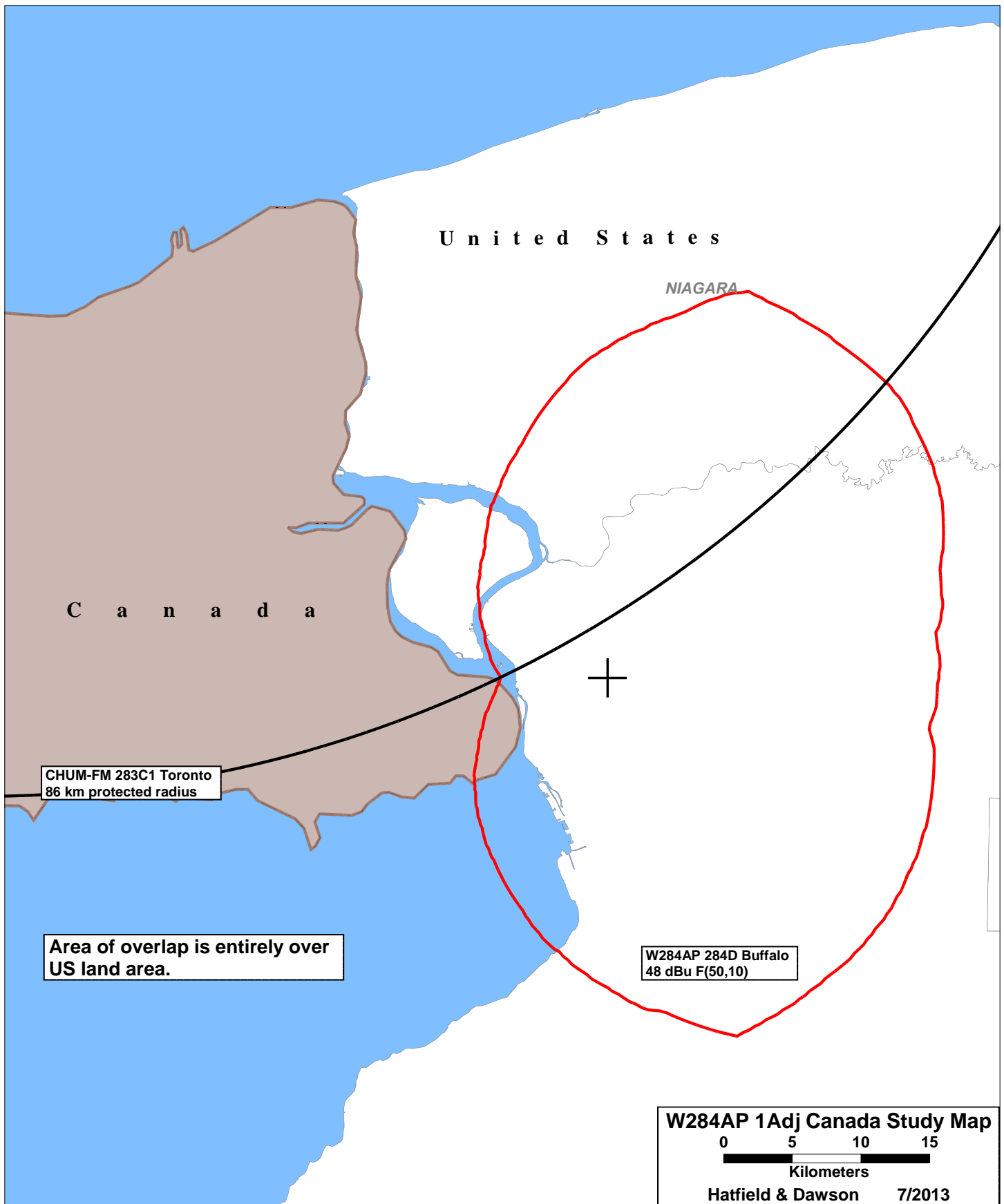
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SEARCH PARAMETERS FM Database Date: 130726
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 Latitude: 42 56 46
 Longitude: 78 49 39
 Safety Zone: 50 km
 Job Title: W284AP AT 1013994

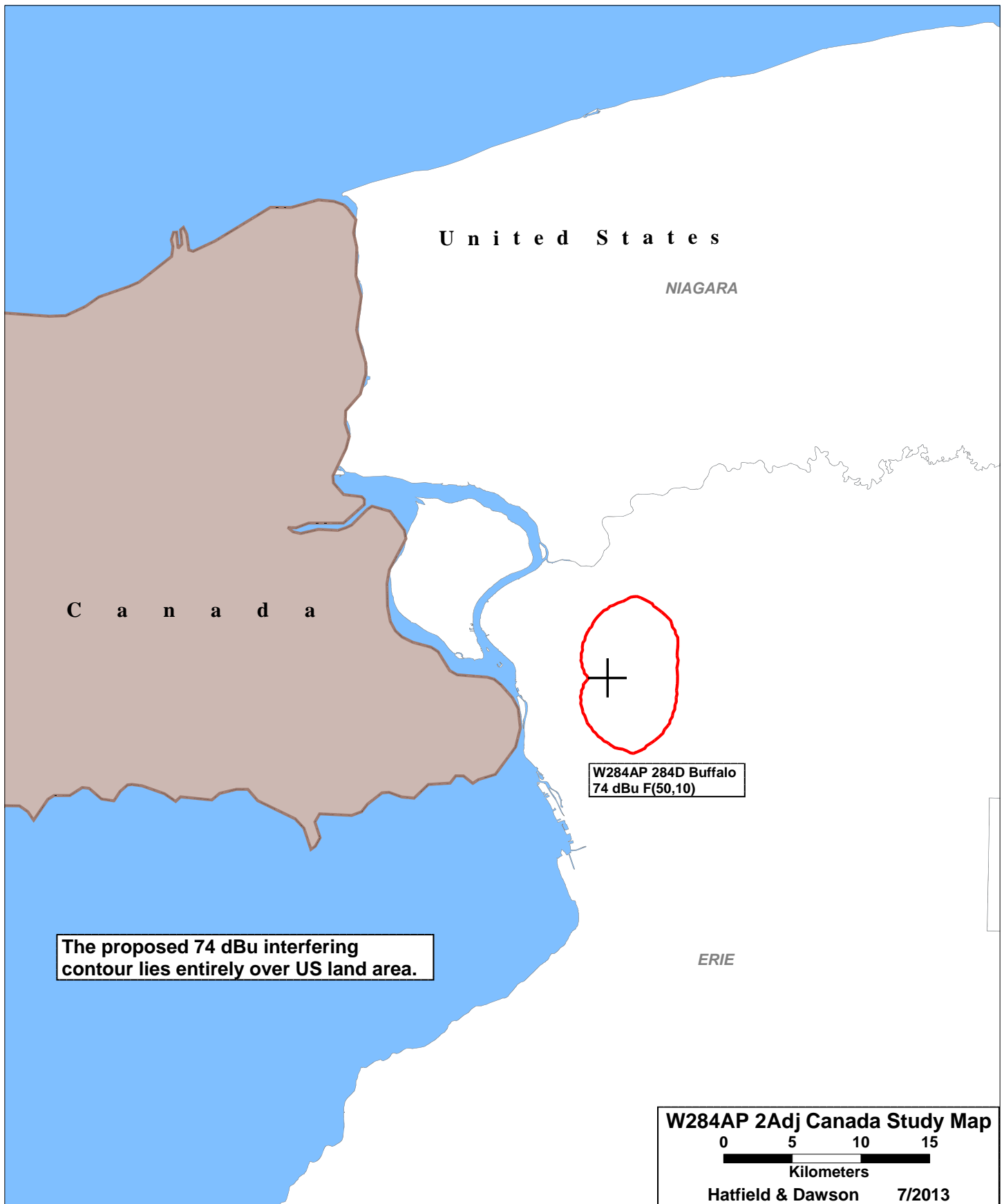
Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
WOGM-LP LIC	JAMESTOWN NY	BLL-00611AHB	284L1 104.7	0.048 43.0	42-05-12 079-12-53	198.5	100.63 33.63	67 CLEAR
WKEG-LP LIC	LIMESTONE NY	BLL-20815AAP	284L1 104.7	0.100 -65.4	42-01-24 078-37-51	171.0	103.77 36.77	67 CLEAR
	SHELBURNE ON	-	285B 104.9	0.000 0.0	44-13-49 080-17-27	321.0	185.26 48.26	137 CLEAR
	SHELBURNE ON	-	285B 104.9	0.000 0.0	44-14-09 080-17-19	321.1	185.62 48.62	137 CLEAR
WKDL-FM LIC	BROCKPORT NY	BMLD-51109ABS	285A 104.9	6.000 100.0	43-09-51 077-47-02	73.7	88.41 16.41	72 CLEAR
DWNYL-LP LIC	LIMA NY	BLL-50613ABE	285L1 104.9	0.037 48.0	42-54-40 077-37-02	91.8	98.88 42.88	56 CLEAR
WRKT CP	NORTH EAST PA	BPH-10509AAL	285B1 104.9	4.500 160.5	42-05-25 079-56-37	224.2 SS	132.10 36.10	96 CLEAR
	NIAGARA FALLS ON	RM-	286A 105.1	0.000 0.0	43-05-05 079-04-46	307.0	25.67 -25.33	51 SHORT
CFLZ-FM	NIAGARA FALLS ON	-	286B 105.1	15.000 127.0	DA 43-05-37 079-12-53	297.7	35.56 -42.44	78 SHORT
NEW	NIAGARA FALLS ON	-	286B 105.1	30.000 170.0	DA 43-05-05 079-04-46	307.0	25.67 -52.33	78 SHORT
	TORONTO ON	-	286A 105.1	0.000 0.0	43-38-56 079-22-55	330.3	90.11 39.11	51 CLEAR
WKPQ LIC	HORNELL NY	BLH-880614KB	287B 105.3	43.000 162.0	42-17-32 077-40-27	127.2	119.29 50.29	69 CLEAR

===== END OF FM SPACING STUDY FOR CHANNEL 284 =====





W284AP 1Adj Canada Study Map



July 2013
FM Translator W284AP
Buffalo, New York Channel 284D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 284D (104.7 MHz) with a maximum lobe effective radiated power of 250 watts. Operation is proposed with an antenna to be mounted on an existing tower having FCC Antenna Structure Registration Number 1013994.

RF Exposure Calculations

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . . For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed operation of W284AP will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the W284AP antenna system have been made

Hatfield & Dawson Consulting Engineers

assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (88 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from W284AP occurs at the base of the antenna support structure. At this point the power density is calculated to be $2.2 \mu\text{W}/\text{cm}^2$, which is 0.2% of $1000 \mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 1.1% of $200 \mu\text{W}/\text{cm}^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of W284AP alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.