

**Exhibit to KJAQ Application  
Minor Change  
Seattle, Washington  
Facility ID: 1091**

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This exhibit presents the technical details of a power increase from 52 to 70 kW with no change in antenna location, height, or change in principal community, class, or channel is proposed.

**Antenna Location**

The antenna for KJAQ is shared with KBKS, KZOK, KNUC, KQMV, and KSWD and is mounted 65 meters above ground on the tower identified by antenna structure registration number 1056093.

**Spacing Compliance**

Attached as Figure 1 is a spacing study from the proposed antenna location indicating compliance with the Commission's Section 73.207 rule with the exception of the facilities of KYYO.

**Spacing**

Spacing to the facilities of KYYO is requested via Section 73.215. Attached as Figure 2 is a contour overlap study which is representative of the results of an "FM Over" study of the proposed facility, indicating no prohibited contour overlap is calculate to result from this proposal. Attached as Figure 3, is a contour map depicting the material contours of this proposal as well as those KYYO.

**Beam Tilt**

This application continues the existing  $-1.31^{\circ}$  beam tilt. Attached as Figure 4 is the proposed vertical plane relative field pattern. Maximum radiated power is to be 70 kilowatts, with 66 kilowatts toward the horizon.

**Radio Frequency Radiation Study and Statement**

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance

With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation.”

The proposed antenna system is an ERI, 1080 panel type, 8 bay array with 0.75 wavelength spacing between elements, which has been evaluated using the program “FM Model” as a shared antenna for KJAQ, KBKS, KZOK, KNUC, KQMV, and KSWD all operating simultaneously with a combined maximum power of 417 kW.

The Commission’s FMModel program does not include an element pattern for the ERI 1080 panel antenna, nor indeed for any panel antenna. Therefore, calculations of the power density produced by the shared antenna system assumes a Type 1 element pattern, which is the “worst case” element pattern corresponding to a ring-stub antenna.

At 2 meters above ground, at 26 meters from the base of the tower, a worst case 97 microwatts per square centimeter, or 9.7 percent of the allowable ANSI limit for controlled exposure, and 48.5 percent of the allowable limit for uncontrolled exposure is produced. It should be noted that FM panel antenna systems produce significantly lower levels of downward radiation than the Type 1 antenna assumed for this study. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for

**Figures and Attachments**



Figure 2 - Antenna Location Contour Study

KJAQ 73-215 Space Study  
Capstar TX, LLC, As Debtor In Possession

REFERENCE CH# 243C - 96.5 MHz, Pwr= 70 kW, HAAT= 696.0 M, COR= 928.4 M      DISPLAY DATES  
47 30 17.0 N.      Average Protected F(50-50)= 91.73 km      DATA 11-01-18  
121 58 03.0 W.      73.215 Omni-directional      SEARCH 11-05-18

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
243C	KJAQ	LIC WA	NC_	0.0	0.00	47 30 17.0	52.000		---	Reference---	
	Seattle			0.0	BLH20060710ABP	121 58 03.0	696	930	Capstar TX, LLC, As Debtor		
245C2	KYYO	LIC WA	NC_	243.6	103.40	47 05 09.0	11.000	5.8	59.2	2.3	30.1
	Mccleary			62.7	BLH20100907ABL	123 11 17.0	321	490	Kgy, Inc.		
244A	KWW-FM	LIC WA	NCN	96.4	164.86	47 19 13.0	0.440	41.9	27.6	164.5R	0.36M
	Quincy			278.0	BLH19940502KCC	119 48 00.0	315	889	Ccr-wenatchee Iv, LLC		
241C	KXXO	LIC WA	ZCX	236.7	106.55	46 58 23.0	37.000	10.5	87.2	104.5R	2.1M
	Olympia			55.8	BLH20150828ABN	123 08 18.0	717	917	3 Cities, Inc.		
243A	KCY5	LIC OR	_CX	221.7	228.96	45 57 11.0	6.000	99.8	33.6	225.5R	3.5M
	Seaside			40.3	BLH20121012ADF	123 56 14.0	100	257	Dave's Broadcasting Corpor		
244C3	KBDB-FM	LIC WA	DCX	292.6	188.28	48 07 47.0	0.930	52.9	27.6	175.5R	12.8M
	Forks			110.9	BLH20160511ABL	124 18 15.0	484	723	Forks Broadcasting, Inc.		
244A	CBYHFM	OPE BC	_HN	4.0	199.41	49 17 38.0	0.090	7.8	7.8	182.0R	17.4M
	Harrison Hot Spring			184.1		121 46 35.0	-264	49			
245C2	AL1230	RSV WA	-A	141.7	127.50	46 36 02.0	50.000	2.7	26.5	104.5R	23.0M
	Naches			322.5	RM10093	120 56 06.0	150	1187			
245C2	KZTA	LIC WA	_CX	140.0	130.73	46 35 59.0	14.000	3.4	19.7	104.5R	26.2M
	Naches			320.8	BLH20030828AMC	120 52 08.0	285	1176	Bustos Media Holdings, LLC		
243C1	KJIV	LIC OR	NHX	168.9	301.59	44 50 24.0	30.000	125.8	46.1	269.5R	32.1M
	Madras			349.4	BLED20160122AHP	121 13 55.0	339	1006	Openskyradio Corp.		
242C2	KRCW	LIC WA	_C_	111.0	219.78	46 45 55.0	19.500	79.2	45.9	187.5R	32.3M
	Royal City			293.0	BLH19990910AAE	119 16 51.0	241	531	Farmworker Educational Rad		
243B	AL0035	VAC BC	___	317.2	323.22	49 35 44.0	50.000	150.5	65.0	274.0R	49.2M
	Courtenay			134.9		125 00 36.0	150	484			
246A	R29441	ADD BC	___	310.5	155.95	48 24 09.0	6.000	3.8	38.0	101.0R	55.0M
	Metchosin/sooke			129.3		123 34 20.0	100	228			
242C3	KWEE	LIC OR	NC_	194.2	230.92	45 29 20.0	1.400	61.0	39.9	175.5R	55.4M
	West Linn			13.7	BLH20150828ABD	122 41 40.0	386	480	3 Horizons, LLC		
242C	R15406	VAC BC	___	34.4	300.79	49 42 44.0	100.000	146.5	97.0	241.0R	59.8M
	KeIowna			216.1		119 36 32.0	600	1435			
240C2	KZML	LIC WA	NC_	96.4	164.88	47 19 13.0	11.000	5.3	54.2	104.5R	60.4M
	Quincy			278.0	BLH20030321ABM	119 47 59.0	320	894	Bustos Media Holdings, LLC		
241C	CKO-4	PRO BC	?HN	340.9	218.12	49 21 12.0	100.000	16.7	107.0	153.0R	65.1M
	Vancouver			160.1		122 57 18.0	567	885			
241C	R29589	DEL BC	_H_	340.9	218.55	49 21 29.0	100.000	17.0	108.4	153.0R	65.6M
	Vancouver			160.2		122 57 09.0	600	921			
245C	CKKSFM	OPE BC	?HY	340.9	218.55	49 21 29.0	72.000	15.5	106.5	153.0R	65.6M
	Vancouver			160.2		122 57 09.0	686	1007			
242B	AL0058	DEL BC	___	37.5	283.26	49 30 00.0	50.000	84.9	65.0	209.0R	74.3M
	Penticton			219.3		119 35 00.0	150	1059			
244A1	R13018	VAC BC	___	21.0	243.72	49 32 39.0	0.250	10.1	18.0	162.0R	81.7M
	Tulameen			201.9		120 45 26.0	100	1353			
244A	KMMG	LIC WA	_CX	124.1	246.32	46 14 04.0	0.820	46.9	28.5	164.5R	81.8M
	Benton City			306.0	BLH20060718ACV	119 19 13.0	271	515	Bustos Media Holdings, LLC		

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= - Zone 2, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"="affixed to 'IN' or 'OUT' values = site inside restricted contour.  
"=" Station meets FCC minimum distance spacing for its class.  
Reference station has protected zone issue: Canada

Figure 3 - KJAQ and KYYO Contour Map

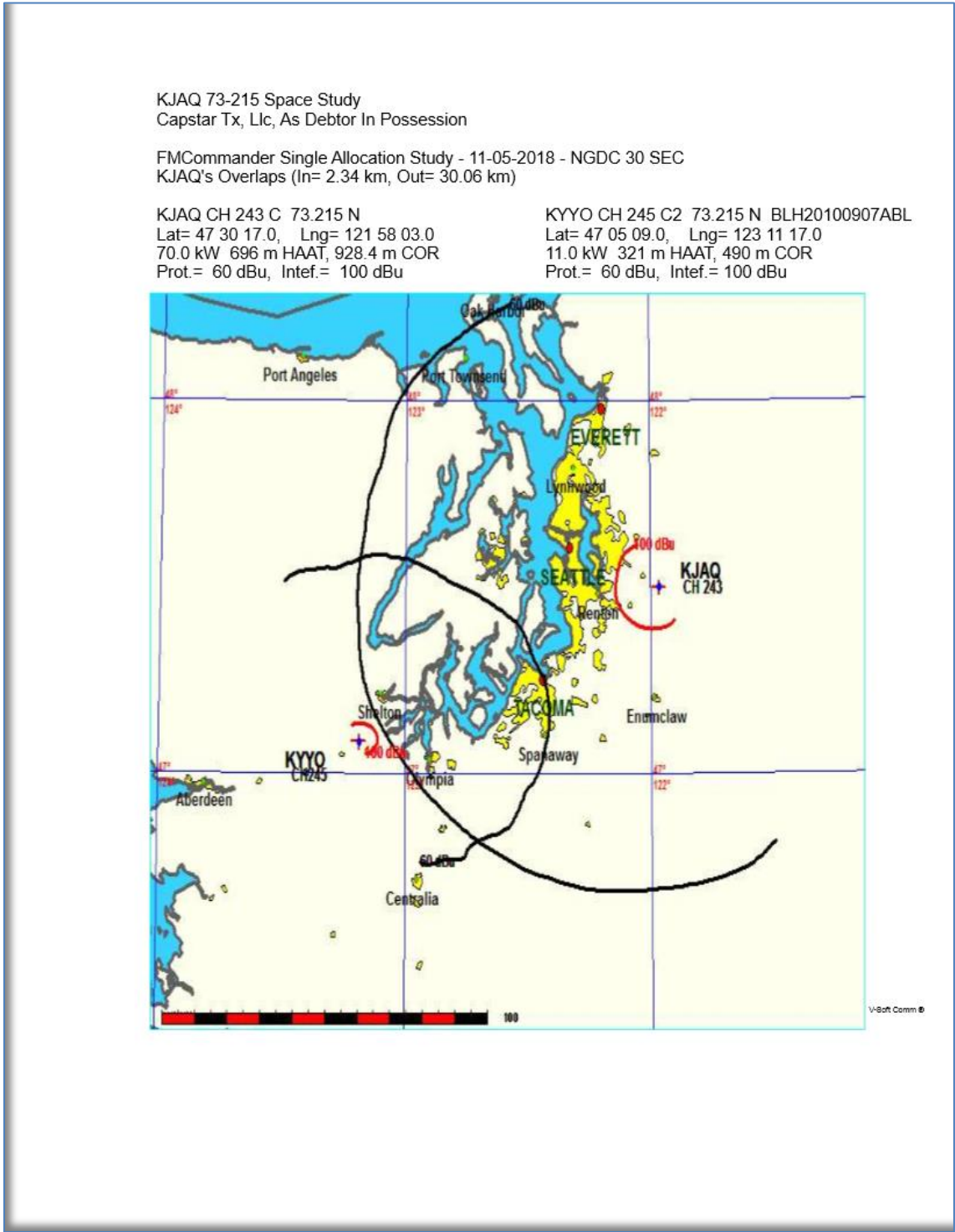


Figure 4 - Vertical Plane Relative Field

