

June 2012
FM Translator K219DQ
Omak, Washington Channel 218D
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 attached allocation study map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The attached cochannel study map also demonstrates that the proposed 34 dBu F(50,10) contour does not overlap any Canadian land areas. Therefore, coordination of the instant proposal with Canadian authorities is not believed to be necessary.

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.

The proposed operation is far from any of the 156 markets identified in the *Fourth Report and Order and Third Order on Reconsideration* in MM Docket No. 99-25 (FCC 12-29, Released March 19, 2012). Therefore, it is not necessary to perform an LPFM Non-preclusion study on the instant proposal.

SEARCH PARAMETERS

FM Database Date: 120530

Channel: 218A 91.5 MHz
 Latitude: 48 26 57
 Longitude: 119 18 30
 Safety Zone: 50 km
 Job Title: OMAK 218D

Page 1

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KPBG LIC	OROVILLE WA	BLED-10718AAG	215A 90.9	1.000 4.7	48-46-59 119-22-56	351.7	37.53 6.53	31 CLOSE
KTWP LIC	TWISP WA	BLED-10921ADM	216A 91.1	0.110 511.0	48-19-03 120-06-53	256.5	61.50 30.50	31 CLEAR
K217ER LIC	PATEROS, ETC. WA	BLFT-30929ATJ	217D 91.3	0.040 DA 2921.0	48-01-00 119-58-51	226.3	69.35 0.00	0 TRANS
	PENTICTON BC	-	218B 91.5	0.000 0.0	49-31-44 119-38-25	348.7	122.51 -87.49	210 SHORT
	SALMON ARM BC	-	218B 91.5	0.000 0.0	50-45-31 119-21-53	359.1	256.89 46.89	210 CLEAR
KLWS LIC	MOSES LAKE WA	BLED-970609KD	218C2 91.5	7.200 209.0	47-18-50 119-34-55	189.3	127.88 -38.12	166 SHORT
K219BM LIC	CHELAN WA	BLFT-890911TA	219D 91.7	0.026 DA 883.0	47-48-25 120-01-58	217.2	89.49 0.00	0 TRANS
K219DQ LIC	OMAK WA	BLFT-981209TB	219D 91.7	0.001 1242.0	48-27-02 119-18-32	345.1	0.16 0.00	0 TRANS
KPBW CP	BREWSTER WA	BNPED-71019AEH	220C2 91.9	1.000 755.2	48-02-14 119-59-07	227.8	68.02 13.02	55 CLEAR
K220CQ LIC	BREWSTER, ETC, WA	BLFT-920225TC	220D 91.9	0.046 DA 1256.0	48-02-14 119-59-07	227.8	68.02 0.00	0 TRANS
K220DV LIC	GRAND COULEE WA	BLFT-940215TA	220D 91.9	0.046 DA 171.0	47-57-16 119-00-09	157.5	59.52 0.00	0 TRANS
K220CR LIC	OROVILLE, ETC. WA	BLFT-920225TD	220D 91.9	0.044 DA 388.0	48-46-53 119-23-10	351.2	37.39 0.00	0 TRANS
K220CS LIC	TWISP, ETC. WA	BLFT-920225TE	220D 91.9	0.046 DA 832.0	48-19-03 120-06-53	256.5	61.50 0.00	0 TRANS
K219DQ CP	OMAK WA	BPFT-90707ADZ	221D 92.1	0.001 1242.0	48-27-02 119-18-32	345.1	0.16 0.00	0 TRANS

==== END OF FM SPACING STUDY FOR CHANNEL 218 =====

C A N A D A

K219DQ 218D Omak
34 dBu F(50,10)
40 dBu F(50,10)

OKANOGAN



FERRY

DOUGLAS

KLWS 218C2 Moses Lake
60 dBu F(50,50)

LINCOLN

Omak 218D Cochannel Study Map

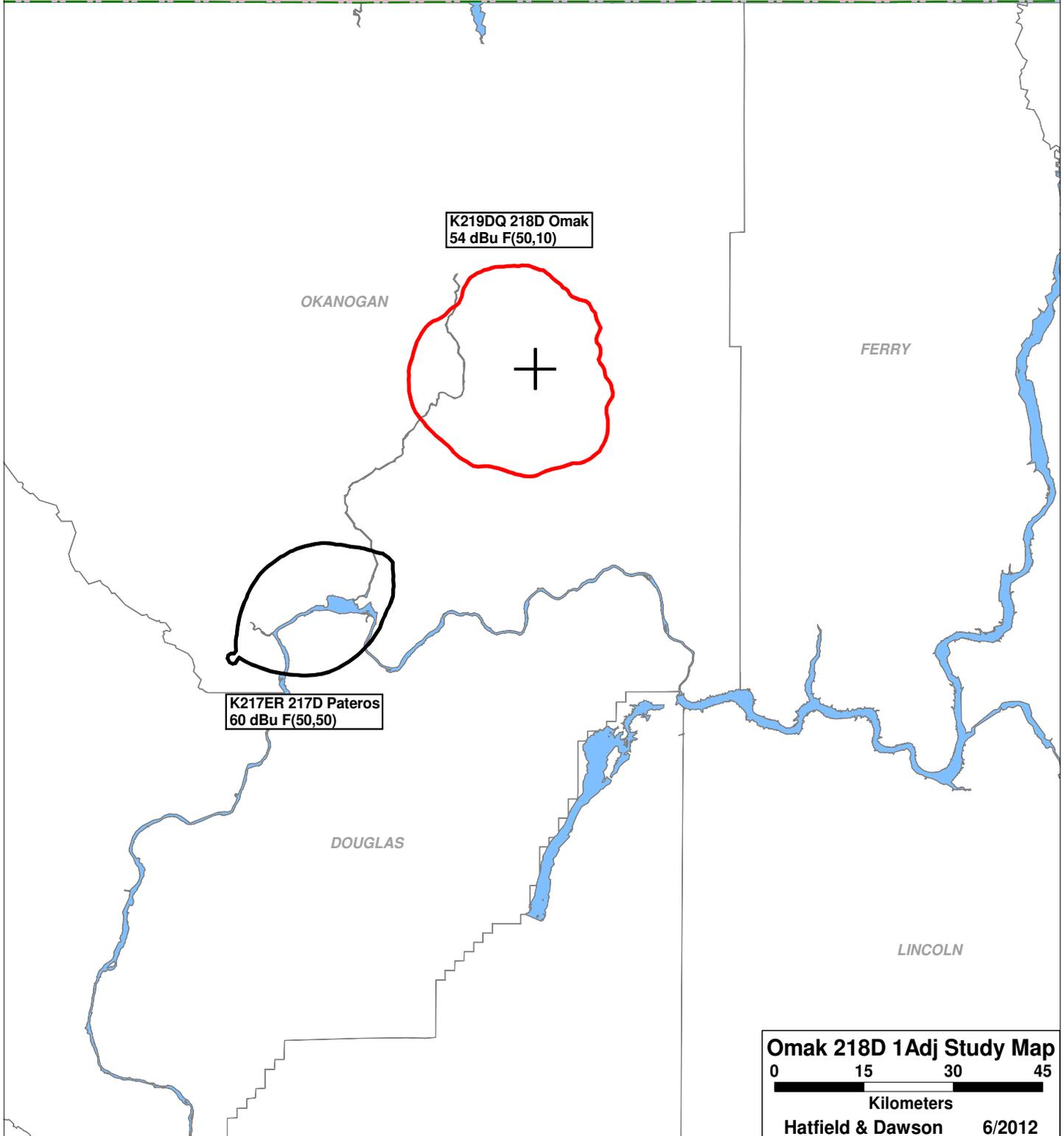
0 15 30 45



Kilometers

Hatfield & Dawson 6/2012

C A N A D A



June 2012
FM Translator K219DQ
Omak, Washington Channel 218D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 218D (91.5 MHz) with an effective radiated power of 3 watts. Operation is proposed with an antenna to be mounted on an existing tower on Omak Mountain.

The proposed antenna support structure will not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

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 K219DQ 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.

“Worst case” calculations of the power density produced by the proposed K219DQ antenna system have been made assuming that the antenna will radiate 100% straight down to a point 2 meters above ground at the base of the tower. Under this worst-case assumption, the highest calculated ground level power density from the booster occurs at the base of the antenna support structure. At this point the power density is calculated to be $1.7 \mu\text{W}/\text{cm}^2$, which is 0.9% 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 K219DQ 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.

Public access to the site is restricted and the antenna tower is posted with warning signs. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

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 radiation in excess of FCC guidelines.