

**March 2011**  
**FM Translator K279BG**  
**Anchorage, Alaska Channel 279D**  
**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 60 dBu protected contour of second-adjacent channel station KBRJ 281C1 Anchorage. The proposed site is 8.08 km from the KBRJ transmitter site at a bearing of 358 degrees True. Given the KBRJ antenna's 111 meter HAAT and 55 kW ERP along this radial, KBRJ places a 92.6 dBu contour at the translator transmitter site. The corresponding interfering contour from the translator is  $92.6 + 40 = 132.6$  dBu. A free-space calculation shows that for 250 watts ERP this contour will extend only 26 meters from the antenna and will not reach ground level. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KBRJ.

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.

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## SEARCH PARAMETERS

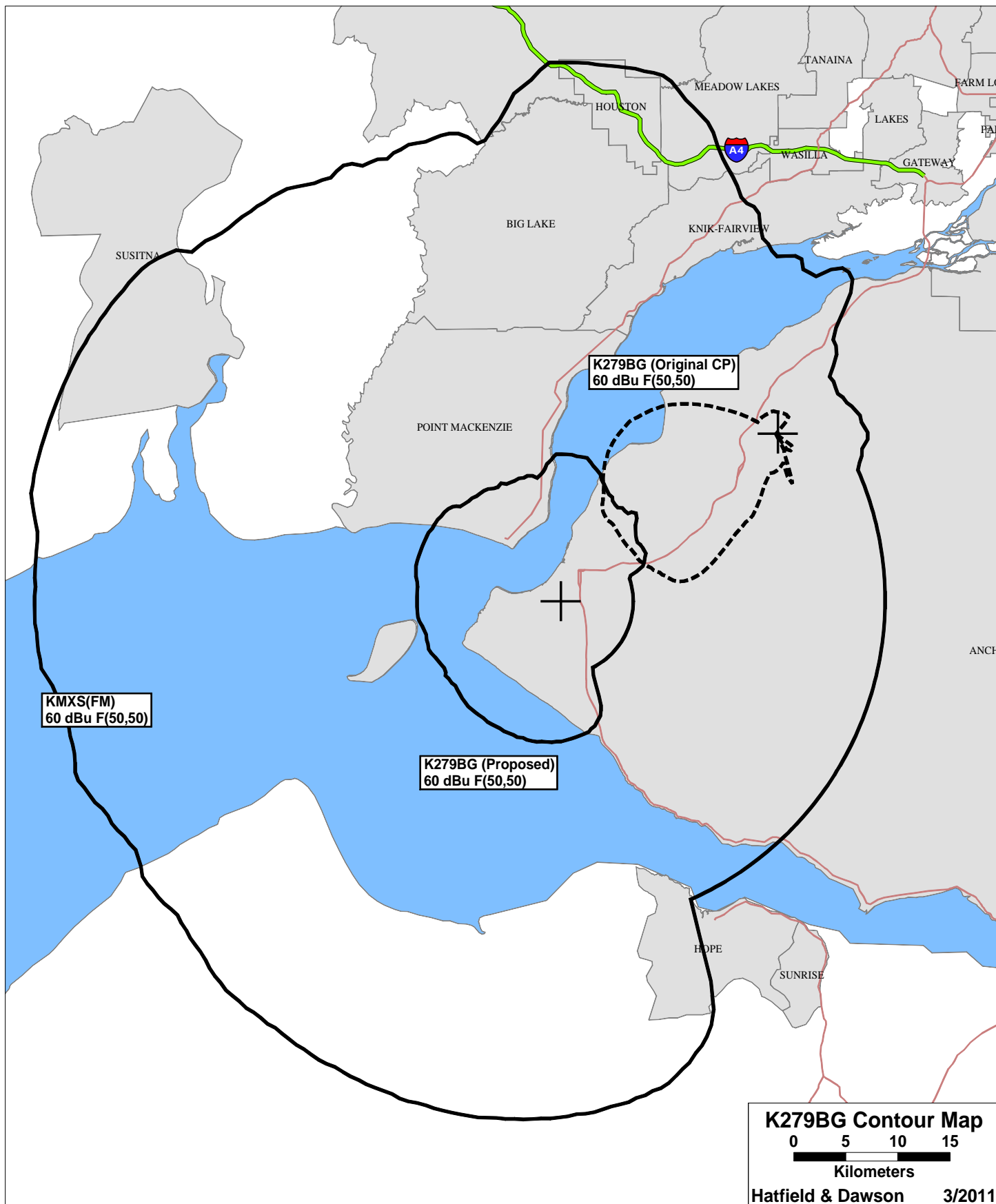
FM Database Date: 110310

Channel: 279A 103.7 MHz  
 Latitude: 61 11 33  
 Longitude: 149 54 1  
 Safety Zone: 50 km  
 Job Title: K279BG AT 1005016

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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)
KFAT LIC	ANCHORAGE AK	BLH-30916AAK	225C2 92.9	10.000 270.0	61-20-11 149-30-48	52.1	26.23 11.23	15 CLEAR
KMXS LIC	ANCHORAGE AK	BLH-50131AAE	276C1 103.1	100.000 31.9	61-11-33 149-54-01	0.0	0.00 -75.00	75 SHORT
KWV-FM LIC	HOMER AK	BLH-810217AI	278C 103.5	100.000 351.0	59-41-03 151-37-51	210.3	193.20 28.20	165 CLEAR
K279BG APP	ANCHORAGE AK	BMPFT-10223ACE	279D 103.7	0.240 0.0	61-06-28 149-43-55	136.1	13.09 0.00	0 TRANS
K279BG CP	EAGLE RIVER AK	BNPFT-80617ABX	279D 103.7	0.035 0.0	61-20-12 149-30-45	52.1	26.29 0.00	0 TRANS
K279BC LIC	KASILOF AK	BLFT-80303ALM	279D 103.7	0.250 0.0	60-22-44 151-11-30	218.3	114.75 0.00	0 TRANS
K279BC APP	KASILOF AK	BPFT-10127ABP	280D 103.9	0.250 0.0	60-22-44 151-11-30	218.3	114.75 0.00	0 TRANS
KBRJ LIC	ANCHORAGE AK	BLH-851230KC	281C1 104.1	55.000 19.0	61-07-12 149-53-43	178.1	8.08 -66.92	75 SHORT
K282AW LIC	EAGLE RIVER AK	BLFT-10125ABE	282D 104.3	0.140 0.0	61-20-12 149-30-45	52.1	26.29 0.00	0 TRANS

44444 END OF FM SPACING STUDY FOR CHANNEL 279 44444



**March 2011**  
**FM Translator K279BG**  
**Anchorage, Alaska Channel 279D**  
**RF Exposure Study**

**Facilities Proposed**

The proposed operation will be on Channel 279D (103.7 MHz) with an effective radiated power of 250 Watts. Operation is proposed with an antenna to be mounted on an existing tower with ASR Number 1005016.

**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 K279BG 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.

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

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 K279BG antenna system have been made assuming that the antenna will radiate 500 watts (250 watts H + 250 watts V) straight down. Under

this worst-case assumption, the highest calculated ground level power density from K279BG occurs at the base of the antenna support structure. At this point the power density is calculated to be  $2.5 \mu\text{W}/\text{cm}^2$ , which is 1.3% 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 K279BG 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 non-ionizing radiation 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 radiation in excess of FCC guidelines.