

**December 2012  
K299AA Channel 299D  
North Bend, OR  
Allocation Study**

The instant application is being filed solely to correct the transmitter site coordinates for K299AA to match the Antenna Structure Registration for this tower. No physical modification of the translator is proposed other than a 1-second correction in the latitude and a 4-second correction in the longitude.

The attached spacing study shows the spacing between the proposed fill-in 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.

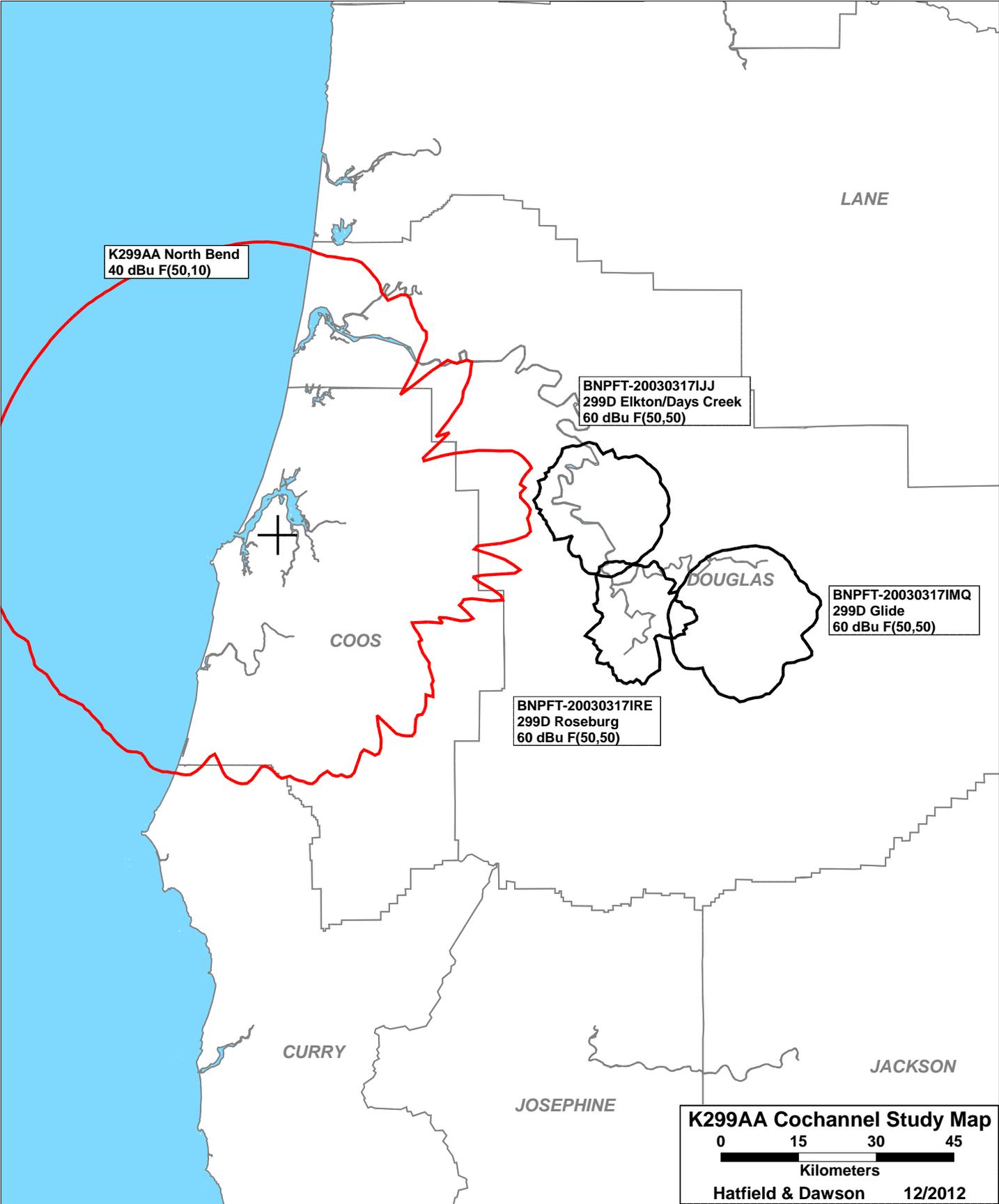
The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

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SEARCH PARAMETERS                               FM Database Date: 121211
Channel: 299A 107.7 MHz                        Page 1
Latitude: 43 21 16
Longitude: 124 14 30
Safety Zone: 32 km
Job Title: K299AA NORTH BEND
    
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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)
KOOS	NORTH BEND		297C1	51.000	43-12-18	196.4	17.31	75
LIC	OR BLH-901026KB		107.3	211.0	124-18-07		-57.69	SHORT
NOTE: PARENT STATION FOR THIS TRANSLATOR								
NEW-T APP	ELKTON/DAYS CREEK		299D	0.013	43-24-18	84.6	62.43	0
	OR BNPFT-30317IJJ		107.7	521.0	123-28-28		0.00	TRANS
NEW-T APP	GLIDE		299D	0.010	43-11-44	100.6	93.08	0
	OR BNPFT-30317IMQ		107.7	863.0	123-06-57		0.00	TRANS
K299AA LIC	NORTH BEND		299D	0.250	43-21-15	251.0	0.10	0
	OR BLFT-41208AAZ		107.7	194.0	124-14-34		0.00	TRANS
NEW-T APP	ROSEBURG		299D	0.034	43-12-08	103.4	71.83	0
	OR BNPFT-30317IRE		107.7	274.0	123-22-54		0.00	TRANS
KHPE LIC	ALBANY		300C	100.000	44-38-46	28.1	163.32	165
	OR BLH-5427		107.9	354.0	123-16-11		-1.68	SHORT

==== END OF FM SPACING STUDY FOR CHANNEL 299 =====



**December 2012**  
**K299AA Channel 299D**  
**North Bend, OR**  
**RF Exposure Study**

**Facilities Proposed**

The proposed operation will be on Channel 299D (107.7 MHz) with an effective radiated power of 250 watts. Operation is proposed with the existing antenna mounted on an existing tower on Blossom Hill, with FCC Antenna Structure Registration Number 1027927.

**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 K299AA 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.

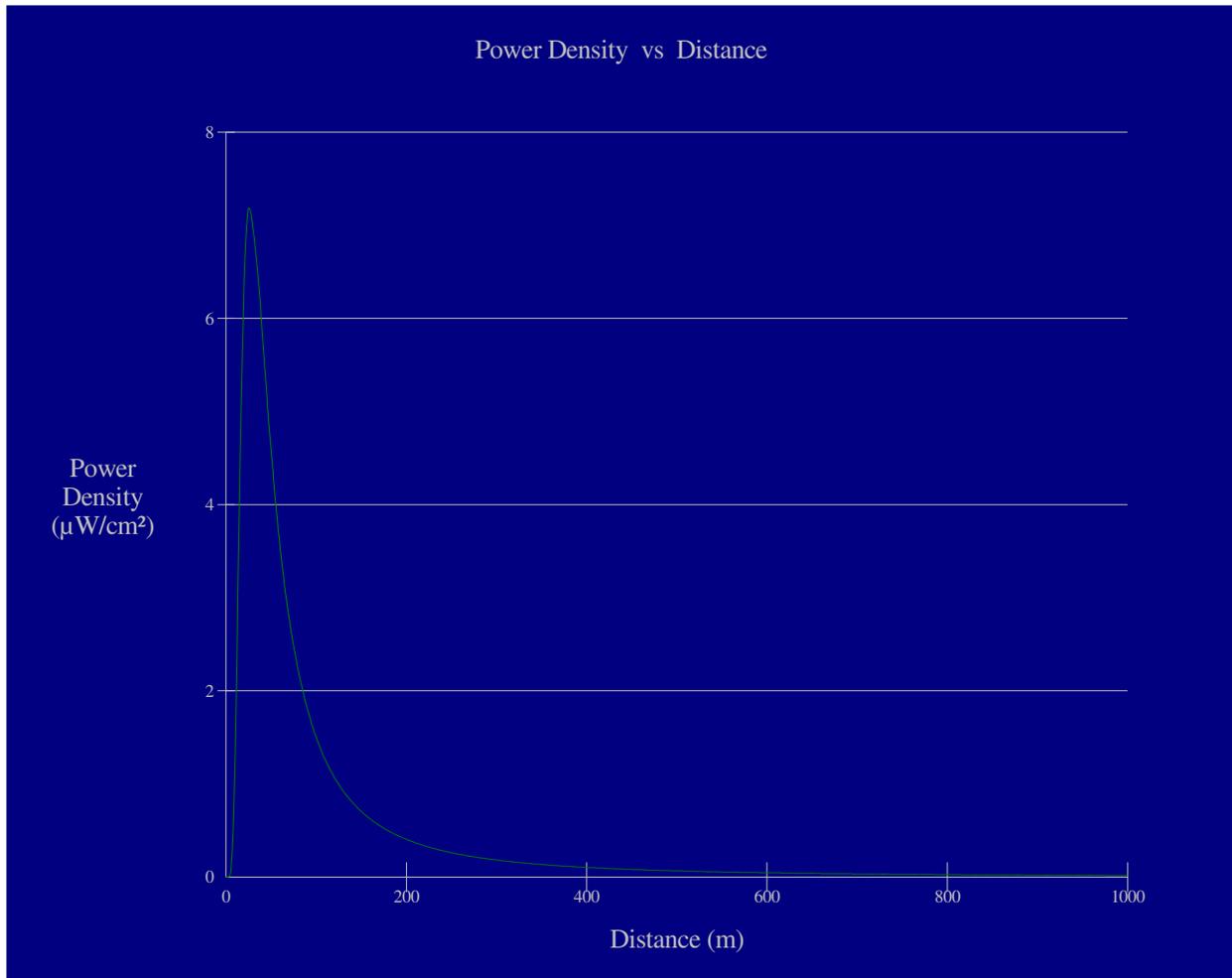
Calculations of the power density produced by the K299AA antenna system have been made using

Hatfield & Dawson Consulting Engineers

the appropriate element model for the Shively 6812B-2-SS antenna used by K299AA. The highest calculated ground level power density from K299AA occurs at a distance of 25 meters from the base of the antenna support structure. At this point the power density is calculated to be  $7.2 \mu\text{W}/\text{cm}^2$ , which is 0.7% of  $1000 \mu\text{W}/\text{cm}^2$  (the FCC standard for controlled environments) and 3.6% 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 K299AA 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 radiation in excess of FCC guidelines.



### Ground-Level RF Exposure

OET FMModel

#### K299AA Coos Bay

Antenna Type: Shively 6812B-2-SS

No. of Elements: 2

Element Spacing: 0.5 wavelength

Distance: 1000 meters

Horizontal ERP: 250 W

Vertical ERP: 250 W

Antenna Height: 16 meters AGL

Maximum Calculated Power Density is 7.2  $\mu\text{W}/\text{cm}^2$  at 25 meters from the antenna structure.