

April 2011
FM Translator K252EQ
Depoe Bay, Oregon Channel 252D
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. There are no cochannel or adjacent channel stations close enough to necessitate the preparation of detailed allocation study maps to demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

It is noted that there are several pending applications for a new NCE FM station on reserved Channel 252C3 at Dallas, Oregon. Protection of these applications has not been considered in this application, owing to the fact that FM translator applications are only required to protect authorized full-power stations.

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: 110412

Channel: 252A 98.3 MHz

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Latitude: 44 45 22

Longitude: 124 2 57

Safety Zone: 50 km

Job Title: K252EQ DEPOE BAY

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
NEW-T APP	SALEM OR	BNPFT-30317IBK	249D 97.7	0.015 320.0	44-51-18 123-07-15	81.1	74.26 0.00	0 TRANS
KNRQ-FM LIC	EUGENE OR	BLH-910528KF	250C 97.9	100.000 308.0	44-00-08 123-06-50	138.1	112.13 17.13	95 CLEAR
VAC	DALLAS OR -		252C3 98.3	0.000 0.0	44-55-06 123-19-00	72.4	60.66 -81.34	142 SHORT
NEW RSV	DALLAS OR -		252C3 98.3	0.000 0.0	44-55-06 123-19-00	72.4	60.66 -81.34	142 SHORT
NEW RSV	DALLAS OR -		252C3 98.3	0.000 0.0	44-55-06 123-19-00	72.4	60.66 -81.34	142 SHORT
NEW APP	DALLAS OR	BNPED-00222ACK	252C3 98.3	25.000 67.0	44-53-18 123-21-05	74.8	57.11 -84.89	142 SHORT
NEW APP	DALLAS OR	BNPED-00223AAB	252C3 98.3	25.000 100.0	44-54-43 123-20-44	72.4	58.27 -83.73	142 SHORT
NEW APP	DALLAS OR	BNPED-00224ACK	252C3 98.3	0.650 559.0	44-55-52 123-33-33	63.1	43.35 -98.65	142 SHORT
NEW APP	DALLAS OR	BNPED-00225ADD	252C3 98.3	2.780 297.0	44-51-18 123-07-15	81.1	74.26 -67.74	142 SHORT
NEW APP	DALLAS OR	BNPED-00226ADS	252C3 98.3	25.000 59.0	44-53-18 123-21-05	74.8	57.11 -84.89	142 SHORT
NEW APP	DALLAS OR	BNPED-00226AEJ	252C3 98.3	3.200 282.0	44-51-18 123-07-15	81.1	74.26 -67.74	142 SHORT

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SEARCH PARAMETERS FM Database Date: 110412

Channel: 252A 98.3 MHz Page 2

Latitude: 44 45 22

Longitude: 124 2 57

Safety Zone: 50 km

Job Title: K252EQ DEPOE BAY

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
NEW	DALLAS		252C3	25.000	44-53-17	74.8	57.02	142
APP	OR	BNPED-00226AHE	98.3	61.0	123-21-09		-84.98	SHORT
NEW	DALLAS		252C3	0.000	44-55-06	72.4	60.66	142
RSV	OR	-	98.3	0.0	123-19-00		-81.34	SHORT
NEW	DALLAS		252C3	0.000	44-55-06	72.4	60.66	142
RSV	OR	-	98.3	0.0	123-19-00		-81.34	SHORT
NEW	DALLAS		252C3	0.000	44-55-06	72.4	60.66	142
RSV	OR	-	98.3	0.0	123-19-00		-81.34	SHORT
K252EQ	DEPOE BAY		252D	0.250	44-45-24	54.8	0.11	0
CP	OR	BPFT-10112ADG	98.3	329.0	124-02-53		0.00	TRANS
K252EQ	DEPOE BAY		252D	0.028	44-45-24	54.8	0.11	0
LIC	OR	BLFT-01216ABG	98.3	329.0	124-02-53		0.00	TRANS
K252DL	WALTON		252D	0.008	44-04-00	156.3	83.62	0
LIC	OR	BLFT-20619AAS	98.3	580.0	123-37-42		0.00	TRANS
K275AA	SPRINGFIELD		253D	0.250	44-00-04	138.1	112.30	0
CP MOD	OR	BMPFT-00222ADC	98.5	443.0	123-06-45		0.00	TRANS
KWPB-LP	NEWPORT		254L1	0.100	44-38-57	181.2	11.89	0
LIC	OR	BLL-50713ACI	98.7	18.0	124-03-08		0.00	LPFM

44444 END OF FM SPACING STUDY FOR CHANNEL 252 44444

April 2011
FM Translator K252EQ
Depoe Bay, Oregon Channel 252D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 252D (98.3 MHz) with an effective radiated power of 90 Watts. Operation is proposed with an antenna which will be mounted on the KYTE tower at the Otter Crest Communications site.

The antenna support structure does 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

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.

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

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.

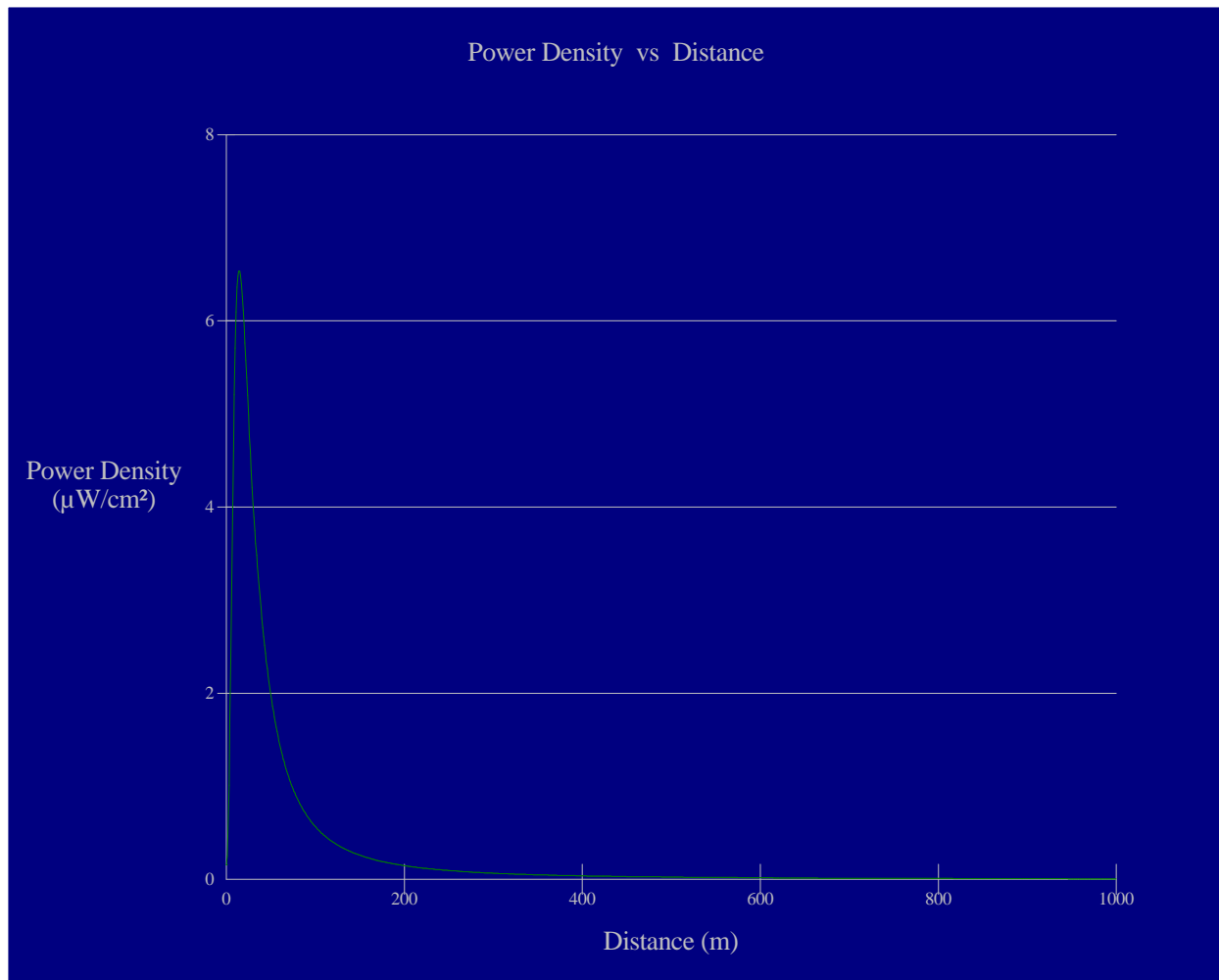
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the K252EQ antenna system have been made using the appropriate element pattern for the Shively 6812B-1 antenna to be used. The highest calculated ground level power density from K252EQ occurs at a distance of 14 meters from the base of the antenna support structure. At this point the power density is calculated to be 6.5 $\mu\text{W}/\text{cm}^2$, which is 0.7% of 1000 $\mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 3.3% 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 K252EQ 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

K252EQ Depoe Bay

Antenna Type: Shively 6812B-1
No. of Elements: 1
Element Spacing: 1.0 wavelength

Distance: 1000 meters
Horizontal ERP: 0.090 kW
Vertical ERP: 0.090 kW

Antenna Height: 16 meters AGL

Maximum Calculated Power Density is 6.5 : W/cm² at 14 meters from the antenna structure.

Hatfield & Dawson Consulting Engineers