

**August 2013
New FM Translator
Pendleton, Oregon Channel 262D
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 maps demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

LPFM Preclusion Study Not Required

The proposed transmitter site is not located within the 39 km buffer of any defined Market Grid from the LPFM *Fourth Report and Order*. Nor is the transmitter site at an out-of-grid location within a Top-50 Spectrum Limited Market. Furthermore, there is no change from the technical facilities specified in the recently-submitted short-form amendment. Therefore, no preclusion study is required as a part of this application.

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SEARCH PARAMETERS

FM Database Date: 130805

Channel: 262A 100.3 MHz

Page 1

Latitude: 45 41 24

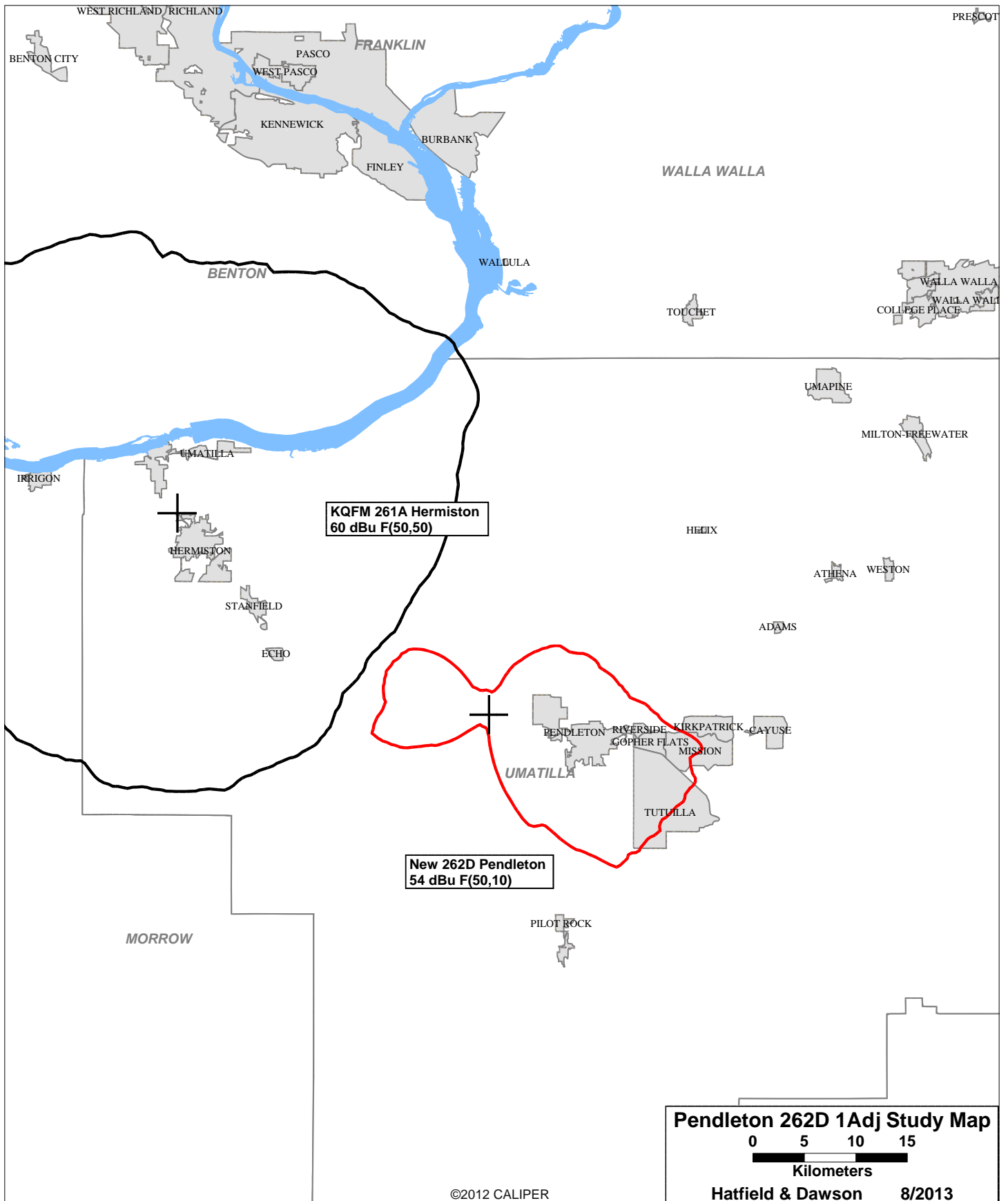
Longitude: 118 55 35

Safety Zone: 50 km

Job Title: PENDLETON 262

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KWWS CP	WALLA WALLA WA	BPED-21102ADR	209C1 89.7	10.300 418.0	45-59-05 118-10-09	60.5	67.34 45.34	22 CLEAR
KWRL LIC	LA GRANDE OR	BLH-90925ABF	260C1 99.9	25.000 505.0	45-07-21 117-46-44	124.8	109.77 34.77	75 CLEAR
NEW-T APP	PENDLETON OR	BNPFT-30314BYY	260D 99.9	0.250 111.0	45-42-13 118-40-53	85.4	19.14 0.00	0 TRANS
K261BH LIC	HEPPNER OR	BLFT-850226TC	261D 100.1	0.048 345.0	45-23-28 119-30-15	233.8	56.04 0.00	0 TRANS
RSV	HERMISTON OR	RM-11242	261A 100.1	0.000 0.0	45-51-57 119-18-38	303.4	35.70 -36.30	72 SHORT
KQFM LIC	HERMISTON OR	BLH-00211ABO	261A 100.1	5.300 94.0	45-51-57 119-18-42	303.3	35.77 -36.23	72 SHORT
K261BS LIC	MILTON-FREEWATER OR	BLFT-21004ABK	261D 100.1	0.190 146.0	46-02-33 118-20-00	49.3	60.46 0.00	0 TRANS
KRKG-FM RSV	PASCO WA	-	261A 100.1	0.000 0.0	46-12-51 119-09-33	342.9	60.99 -11.01	72 SHORT
KRKG-FM APP	PASCO WA	BPH-30529AIA	261A 100.1	0.880 262.0	46-14-04 119-19-13	333.4	67.78 -4.22	72 SHORT
NEW-T APP	PENDLETON OR	BNPFT-30317IUD	262D 100.3	0.170 0.0	45-41-24 118-55-35	0.0	0.00 0.00	0 TRANS
KWIQaux CP	MOSES LAKE WA	BXPH-21205AEL	262C1 100.3	0.690 41.0	47-09-48 119-21-37	348.7	167.14 0.00	0 AUX
KWIQ-FM LIC	MOSES LAKE WA	BLH-50927ACN	262C1 100.3	100.000 51.0	47-06-09 119-14-26	351.4	158.86 -41.14	200 SHORT
NEW-T APP	RICHLAND WA	BNPFT-30317KJO	263D 100.5	0.250 77.0	46-20-40 119-20-43	336.2	79.65 0.00	0 TRANS
KHSS LIC	ATHENA OR	BLH-91029AAL	264C2 100.7	6.300 403.0	45-59-23 118-10-31	59.9	67.19 12.19	55 CLEAR

===== END OF FM SPACING STUDY FOR CHANNEL 262 =====



KHSS 264C2 Athena
60 dBu F(50,50)

HELIX

ATH

New 262D Pendleton
60 dBu F(50,50)
100 dBu F(50,10)

New 260D Pendleton
BNPFT-20030314BYY
60 dBu F(50,50)
100 dBu F(50,10)

UMATILLA

PENDLETON

RIVERSIDE

GOPHER FLATS

KIRKPATRICK

MISSION

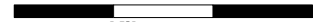
CAYUSE

TUTUILLA

PILOT ROCK

Pendleton 262D 2Adj Study Map

0 3.3 6.7 10



Kilometers

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8/2013

**August 2013
New FM Translator
Pendleton, Oregon Channel 262D
RF Exposure Study**

Facilities Proposed

The proposed operation will be on Channel 262D (100.3 MHz) with a maximum lobe effective radiated power of 140 watts. Operation is proposed with an antenna to be mounted on an existing tower having FCC Antenna Structure Registration Number 1224231.

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 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.

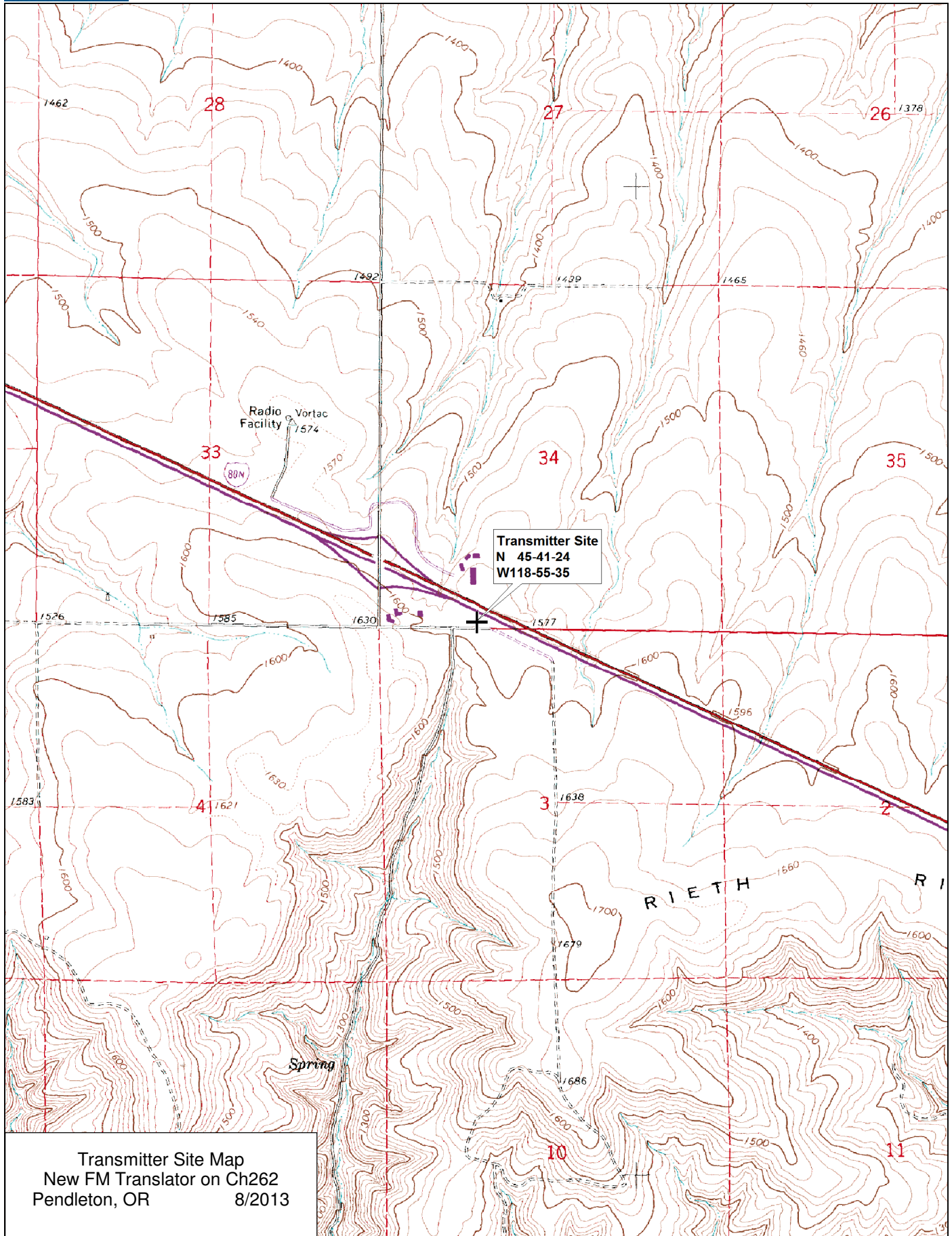
Calculations of the power density produced by the proposed antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground

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at the base of the tower (36 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density occurs at the base of the antenna support structure. At this point the power density is calculated to be $3.6 \mu\text{W}/\text{cm}^2$, which is 0.4% of $1000 \mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 1.8% 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 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.



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