August 2013
New FM Translator
Centralia, Washington Channel 227D
Allocation Study

The instant application is being filed responsive to the Commission's July 31 2013 Public Notice inviting the filing of long-form applications for certain technical proposals filed during the FM translator filing window in 2003.

In this case, the original proposal was for Channel 225D at Centralia. Owing to the recent grant of a construction permit for KVNW on Channel 225C3 in the vicinity, it is necessary to propose operation on an adjacent channel. This long form application proposes operation on adjacent Channel 227D from a different transmitter site. This qualifies as a minor amendment to the original technical proposal.

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 proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KVNW 225C3 Napavine. The proposed site is 14.59 km from the KVNW transmitter site at a bearing of 29 degrees True. Given the KVNW antenna's 371 meter HAAT and 2.65 kW ERP along this radial, KVNW places a 79.6 dBu contour at the translator transmitter site. The corresponding interfering contour from the translator is 79.6 + 40 = 119.6 dBu. The attached map of the proposed transmitter site depicts the 119.6 dBu contour from the proposed facility, which extends just 73 meters from the antenna per a Free Space calculation. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KVNW.

Since the proposed facility will operate with an ERP of less than 100 watts, there are no spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

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. Therefore, no preclusion study is required as a part of this application.

FMSTUDY.EXE Copyright 2008, Hatfield & Dawson, LLC Version 1.80

SEARCH PARAMETERS FM Database Date: 130805

Channel: 227A 93.3 MHz
Latitude: 46 40 8
Longitude: 122 57 50
Safety Zone: 50 km
Job Title: CENTRALIA 227 LONG FORM

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K224DR	ABERDEEN		224D	0.115	46-55-55	296.8	65.69	0
LIC	WA	BLFT-91221AGF	92.7	179.0	123-44-04		0.00	TRANS
NEW-T	CENTRALIA		225D	0.150	46-43-52	326.3	8.32	0
APP	WA	BNPFT-30310BNC	92.9	0.0	123-01-28		0.00	TRANS
KVNW	NAPAVINE		225C3	2.650	46-33-16	209.3	14.59	42
CP	WA	BNPH-10630AHJ	92.9	304.6	123-03-26		-27.41	SHORT
	GLADSTONE		226C3	0.000	45-32-27	166.1	129.14	89
RSV	OR	RM-10668	93.1	0.0	122-33-51		40.14	CLEAR
KRYP	GLADSTONE		226C3	1.600	45-29-20	170.9	132.81	89
LIC	OR	BLH-60208AMG	93.1	387.0	122-41-40		43.81	CLEAR
K226AN	MONTESANO		226D	0.250	46-57-31	304.4	57.52	0
LIC	WA	BLFT-50513ABT	93.1	145.0	123-35-18		0.00	TRANS
	GEARHART		227A	0.000	45-57-11	223.6	109.33	115
VAC	OR	RM-11631	93.3	0.0	123-56-14		-5.67	SHORT
NEW	GEARHART		227A	0.000	45-57-11	223.6	109.33	115
APP	OR	BSFH-30412ABY	93.3	0.0	123-56-14		-5.67	SHORT
NEW	GEARHART		227A	1.900	45-57-11	223.6	109.33	115
APP	OR	BNPH-30723ADX	93.3	177.0	123-56-14		-5.67	SHORT
KUBE	SEATTLE		227C0	100.000	47-32-40	33.3	117.06	215
LIC	WA	BLH-10206AAA	93.3	387.0	122-06-26		-97.94	SHORT
KUBEaux	SEATTLE		227C0	22.000	47-32-40	33.3	117.06	0
LIC	WA	BXLH-20416AAH	93.3	368.0	122-06-26		0.00	AUX
KUBEaux	SEATTLE		227C0	87.000	47-32-39	33.3	117.00	0
LIC	WA	BLH-831110AF	93.3	375.0	122-06-29		0.00	AUX
K250AE	LONGVIEW		228D	0.100	46-10-59	179.5	54.01	0
CP	WA	BPFT-30319ABF	93.5	282.0	122-57-29		0.00	TRANS

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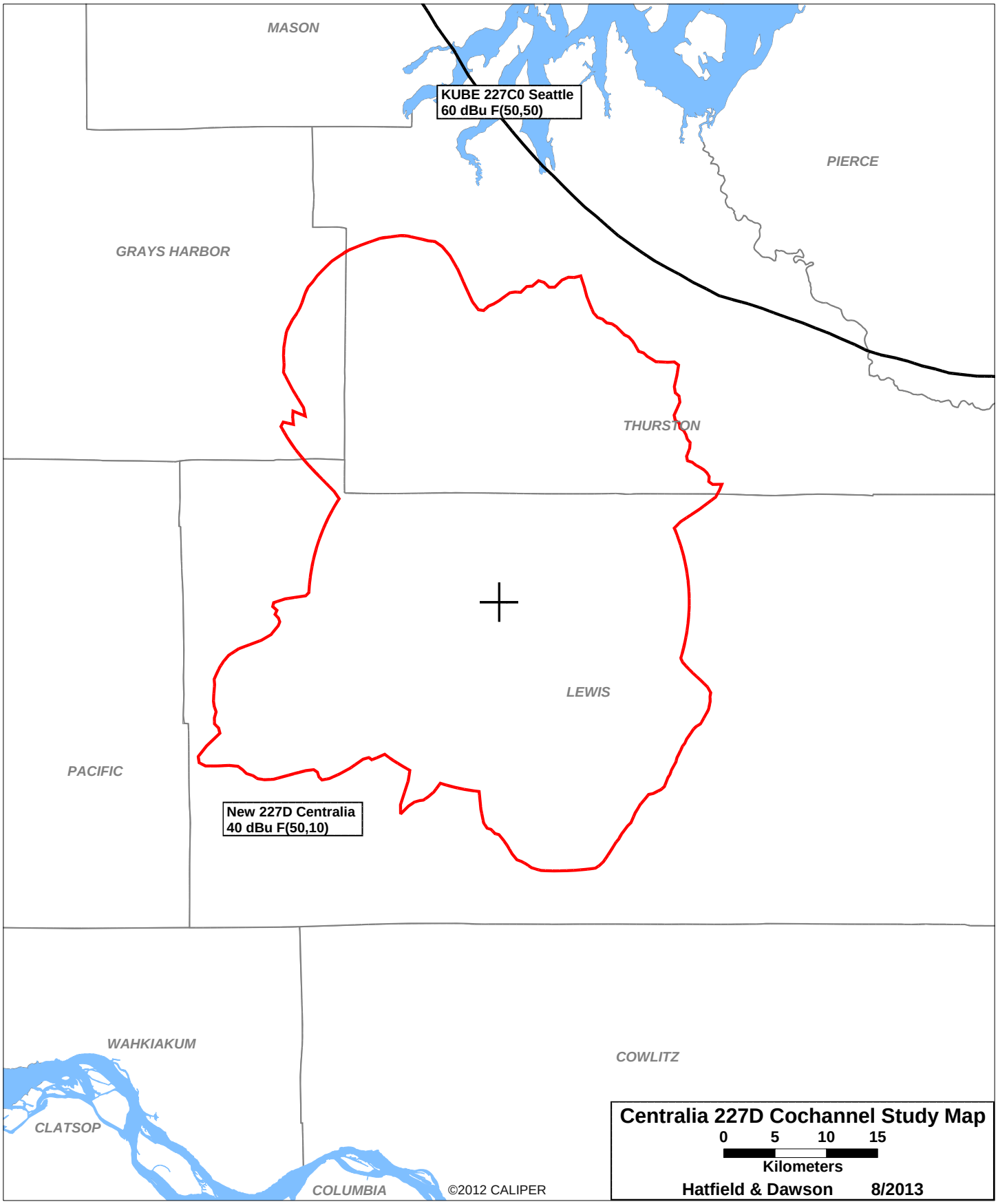
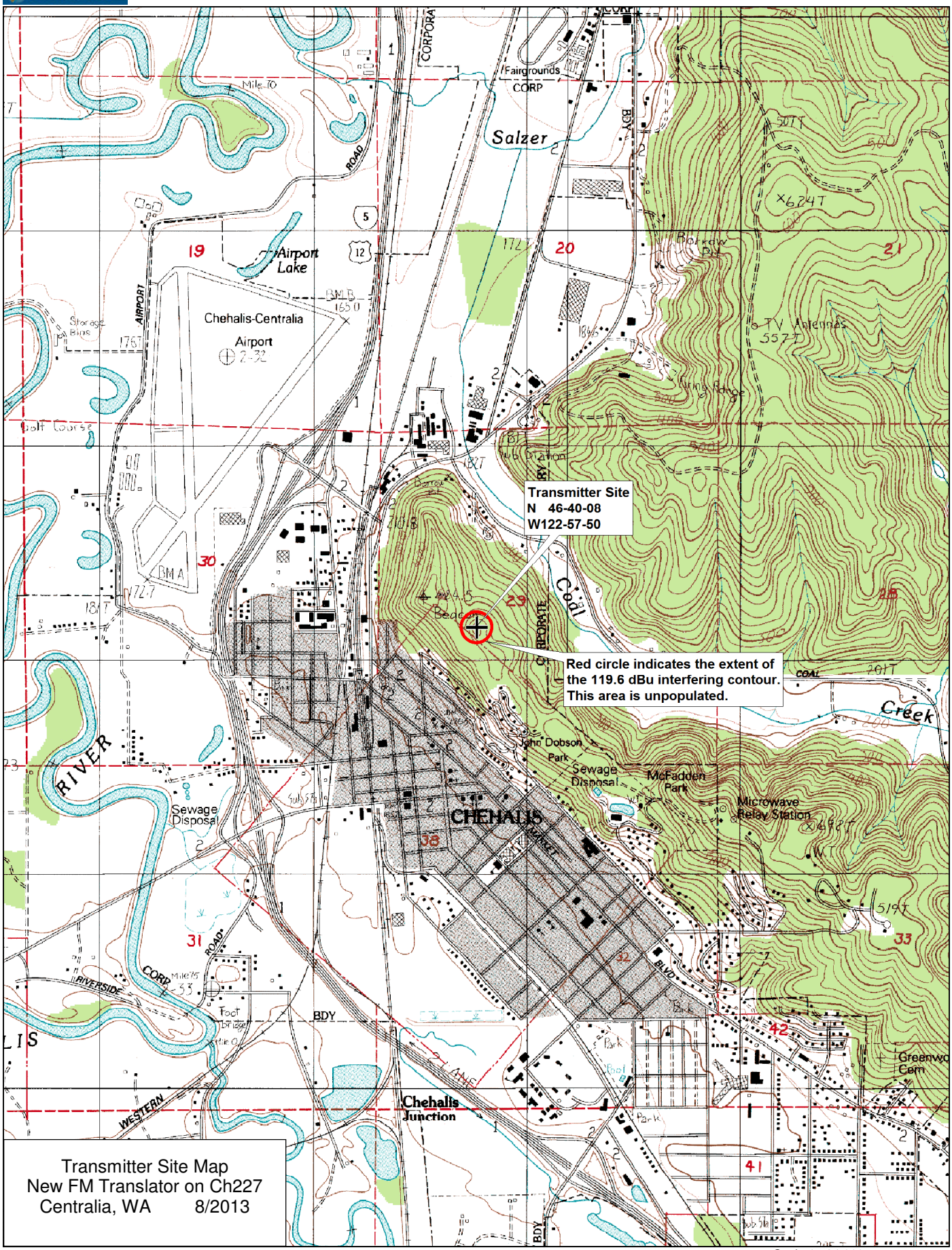
Safety Zone: 50 km
Job Title: CENTRALIA 227 LONG FORM

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)		Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K229BL	GIG HARBOR		229D	0.058		47-20-19	20.1	79.39	0
LIC	WA	BLFT-70313ABC	93.7	121.0		122-36-06		0.00	TRANS
KANY	MONTESANO		229C0	32.000	DA	47-18-46	336.8	77.99	86
CP	WA	BPH-21226AAX	93.7	679.0		123-22-15		-8.01	SHORT
KANYaux	MONTESANO		229C0	5.000		47-18-46	336.8	77.99	0
APP	WA	BXPH-30712AAQ	93.7	666.0		123-22-15		0.00	AUX
KANY	MONTESANO		229C0	33.000	DA	47-18-46	336.8	77.99	86
LIC	WA	BLH-30116AEF	93.7	677.0		123-22-15	SS	-8.01	SHORT
K280FF	CHEHALIS		280D	0.040		46-36-43	173.3	6.37	0
LIC	WA	BLFT-50906ABY	103.9	86.0		122-57-15		0.00	TRANS
K281AD	OLYMPIA		281D	0.050		47-03-10	11.8	43.62	0
LIC	WA	BLFT-931228TD	104.1	94.0		122-50-45		0.00	TRANS
K281BM	SHELTON		281D	0.250	DA	47-08-20	345.7	53.94	0
LIC	WA	BLFT-10816ABH	104.1	377.0		123-08-23		0.00	TRANS

==== END OF FM SPACING STUDY FOR CHANNEL 227 ====


MASON
KUBE 227C0 Seattle
60 dBu F(50,50)
PIERCE
GRAYS HARBOR
THURSTON
LEWIS
PACIFIC
New 227D Centralia
40 dBu F(50,10)
WAHKIAKUM
COWLITZ
CLATSOP
COLUMBIA
©2012 CALIPER
Centralia 227D Cochannel Study Map
0 5 10 15
Kilometers
Hatfield & Dawson 8/2013



TN

MN (16.2°E)

Scale 1 : 24,000

1 cm = 240.0 m

Data Zoom 13-1

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Centralia, Washington Channel 227D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 227D (93.3 MHz) with an effective radiated power of 99 watts. Operation is proposed with an antenna to be mounted on an existing tower having FCC Antenna Structure Registration Number 1060077.

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

at the base of the tower (30 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from the proposal occurs at the base of the antenna support structure. At this point the power density is calculated to be 3.7 $\mu W/cm^2$, which is 0.4% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 1.8% of 200 $\mu W/cm^2$ (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.