

**January 2016**  
**FM Translator K225AC**  
**Medford, Oregon Channel 225D**  
**Allocation Study**

**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.

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

The proposed transmitter site is located inside the 60 dBu contour of second-adjacent channel station K227AA Ashland. The attached map of the proposed transmitter site depicts the 100 dBu contour from the proposed facility, which extends at most 700 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 K227AA.

## SEARCH PARAMETERS

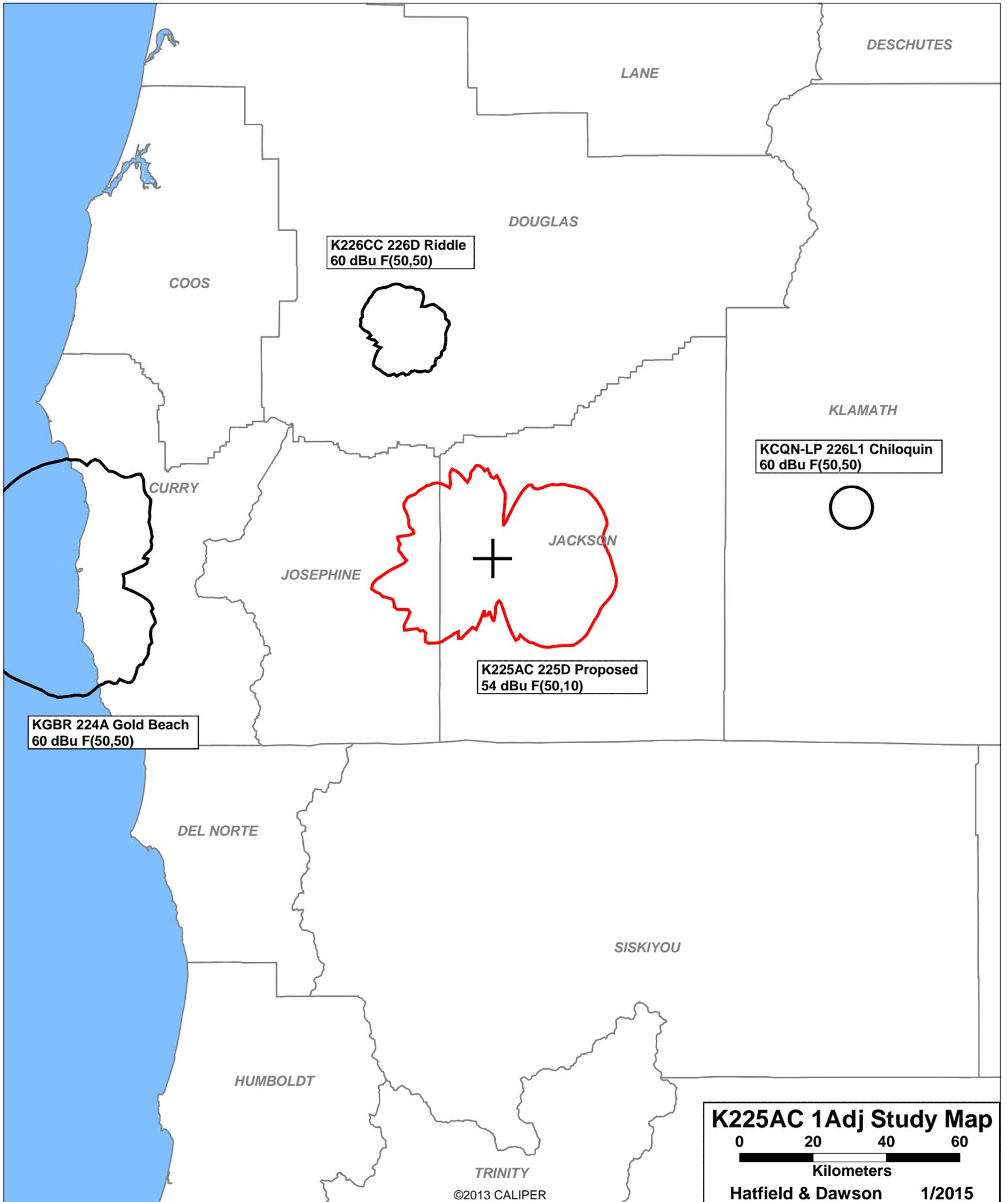
FM Database Date: 160121

Channel: 225A 92.9 MHz  
 Latitude: 42 27 11  
 Longitude: 123 3 22  
 Safety Zone: 50 km  
 Job Title: K225AC NUGGET BUTTE

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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)
KWRZ LIC	CANYONVILLE OR	BLED-40411AKP	222C3 92.3	0.850 439.0	43-00-13 123-21-27	338.2 SS	65.95 23.95	42 CLEAR
KLAD-FM LIC	KLAMATH FALLS OR	BLH-11103AIE	223C 92.5	63.000 653.0	42-05-50 121-37-59	108.2 SS	123.87 28.87	95 CLEAR
KGBR LIC	GOLD BEACH OR	BLH-860716KF	224A 92.7	0.265 314.0	42-23-50 124-21-50	267.1	107.81 35.81	72 CLEAR
K224CN LIC	ROSEBURG-GREEN OR	BLFT-970721TI	224D 92.7	0.082 DA 293.0	43-12-08 123-22-54	342.4	87.38 0.00	0 TRANS
KRXF LIC	BEND OR	BLH-00714ACG	225C0 92.9	100.000 303.0	44-02-49 121-31-50	34.4	216.11 1.11	215 CLOSE
KDCQ LIC	COOS BAY OR	BLH-60208AAA	225C3 92.9	4.500 159.6	43-21-15 124-14-34	316.4	139.33 -2.67	142 SHORT
K225BE LIC	COTTAGE GROVE OR	BLFT-70117AAU	225D 92.9	0.230 303.0	43-46-41 123-02-32	0.4	147.20 0.00	0 TRANS
K225AC LIC	GRANTS PASS, ETC. OR	BLFT-90608ACM	225D 92.9	0.200 DA 464.0	42-28-18 123-18-17	275.9	20.55 0.00	0 TRANS
KSLG-FM LIC	ARCATA CA	BLH-40709ACA	226C 93.1	50.000 508.0	40-43-38 123-58-22	202.0	206.36 41.36	165 CLEAR
KCQN-LP CP	CHILOQUIN OR	BNPL-31112ABV	226L1 93.1	0.100 -26.0	42-34-42 121-52-04	81.5	98.64 42.64	56 CLEAR
K226CC CP	RIDDLE OR	BNPFT-30829AAD	226D 93.1	0.010 587.0	43-00-13 123-21-27	338.2	65.95 0.00	0 TRANS
K227AA LIC	ASHLAND, ETC. OR	BLFT-40624ABJ	227D 93.3	0.250 737.0	42-17-55 122-44-53	124.1	30.63 0.00	0 TRANS
KLDZ LIC	MEDFORD OR	BLH-40927AFO	278C1 103.5	100.000 146.0	42-17-13 123-00-15	167.0	18.94 -3.06	22 SHORT

==== END OF FM SPACING STUDY FOR CHANNEL 225 =====



K226CC 226D Riddle  
60 dBu F(50,50)

KCQN-LP 226L1 Chiloquin  
60 dBu F(50,50)

KGBR 224A Gold Beach  
60 dBu F(50,50)

K225AC 225D Proposed  
54 dBu F(50,10)

**K225AC 1Adj Study Map**

0 20 40 60

Kilometers

Hatfield & Dawson 1/2015

DOUGLAS

KLAMATH

JACKSON

JOSEPHINE



K225AC 225D Proposed  
100 dBu F(50,10)

K227AA 227D Ashland  
60 dBu F(50,50)

KLAD-FM 223C Klamath Falls  
60 dBu F(50,50)

SISKIYOU

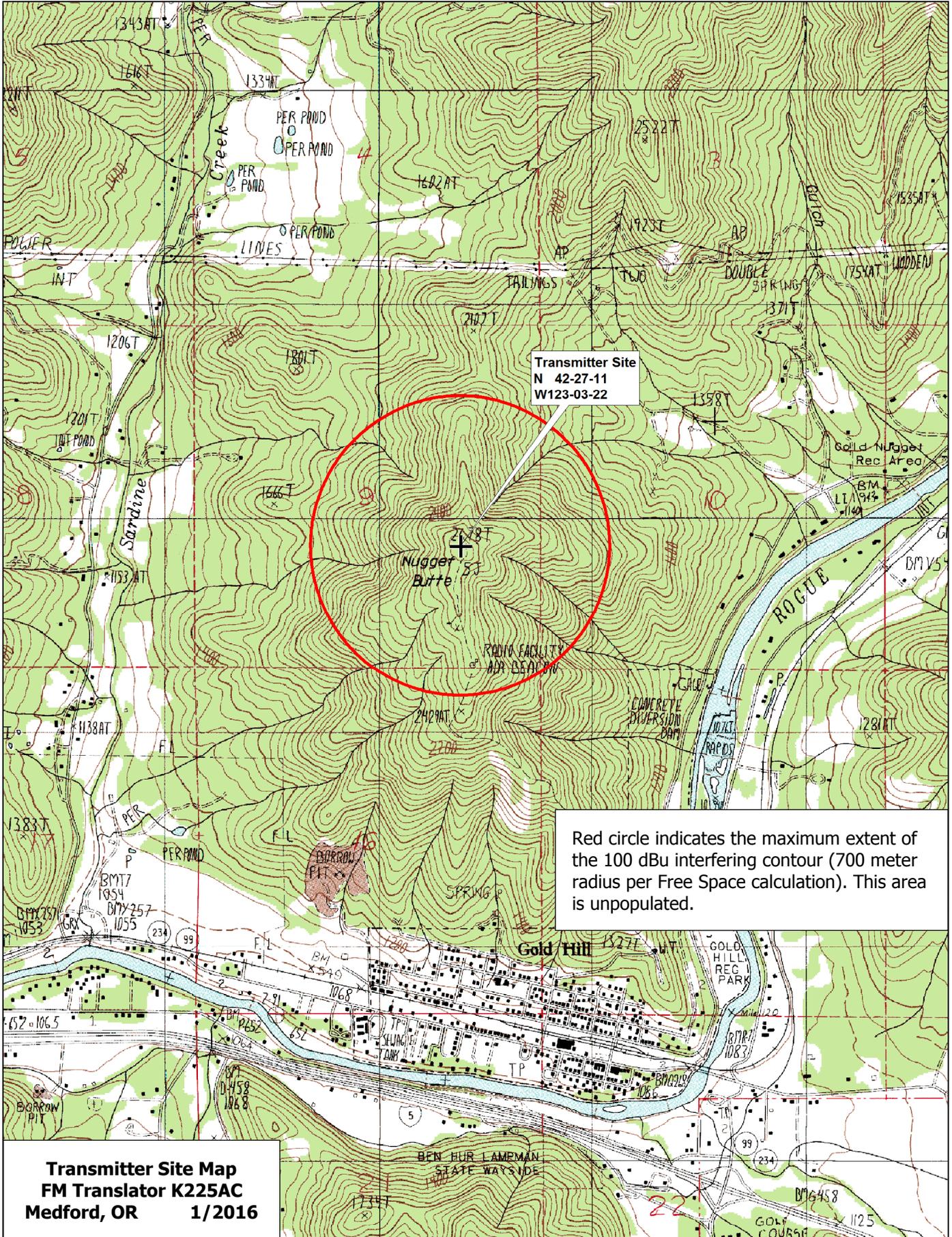
**K225AC 2Adj Study Map**

0 10 20 30

Kilometers

Hatfield & Dawson

1/2015



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1 cm = 240.0 m      Data Zoom 13-1

**January 2016**  
**FM Translator K225AC**  
**Medford, Oregon Channel 225D**  
**RF Exposure Study**

**Facilities Proposed**

The proposed operation will be on Channel 225D (92.9 MHz) with an effective radiated power of 99 watts. Operation is proposed with an antenna to be mounted on an existing tower on Nugget Butte.

The antenna support structure will 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**

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 K225AC 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 K225AC 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 (36 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from K225AC occurs at the base of the antenna support structure. At this point the power density is calculated to be  $5.1 \mu\text{W}/\text{cm}^2$ , which is 2.6% 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 K225AC 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.