August 2016
FM Translator K283BU
Spokane, Washington Channel 278D
Allocation Study

250 Mile Window Application
This application is being filed as an amendment to BPFT-20160728ADJ, a "250 Mile Window Application" to modify an authorized FM translator for use with an AM station. This amendment makes changes in the proposed channel and technical parameters, in order to remove BPFT-20160728ADJ from a mutual exclusive application group.[1]

AM Station Callsign: KSBN 1230 kHz Spokane
AM Station Class: C

Translator Distance: 193 kilometers (120 miles)

The applicant is not the licensee of the AM station, but has been granted consent to rebroadcast the AM station.

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 facility will operate with an ERP of 99 watts or less. Therefore there are no spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

KCDA 276C1 Post Falls
The proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KCDA 276C1 Post Falls. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
KCDA 276C1	21.15 km 308 deg True	18.5 kW 575 meters	85.8 dBu F(50,50)	125.8 dBu	35.8 meters Free Space

[1] As originally filed, BPFT-20160728ADJ specified operation on Channel 283D. The application was amended to Channel 231D on July 29th, which made the application MXed with an application BPFT-20160729AKZ filed that same day and also specifying operation on Channel 231D.

The interfering contour will extend only 35.8 meters from the antenna and will not reach ground level (which is 65 meters below the antenna). There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KCDA.

KBBD 280C1 Spokane

The proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KBBD 280C1 Spokane. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	**Distance & Bearing to Proposal**	**Station ERP and HAAT on that azimuth**	**Station Field Strength at Proposal**	**Corresponding Translator Interfering Contour**	**Distance to Translator Interfering Contour**
KBBD 280C1	19.78 km 304 deg True	34 kW 524 meters	88.6 dBu F(50,50)	128.6 dBu	25.9 meters Free Space

The interfering contour will extend only 25.9 meters from the antenna and will not reach ground level (which is 65 meters below the antenna). There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KBBD.

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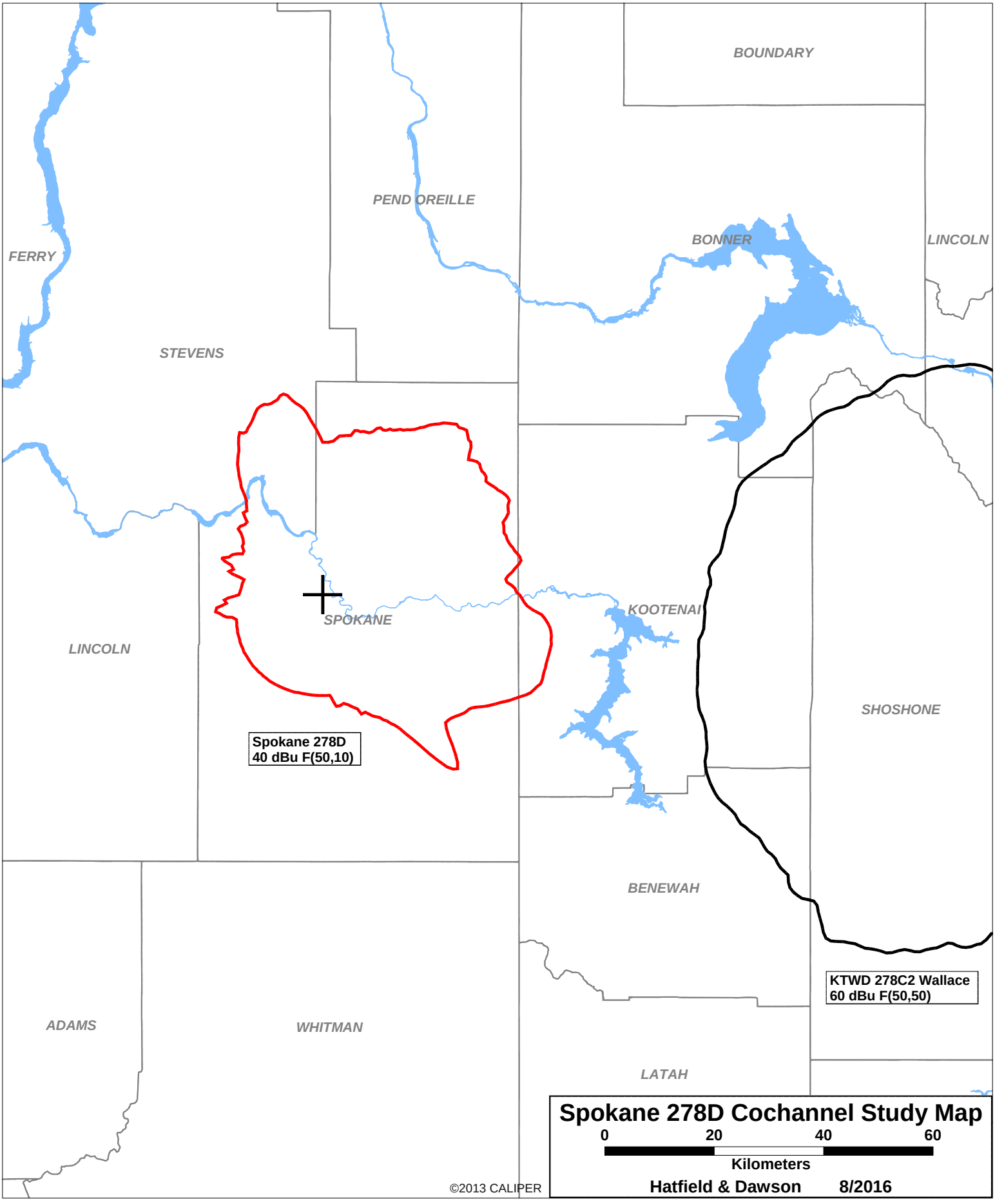
SEARCH PARAMETERS FM Database Date: 160804

Channel: 278A 103.5 MHz
Latitude: 47 41 52
Longitude: 117 31 7
Safety Zone: 50 km
Job Title: SPOKANE 278D DOWDY RD

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)		Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KZZU-FM	SPOKANE		225C	85.000		47-35-42	124.6	20.13	29
LIC	WA	BLH-781017AE	92.9	634.0		117-17-53		-8.87	SHORT
KCDA	POST FALLS		276C1	18.500	DA	47-34-52	127.8	21.15	75
LIC	ID	BLH-30908ACL	103.1	531.0		117-17-47	SS	-53.85	SHORT
K277CQ	SANDPOINT		277D	0.014	DA	48-22-40	41.2	101.13	0
LIC	ID	BLFT-50713ACI	103.3	1085.0		116-37-05		0.00	TRANS
KWLN	WILSON CREEK		277C3	25.000		47-16-40	247.8	121.01	89
LIC	WA	BLH-50112ADA	103.3	74.0		119-00-00		32.01	CLEAR
	NELSON		278B	0.000		49-31-50	4.4	204.44	210
	BC	-	103.5	0.0		117-18-02		-5.56	SHORT
K278AR	MOSCOW		278D	0.005		46-48-41	154.9	108.67	0
LIC	ID	BLFT-20813ABP	103.5	598.0		116-54-49		0.00	TRANS
KTWD	WALLACE		278C2	1.600		47-33-49	96.1	127.52	166
LIC	ID	BLED-50706ACP	103.5	675.0		115-50-01		-38.48	SHORT
KWHT	PENDLETON		278C1	100.000		45-48-02	197.5	220.86	200
LIC	OR	BLH-50112ADB	103.5	219.0		118-22-36		20.86	CLEAR
KBBD	SPOKANE		280C1	34.000		47-35-58	123.5	19.78	75
LIC	WA	BLH-60408AAK	103.9	455.0		117-17-57	SS	-55.22	SHORT

==== END OF FM SPACING STUDY FOR CHANNEL 278 ====


BOUNDARY
PEND OREILLE
FERRY
BONNER
LINCOLN
STEVENS
SPOKANE
KOOTENAI
LINCOLN
SHOSHONE
Spokane 278D
40 dBu F(50,10)
BENEWAH
KTWD 278C2 Wallace
60 dBu F(50,50)
ADAMS
WHITMAN
LATAH
Spokane 278D Cochannel Study Map
0
20
40
60
Kilometers
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August 2016
FM Translator K283BU
Spokane, Washington Channel 278D
RF Exposure Study

Facilities Proposed
The proposed operation will be on Channel 278D (103.5 MHz) with an effective radiated power of 99 watts. Operation is proposed with an antenna to be mounted on an existing tower off Dowdy Road, with FCC Antenna Structure Registration Number 1216657.

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.

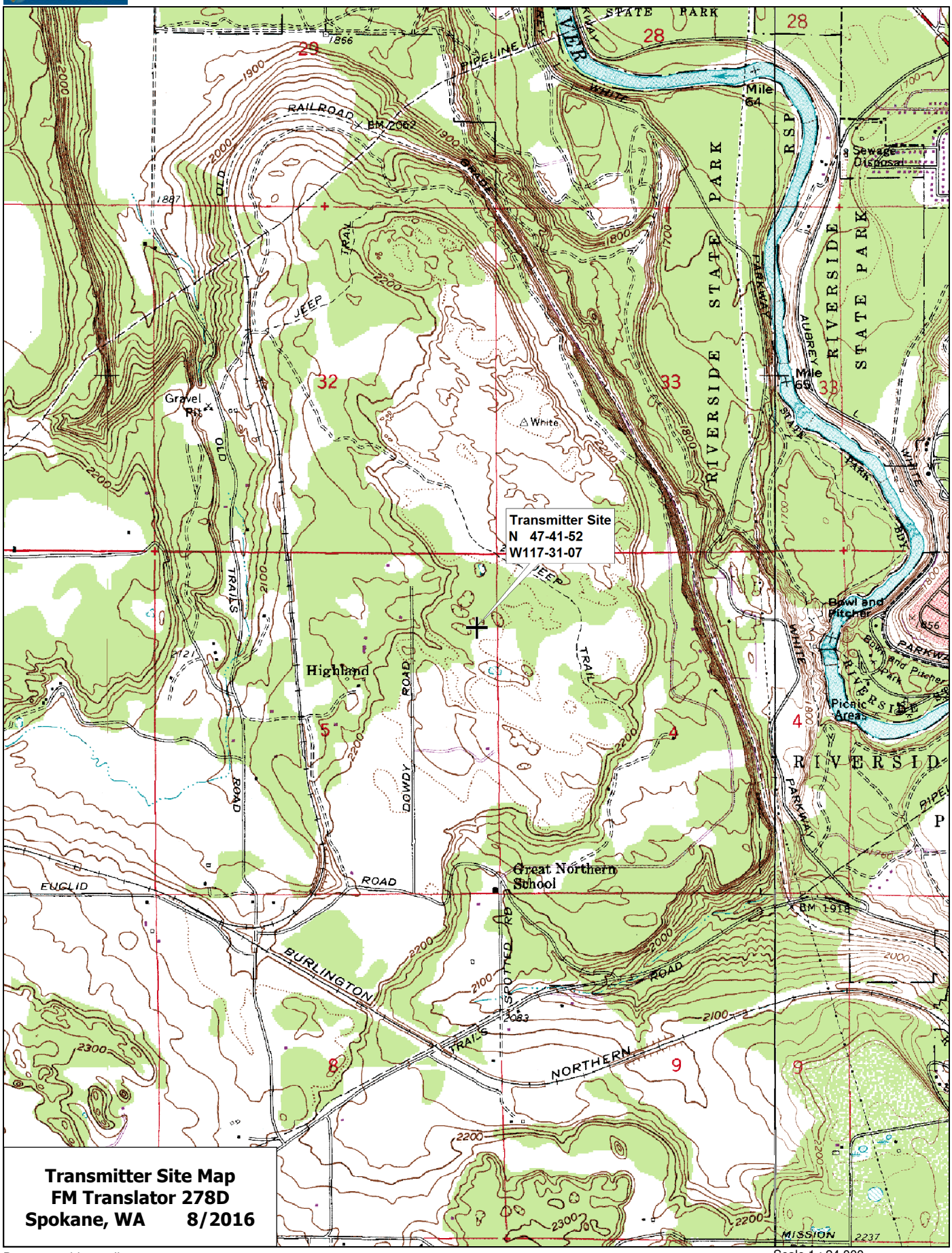
D is the distance in meters from the center of radiation to the calculation point.

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 (63 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from the translator occurs at the base of the antenna

support structure. At this point the power density is calculated to be 1.7 μW/cm², which is 0.8% of 200 μW/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 the translator 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 exposure in excess of FCC guidelines.



Transmitter Site Map
FM Translator 278D
Spokane, WA 8/2016

TN
MN (14.6°E)

Scale 1 : 24,000
1 cm = 240.0 m
Data Zoom 13-1