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**Modification of K282CC
Channel 282D at Ukiah, CA
To Rebroadcast KLLK(AM) 1250 kHz Willits, CA
November 2021**

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 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.

Nearby AM Station

The FM translator antenna will be installed on an 4.6 meter tall pole adjacent to the transmitter building at the tower/antenna site of KLLK 1250 kHz Willits, which operates directional both day and night. While the pole will be less than one wavelength from the KLLK antenna, the pole will be significantly less than 60 electrical degrees tall at the wavelength of the AM station. 4.6 meters is only 6.9 degrees at 1250 kHz. Per §1.30002 of the Commission's Rules, this is therefore not classified as a significant modification, and no further analysis is required with respect to KLLK.

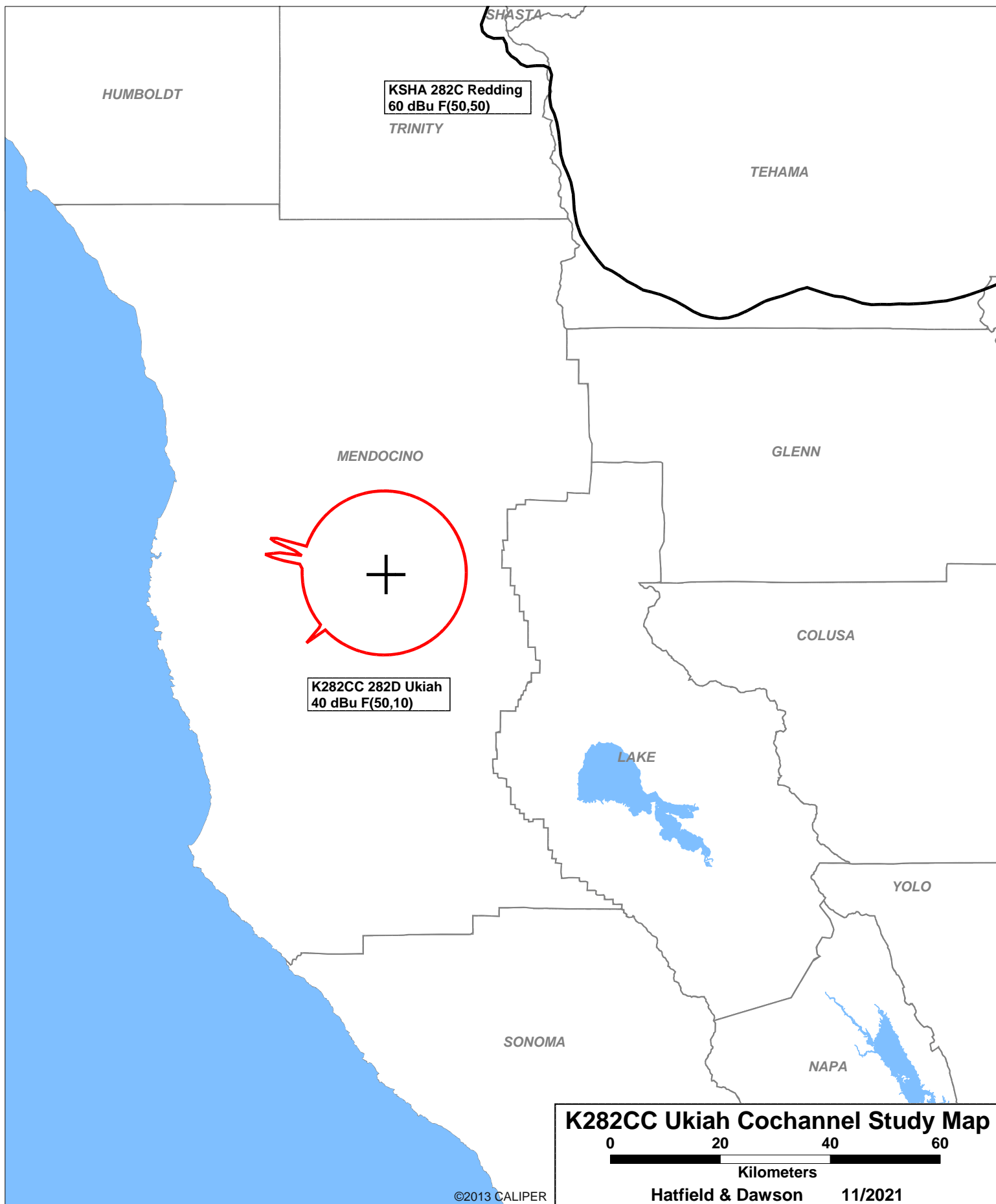
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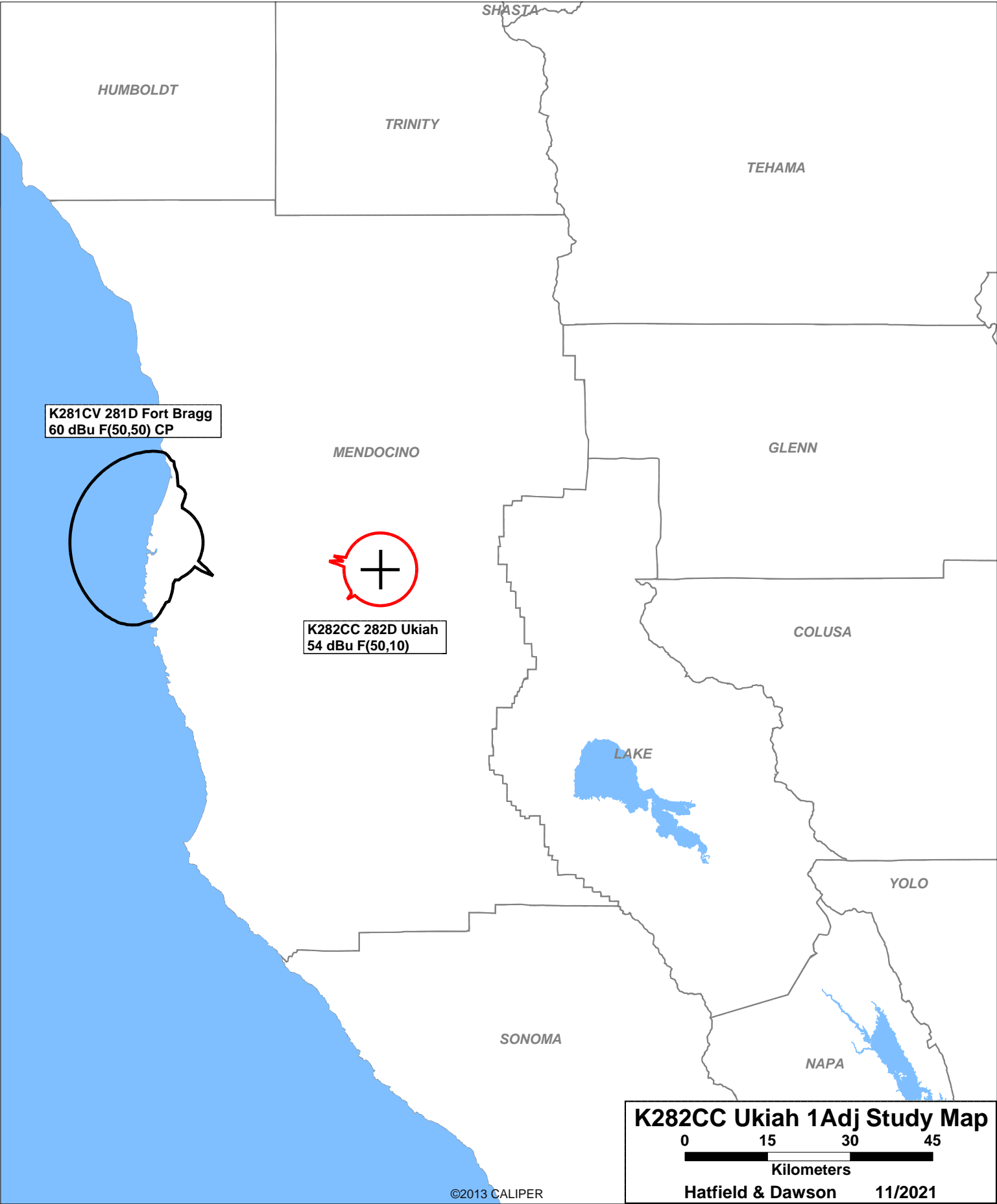
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SEARCH PARAMETERS                               FM Database Date: 20211110
Channel: 282A    104.3 MHz                      Page 1
Latitude: 39 23 57.9 (NAD83)
Longitude: 123 19 24.4
Safety Zone: 50 km
Job Title: K282CC MOD
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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KMKX LIC	WILLITS CA	BLH-19991118AAU	228B 93.5	0.890 876.0	39 30 58.5 123 5 25.0	56.9	23.90 8.90	15 CLOSE
KLVG ALC	GARBERVILLE CA		279C0 103.7	0.000 0.0	40 17 52.5 124 12 43.2	323.1	125.44 39.44	86 CLEAR
KLVG LIC	GARBERVILLE CA	0000133948	279C0 103.7	11.000 716.0	40 20 4.4 124 6 36.1	327.4 SS	123.73 37.73	86 CLEAR
K281CV LIC	FORT BRAGG CA	0000151813	281D 104.1	0.170 0.0	39 26 33.6 123 46 51.4	277.1	39.69 0.00	0 TRANS
KJOR LIC	WINDSOR CA	BLH-20070110ABL	281A 104.1	0.900 93.0	38 32 27.6 122 54 8.9	159.0 SS	102.04 30.04	72 CLEAR
K281CV CP	FORT BRAGG CA	0000154669	281D 104.1	0.250 0.0	39 26 35.0 123 46 52.0	277.2	39.71 0.00	0 TRANS
K282AD LIC	EUREKA CA	BLFT-20150128AUR	282D 104.3	0.250 0.0	DA 40 30 2.4 124 17 10.1	326.5	147.37 0.00	0 TRANS
KXSE LIC	DAVIS CA	BLH-20030218AAQ	282A 104.3	3.400 133.0	38 39 25.7 121 43 15.9	120.3	161.38 46.38	115 CLEAR
K282CC CP	UKIAH CA	BNPFT-20180502AC	282D 104.3	0.100 0.0	39 19 34.5 123 16 15.0	150.9	9.30 0.00	0 TRANS
KSHA LIC	REDDING CA	BLH-19921102KC	282C 104.3	100.000 475.0	40 39 13.5 122 31 16.0	25.8	155.20 -70.80	226 SHORT
K282BS LIC	MARYSVILLE CA	BLFT-20190301ABP	282D 104.3	0.250 0.0	DA 39 8 17.6 121 33 17.9	100.2	155.35 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 282 =====





Facilities Proposed

The proposed operation will be on Channel 282D (104.3 MHz) with an effective radiated power of 0.047 kilowatts. Operation is proposed with a 1-element horizontally-polarized omni-directional . The antenna will be side-mounted on a wooden pole at the KLLK transmitter building.

The proposed 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

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.

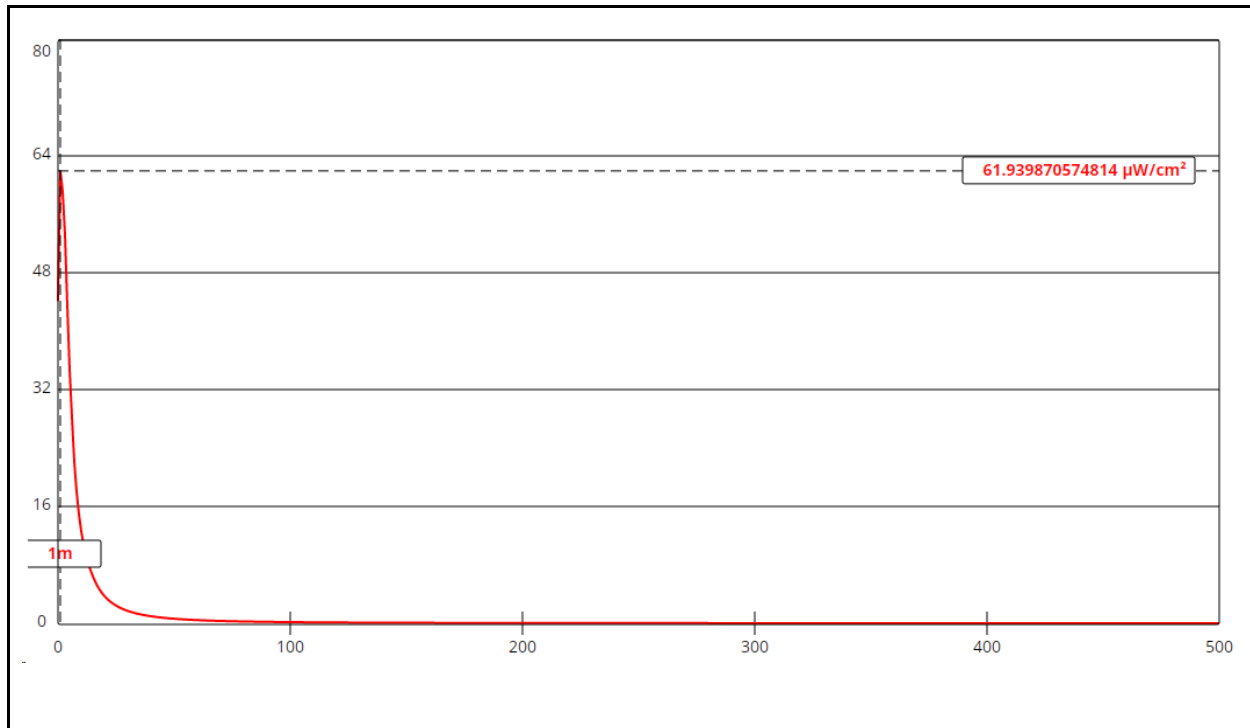
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 1 element pattern, which is the element pattern for the Shively 6602-1 antenna proposed for use. The highest calculated ground level power density occurs at a distance of 1 meter from the base of the antenna support structure. At this point the power density is calculated to be 61.9 $\mu W/cm^2$, which is 31% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

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.

Nearby AM Station Fencing Requirement

KLLK 1250 kHz operates with 5000 watts directional day and 2500 watts directional night. The towers are 89.2 electrical degrees tall, or 24.8% of the station wavelength. Using Tables 1-4 in OET Bulletin No. 65, the fencing distance requirement for KLLK is 2 meters from the tower base. All towers are fenced to at least that distance from the tower base.



Ground-Level RF Exposure

OET FMModel

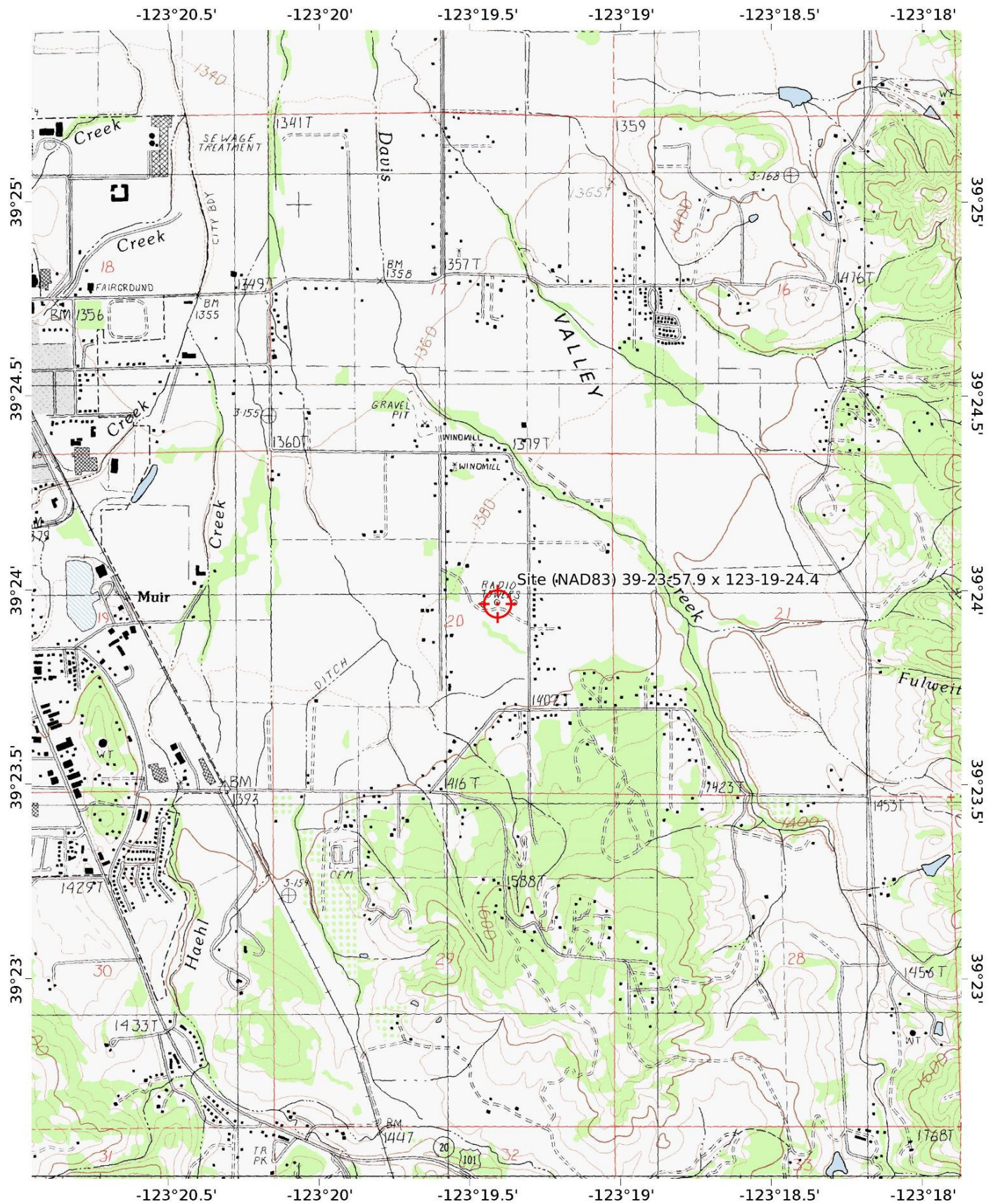
K282CC Ukiah

Antenna Type: Shively 6602-1 (Type 1)
 No. of Elements: 1
 Element Spacing: 1 wavelength

Distance: 500 meters
 Horizontal ERP: 47 W
 Vertical ERP: zero W

Antenna Height: 4.6 meters AGL

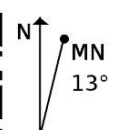
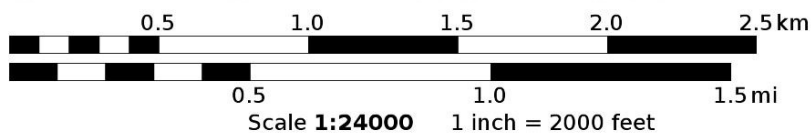
Maximum Calculated Power Density is 61.9 $\mu\text{W}/\text{cm}^2$ at 1 meters from the antenna structure.



Mercator Projection

WGS84

UTM Zone 10S



Hatfield & Dawson Consulting Engineers

