

July 2021
FM Translator K256CQ
Longview, Washington Channel 256D
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 map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The 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.

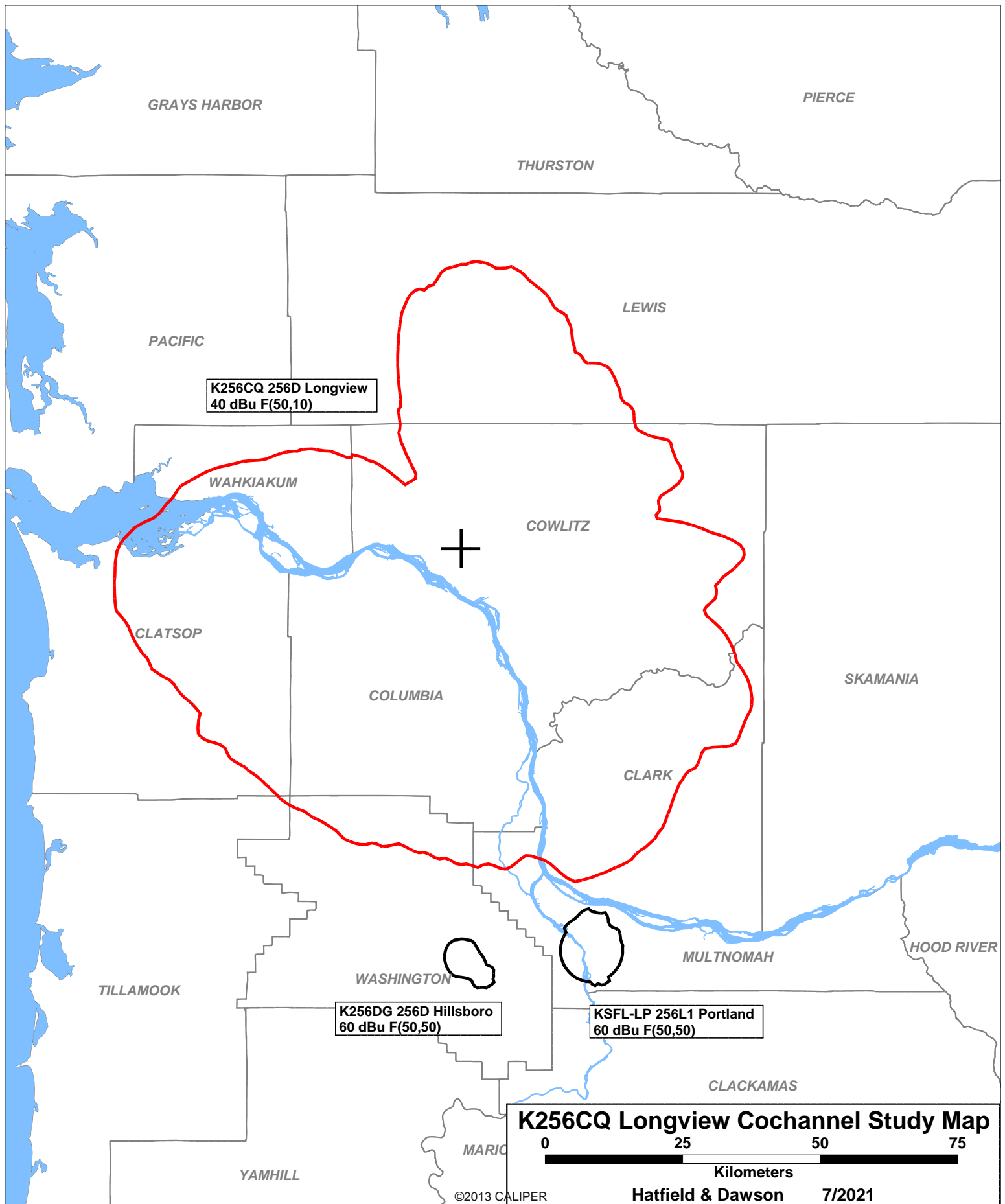
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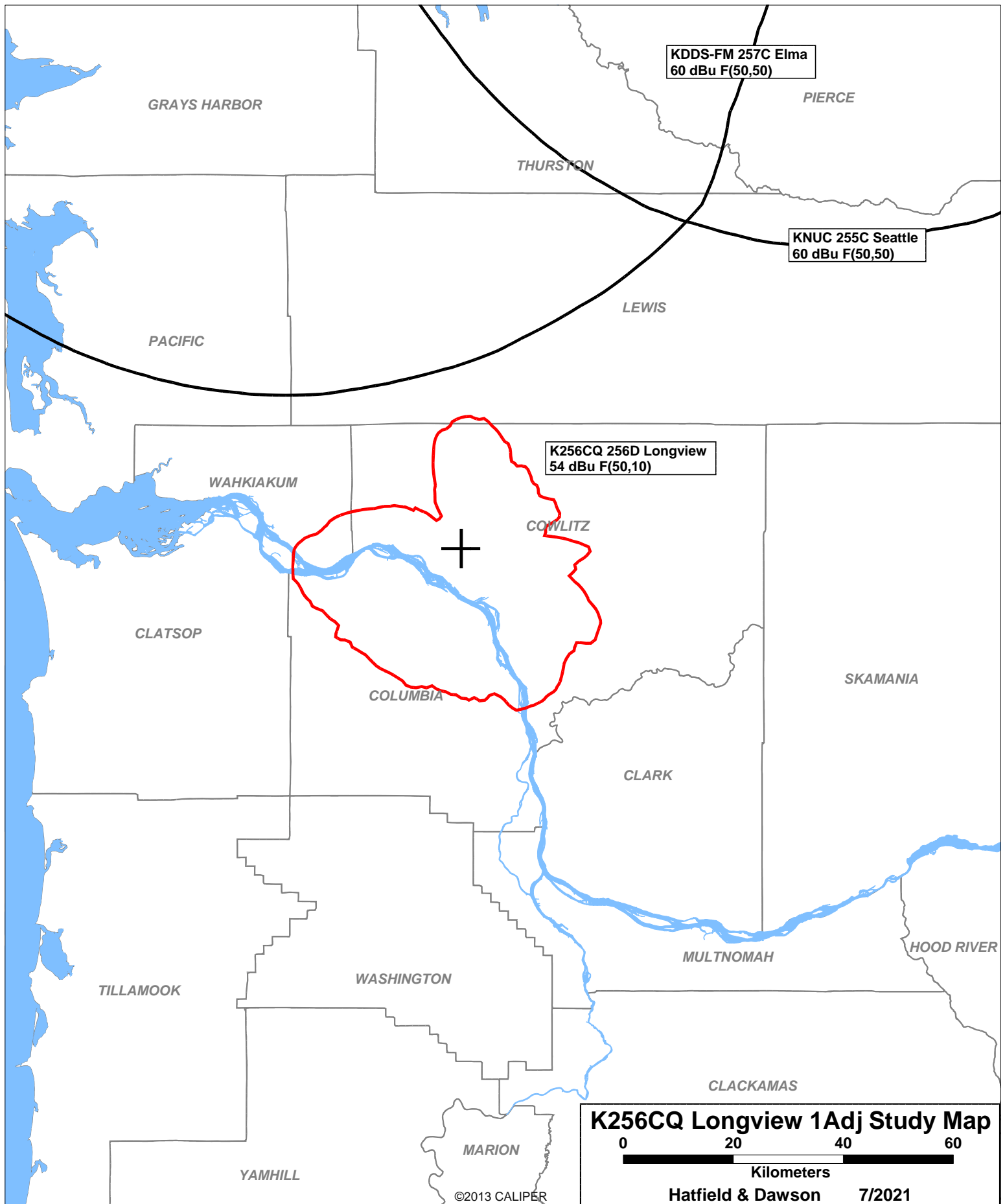
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SEARCH PARAMETERS                               FM Database Date: 20210629
Channel: 256A      99.1 MHz                      Page 1
Latitude: 46 10 58.0 (NAD83)
Longitude: 122 57 33.0
Safety Zone: 50 km
Job Title: K256CQ LONGVIEW

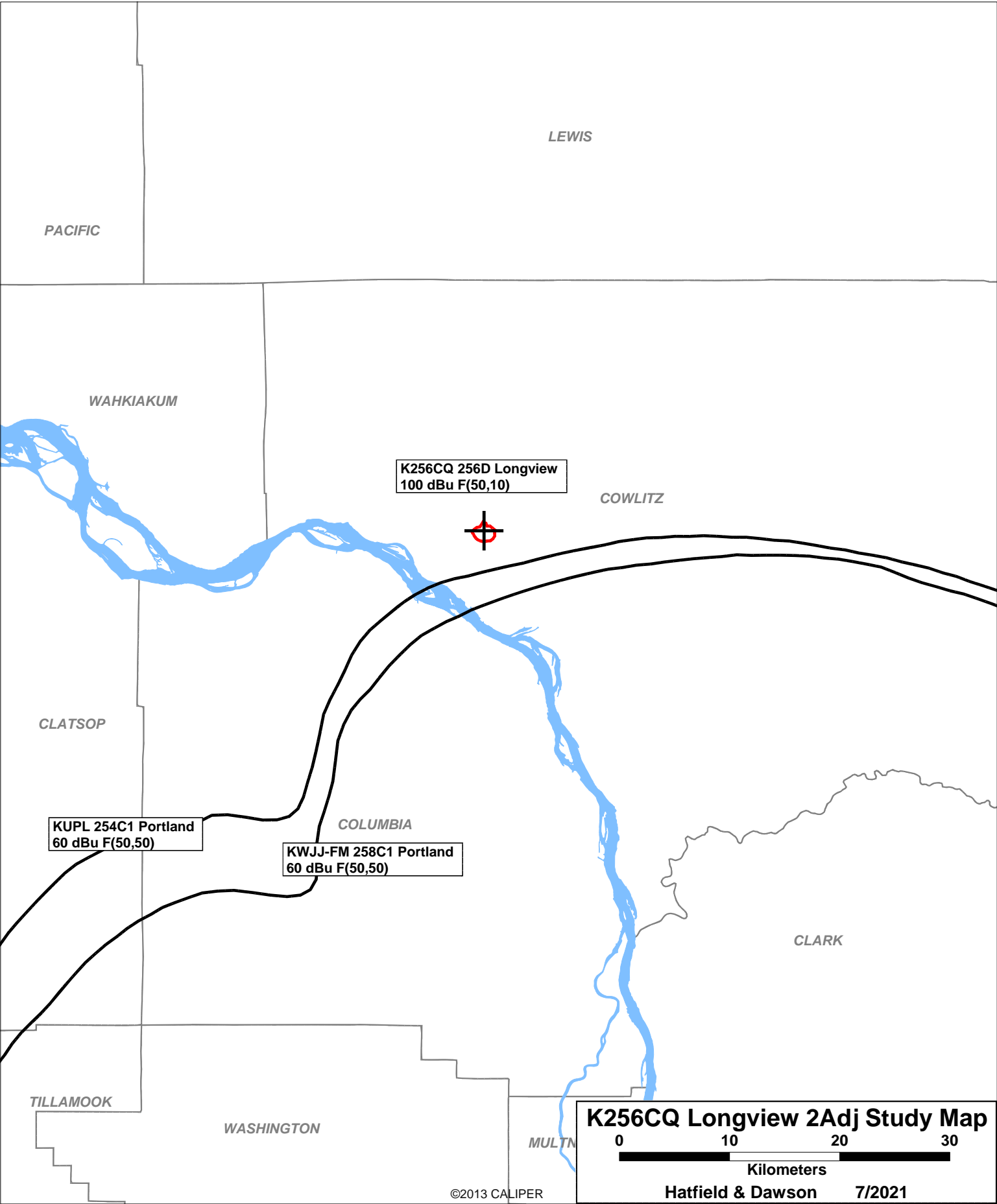
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| Call Status | City St | FCC File No. | Channel Freq. | ERP(kW) HAAT(m) | Latitude Longitude | Bearing deg-True | Dist (km) | Req (km) |
|----------------|--------------------|------------------|------------------|--------------------|------------------------------|---------------------|------------------|--------------|
| KNBQ LIC | CENTRAL PARK WA | BMLED-20170503AA | 253C2 98.5 | 1.600 685.0 | DA 46 58 30.3 123 8 20.5 | 351.2 SS | 89.15 34.15 | 55 CLEAR |
| KUPL LIC | PORTLAND OR | BLH-20110422AAN | 254C1 98.7 | 25.000 502.0 | 45 30 57.8 122 44 3.1 | 166.7 | 76.14 1.14 | 75 CLOSE |
| KNUC LIC | SEATTLE WA | BLH-20060824AEB | 255C 98.9 | 68.000 698.0 | 47 30 16.7 121 58 7.8 | 26.8 | 165.23 0.23 | 165 CLOSE |
| KNUC LICAPP | SEATTLE WA | 0000120176 | 255C 98.9 | 68.000 698.0 | 47 30 16.7 121 58 7.8 | 26.8 | 165.23 0.23 | 165 CLOSE |
| KODZ LIC | EUGENE OR | BMLH-20070606ABU | 256C 99.1 | 100.000 497.0 | 44 6 56.4 123 0 1.3 | 180.8 | 229.75 3.75 | 226 CLOSE |
| K256AC LIC | THE DALLES OR | BLFT-19950626TB | 256D 99.1 | 0.010 0.0 | 45 42 42.4 121 7 4.2 | 109.5 | 152.07 0.00 | 0 TRANS |
| K256DG CP | HILLSBORO OR | BNPFT-20181029AA | 256D 99.1 | 0.099 0.0 | DA 45 29 12.4 122 54 38.3 | 177.2 | 77.45 0.00 | 0 TRANS |
| K256CQ LIC | LONGVIEW WA | BLFT-20160812AAT | 256D 99.1 | 0.250 0.0 | DA 46 10 58.4 122 57 33.4 | 325.3 | 0.02 0.00 | 0 TRANS |
| K256DF CP | MCMINNVILLE OR | BMPFT-20181113AA | 256D 99.1 | 0.250 0.0 | DA 45 21 15.4 122 59 21.4 | 181.5 | 92.11 0.00 | 0 TRANS |
| KSFL-LP LIC | PORTLAND OR | BLL-20150728ACK | 256L1 99.1 | 0.100 28.6 | 45 31 37.4 122 39 7.3 | 161.8 | 76.69 9.69 | 67 CLOSE |
| KGLS-LP LIC | TILLAMOOK OR | BLL-20050328ADT | 256L1 99.1 | 0.100 0.0 | 45 27 25.3 123 50 13.4 | 220.4 | 105.65 38.65 | 67 CLEAR |
| KDDS-FM LIC | ELMA WA | BMLH-20090211ABR | 257C 99.3 | 64.000 742.0 | DA 47 18 45.3 123 22 19.6 | 346.1 SS | 129.50 -35.50 | 165 SHORT |
| KWJJ-FM LIC | PORTLAND OR | BLH-19911106KG | 258C1 99.5 | 52.000 386.0 | 45 29 19.4 122 41 44.3 | 165.1 | 79.81 4.81 | 75 CLOSE |
| K259BG LIC | CHEHALIS WA | BLFT-20130717ABB | 259D 99.7 | 0.250 0.0 | 46 43 51.4 123 1 32.5 | 355.2 | 61.15 0.00 | 0 TRANS |
| KLMY LIC | LONG BEACH WA | BLH-20140129ABF | 259C3 99.7 | 25.000 61.0 | 46 18 50.4 124 3 11.6 | 280.2 SS | 85.62 43.62 | 42 CLEAR |

===== END OF FM SPACING STUDY FOR CHANNEL 256 =====







July 2021
FM Translator K256CQ
Longview, Washington Channel 256D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 256D (99.1 MHz) with a maximum lobe effective radiated power of 250 watts. Operation is proposed with an antenna to be mounted on the existing KBAM(AM) tower located at 996 Lone Oak Road in Longview. The FCC Antenna Structure Registration number for this tower is 1035328.

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 alone 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 500 meters. Values past this point are increasingly negligible.

“Worst case” calculations of the power density levels produced by the proposed translator were made for an elevation of 2 meters above ground level (46.8 meters below the antenna radiation center), assuming that the antenna radiates 100% power straight down. Under this worst-case assumption, the highest calculated power density from the proposed antenna alone occurs at the base of the antenna support structure. At this point the power density is calculated to be 7.6 $\mu W/cm^2$, which is 3.8% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

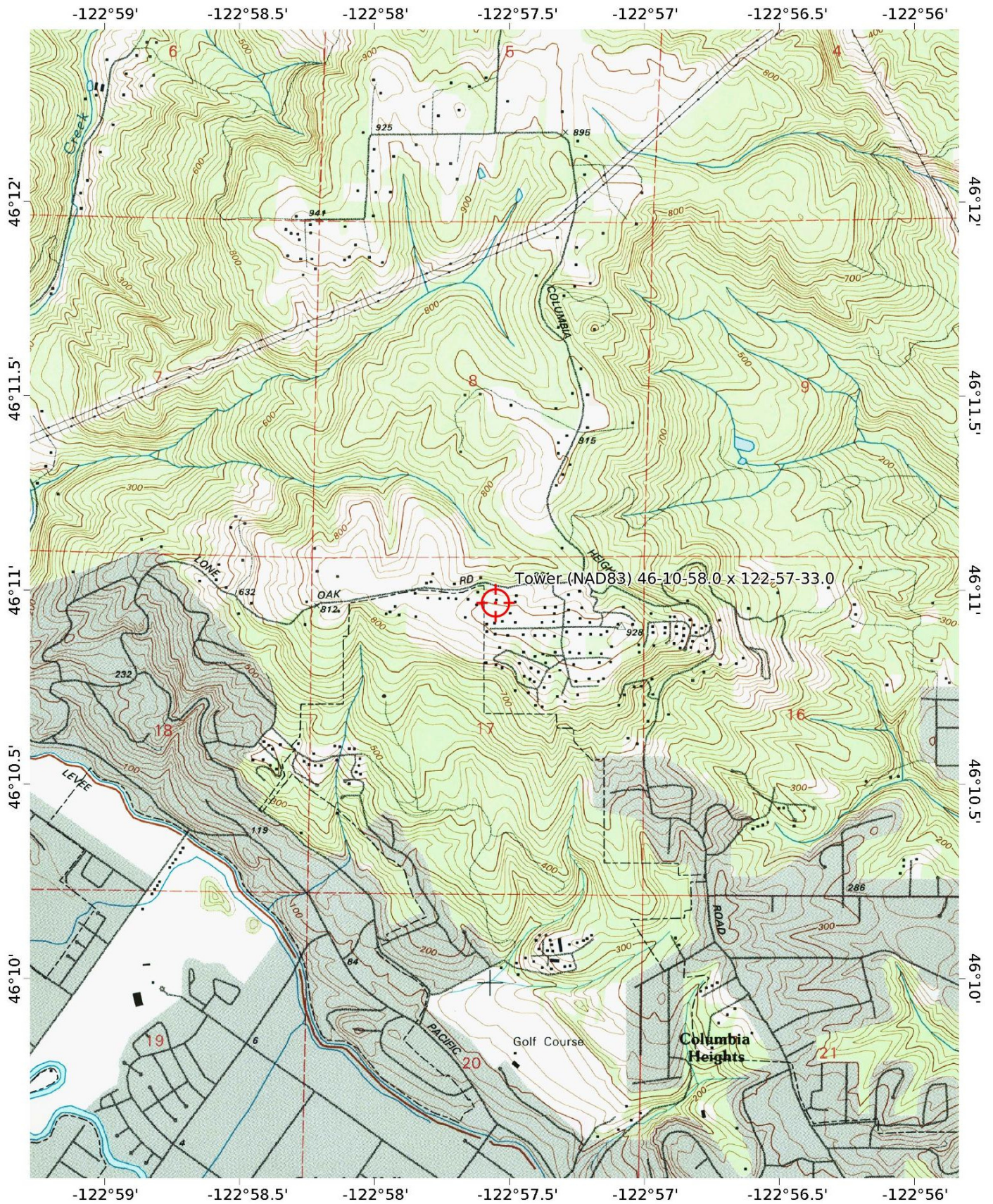
These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b) of the Commission's Rules exempts 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.

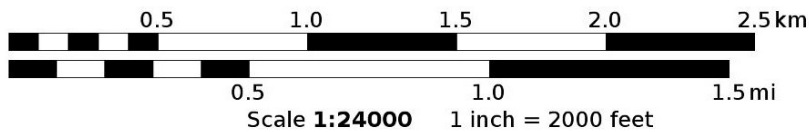
AM Station KBAM

The translator antenna will be installed on the antenna tower used by AM station KBAM 1270 kHz. KBAM operates with 5000 watts nondirectional daytime, 83 watts nondirectional nighttime. The tower is 102.3 electrical degrees tall, or 28.4% of the station wavelength. Using Tables 1-4 in OET

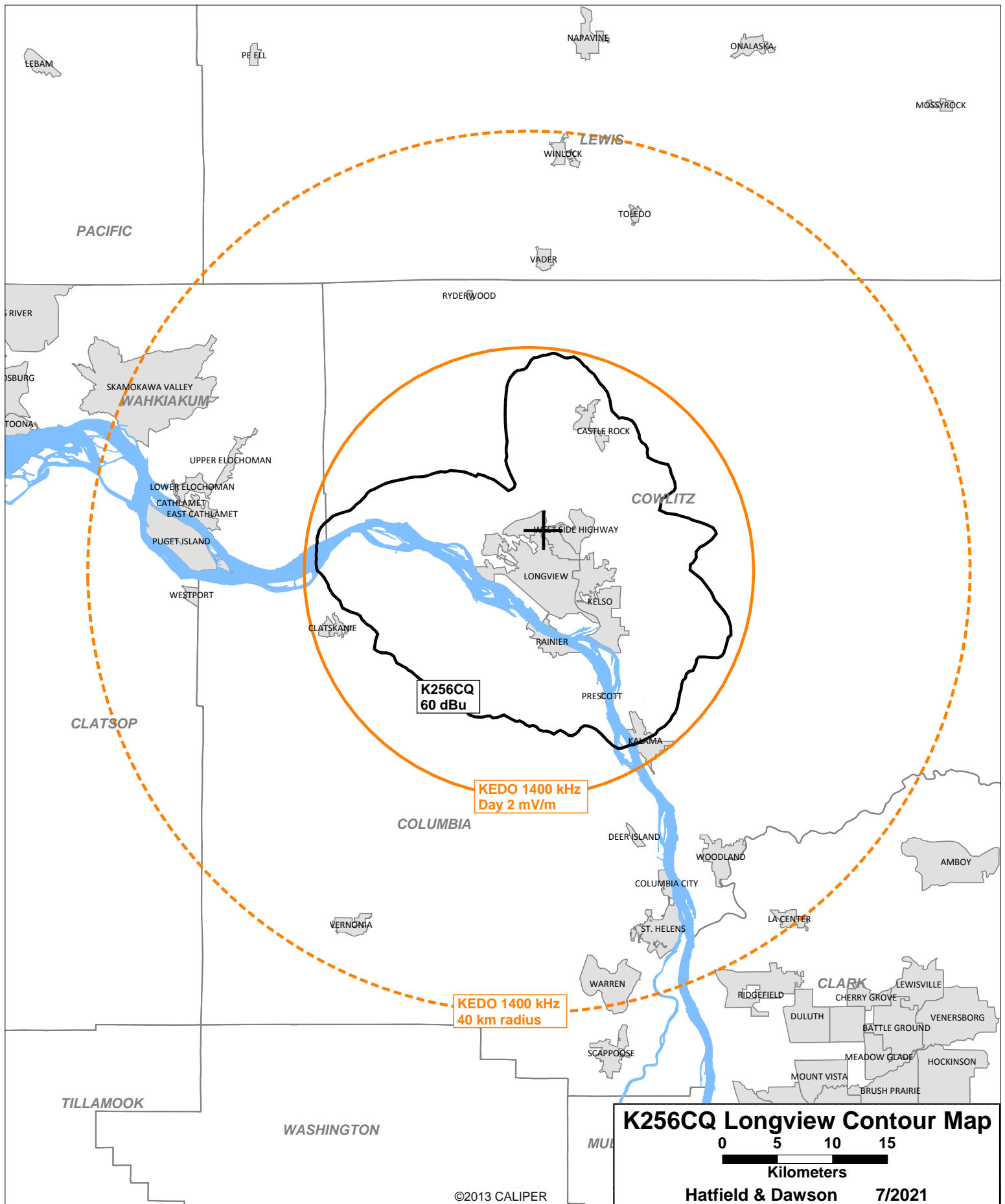
Bulletin No. 65, the fencing distance requirement for this station is 2 meters from the tower base.
The tower is fenced to at least this distance.



Mercator Projection
WGS84
USNG Zone 10TES
 CALTOPO



Hatfield & Dawson Consulting Engineers



K256CQ Longview Contour Map
0 5 10 15
Kilometers
Hatfield & Dawson 7/2021