December 2021
New FM Channel 208C2
Grangeville, Idaho
Allocation Study

Background

This application is being filed to modify the original construction permit for a new NCE FM station on Channel 208C2 at Grangeville, Idaho. The original application was filed during the 2021 NCE FM filing window, and was granted as a singleton. (More specifically, it should be noted that this application was not granted on the basis of a Fair Distribution of Service preference, nor on the basis of points awarded for superior technical facilities.)

This modification requests a waiver of §73.509 pursuant to the precedent established in *Educational Information Corp.*, commonly referred to as a Raleigh waiver. The waiver request is detailed in a separate section which follows.

Allocation Study

The attached spacing study shows the co-channel and adjacent channel spacing between stations and demonstrates that the proposed operation meets the IF channel spacing requirements as prescribed in §73.207 of the Commission's Rules.

Individual stations were examined to confirm the lack of prohibited contour overlap as prescribed in §73.509 of the Commission's Rules. The attached allocation study exhibits demonstrate requisite contour protection for the following domestic stations:

Cochannel	KTSY	208C1	Caldwell
	KEWU	208C1	Cheney
	KEFS	208A	North Powder
First-adjacent	KJCF	207A	Asotin
	KUOI-FM	207A	Moscow
	KWWS	209C1	Walla Walla
	KAUC	209A	West Clarkston
Third-adjacent	KNWO	211C3	Cottonwood***

*** Subject of Raleigh waiver request

TV Channel 6

Section 73.525 of the Commission's Rules specifies a threshold distance of 196 kilometers for FM stations operating on Channel 208. There is no TV Channel 6 station located within this threshold distance.

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Waiver Requested for Received Third Adjacent Channel Overlap

Summit Academy, Inc., dba St. John Bosco Academy ("Summit") proposes to eliminate a directional antenna and increase the service area of its authorized station at Grangeville, Idaho (Facility ID #763562), which is presently authorized on Channel 208C2 under FCC File No. 0000167662. The proposed upgraded facility has been designed so as to not cause any prohibited contour overlap to any existing station, authorization, or pending application, as per §73.509 of the Commission's Rules. However, the proposed increased 60 dBu service area would receive overlap from one licensed third-adjacent-channel full-power station, specifically KNWO on Channel 211C3 at Cottonwood.

This proposal will not cause overlap to KNWO as the proposed 100 dBu F(50,10) interfering contour of Grangeville 208C2 will not overlap that station's 60 dBu F(50,50) protected contour. However, the proposed Grangeville 208C2 60 dBu F(50,50) contour will receive overlap from the 100 dBu F(50,10) contour of KNWO.

The 60 dBu contour from the proposed Grangeville 208C2 facility encompasses an area of 5,594 sq km and a population of 16,394 persons per the 2020 Census (using the block centroid method).

Area and Population in Received Overlap Area from KNWO	**Percentage of Proposed Grangeville 208C2 60 dBu Area and Population**
4 sq km 0 persons	0.07% area 0% population

No overlap, and thus no interference, will occur within the boundaries of the Grangeville 208C2 community of license.

In *Educational Information Corporation*, Memorandum Opinion and Order, 6 FCC Rcd 2207 (1991), the Commission noted that it would be inclined to grant waivers of second- or third-adjacent channel overlap in circumstances where the benefit of increased non-commercial service heavily outweighs the potential for interference in very small areas. "...the Commission has given the staff delegated authority to act on waivers of received overlap of up to 10 percent where sufficient

justification is provided." *Educational Information Corporation* at 7. "The Commission has long recognized the unique characteristics of the noncommercial service and the need for flexibility to respond to the growing demand for such service. We are also more sensitive today to the increasing limitations within the reserved band which reflect the increased demand for service over the last 30 years. For these reasons, we are now inclined to grant waivers of second or third adjacent channel overlap in circumstances such as WCPE's, where the benefit of increased noncommercial educational service so heavily outweighs the potential for interference in very small areas." *Educational Information Corporation* at 10.

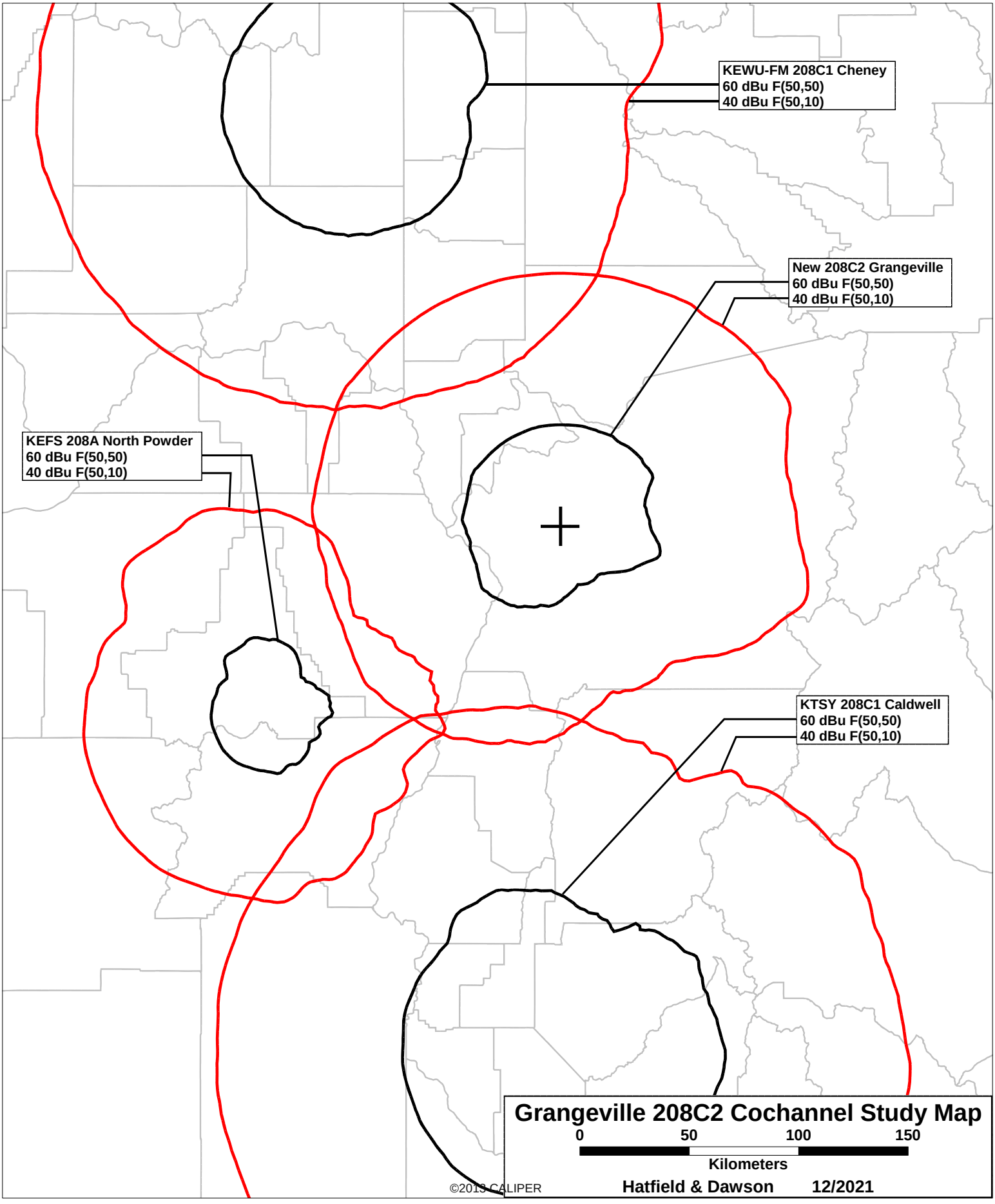
Summit hereby submits that the circumstances of the instant case are functionally equivalent to those in *Educational Information Corporation*, and respectfully requests a waiver (also typically referred to as a Raleigh waiver) of §73.509 of the Commission's Rules to permit the grant of the proposed Grangeville 208C2 facility. Summit acknowledges that future modifications proposed by the licensee of KNWO will not be construed as a *per se* modification of the Grangeville 208C2 license.

Additional precedent supports the principle that this type of waiver request can be utilized to modify an authorized (but not yet constructed) new station. See BMPED-20110315ABR, in which a Raleigh waiver was granted to allow authorized KHSF 211A Ferndale, California to voluntarily accept an area of second-adjacent channel overlap from a new station on Channel 209A at Pine Hills, California (now KIPE).

SEARCH PARAMETERS
Channel: 208C2 89.5 MHz
Latitude: 45 51 47.6 (NAD83)
Longitude: 116 7 25.5
Safety Zone: 50 km
Job Title: GRANGEVILLE 208C2

Call Status	City St FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KLCZ	LEWISTON	205A	0.230	46 24 44.5	311.6	92.68	55
LIC	ID BLED-20061108AAQ	88.9	-256.0	117 1 34.5		37.68	CLEAR
KAVY	MCCALL	206C3	0.320	45 0 17.6	180.5	95.40	56
LIC	ID BMLED-20170817AA	89.1	590.0	116 8 4.4		39.40	CLEAR
KJCF	ASOTIN	207A	0.175	46 19 55.5	306.6	88.19	106
LIC	WA BLED-20090121ADR	89.3	-100.0	117 2 37.5		-17.81	SHORT
K207EJ	GRANGEVILLE	207D	0.010	45 51 45.5	116.7	0.14	0
LIC	ID BLFT-20140731ALA	89.3	0.0	116 7 19.5		0.00	TRANS
KUOI-FM	MOSCOW	207A	0.400	46 43 42.5	325.1	117.82	106
LIC	ID BLED-19950227KB	89.3	-35.0	117 0 25.5		11.82	CLEAR
K207EY	ENTERPRISE, ETC.	207D	0.010 DA	45 23 57.5	242.8	111.31	0
LIC	OR BLFT-20130412AAL	89.3	0.0	117 23 19.6		0.00	TRANS
KEWU-FM	CHENEY	208C1	10.000	47 34 42.6	335.3	210.76	224
LIC	WA BLED-19861117KA	89.5	429.0	117 17 53.7		-13.24	SHORT
K208EF	MISSOULA	208D	0.099	46 52 55.7	54.6	199.68	0
LIC	MT BLFT-20000925APM	89.5	0.0	113 59 11.4		0.00	TRANS
KTSY	CALDWELL	208C1	8.300	43 45 17.6	179.5	234.30	224
LIC	ID BMLED-20130925AH	89.5	791.0	116 5 55.4		10.30	CLEAR
NEW	GRANGEVILLE	208C2	0.500 DA	45 51 47.6	0.0	0.00	190
CP	ID 0000167662	89.5	723.0	116 7 25.5		-190.00	SHORT
KEFS	NORTH POWDER	208A	0.165	45 7 25.5	238.1	153.42	166
LIC	OR BLED-20090812AAR	89.5	544.8	117 46 51.7		-12.58	SHORT
KAUC	WEST CLARKSTON	209A	0.500	46 26 19.5	313.5	93.68	106
LIC	WA BLED-20100625ALC	89.7	-185.0	117 0 34.5		-12.32	SHORT
K209FH	GRANGEVILLE	209D	0.010	45 51 45.5	116.7	0.14	0
LIC	ID BLFT-20110324ACF	89.7	0.0	116 7 19.5		0.00	TRANS
KWWS	WALLA WALLA	209C1	16.000 DA	45 59 3.8	275.6	159.33	158
LIC	WA BLED-20151117AEE	89.7	408.0	118 10 13.3		1.33	CLOSE
KBSK	MCCALL	210C3	0.450	45 0 29.6	180.5	95.03	56
LIC	ID BLED-20190102ABV	89.9	602.0	116 8 3.4		39.03	CLEAR
KNWO	COTTONWOOD	211C3	0.250	46 4 8.5	311.0	35.03	56
LIC	ID BLED-19940207KA	90.1	612.0	116 27 57.5		-20.97	SHORT

==== END OF FM SPACING STUDY FOR CHANNEL 208 ====


KEWU-FM 208C1 Cheney
60 dBu F(50,50)
40 dBu F(50,10)
New 208C2 Grangeville
60 dBu F(50,50)
40 dBu F(50,10)
KEFS 208A North Powder
60 dBu F(50,50)
40 dBu F(50,10)
KTSY 208C1 Caldwell
60 dBu F(50,50)
40 dBu F(50,10)
Grangeville 208C2 Cochannel Study Map
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150
Kilometers
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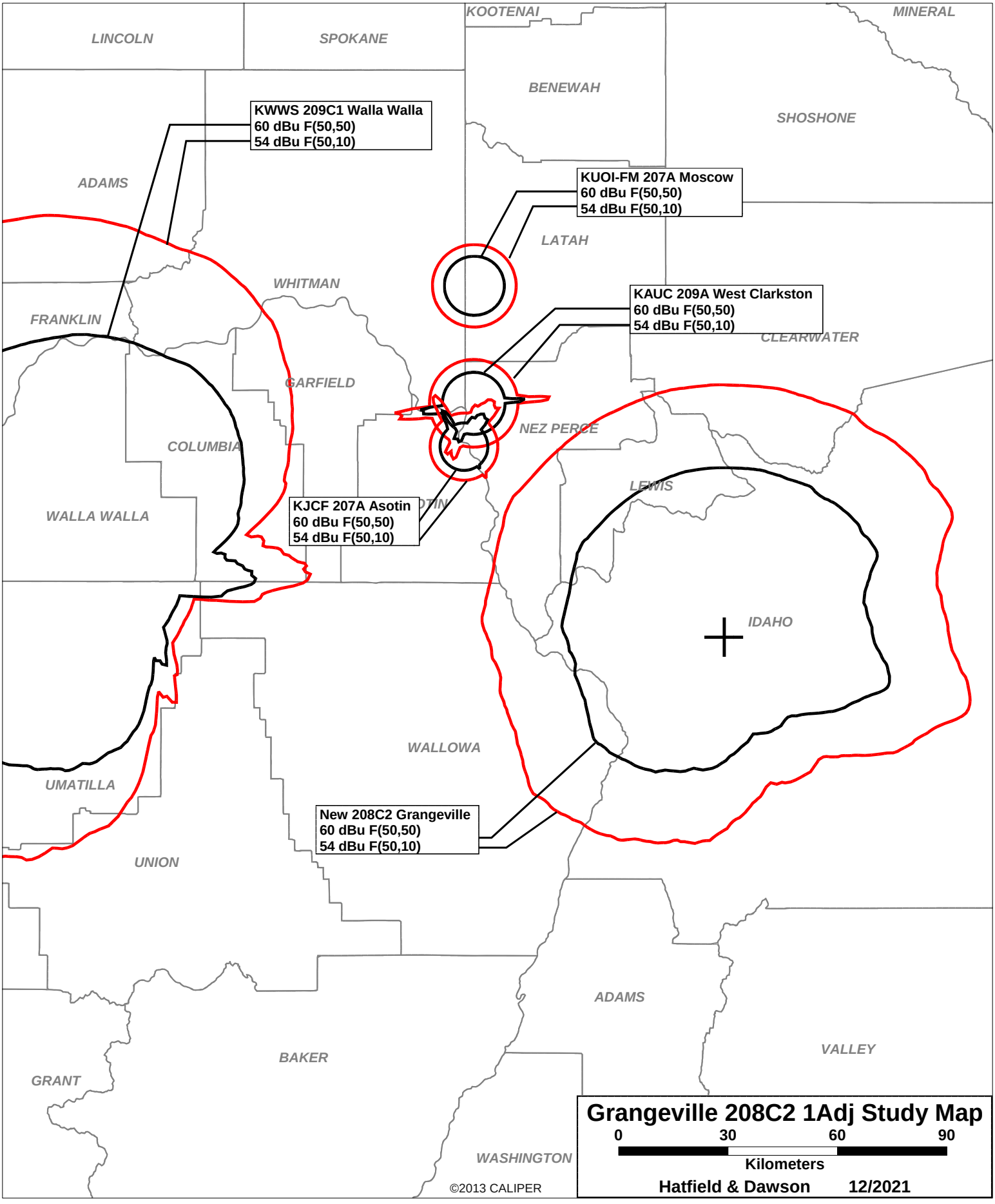
KWWS 209C1 Walla Walla
60 dBu F(50,50)
54 dBu F(50,10)
KUOI-FM 207A Moscow
60 dBu F(50,50)
54 dBu F(50,10)
KAUC 209A West Clarkston
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KJCF 207A Asotin
60 dBu F(50,50)
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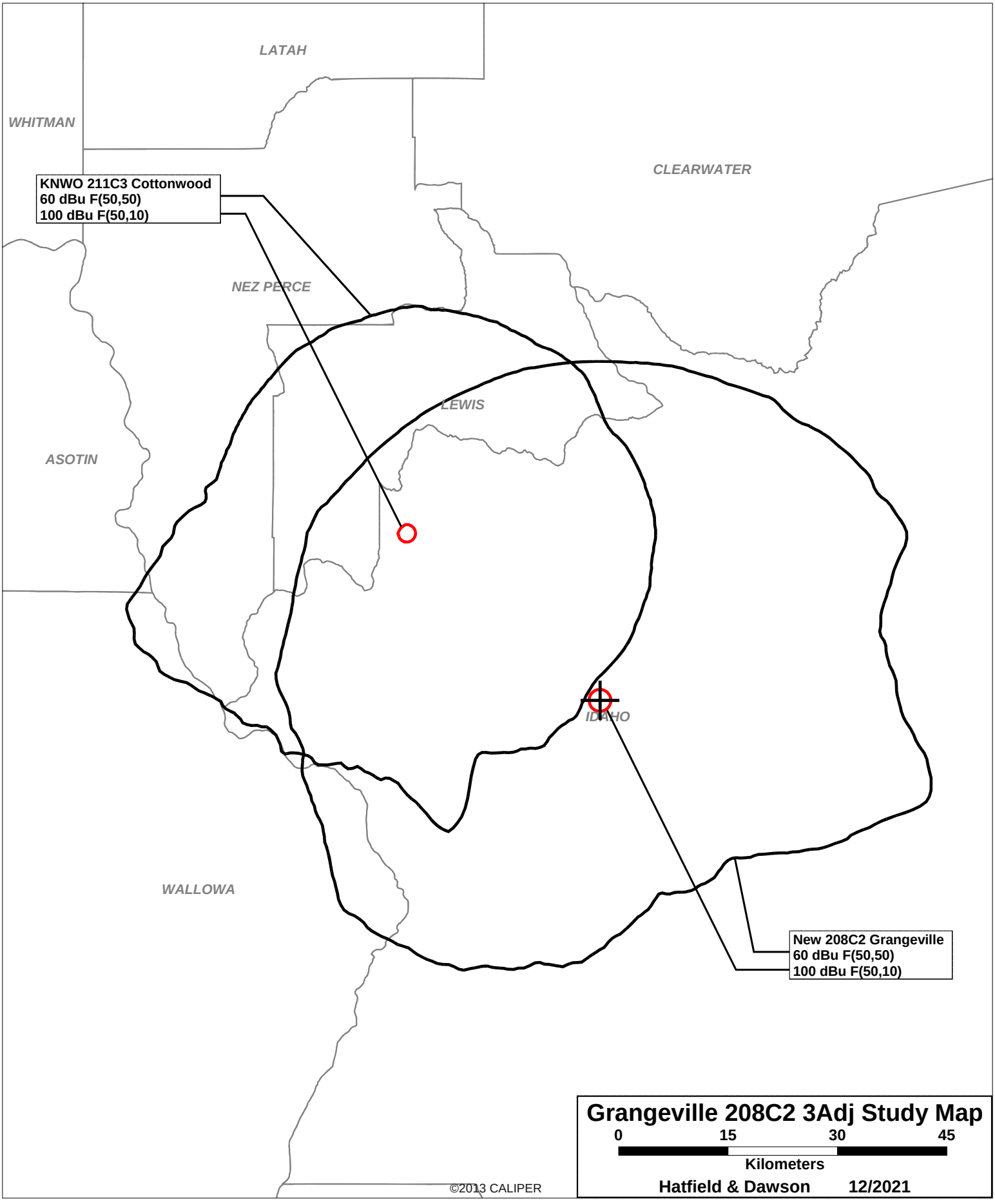
New 208C2 Grangeville
60 dBu F(50,50)
54 dBu F(50,10)
LINCOLN
SPOKANE
KOOTENAI
MINERAL
BENEWAH
SHOSHONE
ADAMS
LATAH
WHITMAN
FRANKLIN
CLEARWATER
GARFIELD
NEZ PERCE
COLUMBIA
LEWIS
WALLA WALLA
IDAHO
WALLOWA
UMATILLA
UNION
ADAMS
VALLEY
BAKER
GRANT
WASHINGTON
©2013 CALIPER
Grangeville 208C2 1Adj Study Map
0 30 60 90
Kilometers
Hatfield & Dawson 12/2021


LATAH
WHITMAN
CLEARWATER
KNWO 211C3 Cottonwood
60 dBu F(50,50)
100 dBu F(50,10)
NEZ PERCE
LEWIS
ASOTIN
IDAHO
WALLOWA
New 208C2 Grangeville
60 dBu F(50,50)
100 dBu F(50,10)
Grangeville 208C2 3Adj Study Map
0
15
30
45
Kilometers
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RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 208C2 (89.5 MHz) with an effective radiated power of 0.500 kilowatts. Operation is proposed with a 2-element circularly-polarized half-wave-spaced directional antenna. The antenna will be side-mounted on an existing tower at the High Camp communications site.

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.

DETERMINATION Results	
Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.	
Your Specifications	
NAD83 Coordinates	
Latitude	45-51-47.6 north
Longitude	116-07-25.5 west
Measurements (Meters)	
Overall Structure Height (AGL)	45.7
Support Structure Height (AGL)	45.7
Site Elevation (AMSL)	1865.4
Structure Type	
GTOWER - Guyed Structure Used for Communication Purposes	

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.

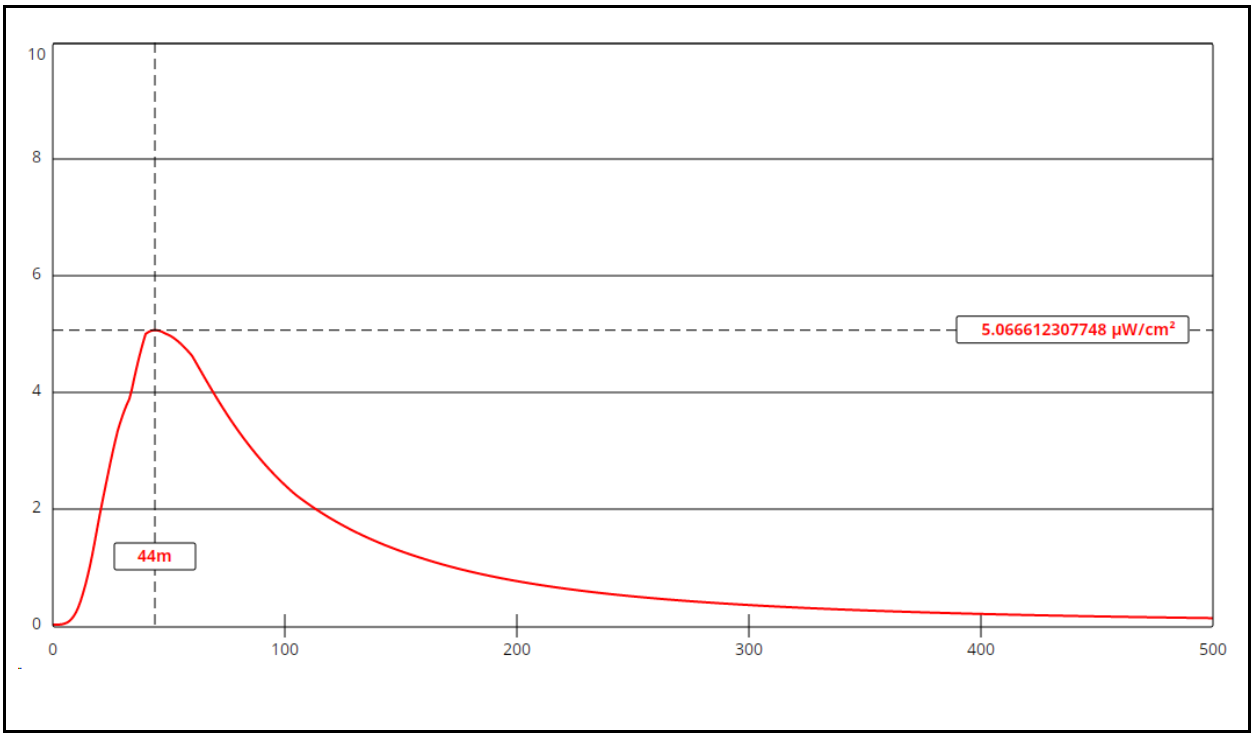
D is the distance in meters from the center of radiation to the calculation point.

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.

The precise make and model of antenna to be used has not yet been selected. Therefore, calculations of the power density produced by the proposed antenna system assume a Type 1 element pattern, which is the "worst case" element pattern in the Commission's FMModel software. The highest calculated ground level power density occurs at a distance of 44 meters from the base of the antenna support structure. At this point the power density is calculated to be 5.1 $\mu W/cm^2$, which is 2.6% 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 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 applicant's 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.

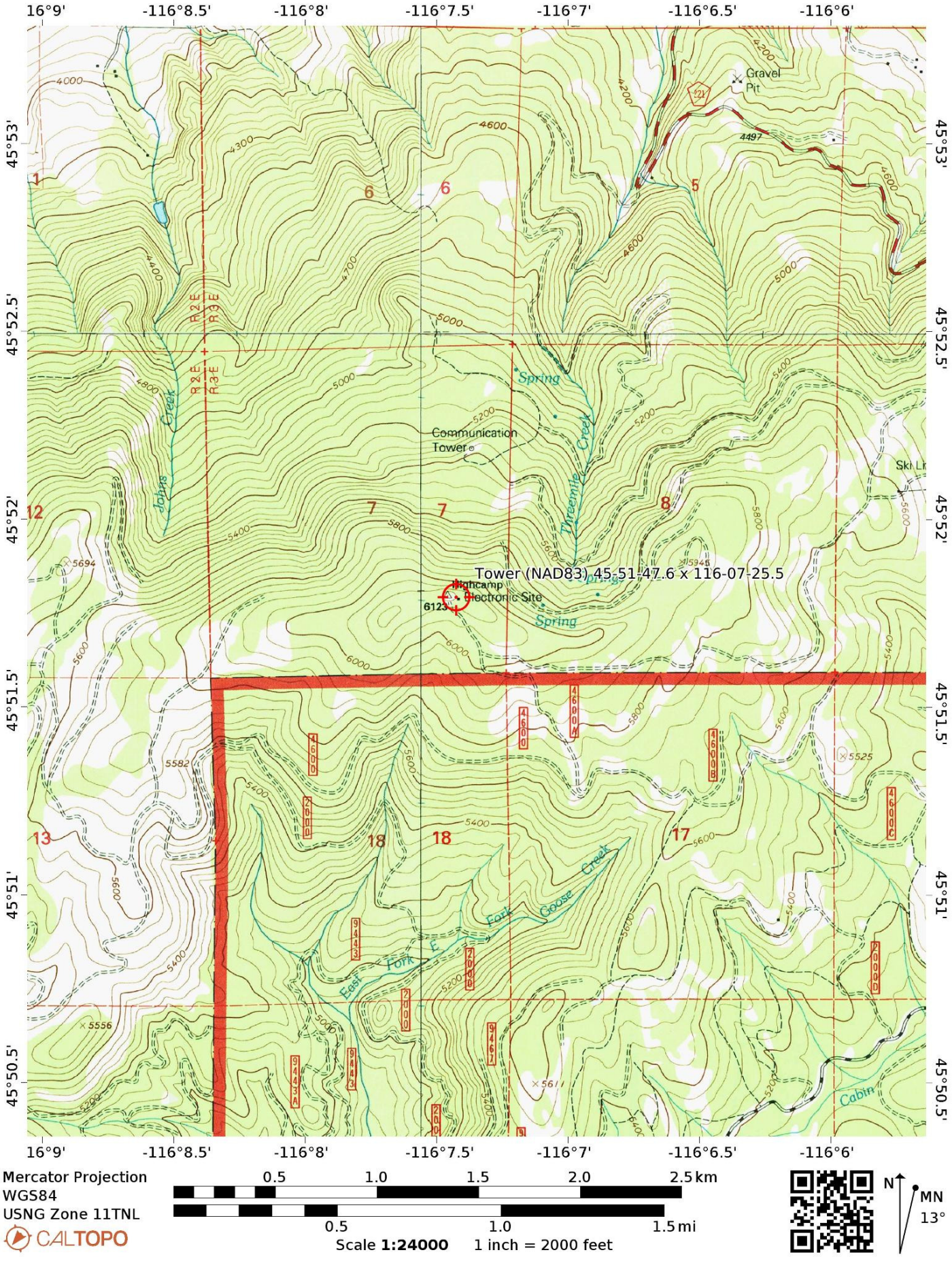


Ground-Level RF Exposure **OET FMModel**

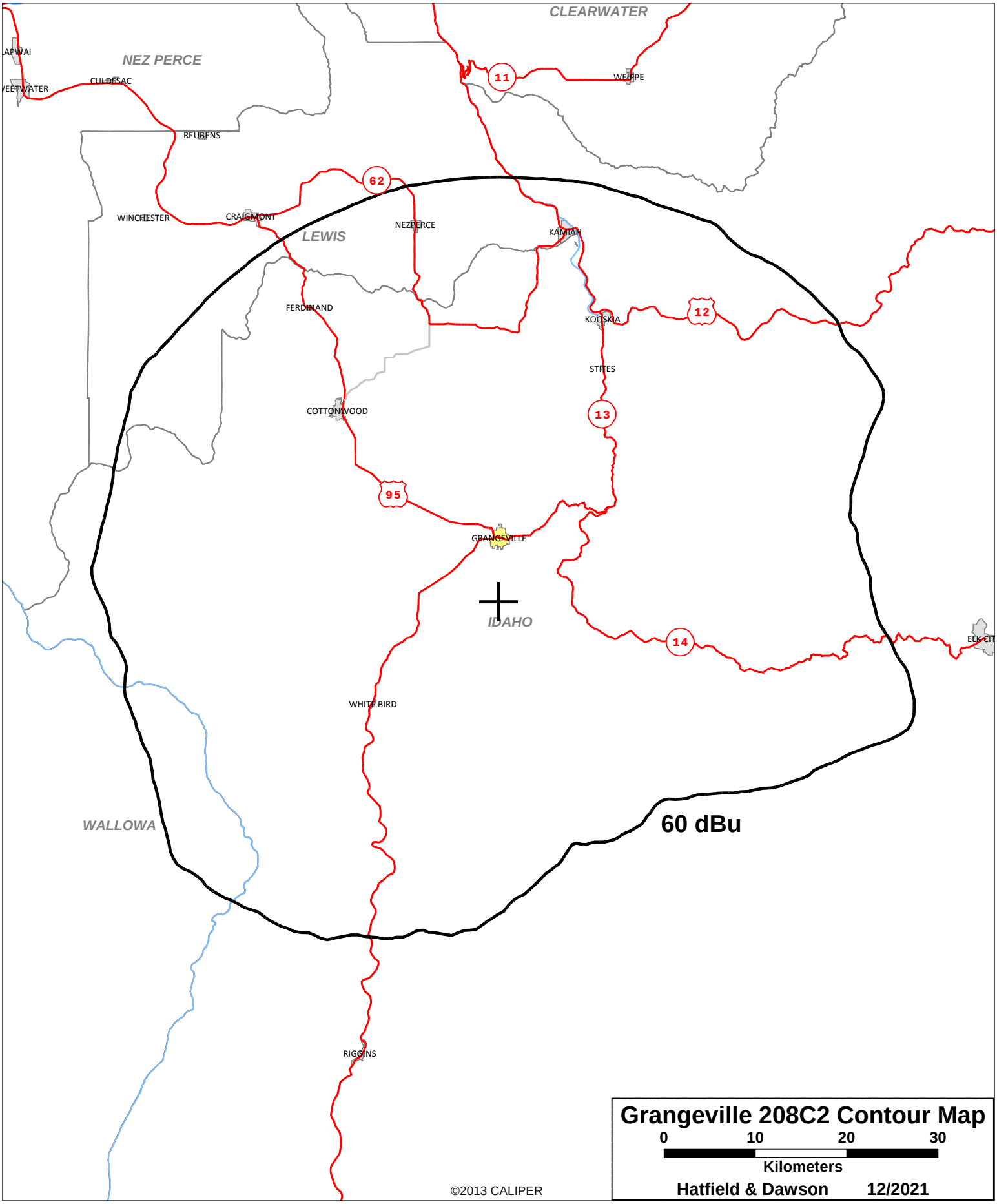
Grangeville 208C2

Antenna Type:	Type 1 assumed
No. of Elements:	2
Element Spacing:	0.5 wavelength
Distance:	500 meters
Horizontal ERP:	500 W
Vertical ERP:	500 W
Antenna Height:	30 meters AGL

Maximum Calculated Power Density is 5.1 µW/cm^2 at 44 meters from the antenna structure.



Hatfield & Dawson Consulting Engineers


CLEARWATER
NEZ PERCE
LEWIS
IDAHO
WALLOWA
CULDESAC
REUBENS
WINCHESTER
CRAIGMONT
NEZPERCE
KAMIAH
WEIPPE
FERDINAND
KOOSKIA
STITES
COTTONWOOD
GRANGEVILLE
WHITE BIRD
RIGGINS
11
12
13
14
62
95
60 dBu
Grangeville 208C2 Contour Map
0 10 20 30
Kilometers
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