

**October 2021  
New FM Channel 207A  
Ketchum, Idaho  
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:

First-adjacent	KTSY	208C1	Caldwell
	KLRI	208C0	Rigby
Second-adjacent	KEFX	205C0	Twin Falls
Third-adjacent	KAWZ	210C0	Twin Falls

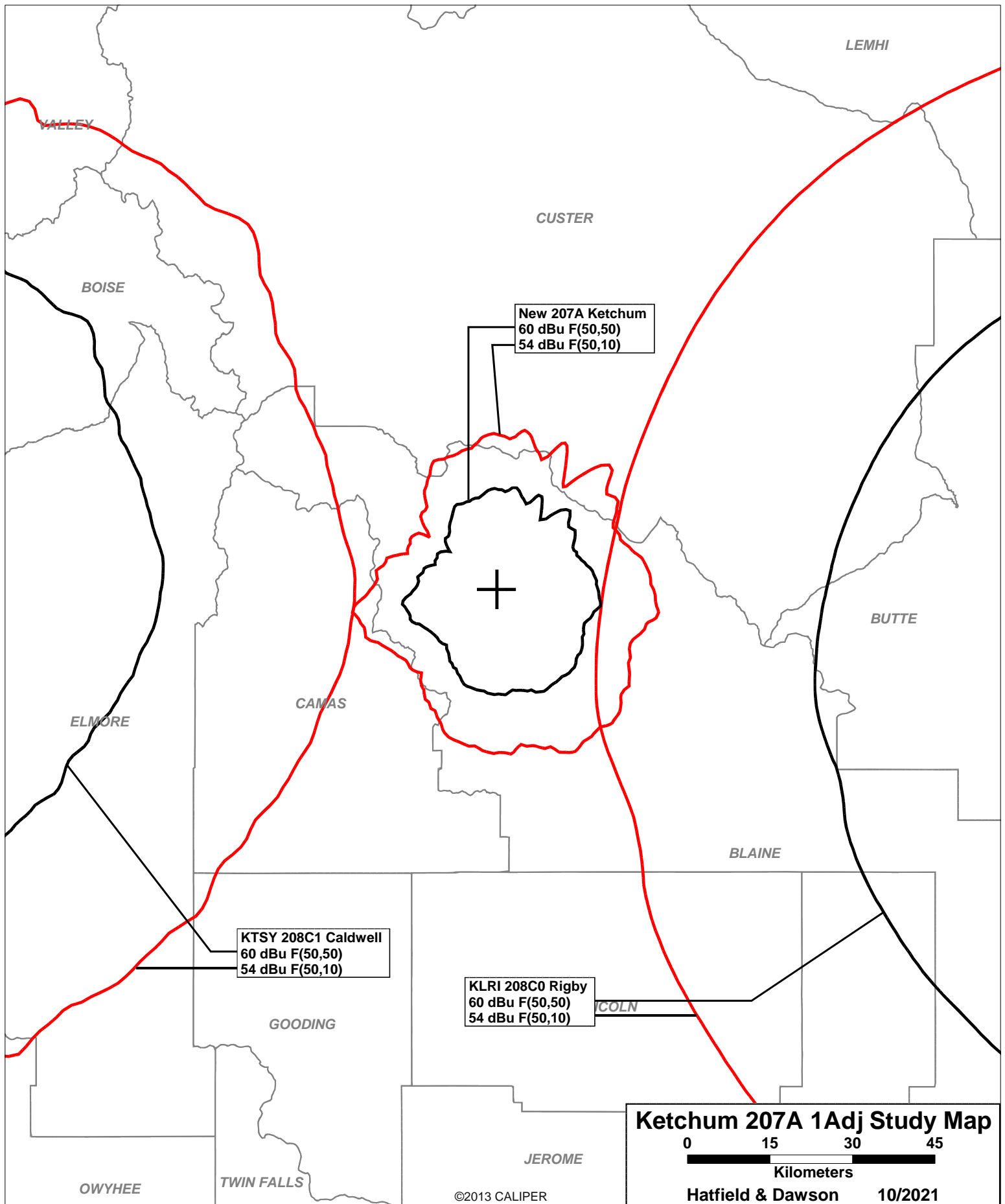
**TV Channel 6**

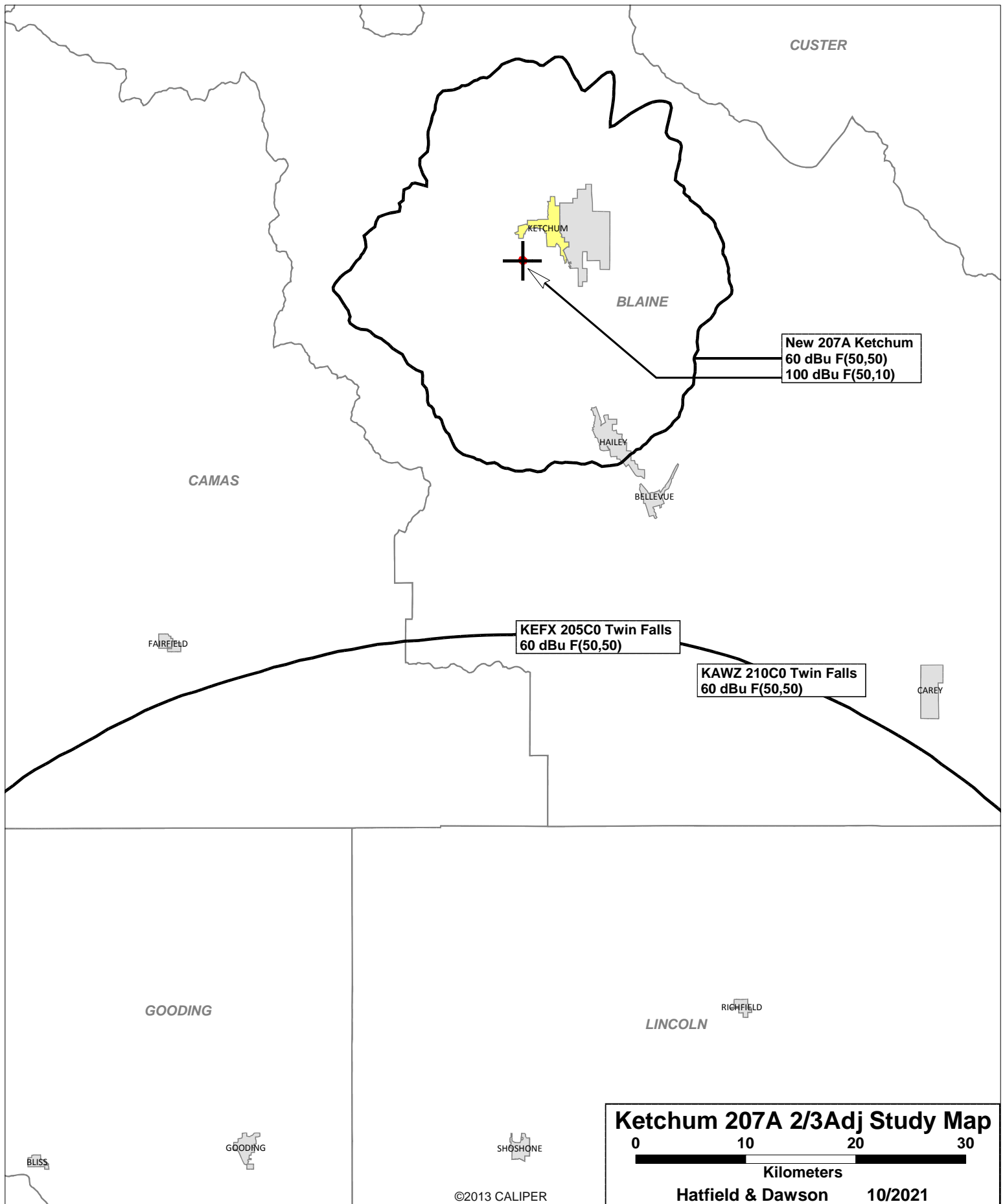
Section 73.525 of the Commission's Rules specifies a threshold distance of 196 kilometers for FM stations operating on Channel 207. There is no TV Channel 6 station located within this threshold distance.

```
=====
SEARCH PARAMETERS                               FM Database Date: 20211005
Channel: 207A      89.3 MHz                      Page 1
Latitude: 43 39 40.6 (NAD83)
Longitude: 114 24 11.5
Safety Zone: 50 km
Job Title: KETCHUM 207A
```

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KEFX LIC	TWIN FALLS ID	BLED-20060403AUG	205C0 88.9	100.000 302.0	42 43 46.7 114 24 55.1	180.5	103.51 17.51	86 CLEAR
K207DL LIC	TWIN FALLS ID	BLFT-20190913AAF	207D 89.3	0.250 0.0	DA 42 33 45.0 114 32 37.0	185.4	122.60 0.00	0 TRANS
KTSY LIC	CALDWELL ID	BMLD-20130925AH	208C1 89.5	8.300 791.0	43 45 17.6 116 5 55.4	275.0	137.06 4.06	133 CLOSE
KLRI LIC	RIGBY ID	BLED-20050729DTE	208C0 89.5	78.000 465.5	43 30 3.6 112 39 46.9	96.6	141.68 -10.32	152 SHORT
KAWZ LIC	TWIN FALLS ID	BLED-20060403ANA	210C0 89.9	100.000 302.0	42 43 46.7 114 24 55.1	180.5	103.51 17.51	86 CLEAR
KXCD CP	FAIRFIELD ID	0000135120	260C 99.9	74.000 497.0	DA 43 16 49.0 114 9 15.1	154.5	46.88 17.88	29 CLEAR

===== END OF FM SPACING STUDY FOR CHANNEL 207 =====





**October 2021  
New FM Channel 207A  
Ketchum, Idaho  
RF Exposure Study**

### **Facilities Proposed**

The proposed operation will be on Channel 207A (89.3 MHz) with an effective radiated power of 0.018 kilowatts. Operation is proposed with a 1-element circularly-polarized omni-directional antenna. The antenna will be side-mounted on an existing monopole tower located atop Bald Mountain.

The proposed antenna support structure does 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.

<b>DETERMINATION Results</b>	
<b>Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.</b>	
<b>Your Specifications</b>	
<b>NAD83 Coordinates</b>	
Latitude	43-39-40.6 north
Longitude	114-24-11.5 west
<b>Measurements (Meters)</b>	
Overall Structure Height (AGL)	24
Support Structure Height (AGL)	24
Site Elevation (AMSL)	2744
<b>Structure Type</b>	
POLE - Any type of Pole	

### **RF Exposure Calculations**

Study of the area within 500 meters of the proposed site reveals no other likely sources of non-ionizing radiation. Thus, the ground level RF exposure values near the base of the proposed structure are believed to be negligible. 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.

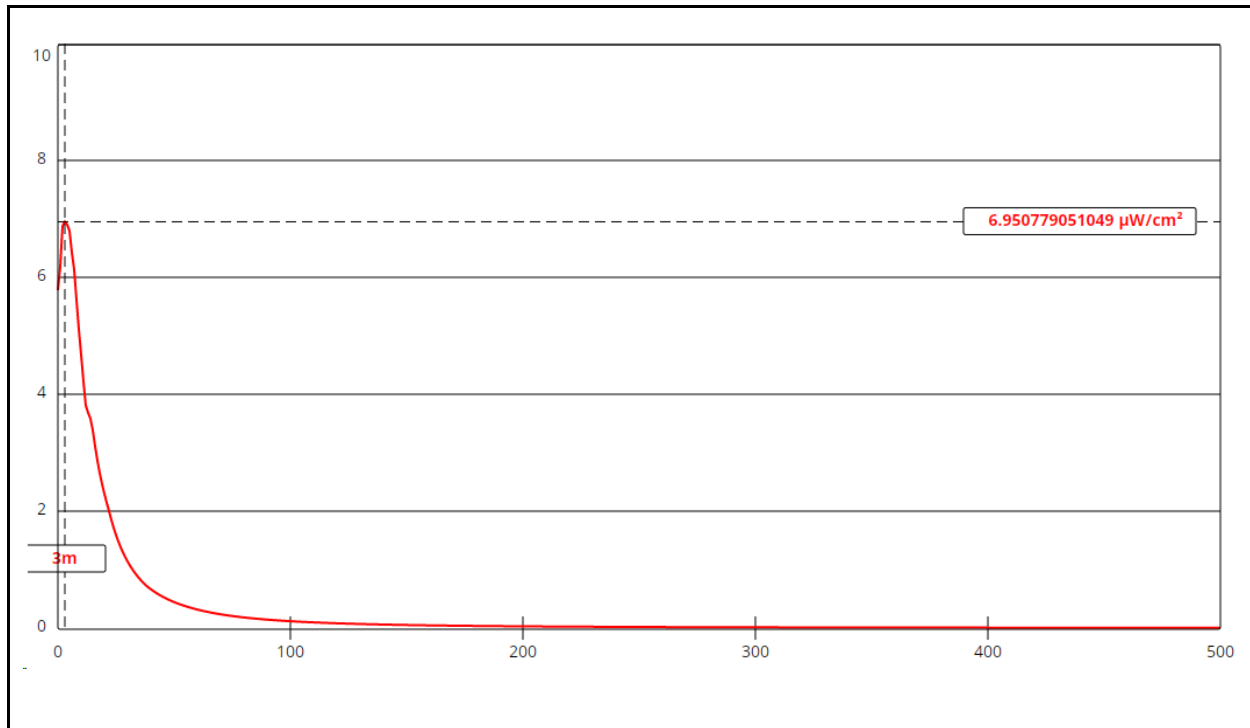
*D* is the distance in meters from the center of radiation to the calculation point.

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.

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 3 meters from the base of the antenna support structure. At this point the power density is calculated to be 7.0  $\mu W/cm^2$ , which is 3.5% 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

### Ketchum 207A

Antenna Type: Type 1 assumed  
No. of Elements: 1  
Element Spacing: 1 wavelength

Distance: 500 meters  
Horizontal ERP: 18 W  
Vertical ERP: 18 W

Antenna Height: 12.2 meters AGL

Maximum Calculated Power Density is  $7.0 \mu\text{W}/\text{cm}^2$  at 3 meters from the antenna structure.

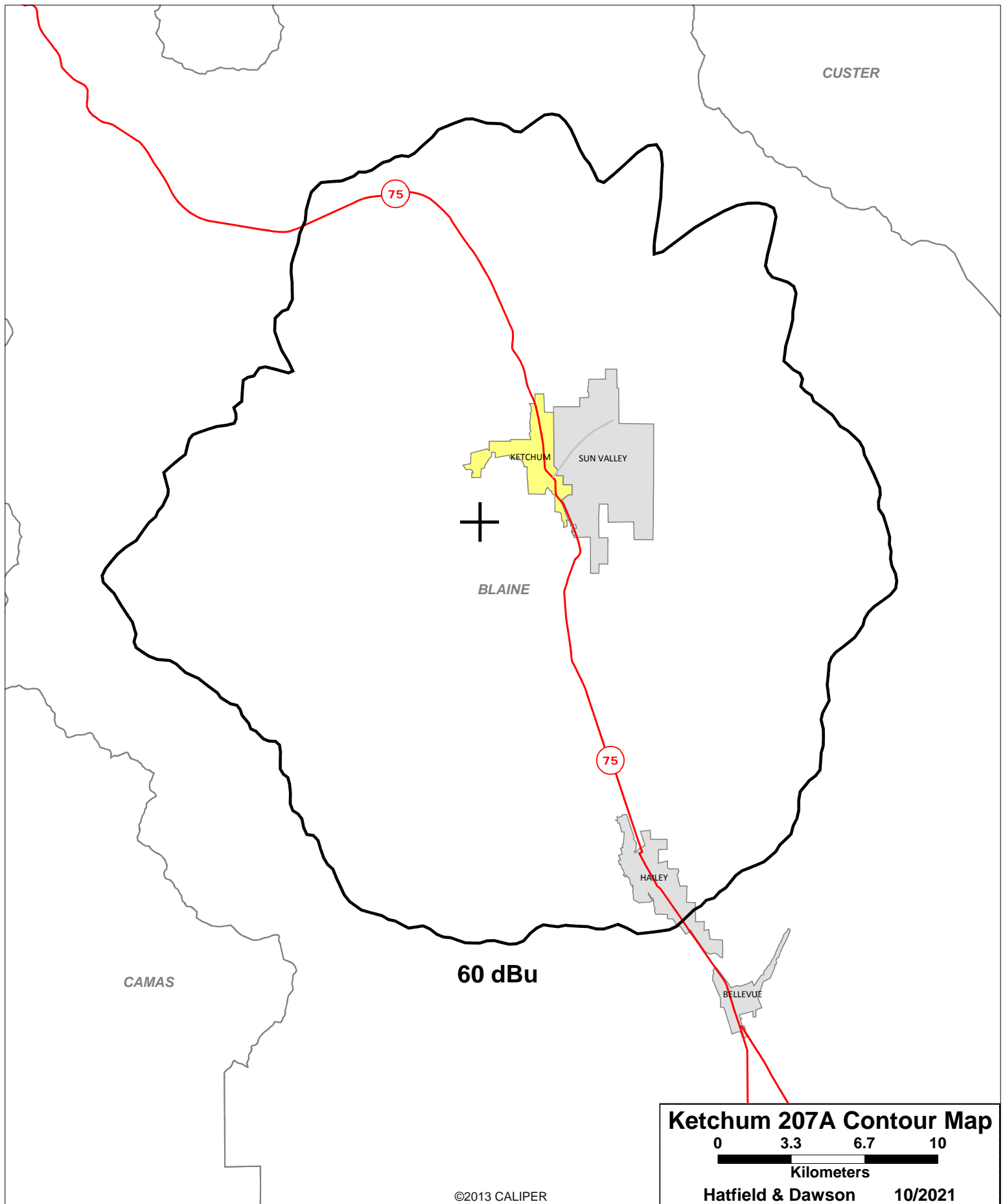
**October 2021  
New FM Channel 207A  
Ketchum, Idaho  
Area and Population Calculation Methodology**

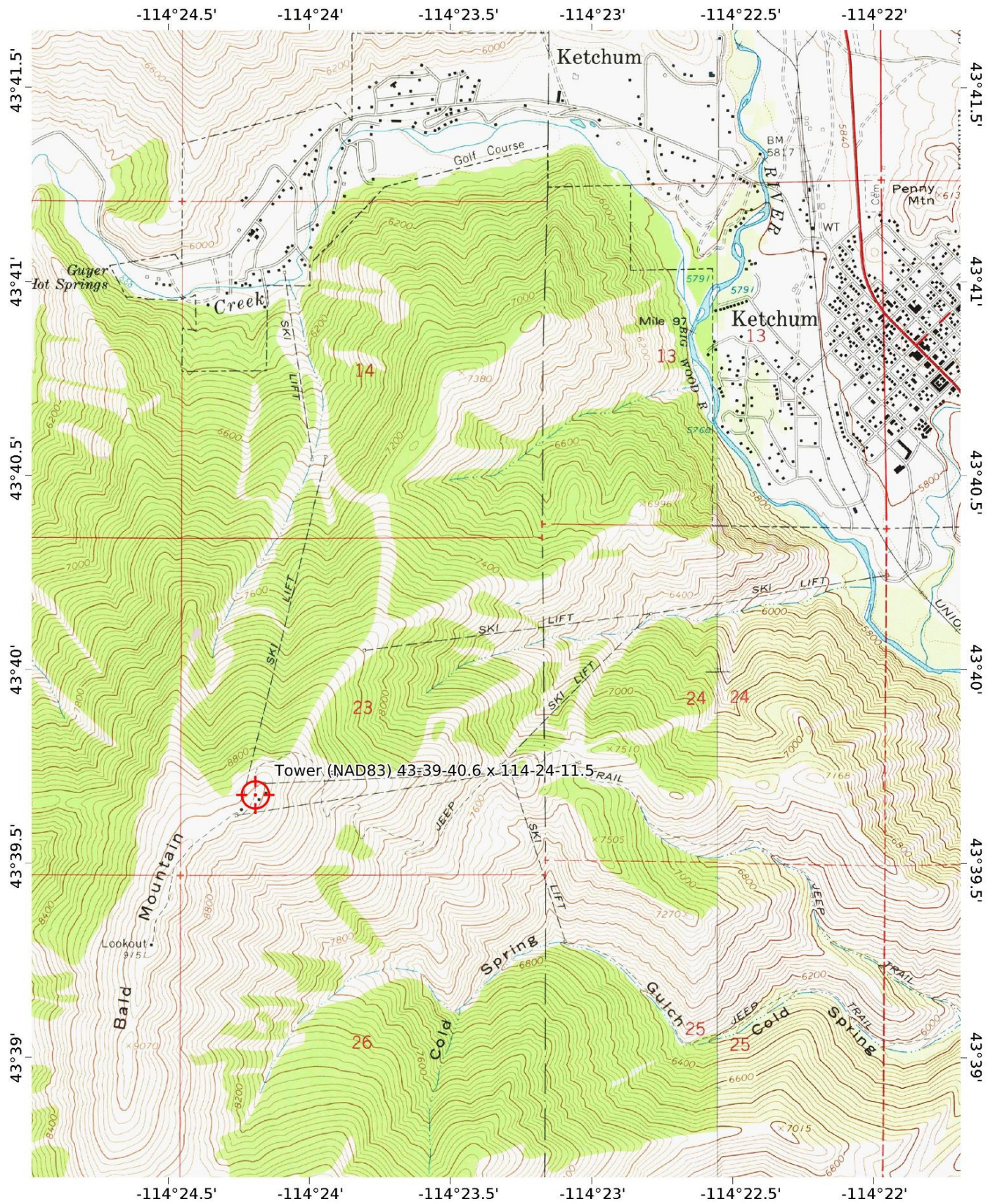
Calculation of the area within the 60 dBu contour was performed by the mapping program Maptitude, which includes a function which automatically calculates the area within irregular polygons. In cases where the 60 dBu contour included any large water areas, those were excluded by using a related tool in the program which allows the user to “clip” to the land area within the contour. The software returns the area of the land area.

Total area inside 60 dBu contour:	899 sq km
Water area excluded:	0 sq km
Total land area inside 60 dBu contour:	899 sq km

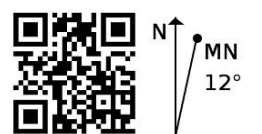
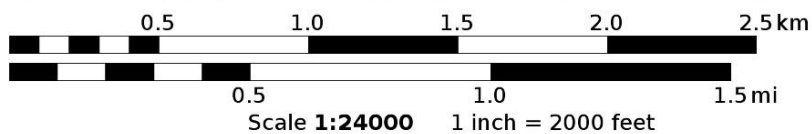
Population was calculated by summing the individual populations of each of the census blocks from the 2010 Census whose centroids are encompassed by the proposed 60 dBu contour.

Population inside 60 dBu contour:	14,732
-----------------------------------	--------





Mercator Projection  
WGS84  
USNG Zone 11TQJ  
 CALTOPO



Hatfield & Dawson Consulting Engineers