

ENGINEERING STATEMENT
IN SUPPORT OF A
PETITION FOR RULE MAKING
CHANGE IN ALLOTTED CHANNEL
DTV TABLE OF ALLOTMENTS
KRTV
GREAT FALLS, MT

Background

Scripps Broadcasting Holdings LLC (Scripps), licensee of KRTV, is petitioning for a Rule Making proceeding to amend the DTV Table of Allotments and change its presently allotted DTV Channel 7 at Great Falls, MT to Channel 22. Scripps is proposing to operate KRTV on Channel 22 at the same location as its licensed VHF facility (LMS File No. 0000091669) with a HAAT of 145.7m and an ERP of 1000 kW. The coordinates of the authorized Channel 7 and proposed Channel 22 facilities are as follows:

(NAD83)
47° 32' 07.5" N
111° 17' 05.5" W

Since the transition to digital, KRTV has received numerous calls from viewers living in the Great Falls, MT DMA area complaining that they are unable to receive the KRTV signal on Channel 7 (including viewers using indoor receiving equipment). The KRTV technical staff has worked with many of these callers to resolve the problems but it has become apparent that the digital Channel 7 signal is not providing these viewers with the same quality service that other UHF stations in the market are able to provide. KRTV wishes to change its allotted Channel 7 facility to a higher power UHF facility in order to provide better service (particularly indoor service) to its viewers. Reception issues for television stations operating on high-band VHF

channels are well documented, both before and after the transition to digital-only service on June 12, 2009^{1/}. Reception on high-band VHF channels is hindered by environmental noise, lower overall power levels compared to similar UHF facilities, and the inefficiencies of typical consumer receive antennas for reception at VHF frequencies (the antennas often have negative gains at VHF frequencies).

Channel Search

After a search of all “in-core” channels (from the reference coordinates listed above), Channel 22 appears to be the best available channel for KRTV in the Great Falls area. As KRTV is requesting a change in its allotted channel rather than a new allotment, it is not required to meet the Zone II minimum geographic spacing requirements specified in Section 73.623 of the FCC Rules.

Coverage of Proposed Channel 22 Facility

KRTV is proposing the following parameters for its operation on Channel 22:

Coordinates:	47° 32' 07.5" N
	111° 17' 05.5" W
ERP:	1000.0 kW
HAAT:	145.7m
RCAMSL:	1206.6m
Pattern:	Omni

Operation with these parameters will provide the required 48 dBu F(50,90) signal over the entire city of Great Falls, MT.

^{1/} MB Docket No. 09-146 (granting request by WLS-TV to substitute Channel 7 for Channel 44 in order to address VHF digital reception issues after DTV transition), CDBS File No. BPCDT-20120216ADO (requesting power increase pursuant to waiver of FCC's rules and a multi-party interference agreement in order for WABC-TV to resolve VHF digital coverage problems after DTV transition), along with many other Rule Makings to amend the DTV Table of Allotments to change from VHF to UHF channels after the completion of the DTV transition on June 12, 2009.

The maximum allowable ERP for UHF stations in Zone II is 1000 kW at an HAAT of 365m [as stated in Section 73.622(f)(i) of the Commission's Rules]. The proposed KRTV facility meets these criteria as its HAAT will be 145.7m and, therefore, the proposed maximum ERP of 1000 kW is allowable.

Loss Areas

The proposed change for KRTV, from a VHF channel to a UHF channel, is predicted to create areas where service from KRTV is lost and gained. Figure 1, attached hereto, is a map of the noise-limited contour of the licensed KRTV Ch. 7 facility (black), the noise-limited contour of the proposed Ch. 22 facility (red), and the predicted loss area (in green). The population contained within the loss area is predicted to be 553 persons (based on the 2010 census); however, the loss area is partially overlapped by the noise-limited contour of KXLF-LD and the protected service contours of KXLH-LD, K11KW-D and K15LD-D, all of which broadcast CBS programming like KRTV. After accounting for the contour overlap from these stations, the population contained within the loss area is reduced from 553 persons to 378 persons which is *de minimis* (less than 500 persons). As showing in Figure 3, attached hereto, the loss area is also partially overlapped by the noise-limited contours of KFBB-TV, KTVH-DT, KTVM-TV, KUHM-TV and KXLF-TV.

International Coordination

The proposed facility is located within the Canadian border zone and coordination with the Canadian government is requested to the extent necessary in light of the FCC's Memorandum of Understanding with the Canadian administration.

Interference Study Results

An interference check study was run using the FCC TVStudy software (Version 2.2.5) for the proposed KRTV Channel 22 facility parameters. The summary results of the study show that

the proposed facility is not predicted to cause more than 0.5% new interference to any other surrounding co-channel or adjacent channel facilities (see attached study results).

Environmental/RFR

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation. Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report.

The location of the proposed facility is assumed to currently be “in compliance” with FCC guidelines for human exposure to RFR (as defined in OET-65). The worst-case ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.023396 mW/cm², which is significantly less than the MPE limit for public exposure (0.347333 mW/cm²) at Channel 22 (476-482 MHz).

Scripps agrees to comply with the Commission’s requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be trained on RFR issues and encouraged to wear personal RFR monitors when on the structure.

Conclusion

In conclusion, it is requested that Section 73.622 be amended as follows:

:		
:	<u>Present</u>	<u>Proposed</u>
Montana		
:		
:		
Great Falls	7, 8, *21, 45	8, *21, 22, 45

The proposed change can be made with the following specified parameters:

Channel 22 – Great Falls, MT

Max ERP: 1000.0 kW, ND
HAAT: 145.7 m
Site: 47° 32' 07.5" N
111° 17' 05.5" W

Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.



Benjamin Pidek, P.E.
November 13, 2021

Attached:

KRTV Proposed Channel 22 TVStudy Interference Results

Figure 1 – Map of Areas Predicted to Lose KRTV Service with Proposed Channel Change

Figure 2 – Map of Noise-Limited Contour of KXLF-LD and KXLF-TV that Overlap Area Predicted to Lose KRTV Service

Figure 3 – Map of Noise-Limited Contours From Other Stations that Overlap Area Predicted to Lose KRTV Service

Proposed KRTV Channel 22 TVStudy Summary Results

Study created: 2021.10.31 21:09:40

Study build station data: LMS TV 2021-10-21

Proposal: KRTV D22 DT LIC GREAT FALLS, MT
File number: KRTV-C22-1000k-103121
Facility ID: 35567
Station data: User record
Record ID: 1927
Country: U.S.
Zone: II

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	KUGF-TV	D21	DT	LIC	GREAT FALLS, MT	BLEDT20101008ACG	0.0 km
Yes	KHMT	D22	DT	LIC	HARDIN, MT	BLCDT20090226AAD	312.1
No	KTMF	D23	DT	LIC	MISSOULA, MT	BLCDT20090612AEQ	213.6
No	CICT-DT	D22	DT	LIC	CALGARY, AB	BLANKCANADA12	448.3

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D22
Latitude: 47 32 7.50 N (NAD83)
Longitude: 111 17 5.50 W
Height AMSL: 1206.6 m
HAAT: 145.7 m
Peak ERP: 1000 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.50

39.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1000 kW	111.3 m	77.7 km
45.0	1000	164.7	82.6
90.0	1000	193.2	85.4
135.0	1000	156.6	81.8
180.0	1000	161.8	82.3
225.0	1000	114.6	78.0
270.0	1000	170.8	83.1
315.0	1000	114.6	78.0

Database HAAT does not agree with computed HAAT

Database HAAT: 146 m Computed HAAT: 148 m

**Proposal is within coordination distance of Canadian border

Distance to Canadian border: 162.5 km

Distance to Mexican border: 1672.1 km

Conditions at FCC monitoring station: Ferndale WA

Bearing: 284.9 degrees Distance: 848.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 147.4 degrees Distance: 951.7 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

No IX check failures found.

Ben Pidek Consulting, LLC

**Noise-Limited Contour of Licensed KRTV Ch. 7 Facility (Black) vs.
Noise-Limited Contour of Proposed KRTV Ch. 22 Facility (Red)**

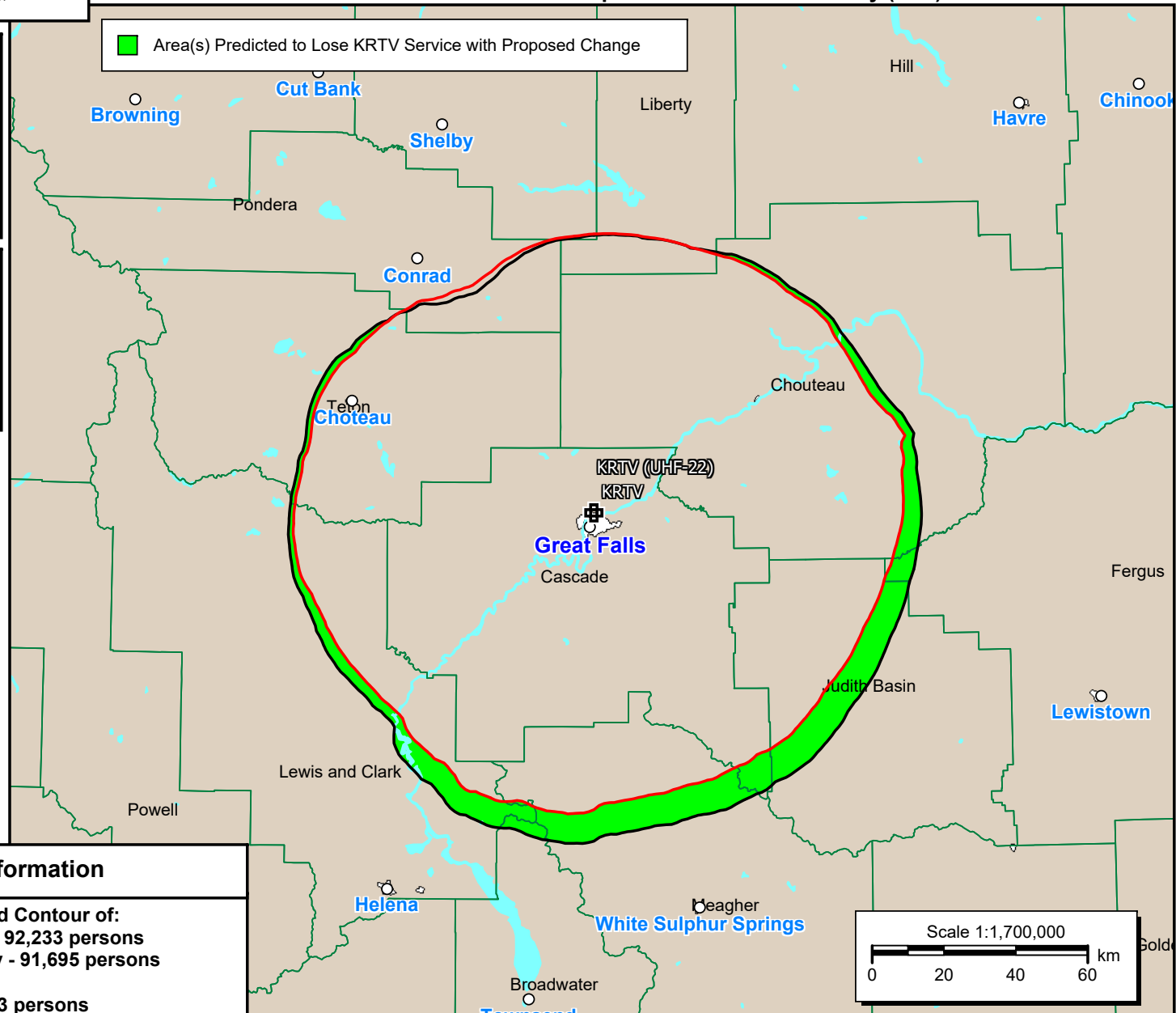
KRTV

0000091669
Latitude: 47-32-07.50 N
Longitude: 111-17-05.50 W
ERP: 32.50 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 1206.6 m

KRTV (UHF-22)

Latitude: 47-32-07.50 N
Longitude: 111-17-05.50 W
ERP: 1000.00 kW
Channel: 22
Frequency: 521.0 MHz
AMSL Height: 1206.6 m

Area(s) Predicted to Lose KRTV Service with Proposed Change



Population Information

Population Inside Noise-Limited Contour of:
-Licensed KRTV Ch. 7 Facility - 92,233 persons
-Proposed KRTV Ch. 22 Facility - 91,695 persons

Population in Loss Area(s): 553 persons

Figure 1

**Noise-Limited Contours of Licensed KRTV Ch. 7 Facility (Black), Proposed KRTV Ch. 22 (Red)
and Surrounding Stations with CBS Programming: KXLH-LD, KXLF-TV,
K11WK-D and K15LD-D (Blue Dash)**

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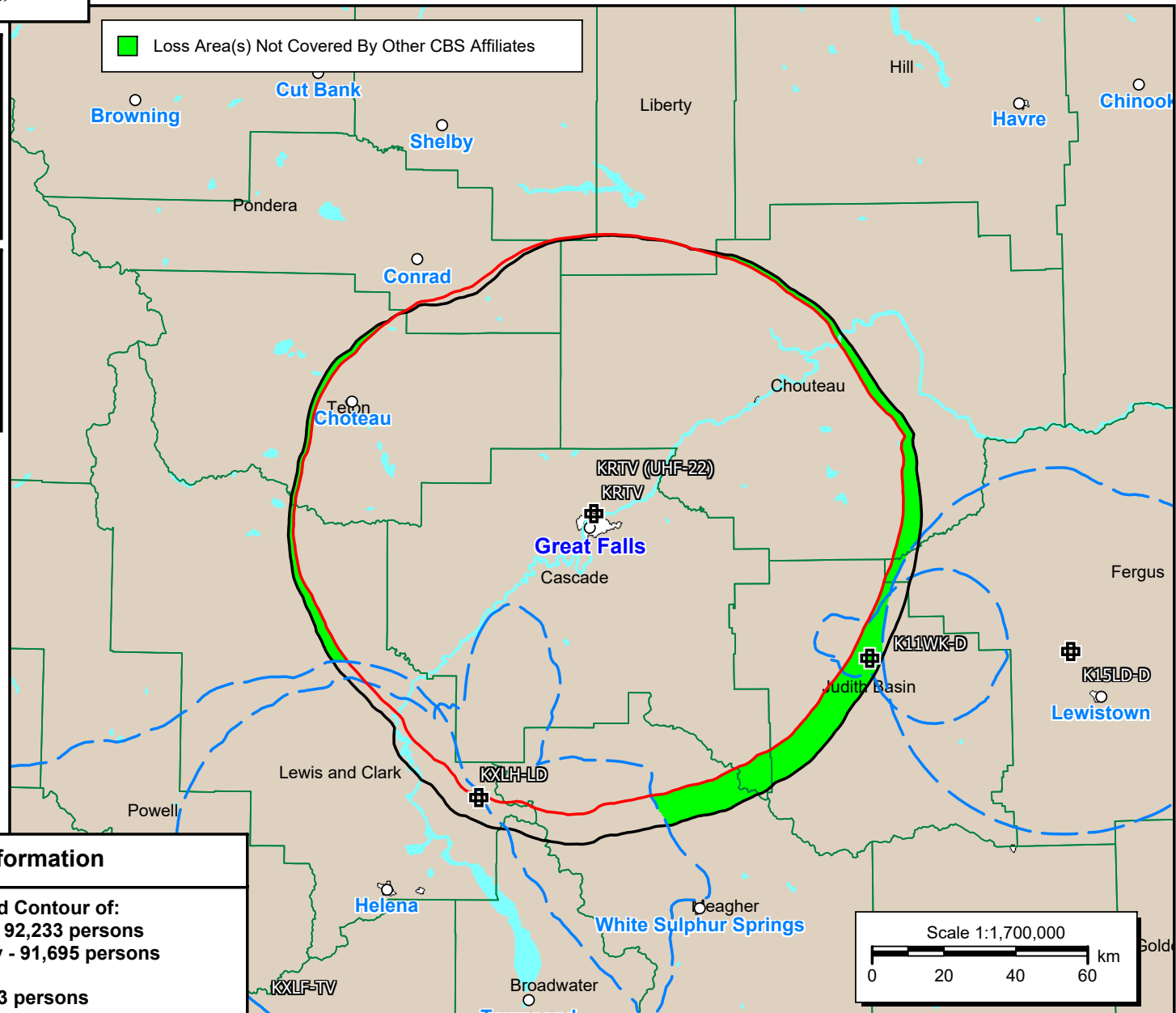
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Latitude: 47-32-07.50 N
Longitude: 111-17-05.50 W
ERP: 1000.00 kW
Channel: 22
Frequency: 521.0 MHz
AMSL Height: 1206.6 m

Loss Area(s) Not Covered By Other CBS Affiliates



Population Information

Population Inside Noise-Limited Contour of:
-Licensed KRTV Ch. 7 Facility - 92,233 persons
-Proposed KRTV Ch. 22 Facility - 91,695 persons

Population in Loss Area(s): 553 persons

**Population in Loss Areas(s) Outside of KXLH-LD,
KXLF-TV, K11WK-D and K15LD-D
Contour Overlap: 378 persons**

Figure 2

Ben Pidek Consulting, LLC

**Noise-Limited Contour of Licensed KRTV Ch. 7 Facility (Black) vs.
Noise-Limited Contour of Proposed KRTV Ch. 22 Facility (Red) and
Noise-Limited Contours of Nearby Stations that Overlap Loss Area (Blue)**

KRTV

0000091669
Latitude: 47-32-07.50 N
Longitude: 111-17-05.50 W
ERP: 32.50 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 1206.6 m

KRTV (UHF-22)

Latitude: 47-32-07.50 N
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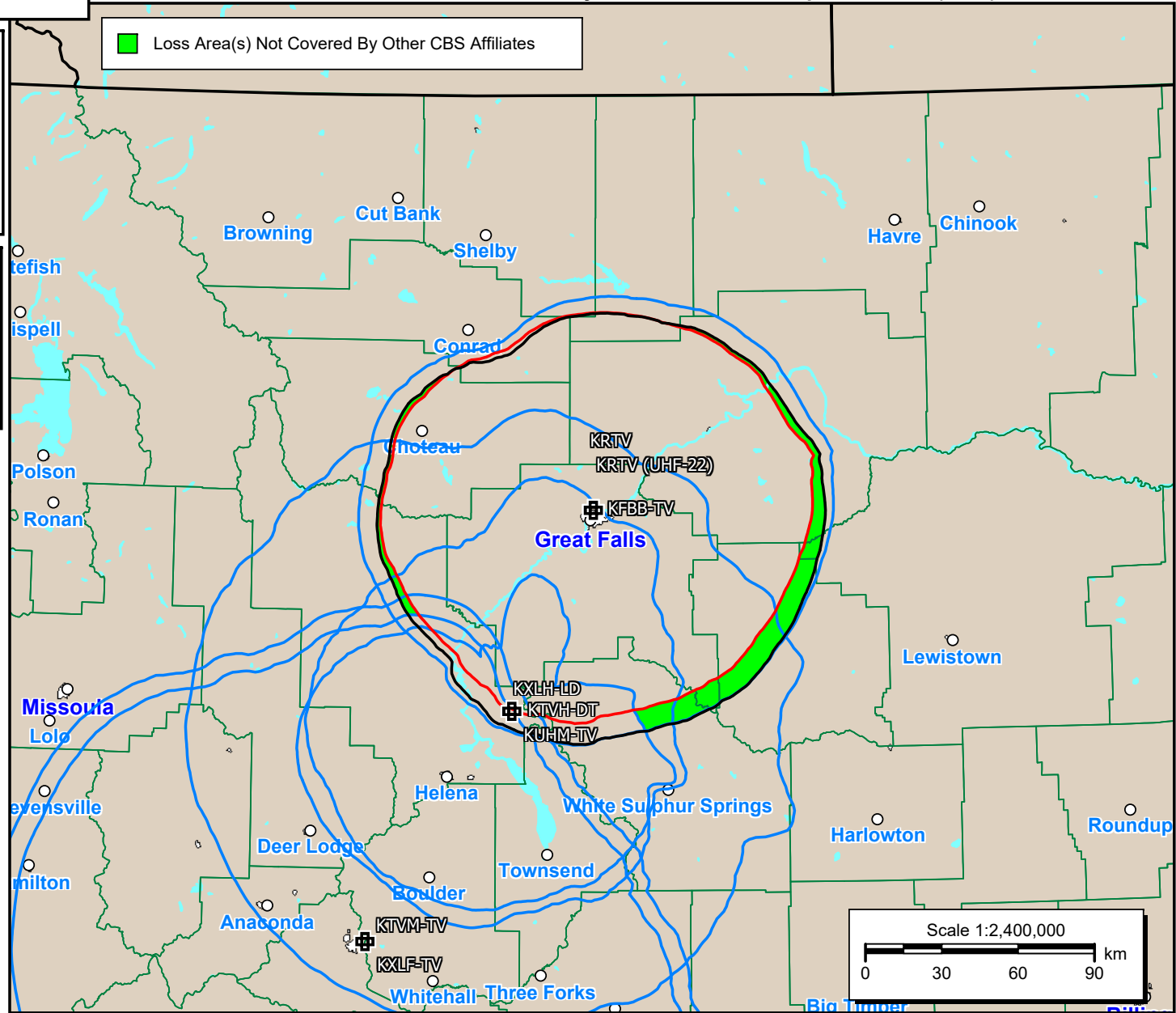


Figure 3