ENGINEERING STATEMENT

IN SUPPORT OF A

PETITION FOR RULE MAKING

CHANGE IN ALLOTTED CHANNEL

DTV TABLE OF ALLOTMENTS

KTVQ

BILLINGS, MT

Background

Scripps Broadcasting Holdings LLC (Scripps), licensee of KTVQ, is petitioning for a Rule Making proceeding to amend the DTV Table of Allotments and change its presently allotted DTV Channel 10 at Billings, MT to Channel 20. Scripps is proposing to operate KTVQ on Channel 20 at the same location as its licensed VHF facility (CDBS File No. BLCDT-20060802AYX) with a HAAT of 180.0m and an ERP of 1000 kW. The coordinates of the authorized Channel 10 and proposed Channel 20 facilities are as follows:

(NAD83)

42° 46' 00.9" N
108° 27' 28.8" W

Since the transition to digital, KTVQ has received numerous calls from viewers living in the Billings, MT DMA area complaining that they are unable to receive the KTVQ signal on Channel 10 (including viewers using indoor receiving equipment). The KTVQ technical staff has worked with many of these callers to resolve the problems but it has become apparent that the digital Channel 10 signal is not providing these viewers with the same quality service that other UHF stations in the market are able to provide. KTVQ wishes to change its allotted Channel 10 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 20 appears to be the best available channel for KTVQ in the Billings area. As KTVQ 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 20 Facility

KTVQ is proposing the following parameters for its operation on Channel 20:

Coordinates:	45° 46' 00.9" N
	108° 27' 28.8" W
ERP:	1000.0 kW
HAAT:	180.0m
RCAMSL:	1230.4m
Pattern:	Omni

Operation with these parameters will provide the required 48 dBu F(50,90) signal over the entire city of Billings, 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 KTVQ facility meets these criteria as its HAAT will be 180.0m and, therefore, the proposed maximum ERP of 1000 kW is allowable.

Loss Areas

The proposed change for KTVQ, from a VHF channel to a UHF channel, is predicted to create areas where service from KTVQ is lost and gained. Figure 1, attached hereto, is a map of the noise-limited contour of the licensed KTVQ Ch. 10 facility (black), the noise-limited contour of the proposed Ch. 20 facility (red), and the predicted loss area (in green). The population contained within the loss area is predicted to be 3,624 persons (based on the 2010 census); however, as shown in Figure 2, attached hereto, the loss area is partially overlapped by the protected service contours of K15LB-D and K28ON-D, both of which broadcast CBS programming like KTVQ.

Other CBS Stations That Overlap Loss Area			
Call	**Channel**	**Community of License**	**Licensee**
K15LB-D	15	Red Lodge, MT	Scripps Broadcasting Holdings LLC
K28ON-D	28	Castle Rock, Etc., MT	Scripps Broadcasting Holdings LLC

After accounting for the contour overlap from these stations, the population contained within the loss area is reduced from 3,624 persons to 483 persons which is *de minimis* (less than 500 persons).

Furthermore, as shown in Figure 3, attached hereto, the loss area is also partially overlapped by the noise-limited contours of KHMT, KSGW-TV, KSVI, and KULR-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 KTVQ Channel 20 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 0.006853 mW/cm^2, which is significantly less than the MPE limit for public exposure (0.339333 mW/cm^2) at Channel 20 (506-512 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:

	Present	Proposed
:		
:		
Montana		
:		
:		
Billings	10, 11, *16, 18	11, *16, 18, 20

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

Channel 20 – Billings, MT

Max ERP:	1000.0 kW, ND
HAAT:	180.0 m
Site:	45° 46’ 00.9” N
	108° 27’ 28.8” 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.
January 21, 2022

Attached:
KTVQ Proposed Channel 20 TVStudy Interference Results
Figure 1 – Map of Areas Predicted to Lose KTVQ Service with Proposed Channel Change
Figure 2 – Map of Noise-Limited Contour of K15LB-D and K28ON-D that Overlap Area Predicted to Lose KTVQ Service
Figure 3 – Map of Noise-Limited Contours From Other Stations that Overlap Area Predicted to Lose KTVQ Service

Proposed KTVQ Channel 20 TVStudy Summary Results

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Study created: 2021.11.09 20:23:02

Study build station data: LMS TV 2021-10-29

    Proposal: KTVQ D20 DT LIC BILLINGS, MT
 File number: KTVQ-C20-1000k-110921
 Facility ID: 35694
Station data: User record
   Record ID: 1938
     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  KTVM-TV   D20        DT  CP      BUTTE, MT                BLANK0000157471         309.4 km
Yes  KTVM-TV   D20        DT  BL      BUTTE, MT                DTVBL18066              309.4
No   KECI-TV   D20        DT  CP      MISSOULA, MT             BLANK0000127630         447.9
No   KECI-TV   D20        DT  APP     MISSOULA, MT             BLANK0000156965         447.9
No   KECI-TV   D20        DT  BL      MISSOULA, MT             DTVBL18084              447.9
No   KFNB      D20        DT  LIC     CASPER, WY               BLCDT20090225AAN        375.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D20
   Latitude:  45 46  0.90 N (NAD83)
  Longitude: 108 27 28.80 W
Height AMSL: 1230.4 m
       HAAT: 180.0 m
   Peak ERP: 1000 kW
    Antenna: Omnidirectional
Elev Pattrn: Generic
  Elec Tilt: 0.50

39.4 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg   1000 kW   242.1 m   92.3 km
 45.0       1000      219.3     89.0
 90.0       1000      146.0     81.2
135.0       1000      129.5     79.7
180.0       1000      105.2     77.3
225.0       1000      166.2     83.1
270.0       1000      251.2     93.7
315.0       1000      194.1     86.0

Database HAAT does not agree with computed HAAT
Database HAAT: 180 m   Computed HAAT: 182 m

Proposal 24.36 dBu contour does not cross Canadian border
Distance to Canadian border: 359.3 km

Distance to Mexican border: 1546.0 km

Conditions at FCC monitoring station: Grand Island NE
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Bearing: 120.1 degrees Distance: 972.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 156.2 degrees Distance: 676.1 km

No land mobile station failures found

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%

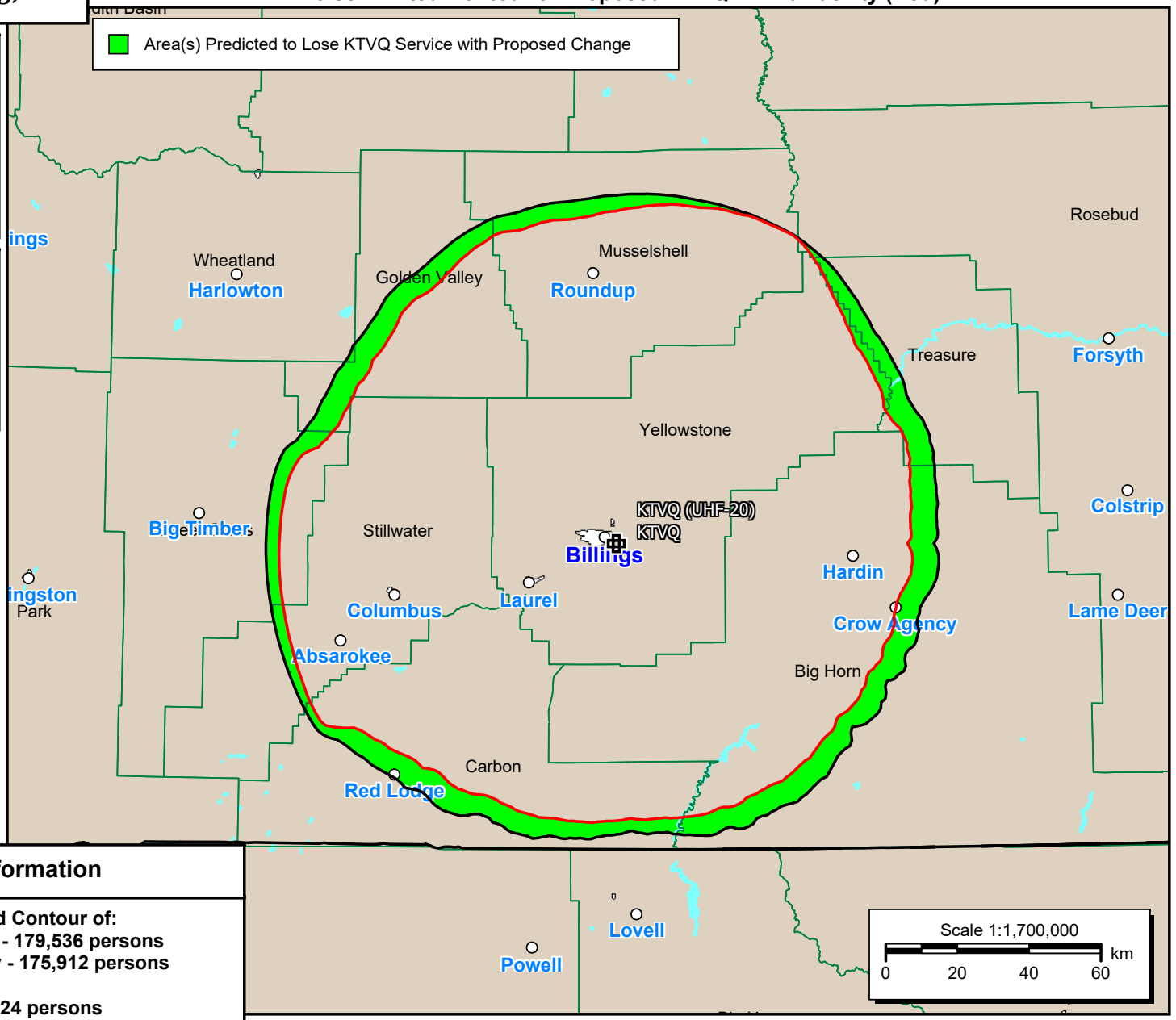
No IX check failures found.

Ben Pidek Consulting, LLC

KTVQ
BLCDT-20060802AYX
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 26.10 kW
Channel: 10
Frequency: 195.0 MHz
AMSL Height: 1230.4 m

KTVQ (UHF-20)
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 1000.00 kW
Channel: 20
Frequency: 509.0 MHz
AMSL Height: 1230.4 m

**Noise-Limited Contour of Licensed KTVQ Ch. 10 Facility (Black) vs.
Noise-Limited Contour of Proposed KTVQ Ch. 20 Facility (Red)**



Population Information

Population Inside Noise-Limited Contour of:
-Licensed KTVQ Ch. 10 Facility - 179,536 persons
-Proposed KTVQ Ch. 20 Facility - 175,912 persons

Population in Loss Area(s): 3,624 persons

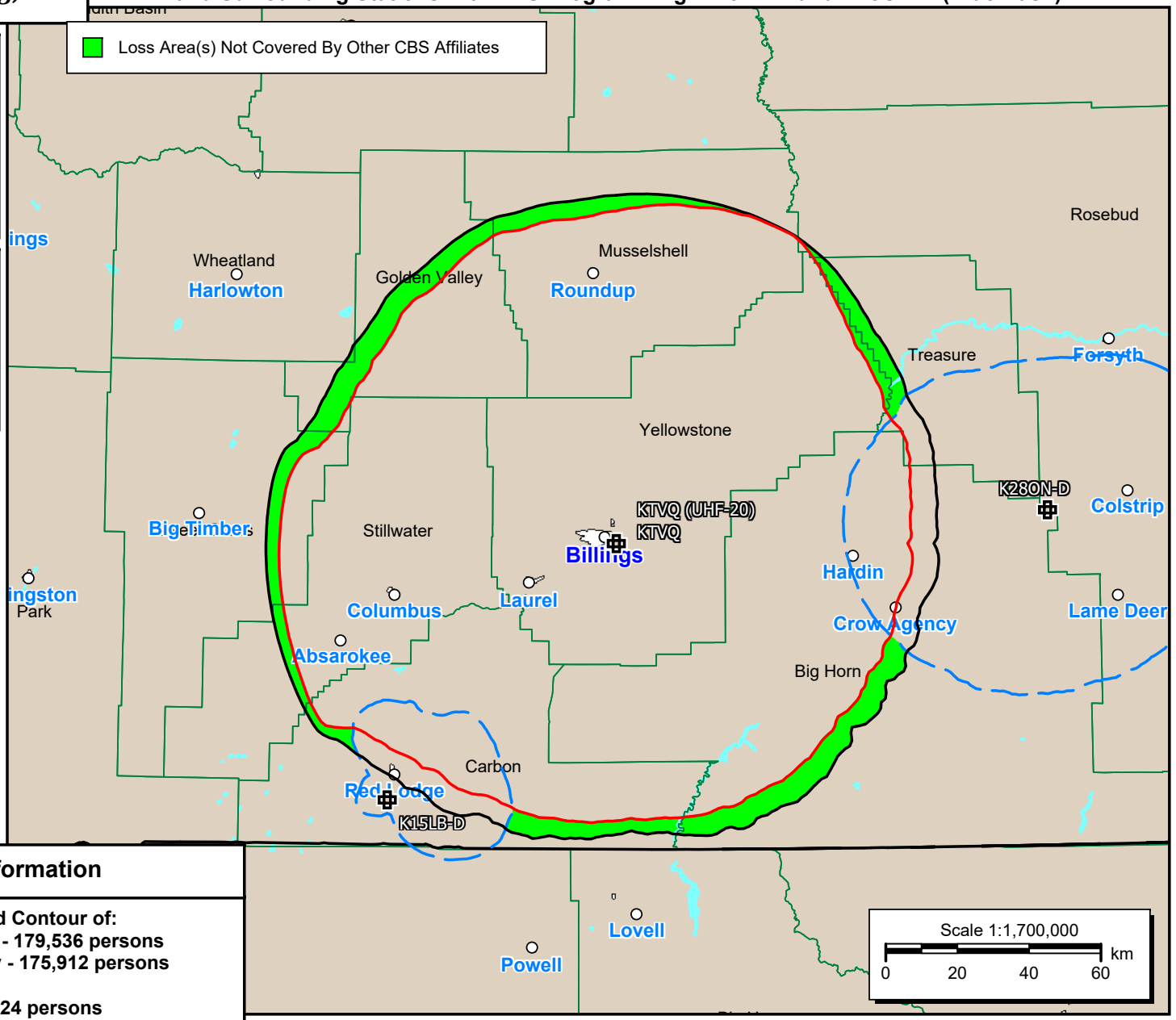
Figure 1

Ben Pidek Consulting, LLC

Noise-Limited Contours of Licensed KTVQ Ch. 10 Facility (Black), Proposed KTVQ Ch. 20 (Red) and Surrounding Stations with CBS Programming: K15LB-D and K28ON-D (Blue Dash)

KTVQ
BLCDT-20060802AYX
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 26.10 kW
Channel: 10
Frequency: 195.0 MHz
AMSL Height: 1230.4 m

KTVQ (UHF-20)
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 1000.00 kW
Channel: 20
Frequency: 509.0 MHz
AMSL Height: 1230.4 m



Population Information

Population Inside Noise-Limited Contour of:
-Licensed KTVQ Ch. 10 Facility - 179,536 persons
-Proposed KTVQ Ch. 20 Facility - 175,912 persons

Population in Loss Area(s): 3,624 persons

Population in Loss Areas(s) Ouside of K15LB-D, and K24GD-D Contour Overlap: 483 persons

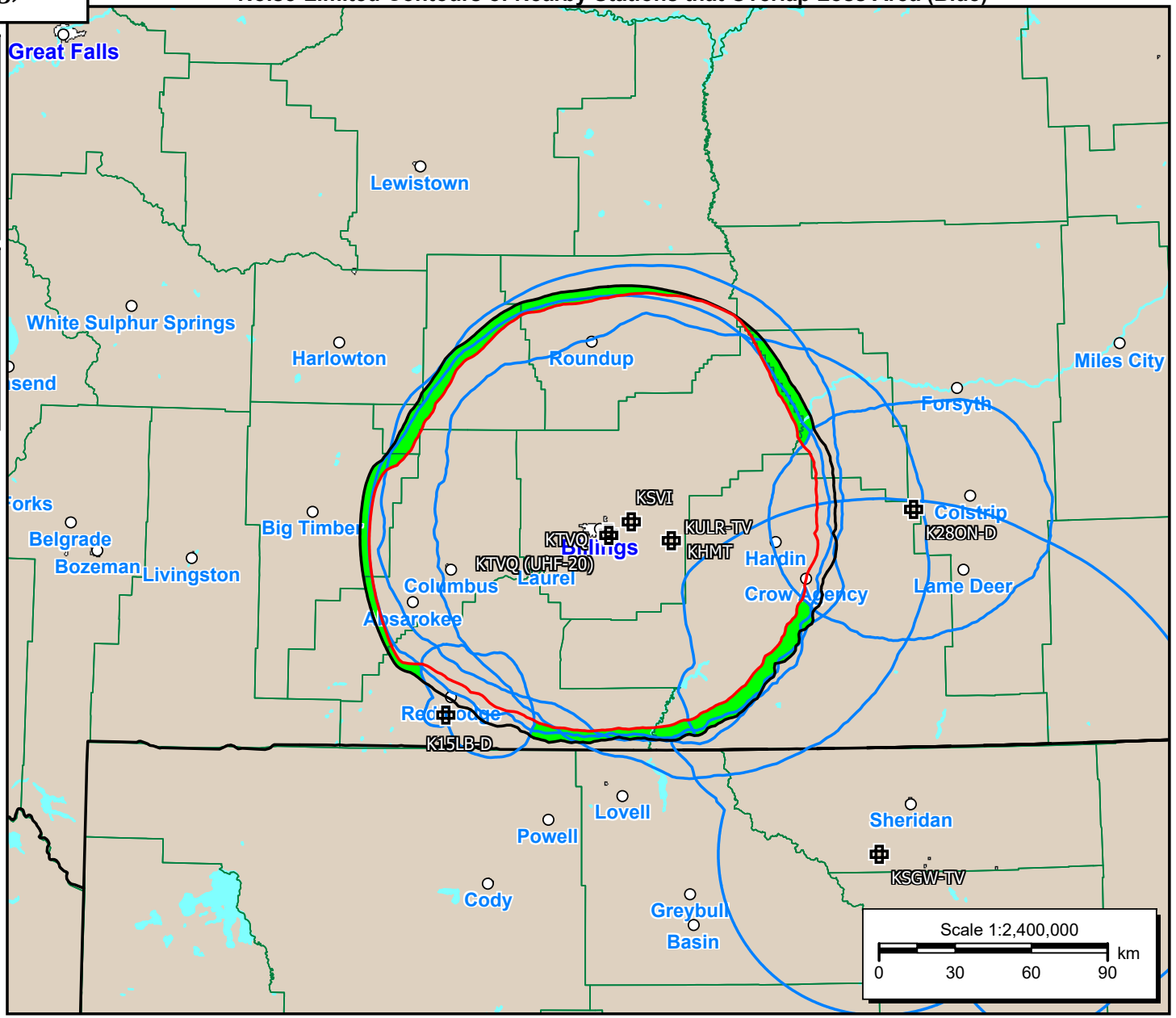
Figure 2

Ben Pidek Consulting, LLC

KTVQ (UHF-20)
BLCDT-20060802AYX
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 1000.00 kW
Channel: 20
Frequency: 509.0 MHz
AMSL Height: 1230.4 m

KTVQ
Latitude: 45-46-00.90 N
Longitude: 108-27-28.80 W
ERP: 26.10 kW
Channel: 10
Frequency: 195.0 MHz
AMSL Height: 1230.4 m

**Noise-Limited Contour of Licensed KTVQ Ch. 10 Facility (Black) vs.
Noise-Limited Contour of Proposed KTVQ Ch. 20 Facility (Red) and
Noise-Limited Contours of Nearby Stations that Overlap Loss Area (Blue)**



Loss Area(s) Not Covered By Other CBS Affiliates

Figure 3