ENGINEERING EXHIBIT

Digital Television Translator Station
Application for Displacement of Licensed Facility

prepared for

Idaho Broadcast Partners LLC
K40MS-D Pocatello, ID
Facility ID 189407
Ch. 19 0.25 kW Directional

Idaho Broadcast Partners LLC ("Idaho") is the licensee of digital television translator station K40MS-D, Pocatello ID, Facility ID 189407. K40MS-D is licensed to operate (file# BLDTT-20120202ABF) on Channel 40 with 0.39 kW effective radiated power ("ERP"), nondirectional. The licensed Channel 40 operation is displaced as it is within the 600 MHz wireless spectrum. As a result of the Special Displacement Window,[1] a Construction Permit ("CP", file# 0000054761) was obtained to authorize K40MS-D to change to Channel 14. K40MS-D is currently operating pursuant to Special Temporary Authority ("STA", file# 0000036578 as extended) on Channel 19 at 0.33 kW ERP with a directional antenna.

In lieu of operation on Channel 14, *Idaho* desires to continue operation on Channel 19. To that end, *Idaho* herein seeks a new displacement CP for K40MS-D to specify use of Channel 19. *Idaho* has requested cancelation of the Channel 14 displacement CP (file# 0000054761).

By way of background, the Channel 14 displacement CP (0000054761) was obtained in 2018 under prior ownership of K40MS-D. On December 17, 2019, the license for K40MS-D was transferred to the station's current owner ("CMG") pursuant to a long-form transfer of control application (file# BTC-20190304ACX). Upon consideration of the potential interference issues to Land-Mobile operations associated with operation on Channel 14, the current ownership of K40MS-D has determined that an alternate displacement channel would provide the desired service without the risk of Land-Mobile complications.

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[1] *"Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018, through May 15, 2018, and Make Location and Channel Data Available,"* Public Notice, DA 18-124, released February 9, 2018.

Channel 14 (470-476 MHz) is first-adjacent to licensed Land-Mobile operations in the adjacent spectrum (460-470 MHz). There is no guard band between the Land-Mobile spectrum and television Channel 14. Within the 460-470 MHz band, the FCC's ULS database shows 430 license/frequency records within 50 km of K40MS-D with the 27 nearest such facilities being within only 1 km (0.8 mile) distant. For example, WPMW312 is co-located at the K40MS-D site and is authorized to use 469.2625 MHz and five other frequencies in the 460-470 MHz band. WRBR653 is 0.2 km from K40MS-D and is authorized to use 469.2125 MHz, 469.0875 MHz, and eight other frequencies in the 460-470 MHz band.

Implementation of the original K40MS-D displacement CP on Channel 14 would require *Idaho* to install custom emission filtering (*i.e.,* a 12-pole filter) on the Channel 14 transmitter. Additionally, *Idaho* would conduct outreach to nearby Land-Mobile licensees and deploy personnel to monitor the impact of the Channel 14 transmission at the nearby Land-Mobile site locations. Further mitigation may also be necessary, involving procurement and installation of filtering at the Land-Mobile locations and/or technical changes of the Land-Mobile operations. Given the complications and uncertainty with commencing operation on Channel 14, and the availability of Channel 19 as a suitable alternate displacement channel, *Idaho* is seeking to permanently operate K40MS-D on Channel 19.

The proposed Channel 19 facility will utilize the tower structure associated with FCC Antenna Structure Registration number 1313257 and will operate with slightly different technical parameters from the STA operation. K40MS-D will utilize a side-mounted antenna and no change to the overall structure height is proposed.

The proposed antenna is a Scala model CL-1469 having horizontal polarization. The proposed ERP is 0.25 kW using a "stringent" out of channel emission mask. A plot of the directional antenna's azimuthal pattern is supplied in Figure 1.

Figure 2 depicts the 51 dBµ coverage contour of the proposed facility as well as that of the licensed Channel 40 facility, located 1.3 km distant. The service area overlap demonstrates compliance with §73.3572 for a minor change.

Interference study per OET Bulletin 69[2] shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering the antenna relative field in downward elevations, the graph in Figure 3 depicts calculated power density levels attributable to the proposed facility at locations near the site at a height of two meters above ground level. The maximum calculated RF electromagnetic field attributable to the proposed facility is 3.0 percent of the general population / uncontrolled MPE limit at any location two meters above ground level. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site,

[2]FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCCs implementation of TVStudy show excellent correlation.

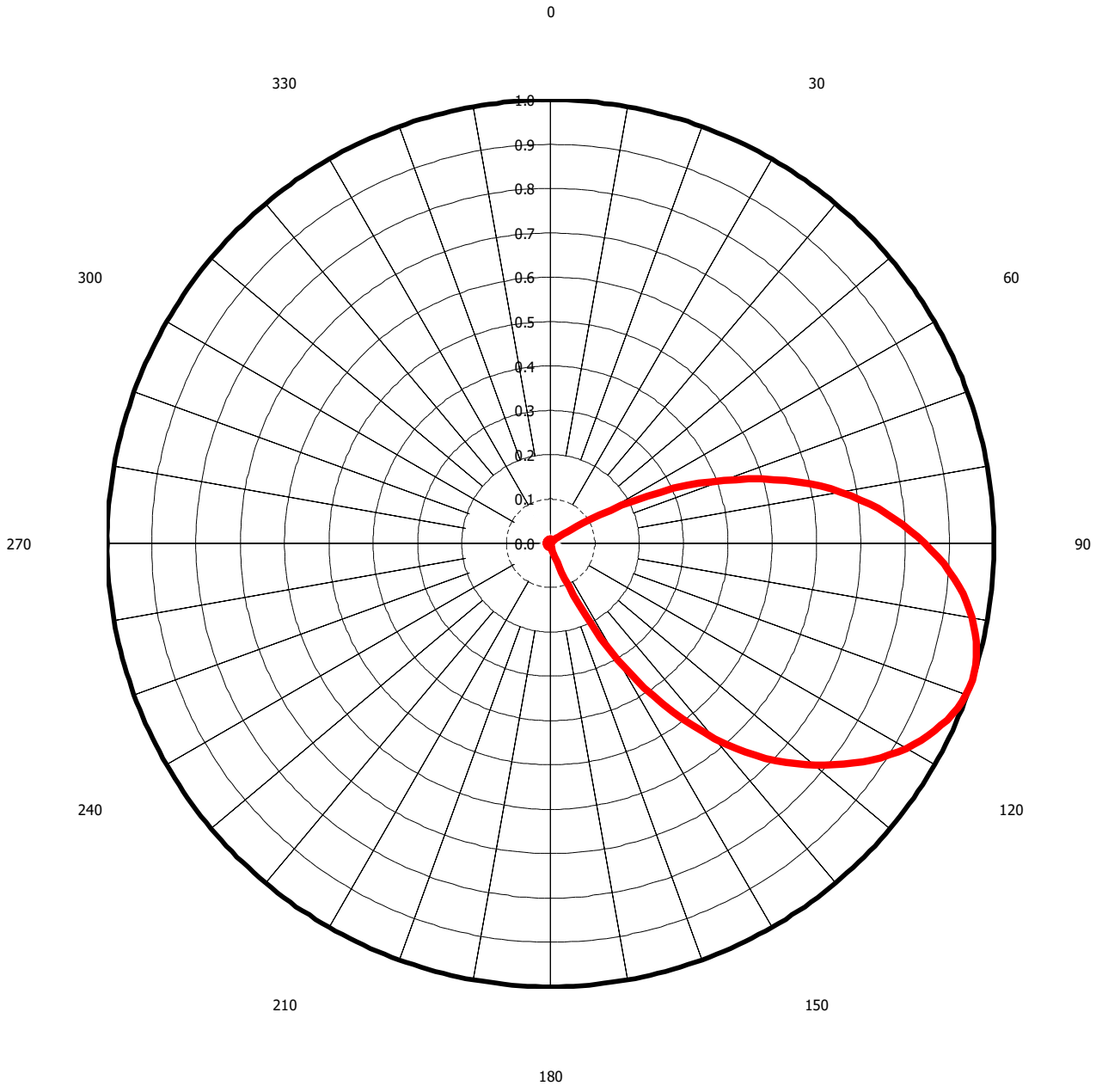
tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Figure 3	Calculated RF Electromagnetic Field
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC
Joseph M. Davis, P.E. April 8, 2021
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

Azimuth Pattern - Relative Field
(True North)

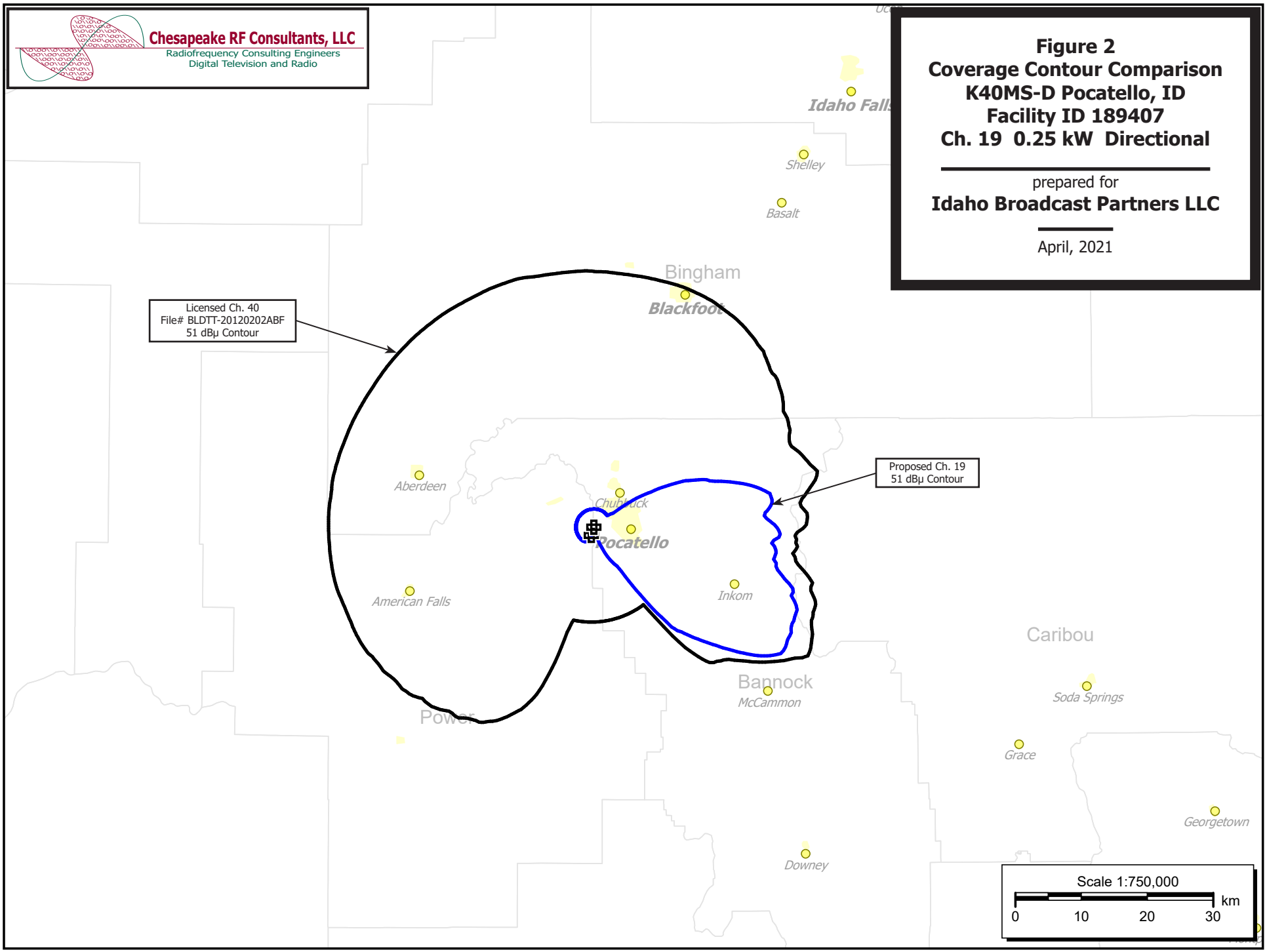


Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1
Antenna Azimuthal Pattern
K40MS-D Pocatello, ID
Facility ID 189407
Ch. 19 0.25 kW Directional

prepared for
Idaho Broadcast Partners LLC

April, 2021


Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 2
Coverage Contour Comparison
K40MS-D Pocatello, ID
Facility ID 189407
Ch. 19 0.25 kW Directional
prepared for
Idaho Broadcast Partners LLC
April, 2021
Licensed Ch. 40
File# BLDTT-20120202ABF
51 dBµ Contour
Proposed Ch. 19
51 dBµ Contour
Idaho Falls
Shelley
Basalt
Bingham
Blackfoot
Aberdeen
Chubbuck
Pocatello
American Falls
Inkom
Caribou
Bannock
McCammon
Soda Springs
Grace
Georgetown
Downey
Scale 1:750,000
km
0
10
20
30

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 3
Calculated RF Electromagnetic Field
K40MS-D Pocatello, ID
Facility ID 189407
Ch. 19 0.25 kW Directional

prepared for
Idaho Broadcast Partners LLC

April, 2021

Graph depicts calculated percentage of General Population/Uncontrolled Maximum Exposure Limit attributable to K40MS-D Ch. 19 for locations 2 meters above ground level. Flat terrain assumed. Calculations conducted pursuant to FCC OET Bulletin Number 65.

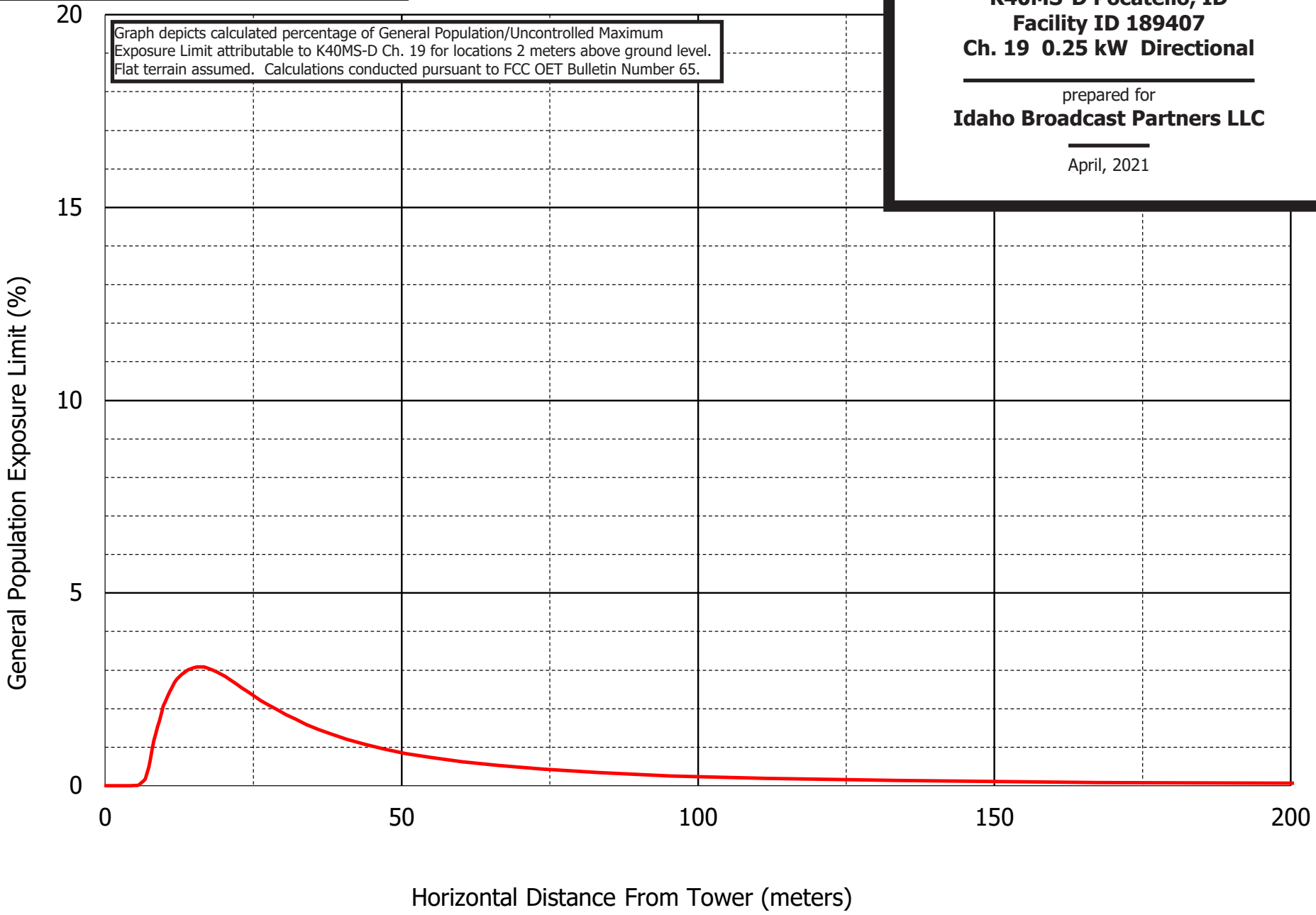


Table 1 K40MS-D TVStudy Analysis of Proposal

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

```
tvstudy v2.2.5 (4uoc83)
Database: localhost,  Study: K40MS-D prop-19,  Model: Longley-Rice
Start: 2021.03.22 16:57:27

Study created: 2021.03.22 16:57:27

Study build station data: LMS TV 2021-03-19

    Proposal: K40MS-D D19 LD APP POCATELLO, ID
 File number: K40MS-D prop-19
 Facility ID: 189407
Station data: User record
   Record ID: 3571
     Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:
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IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K18NC-D	D18	LD	LIC	MALAD, ID	BLANK0000074798	91.6 km
No	K18KV-D	D18	LD	CP	SHELLY, ID	BNPDTL20100609AHL	65.7
No	K18DL-D	D18	LD	LIC	LOGAN, UT	BLDTT20080909ACR	154.5
No	K18DL-D	D18	LD	CP	LOGAN, UT	BLANK0000138139	154.5
No	KBTI-LD	D19	LD	CP	BOISE, ID	BLANK0000053776	308.5
No	NEW	D19	LD	CP	BOISE, ID	BLANK0000121569	361.9
No	K19IK-D	D19	LD	CP	GLENN'S FERRY, ID	BNPDTL20090825BMB	219.7
No	K19IL-D	D19	LD	CP	MALTA, ID	BNPDTL20090825BOJ	85.3
No	K19KA-D	D19	LD	CP	MONIDA, ID	BNPDTL20100609AHY	188.1
No	K19DQ-D	D19	LD	LIC	MONTPELIER, ID	BLDTT20111115AGV	106.8
No	K19MB-D	D19	LD	LIC	MOUNTAIN HOME, ID	BLANK0000063697	267.5
No	K19EW-D	D19	LD	LIC	PRESTON, ID	BLDTT20111116AIF	102.9
No	K19CY-D	D19	LD	LIC	ROCKLAND, ID	BLDTT20090624AAS	45.9
No	KWYB	D19	DT	LIC	BUTTE, MT	BLCDT20080424ABB	348.3
No	K19JM-D	D19	LD	LIC	EMIGRANT, MT	BLDTT20120619ACG	309.9
No	K19FZ-D	D19	LD	LIC	ELKO, NV	BLDTT20111219ABE	370.5
No	K19MF-D	D19	LD	LIC	EAST CARBON COUNTY, UT	BLANK0000093701	369.1
No	K19MH-D	D19	LD	LIC	FRUITLAND, UT	BLANK0000095177	325.7
No	K19LR-D	D19	LD	LIC	HUNTSVILLE, ETC., UT	BLANK0000074712	180.0
No	K19MA-D	D19	LD	LIC	LEAMINGTON, UT	BLANK0000125419	371.8
No	K19EY-D	D19	LD	LIC	MYTON, UT	BLDTT20120113ABB	313.7
No	KJZZ-TV	D19	DT	LIC	SALT LAKE CITY, UT	BLANK0000113900	247.5
No	K19DU-D	D19	LD	LIC	SUMMIT COUNTY, UT	BLDTT20100201AED	240.2
No	K49AI	D19z	LD	LIC	CODY, POWELL, WY	BLANK0000074850	350.2
No	K19FG-D	D19	LD	LIC	JACKSON, WY	BLDTT20100713AJP	157.1
No	K19HJ-D	D19	LD	LIC	PINEDALE, ETC., WY	BLDTT20080305AEZ	203.5
No	K20OF-D	D20	LD	LIC	MALAD, ID	BLANK0000074787	91.6
No	K20KU-D	D20	LD	LIC	MONTPELIER, ID	BLDTT20111115AGX	104.6
Yes	K47JK-D	D20	LD	CP	POCATELLO, ID	BLANK0000052033	1.2
No	K20MQ-D	D20	LD	LIC	REXBURG, ID	BLANK0000080478	110.9
No	KTFT-LD	D20	LD	LIC	TWIN FALLS, ID	BLDTL20080813AAO	156.2
No	K45GL-D	D20	LD	LIC	LOGAN, UT	BLANK0000072933	154.5
No	KTMW	D20	DT	LIC	SALT LAKE CITY, UT	BLCDT20140529AJC	248.1

```
No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D19
       Mask: Stringent
   Latitude:  42 52 25.70 N (NAD83)
  Longitude: 112 30 48.90 W
Height AMSL: 1787.0 m
       HAAT: 0.0 m
   Peak ERP: 0.250 kW
    Antenna: SCA-CL-1469 (ID 20778) 108.0 deg
Elev Pattrn: Generic
```

49.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.000 kW	431.4 m	3.3 km
45.0	0.000	337.6	3.1
90.0	0.176	218.9	29.9
135.0	0.115	205.5	27.0
180.0	0.000	-128.8	3.8
225.0	0.000	320.0	3.1
270.0	0.000	413.4	3.3
315.0	0.000	438.0	3.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 279 m

Distance to Canadian border: 680.8 km

Distance to Mexican border: 1145.1 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 236.9 degrees Distance: 969.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 114.1 degrees Distance: 675.4 km

No land mobile station failures found

Study cell size: 1.00 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%

Interference to BLANK0000052033 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K47JK-D	D20	LD	CP	POCATELLO, ID	BLANK0000052033	
Undesireds:	K40MS-D	D19	LD	APP	POCATELLO, ID	K40MS-D prop-19	1.2 km
	KZTN-LD	D20	LD	LIC	BOISE, ID	BLANK0000005170	309.5
	KTFT-LD	D20	LD	LIC	TWIN FALLS, ID	BLDTL20080813AAO	155.6
	KTMW	D20	DT	LIC	SALT LAKE CITY, UT	BLCDT20140529AJC	247.1
	K21JC-D	D21	LD	LIC	POCATELLO, ID	BLDTL20090217ACR	0.6
	K21MR-D	D21	LD	LIC	SODA SPRINGS, ID	BLANK0000059261	72.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
2519.4	105,906	1966.3	100,537	1776.2	99,701	1768.2	98,831	0.45	0.87

Undesired		Total IX		Unique IX, before		Unique IX, after	
K40MS-D D19 LD APP	25.2	1,243				8.1	870
KTFT-LD D20 LD LIC	11.0	0	5.0	0	5.0	0	
KTMW D20 DT LIC	1.0	0	0.0	0	0.0	0	
K21JC-D D21 LD LIC	183.0	836	179.0	836	163.9	463	
K21MR-D D21 LD LIC	1.0	0	0.0	0	0.0	0	

Interference to proposal scenario 1
2.51% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K40MS-D	D19	LD	APP	POCATELLO, ID	K40MS-D prop-19	
Undesireds:	K47JK-D	D20	LD	CP	POCATELLO, ID	BLANK0000052033	1.2 km

Service area		Terrain-limited		IX-free		Percent IX	
668.6	55,330	450.0	53,218	446.0	51,881	0.89	2.51

Undesired		Total IX		Unique IX		Prcnt Unique IX	
K47JK-D D20 LD CP	4.0	1,337	4.0	1,337	0.89	2.51	

Channel and Facility Information

Section	Question	Response
Facility ID	189407	
State	Idaho	
City	POCATELLO	
LPT Channel	19	

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1313257
Coordinates (NAD83)	Latitude	42° 52' 25.7" N+
	Longitude	112° 30' 48.9" W-
	Structure Type	LTOWER-Lattice Tower
	Overall Structure Height	54.9 meters
	Support Structure Height	54.9 meters
	Ground Elevation (AMSL)	1773.3 meters
Antenna Data	Height of Radiation Center Above Ground Level	13.7 meters
	Height of Radiation Center Above Mean Sea Level	1787.0 meters
	Effective Radiated Power	0.25 kW

Antenna Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	Yes
	Antenna ID	20778
Antenna Manufacturer and Model	Manufacturer:	SCA
	Model	CL-1469
	Rotation	108 degrees
	Electrical Beam Tilt	0.0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Stringent

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1	**90**	0.01	**180**	0.01	**270**	0.01
10	0.947	**100**	0.01	**190**	0.01	**280**	0.01
20	0.812	**110**	0.01	**200**	0.01	**290**	0.01
30	0.622	**120**	0.01	**210**	0.01	**300**	0.01
40	0.361	**130**	0.01	**220**	0.01	**310**	0.086
50	0.086	**140**	0.01	**230**	0.01	**320**	0.361
60	0.01	**150**	0.01	**240**	0.01	**330**	0.622
70	0.01	**160**	0.01	**250**	0.01	**340**	0.812
80	0.01	**170**	0.01	**260**	0.01	**350**	0.947

Additional Azimuths

Degree	V_A