ENGINEERING EXHIBIT

Digital Low Power Television Station
Application for Modification of Construction Permit

prepared for

Ventura Media Communications, LLC
K29KG-D Idaho Falls, ID
Facility ID 128365
Ch. 29 1 kW Directional

Ventura Media Communications, LLC ("Ventura") is the licensee of digital Low Power Television station K29KG-D, Channel 29, Facility ID 128365, Idaho Falls ID. K29KG-D is licensed to operate at 0.71 kW effective radiated power ("ERP") with a directional antenna (file# 0000191324). A minor modification Construction Permit ("CP" file# 0000213583) authorizes K29KG-D to increase ERP to 15 kW while maintaining the same directional antenna. *Ventura* proposes herein to modify the CP to utilize a different directional antenna at 1 kW ERP.

K29KG-D is located at the tower structure associated with FCC Antenna Structure Registration number 1239956. As proposed herein, K29KG-D will employ a replacement side-mounted antenna. No change in site location, antenna height or overall structure height is proposed.

The proposed antenna is a PSI model PSILP12SB having horizontal polarization. The proposed ERP is 1 kW using a "full service" out of channel emission mask. A plot of the directional antenna's azimuthal pattern is supplied in Figure 1. Figure 2 depicts the coverage contour of the proposed facility as well as those of the licensed and authorized facilities, demonstrating compliance with §73.3572 for a minor change.

Interference study per OET Bulletin 69[1] shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and

[1]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 1.0 km terrain increment.

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 except with respect to K29KY-D which does not present a conflict for the proposal.

The licensed facility for K29KY-D (Ch. 29, Fac ID 187479, Blackfoot ID, file# 0000194988) would receive 10.26 percent new interference from the proposed K29KG-D facility, which exceeds the 2.0 percent limit towards other low power television stations. *Ventura* is also the licensee of K29KY-D and consents to interference exceeding 2.0 percent from the proposed K29KG-D facility. K29KY-D, currently silent, is authorized by a CP (file# 0000231348) to relocate and increase power. The proposed K29KG-D facility is predicted to cause only 0.06 percent interference to the K29KY-D CP facility, which *Ventura* plans to construct before or contemporaneously with the K29KG-D facility proposed herein. Accordingly, the proposal complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

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 20 percent antenna relative field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 0.7 $\mu W/cm^2$, which is 0.2 percent of the general population/uncontrolled maximum permitted exposure limit. This is well 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

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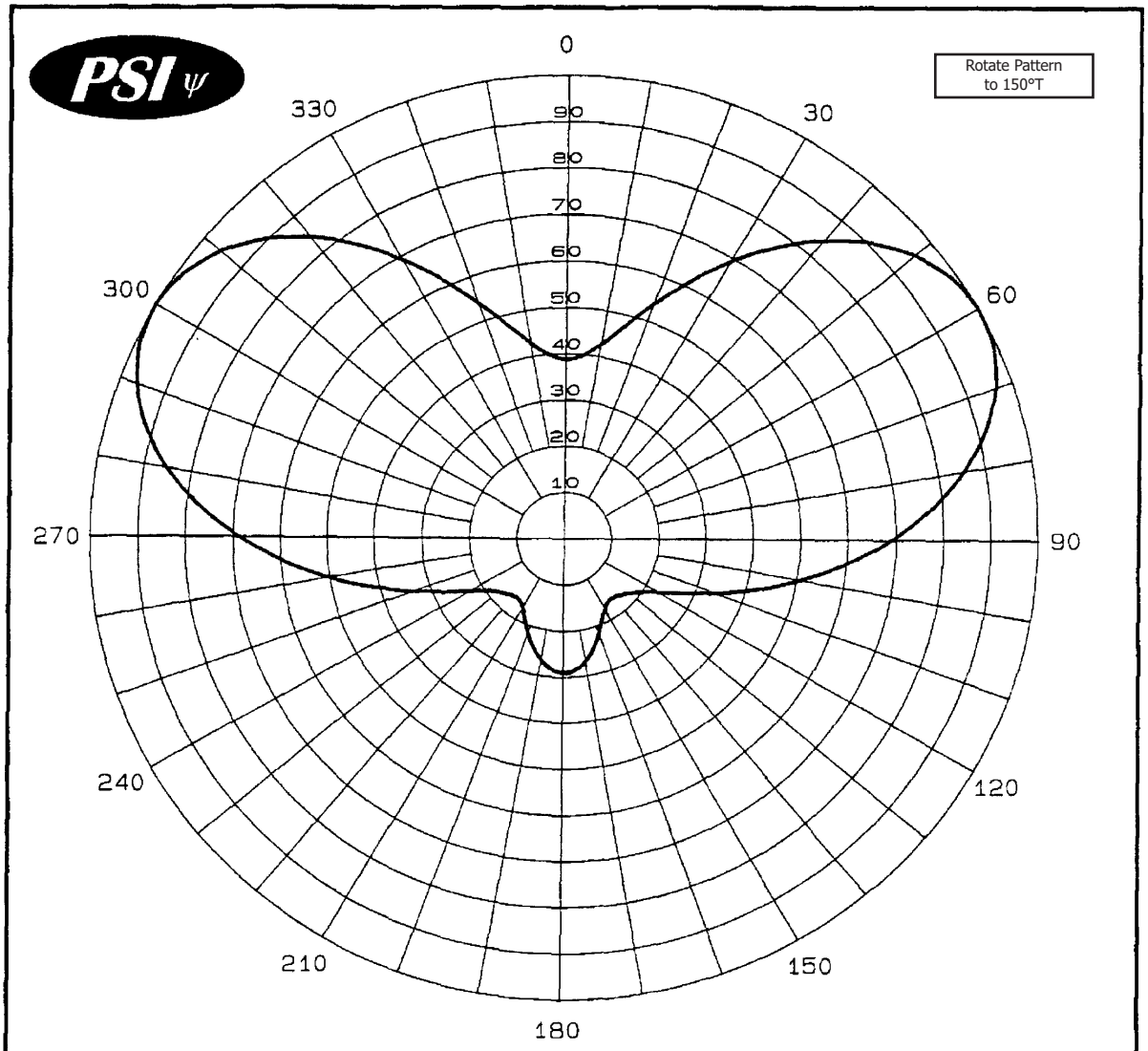
Comparisons of various results of this computer program (run on a Mac processor) to the FCCs implementation of TVStudy show excellent correlation.

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, 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. No increase in structure height is proposed.

List of Attachments

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

Chesapeake RF Consultants, LLC
Joseph M. Davis, P.E. April 17, 2024
207 Old Dominion Road Yorktown, VA 23692 703-650-9600



Calculated Relative Field
Azimuth Plane Pattern
Low Power UHF Slot
Antenna Type: PSILP
Pattern Type: SB
Directivity: 2.788 (4.453 dB)
Date: 7/1/97
Rev. 0

PROPAGATION SYSTEMS, INC.
PO BOX 113
EBENSBURG, PA. 15931

Figure 1
Antenna Azimuthal Pattern
K29KG-D Idaho Falls, ID
Facility ID 128365
Ch. 29 1 kW Directional

prepared for
Ventura Media Communications, LLC

April, 2024

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

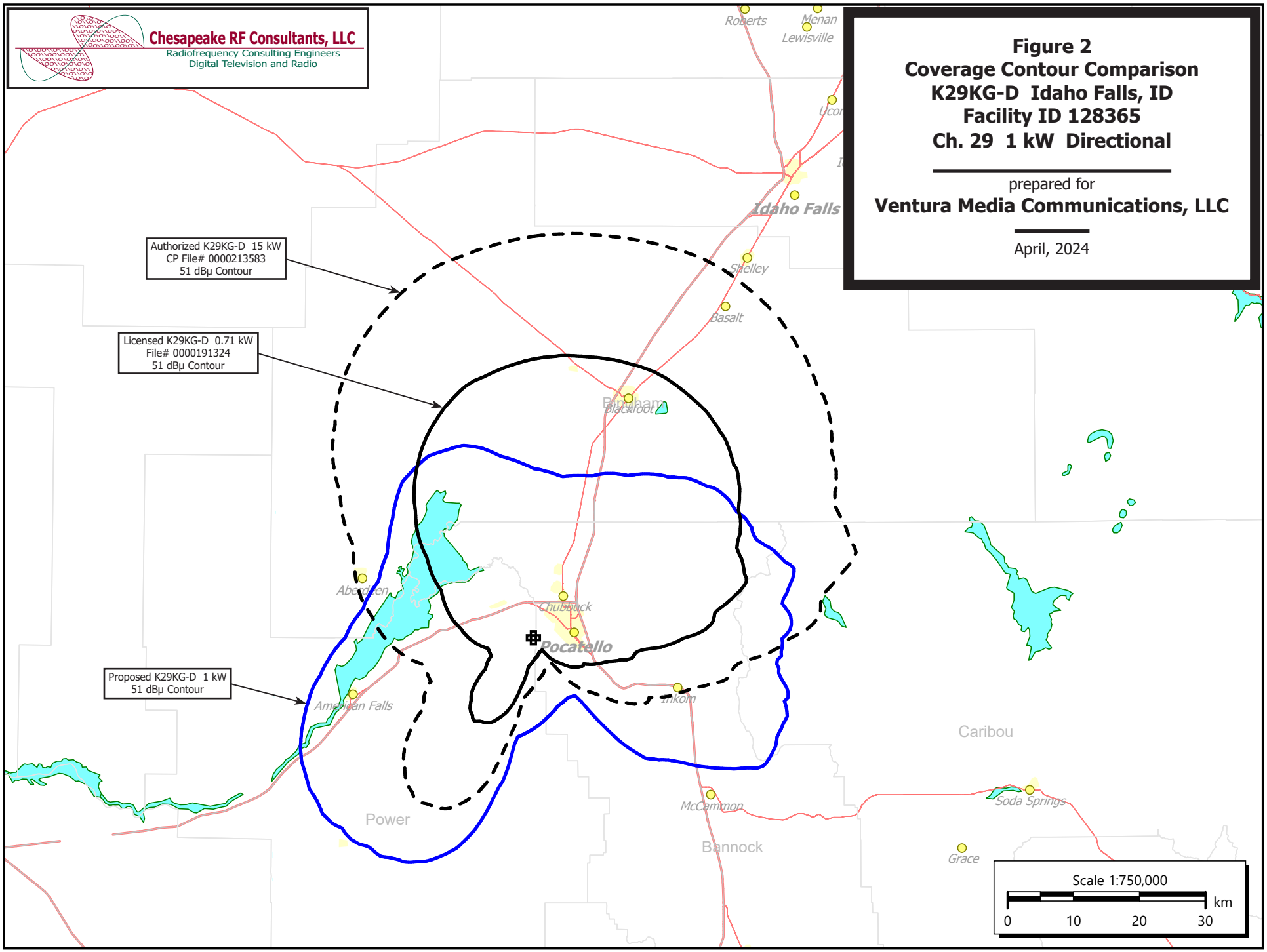

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 2
Coverage Contour Comparison
K29KG-D Idaho Falls, ID
Facility ID 128365
Ch. 29 1 kW Directional
prepared for
Ventura Media Communications, LLC
April, 2024
Authorized K29KG-D 15 kW
CP File# 0000213583
51 dBµ Contour
Licensed K29KG-D 0.71 kW
File# 0000191324
51 dBµ Contour
Proposed K29KG-D 1 kW
51 dBµ Contour
Roberts
Menan
Lewisville
Idaho Falls
Shelley
Basalt
Blackfoot
Aberdeen
Chubbuck
Pocatello
American Falls
Inkom
Caribou
Power
McCammon
Bannock
Soda Springs
Grace
Scale 1:750,000
km
0
10
20
30

Table 1 K29KG-D TVStudy Analysis of Proposal


```
tvstudy v2.2.5 (4uoc83)
Database: localhost,  Study: K29KG-D prop PSI,  Model: Longley-Rice
Start: 2024.04.16 15:42:23

Study created: 2024.04.16 15:42:23

Study build station data: LMS TV 2024-04-16

    Proposal: K29KG-D D29 LD APP IDAHO FALLS, ID
 File number: K29KG-D prop PSI
 Facility ID: 128365
Station data: User record
   Record ID: 366
     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:
```

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K28LE-D	D28	LD	LIC	IDAHO FALLS, ID	BLDTL20140225ABP	91.3 km
No	KSAW-LD	D28	LD	LIC	TWIN FALLS, ID	BLANK0000176722	155.3
No	K28JK-D	D28	LD	LIC	HUNTSVILLE, LIBERTY, UT	BLDTT20081215AAE	179.2
No	K28OS-D	D28	LD	LIC	LOGAN, UT	BLANK0000072928	153.6
No	K28PU-D	D28	LD	LIC	RANDOLPH, UT	BLANK0000098115	179.3
No	KSTU	D28	DT	LIC	SALT LAKE CITY, UT	BLCDT20120305ABX	246.5
Yes	K29KY-D	D29	LD	LIC	BLACKFOOT, ID	BLANK0000194988	39.1
Yes	K29KY-D	D29	LD	CP	BLACKFOOT, ID	BLANK0000231348	79.5
No	KIWB-LD	D29	LD	LIC	BOISE, ID	BLANK0000126124	308.3
No	K29NB-D	D29	LD	LIC	CASCADE, ID	BLANK0000156694	338.3
No	K29GV-D	D29	LD	LIC	HAGERMAN, ID	BLDTL20100113ADE	195.0
No	K29BM-D	D29	LD	LIC	MONTPELIER, ID	BLDTT20111116AYI	106.8
No	K29EY-D	D29	LD	LIC	PRESTON, ID	BLDTT20111116AIA	102.3
No	K29LY-D	D29	LD	LIC	SALMON, ID	BLANK0000177419	280.0
Yes	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	72.3
No	KDBZ-CD	D29	DC	LIC	BOZEMAN, MT	BLANK0000116068	324.2
No	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	444.9
No	K29IW-D	D29	LD	LIC	CLEAR CREEK, UT	BLDTT20121019AAO	375.4
No	K29IN-D	D29	LD	LIC	COALVILLE AND ADJ.AR, UT	BLDTT20090624AAY	234.8
No	K29MW-D	D29	LD	LIC	DUCHESNE, UT	BLANK0000095174	349.3
No	K29LZ-D	D29	LD	LIC	FOUNTAIN GREEN, UT	BLANK0000072229	378.2
No	K29MC-D	D29	LD	LIC	HEBER CITY, UT	BLANK0000115848	270.1
No	K29FY-D	D29	LD	LIC	HENEFER/ECHO, UT	BLDTT20110314ACH	228.0
No	K29MX-D	D29	LD	LIC	MANILA, ETC, UT	BLANK0000095217	332.7
No	K29II-D	D29	LD	LIC	PARK CITY, UT	BLDTT20090414AFT	256.1
No	K29MF-D	D29	LD	LIC	PEOA AND OAKLEY, UT	BLANK0000093229	256.6
No	KUPX-TV	D29	DT	LIC	PROVO, UT	BLCDT20020510AAP	247.1
No	K29MY-D	D29	LD	LIC	RANDOLPH, UT	BLANK0000093592	179.3
No	K29IM-D	D29	LD	LIC	SAMAK, UT	BLDTT20090624ABL	269.2
No	K29MT-D	D29	LD	LIC	SCOFIELD, UT	BLANK0000093930	360.0
No	K29HX-D	D29	LD	LIC	WANSHIP, UT	BLDTT20090624ADL	246.7
No	K29HG-D	D29	LD	LIC	JACKSON, WY	BLDTL20090224AAW	156.5
No	K29HV-D	D29	LD	LIC	LA BARGE, ETC., WY	BLDTT20070523ACE	196.0
No	K29IH-D	D29	LD	LIC	MEETEETSE, ETC., WY	BLANK0000120349	330.9
No	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLANK0000137989	328.3
No	K30QH-D	D30	LD	LIC	BURLEY, ETC., ID	BLANK0000068251	102.2
No	K30OX-D	D30	LD	LIC	MONTPELIER, ID	BLANK0000063416	106.8
No	K30OY-D	D30	LD	LIC	LOGAN, UT	BLANK0000072929	153.6
No	K30JG-D	D30	LD	LIC	RANDOLPH & WOODRUFF, UT	BLDTT20100108ACY	179.3
No	KTVX	D30	DT	LIC	SALT LAKE CITY, UT	BLANK0000114065	246.5

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

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D29
       Mask: Full Service
```

Table 1 K29KG-D TVStudy Analysis of Proposal


```
   Latitude:  42 51 50.10 N (NAD83)
  Longitude: 112 31 13.30 W
Height AMSL: 1816.6 m
       HAAT: 0.0 m
   Peak ERP: 1.00 kW
    Antenna: PSI SB 150.0 deg
Elev Pattrn: Generic
  Elec Tilt: 1.00

50.2 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg  0.029 kW   453.6 m   26.6 km
 45.0      0.181      377.0     34.8
 90.0       1.00      231.3     38.4
135.0      0.235      158.7     26.9
180.0      0.476     -122.4     14.5
225.0      0.819      324.3     41.7
270.0      0.053      442.5     29.6
315.0      0.058      460.5     30.5

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m   Computed HAAT: 291 m

Distance to Canadian border: 681.9 km

Distance to Mexican border: 1143.9 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 236.9 degrees   Distance: 968.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 114.0 degrees   Distance: 675.4 km


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 BLANK0000194988 LIC scenario 1

**IX: 10.26% interference caused

K29KY-D is accepting 10.26% interference. See text.

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29KY-D	D29	LD	LIC	BLACKFOOT, ID	BLANK0000194988	
Undesireds:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	39.1 km
	K28LE-D	D28	LD	LIC	IDAHO FALLS, ID	BLDTL20140225ABP	53.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
69.1	13,315	69.1	13,315	64.1	13,154	59.1	11,805	7.81 10.26

Undesired	Total IX	Unique IX, before		Unique IX, after	
K29KG-D D29 LD APP	6.0	1,468		5.0	1,349
K28LE-D D28 LD LIC	5.0	161	5.0	161	4.0	42

Interference to BLANK0000231348 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29KY-D	D29	LD	CP	BLACKFOOT, ID	BLANK0000231348	
Undesireds:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	79.5 km
	K28LE-D	D28	LD	LIC	IDAHO FALLS, ID	BLDTL20140225ABP	14.4

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
2677.9	135,810	2506.8	135,737	1955.5	128,508	1945.5	128,429	0.51 0.06

Table 1 K29KG-D TVStudy Analysis of Proposal

Undesired		Total IX		Unique IX, before		Unique IX, after	
K29KG-D D29 LD APP	73.9	1,338				10.0	79
K28LE-D D28 LD LIC	551.2	7,229		551.2	7,229	487.3	5,970

Interference to BLANK0000059259 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	
Undesireds:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	72.3 km
	K29KY-D	D29	LD	LIC	BLACKFOOT, ID	BLANK0000194988	81.7
	K29BM-D	D29	LD	LIC	MONTPELIER, ID	BLDTT20111116AYI	37.0
	K29EY-D	D29	LD	LIC	PRESTON, ID	BLDTT20111116AIA	56.9
	KUPX-TV	D29	DT	LIC	PROVO, UT	BLCDT20020510AAP	224.1
	K29HG-D	D29	LD	LIC	JACKSON, WY	BLDTL20090224AAW	126.2
	K30OX-D	D30	LD	LIC	MONTPELIER, ID	BLANK0000063416	37.0

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
5903.8	13,710	4163.7	8,079	4003.6	8,007	3991.5	8,007	0.30	0.00

Undesired	Total IX		Unique IX, before		Unique IX, after	
K29KG-D D29 LD APP	12.1	0			12.1	0
K29BM-D D29 LD LIC	75.7	54	65.6	23	65.6	23
K29EY-D D29 LD LIC	65.3	14	64.3	14	64.3	14
KUPX-TV D29 DT LIC	25.1	4	18.1	4	18.1	4
K29HG-D D29 LD LIC	1.0	0	1.0	0	1.0	0
K30OX-D D30 LD LIC	4.1	31	0.0	0	0.0	0

Interference to BLANK0000059259 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	
Undesireds:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	72.3 km
	K29KY-D	D29	LD	CP	BLACKFOOT, ID	BLANK0000231348	99.6
	K29BM-D	D29	LD	LIC	MONTPELIER, ID	BLDTT20111116AYI	37.0
	K29EY-D	D29	LD	LIC	PRESTON, ID	BLDTT20111116AIA	56.9
	KUPX-TV	D29	DT	LIC	PROVO, UT	BLCDT20020510AAP	224.1
	K29HG-D	D29	LD	LIC	JACKSON, WY	BLDTL20090224AAW	126.2
	K30OX-D	D30	LD	LIC	MONTPELIER, ID	BLANK0000063416	37.0

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
5903.8	13,710	4163.7	8,079	4002.6	8,007	3990.5	8,007	0.30	0.00

Undesired	Total IX		Unique IX, before		Unique IX, after	
K29KG-D D29 LD APP	12.1	0			12.1	0
K29KY-D D29 LD CP	2.0	0	1.0	0	1.0	0
K29BM-D D29 LD LIC	75.7	54	64.6	23	64.6	23
K29EY-D D29 LD LIC	65.3	14	64.3	14	64.3	14
KUPX-TV D29 DT LIC	25.1	4	18.1	4	18.1	4
K29HG-D D29 LD LIC	1.0	0	1.0	0	1.0	0
K30OX-D D30 LD LIC	4.1	31	0.0	0	0.0	0

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	
Undesireds:	K29KY-D	D29	LD	LIC	BLACKFOOT, ID	BLANK0000194988	39.1 km
	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	72.3
	KUPX-TV	D29	DT	LIC	PROVO, UT	BLCDT20020510AAP	247.1

Service area		Terrain-limited		IX-free		Percent IX	
3221.1	88,157	2465.9	85,426	2442.7	85,324	0.94	0.12

Undesired	Total IX		Unique IX		Prcnt Unique IX	
K29KY-D D29 LD LIC	8.1	46	8.1	46	0.33	0.05
K29LG-D D29 LD LIC	9.1	0	9.1	0	0.37	0.00
KUPX-TV D29 DT LIC	6.0	56	6.0	56	0.25	0.07

Table 1 K29KG-D TVStudy Analysis of Proposal

Interference to proposal scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29KG-D	D29	LD	APP	IDAHO FALLS, ID	K29KG-D prop PSI	
Undesireds:	K29KY-D	D29	LD	CP	BLACKFOOT, ID	BLANK0000231348	79.5 km
	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	72.3
	KUPX-TV	D29	DT	LIC	PROVO, UT	BLCDT20020510AAP	247.1

Service area		Terrain-limited		IX-free		Percent IX	
3221.1	88,157	2465.9	85,426	2353.0	85,136	4.58	0.34

Undesired	Total IX		Unique IX		Prcnt Unique IX	
K29KY-D D29 LD CP	97.8	234	97.8	234	3.97	0.27
K29LG-D D29 LD LIC	9.1	0	9.1	0	0.37	0.00
KUPX-TV D29 DT LIC	6.0	56	6.0	56	0.25	0.07

Channel and Facility Information

Section	Question	Response
Facility ID	128365	
State	Idaho	
City	IDAHO FALLS	
LPD Channel	29	

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1239956
Coordinates (NAD83)	Latitude	42° 51' 50.1" N+
	Longitude	112° 31' 13.3" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	92.4 meters
	Support Structure Height	91.4 meters
	Ground Elevation (AMSL)	1770.6 meters
Antenna Data	Height of Radiation Center Above Ground Level	46 meters
	Height of Radiation Center Above Mean Sea Level	1816.6 meters
	Effective Radiated Power	1 kW

Antenna Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	PSI
	Model	PSILP12SB
	Rotation	150 degrees
	Electrical Beam Tilt	1.0
	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:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.39	**90**	0.69	**180**	0.29	**270**	0.69
10	0.43	**100**	0.51	**190**	0.27	**280**	0.85
20	0.54	**110**	0.34	**200**	0.21	**290**	0.96
30	0.69	**120**	0.23	**210**	0.17	**300**	1.00
40	0.84	**130**	0.18	**220**	0.16	**310**	0.95
50	0.95	**140**	0.16	**230**	0.18	**320**	0.84
60	1.00	**150**	0.17	**240**	0.23	**330**	0.69
70	0.96	**160**	0.21	**250**	0.34	**340**	0.54
80	0.85	**170**	0.27	**260**	0.51	**350**	0.43

Additional Azimuths

Degree	V_A