

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of SOULE VIDEO PRODUCTIONS, INC., licensee of digital Low Power Television Station KJDN-LD, Channel 6 in Logan, Utah, in support of its Application for Construction Permit to specify a new site.

It is proposed to mount the licensed elliptically polarized directional antenna at the 15.2-meter level of an existing 93.0 meter communications tower atop Cal Mountain. The proposed site is located only 17.7 kilometers southwest of the licensed KJDN-LD site. The proposed effective radiated power will be 2.39 kW in the horizontal plane. Exhibit B is a map upon which the predicted 43 dBu service contour of the proposed facility is plotted. The licensed and proposed service contours are plotted in Exhibit C. As shown, there is significant overlap between the two contours. Azimuth pattern data for the licensed 3-bay directional antenna are included in Exhibit D.

Exhibit E contains the summary results from a TVStudy interference study, which was conducted using a cell size of 1.0 kilometer and an increment spacing of 0.1 kilometer. It concludes that the proposed KJDN-LD facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A and LPTV/translator facilities, except with respect to LPTV Station K05MN-D, Channel 5 in Logan, Utah (LMS-0000004995). The owner of K05MN-D, Edge Spectrum, Inc. (Edge), has agreed to accept interference from the proposed KJDN-D facility (2.39 kW at the new site), as shown in the appendix. It is important to note that the difference in predicted interference population between that provided in the interference agreement letter and that shown in Exhibit E primarily

EXHIBIT A

results from the fact that the Commission's TVStudy software utilizes the 2010 U.S. Census and the V-Soft study software used to generate the interference map in the appendix used the 2020 U.S. Census data. The KJDN-LD operating parameters used in the derivation of the KJDN-LD/K05MN-D interference study provided to Edge are exactly the same as those specified herein.

A detailed power density calculation is provided in Exhibit F.

Since no change in the overall height or location of the existing Cal Mountain tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1234946 to this structure.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.



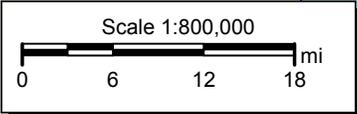
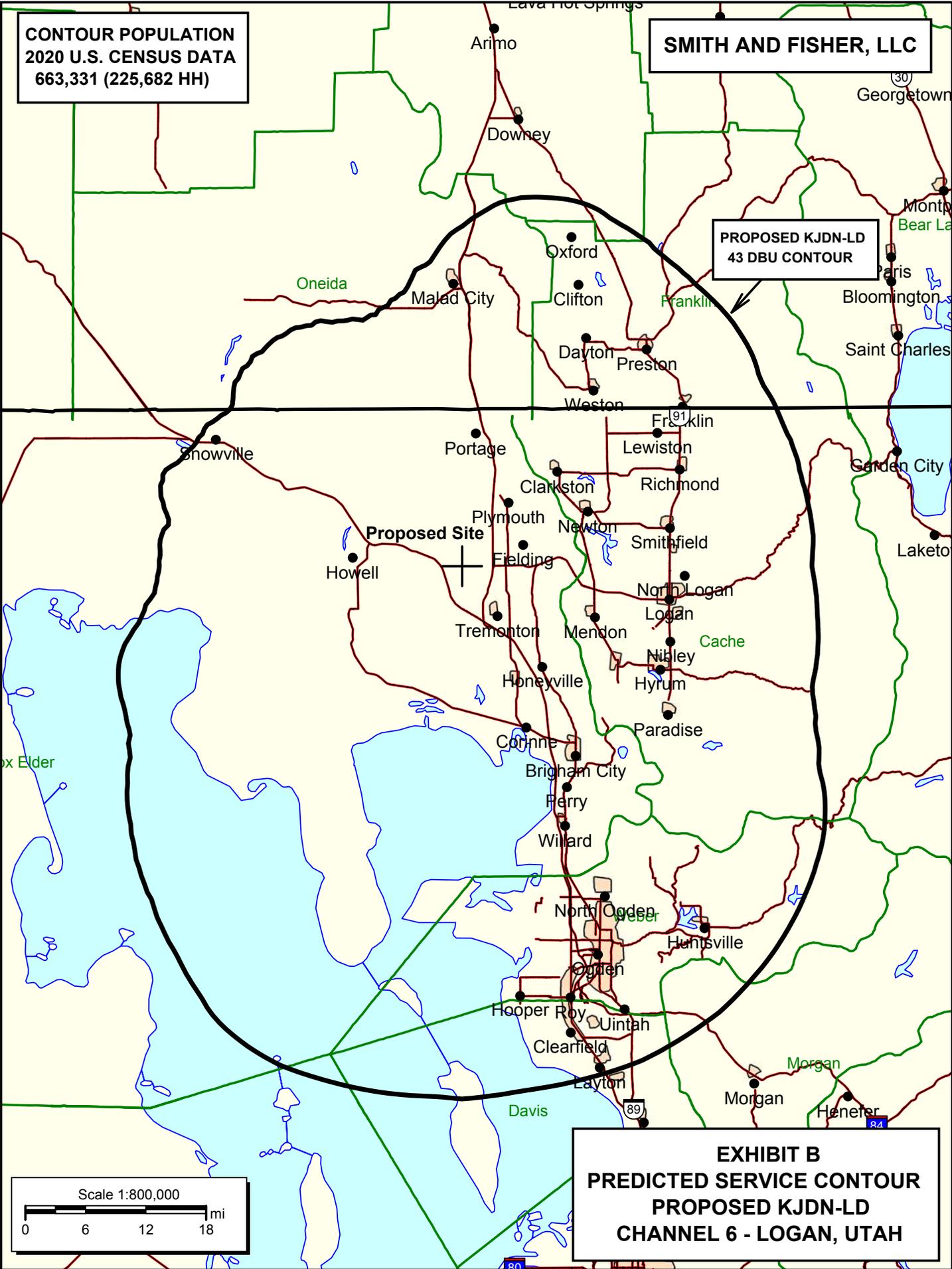
KEVIN T. FISHER

January 6, 2023

**CONTOUR POPULATION
2020 U.S. CENSUS DATA
663,331 (225,682 HH)**

SMITH AND FISHER, LLC

**PROPOSED KJDN-LD
43 DBU CONTOUR**



**EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED KJDN-LD
CHANNEL 6 - LOGAN, UTAH**

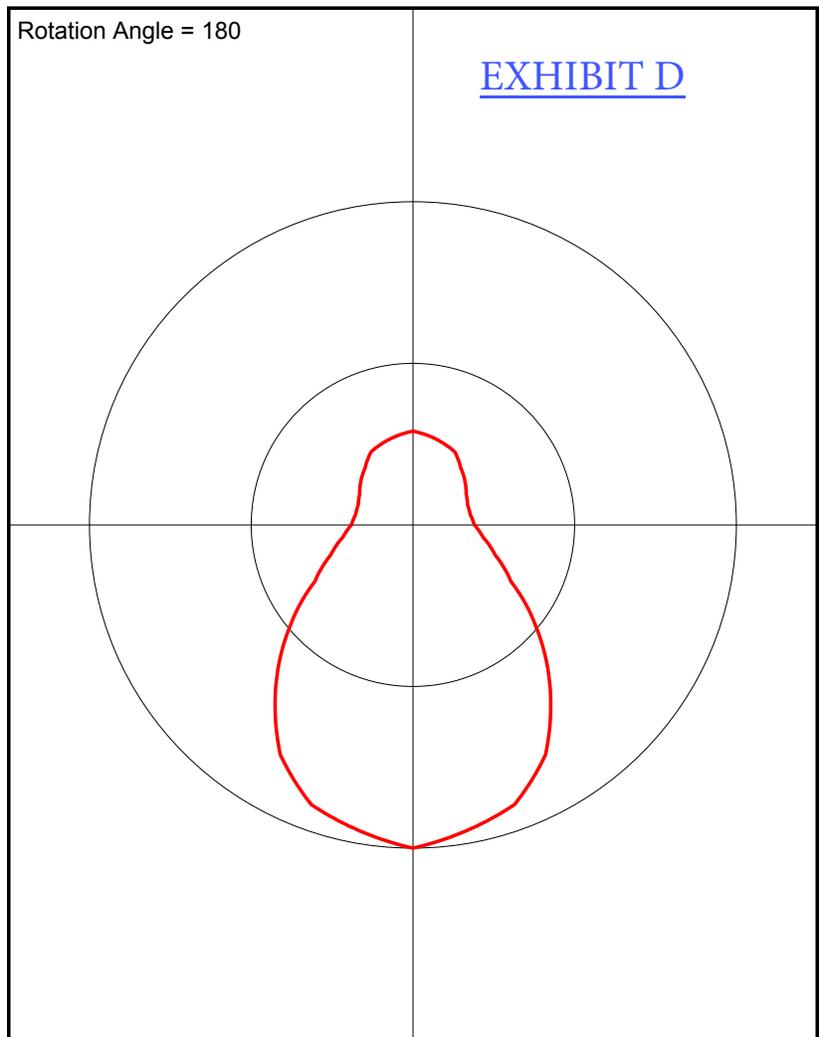
Exhibit D - KJDN-LD

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	0.96
20.0	0.92
30.0	0.82
40.0	0.66
50.0	0.5
60.0	0.35
70.0	0.27
80.0	0.22
90.0	0.19
100.0	0.18
110.0	0.18
120.0	0.19
130.0	0.21
140.0	0.23
150.0	0.26
160.0	0.27
170.0	0.28
180.0	0.29
190.0	0.28
200.0	0.27
210.0	0.26
220.0	0.23
230.0	0.21
240.0	0.19
250.0	0.18
260.0	0.18
270.0	0.19
280.0	0.22
290.0	0.27
300.0	0.35
310.0	0.5
320.0	0.66
330.0	0.82
340.0	0.92
350.0	0.96

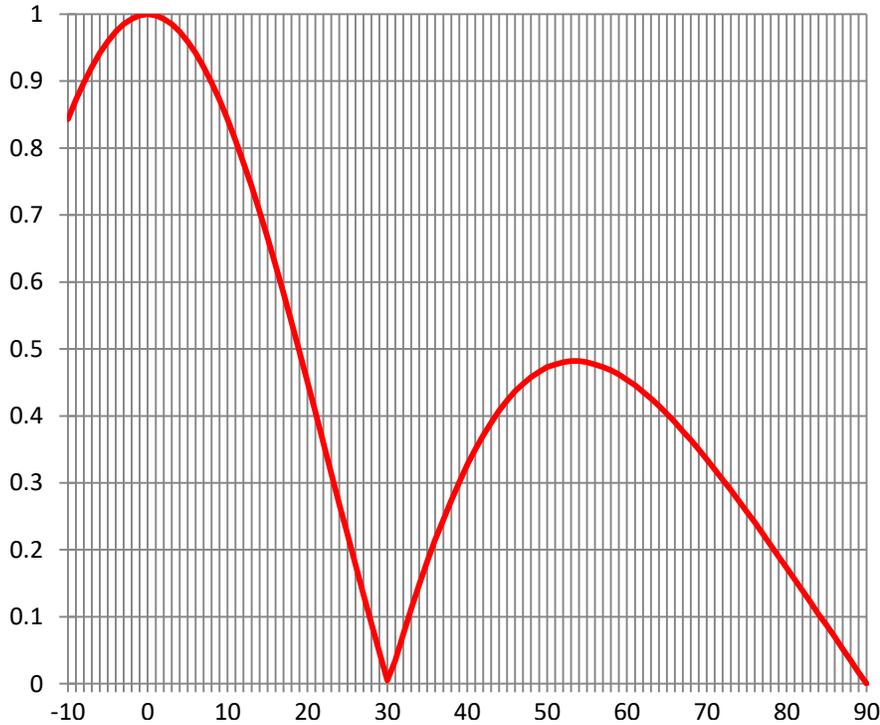
Rotation Angle = 180

EXHIBIT D



Elevation (Vertical) Pattern

Elevation Pattern



Degree	Field Value								
-10	0.843	11	0.812	32	0.074	53	0.482	74	0.273
-9	0.872	12	0.778	33	0.112	54	0.482	75	0.257
-8	0.898	13	0.743	34	0.148	55	0.480	76	0.241
-7	0.921	14	0.705	35	0.182	56	0.477	77	0.224
-6	0.942	15	0.666	36	0.215	57	0.473	78	0.207
-5	0.959	16	0.625	37	0.245	58	0.468	79	0.190
-4	0.974	17	0.583	38	0.274	59	0.462	80	0.173
-3	0.985	18	0.540	39	0.301	60	0.454	81	0.156
-2	0.993	19	0.496	40	0.327	61	0.446	82	0.139
-1	0.998	20	0.451	41	0.350	62	0.436	83	0.122
0	1.000	21	0.406	42	0.371	63	0.426	84	0.104
1	0.998	22	0.360	43	0.390	64	0.415	85	0.087
2	0.993	23	0.314	44	0.408	65	0.403	86	0.070
3	0.985	24	0.268	45	0.423	66	0.391	87	0.052
4	0.974	25	0.223	46	0.437	67	0.377	88	0.035
5	0.959	26	0.178	47	0.448	68	0.364	89	0.017
6	0.942	27	0.133	48	0.458	69	0.350	90	0.000
7	0.921	28	0.090	49	0.466	70	0.335		
8	0.898	29	0.047	50	0.473	71	0.320		
9	0.872	30	0.005	51	0.477	72	0.305		
10	0.843	31	0.035	52	0.480	73	0.289		

TVSTUDY INTERFERENCE ANALYSIS RESULTS
PROPOSED KJDN-LD
CHANNEL 6 – LOGAN, UTAH

Study created: 2023.01.06 11:19:43

Study build station data: LMS TV 2022-12-10

Proposal: KJDN-LD D6 LD LIC LOGAN, UT

File number: BLANK0000157479

Facility ID: 182236

Station data: User record

Record ID: 68

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	K05MN-D	D5	LD	LIC	LOGAN, UT	BLANK0000004995	17.6 km
No	K05GJ-D	N5	TX	LIC	THAYNE, ETC., WY	BLTTV19780108IJ	167.4
No	K05GJ-D	D5	LD	LIC	THAYNE, ETC., WY	BLANK0000130271	167.4
No	KTVJ-LD	D6	LD	LIC	NAMPA, ID	BLANK0000167782	384.1
No	KTVM-TV	D6	DT	LIC	BUTTE, MT	BLCDT20100629AVB	469.7
No	K06MK-D	D6	LD	LIC	ELKO, NV	BLDTV20111123AAA	308.8
No	K06HT-D	D6	LD	LIC	ELY, NV	BLDTV20111216ABM	359.1
No	K06NY-D	D6	LD	LIC	RYNDON, NV	BLDTV20111219ABC	296.3
No	K06QS-D	D6	LD	LIC	SALINA & REDMOND, UT	BLANK0000063755	324.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D6

Mask: Full Service

SMITH AND FISHER

Latitude: 41 47 2.70 N (NAD83)
Longitude: 112 13 57.80 W
Height AMSL: 2105.8 m
HAAT: 0.0 m
Peak ERP: 2.39 kW
Antenna: AAT IV-CP-BB-3 180.0 deg Elev
Pattn: Generic

43.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.201 kW	501.6 m	54.9 km
45.0	0.116	703.9	58.6
90.0	0.086	699.8	56.1
135.0	0.804	754.8	76.8
180.0	2.39	728.7	85.4
225.0	0.804	602.1	72.0
270.0	0.086	511.1	48.6
315.0	0.116	444.2	47.6

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 618 m

Distance to Canadian border: 801.9 km

Distance to Mexican border: 1031.2 km

Conditions at FCC monitoring station: Livermore CA
Bearing: 244.1 degrees Distance: 929.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 104.9 degrees Distance: 612.9 km

Study cell size: 1.00 km
Profile point spacing: 0.10 km

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

**IX check failure to BLANK0000004995 LIC scenario 1, 4.03% interference caused

POWER DENSITY CALCULATION

PROPOSED KJDN-LD
CHANNEL 6 – LOGAN, UTAH

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Logan facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 2.39 kW (H,V), an antenna radiation center 15.2 meters above ground, and based on the specific elevation pattern for the proposed American Amplifier Technologies, LLC IV-CP-BB-3 antenna, maximum power density two meters above ground of 0.142 mW/cm² is calculated to occur 9.2 meters south of the base of the tower. Since this is only 71.0 percent of the 0.20 mW/cm² reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 6 (82-88 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.

APPENDIX

INTERFERENCE WAIVER LETTER FROM EDGE SPECTRUM, INC.

INTERFERENCE STUDY MAP

Edge Spectrum Inc



RE: K05MN-D Interference Acceptance from KJDN-LD

January 4, 2023

To Whom It May Concern:

Edge Spectrum, Inc. has reviewed the document named "K05MN-D Predicted Incoming Interference from Proposed KJDN-LD at 2.39KW located @ Cal Mountain site". Edge Spectrum, Inc. understands that KJDN Ch5 at 2.39KW will cause 3.56% interference to K05MN in Northern Utah. We accept this and waive interference so that KJDN may apply for a CP and License to Cover on Channel 6 at it's new desired location ASR 1234946, (41-47-05, 112-13-58). Consequently, Edge Spectrum has "No Objection" to the grant of Soule Productions (KJDN-LD) as pertaining to this proposed engineering.

Sincerely,

A handwritten signature in blue ink, appearing to read "Randall Weiss".

Randall Weiss
Director
Edge Spectrum, Inc.

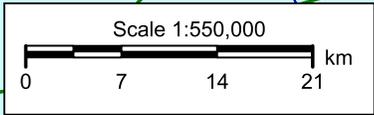
INTERFERENCE POPULATION (2020 U.S. CENSUS DATA)
5,826 (3.56% OF K05MN-D SERVICE POPULATION)

SMITH AND FISHER, LLC

□ K05MN-D (5)
■ KJDN-LD (6)

K05MN-D
43 DBU CONTOUR

KJDN-LD



PREDICTED INTERFERENCE TO K05MN-D
FROM PROPOSED KJDN-LD (CH. 6)

