



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR A
CONSTRUCTION PERMIT TO SPECIFY CHANNEL 20
IN LIEU OF CHANNEL 10 IN THE DIGITAL
TELEVISION TABLE OF ALLOTMENTS
KENV-DT - ELKO, NEVADA
DTV - CH. 20 - 75 kW - 562.2 m HAAT**

Prepared for: Reno (KENV-TV) Licensee, Inc.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, No. 7418, and in New York State, No. 63418.

GENERAL

This office has been authorized by Reno (KENV-TV) Licensee, Inc., licensee of KENV-DT, channel 10, licensed to Elko Nevada, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor change application to specify channel 20 in lieu of channel 10 as ordered in the REPORT & ORDER in MB Docket No. 23-78, RM-11946, DA 23-618. The R&O authorization specifies a facility of 75 kW Effective Radiated Power (ERP) at a Height Above Average Terrain (HAAT) of 562.2 meters.

NON-DIRECTIONAL ANTENNA

The applicant intends to install a new Dielectric model TFU-8DSB/VP-A elliptically polarized non-directional channel 20 antenna at KENV-DT's current centerline height above mean sea level (AMSL) of 2,261.0 meters. The antenna's vertical elevation pattern, is shown in the antenna exhibit.

PROPOSED CHANNEL 34 FACILITY

The authorized ERP is 75 kW. The antenna height above ground of 20 meters, height above mean sea level of 2,261.0 meters and the HAAT of 562.2 meters are as authorized in the R&O. A comparison of predicted coverage area and population was made between the licensed channel 10 facility and the authorized channel 34 facility. The comparison predicts an increase of more than 1,300 persons to be served and predicts a no loss of any persons currently served within the current noise-limited contour.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. The map exhibit shows the predicted Noise Limited (39.36 dBu) contour, and the principal community (48 dBu) contour which completely encompasses the principal community of license, Elko, Nevada.

ALLOCATION CONSIDERATIONS

Post-Transition DTV Considerations

A study was performed, using the FCC's application processing software, *tvstudy*, v. 2.2.5, to determine if the instant application for construction permit is predicted to cause

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new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. (See Appendix B)

International DTV Considerations

The KENV-DT site is located greater than 900 kilometers from the nearest point on the US-Canadian border and more than 850 kilometers from the nearest point on the US-Mexican border. Therefore no international coordination is required. The study indicates that the proposed facility is not predicted to affect any land-mobile facilities nor any AM radio stations.

BLANKETING AND INTERMODULATION INTERFERENCE

No other broadcast nor non-broadcast facilities are co-located with the KENV-DT site, however there are other facilities that are located within 10 kilometers of the KENV-DT site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE

The licensee of KENV-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KENV-DT antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the KENV-DT channel 20 facility as proposed herein will operate with a maximum ERP of 75 kW from an elliptically polarized non-directional

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transmitting antenna with a centerline height of 20 meters above ground level (AGL). Considering the elevation pattern provided elsewhere in this submission, the vertical plane relative field factor is less than 0.155 at all depression angles greater than 13degrees. The proposed KENV-DT channel 20 facility is predicted to produce a worst-case power density at two meters above ground level, of $256.11 \mu\text{W}/\text{cm}^2$, which is 75.47% of the FCC guideline value of $339.33 \mu\text{W}/\text{cm}^2$ for an "uncontrolled" environment, and 15.1% of the FCC's guideline value for "controlled" environments, at 8.4 meters from the tower base,. There is one reserved band FM station, KTQQ, that is located 61 meters from the KENV-DT site. KTQQ's worst-case power density of $127.9 \mu\text{W}/\text{cm}^2$, which is 63.95% of the "uncontrolled environment guideline, occurs 2.4 meters from its tower base. There are five LPTV translators that broadcast from a tower located 41 meters from the KENV-DT site. The cumulative power density from all five facilities is $119.51 \mu\text{W}/\text{cm}^2$, which is 33.15% of the "uncontrolled" environment guideline. These three towers are situated such that the "worst-case" power density levels cannot combine to create an area within which the maximum power density level could exceed the "uncontrolled" environment guideline.

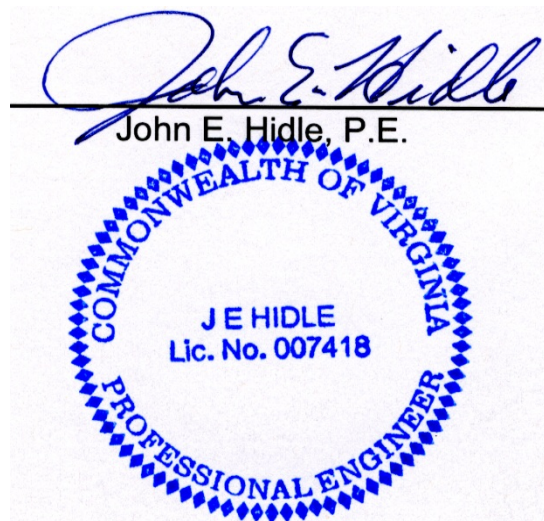
The Applicant will continue to cooperate and coordinate with the other site users and reduce power and/or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the FCC's Rules.

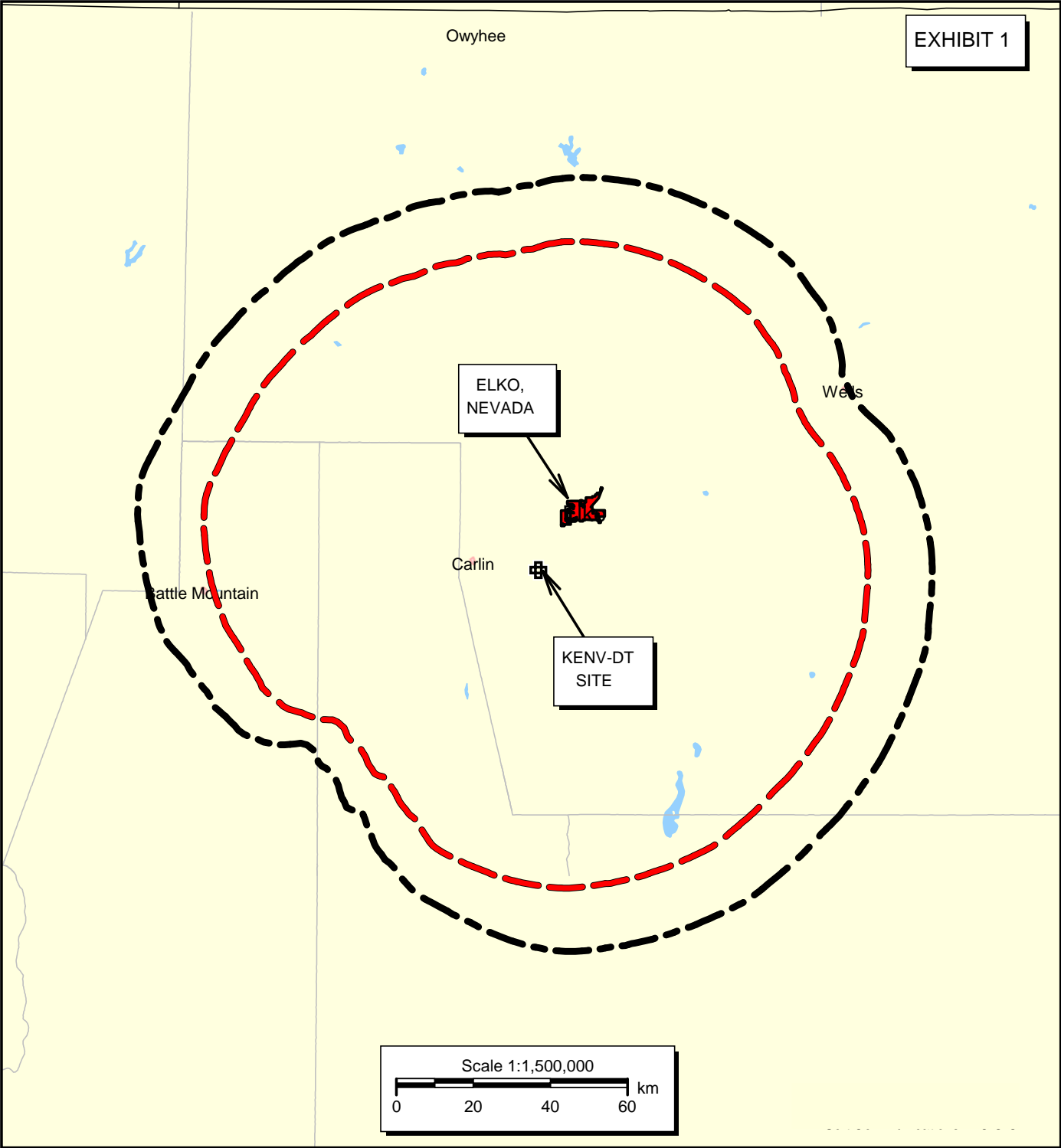
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SUMMARY

It is submitted that the instant minor modification application for construction permit to change KENV-DT's broadcast channel from 10 to 20 according to MM Docket No. 23-78, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement was prepared by me, or under my direct supervision, and its contents are believed to be true and correct to the best of my knowledge and belief.

DATED: August 7, 2023





PREDICTED COVERAGE CONTOURS

KENV-DT - ELKO, NEVADA
DTV Channel 20 - 75 kW ERP - 562 M HAAT
AUGUST, 2023



Predicted Noise Limited 39.36 dBu
F(50,90) Coverage Contour



Predicted Principal Community 48 dBu
F(50,90) Coverage Contour





Date

21 Oct 2022

Call Letters

KENV-DT

Channel

20

Location

Elko, Nevada

Customer

Antenna Type

TFU-8DSB-A

ELEVATION PATTERN

RMS Gain at Main Lobe

8.0 (9.03 dB)

Beam Tilt

1.00 Degrees

RMS Gain at Horizontal

7.4 (8.69 dB)

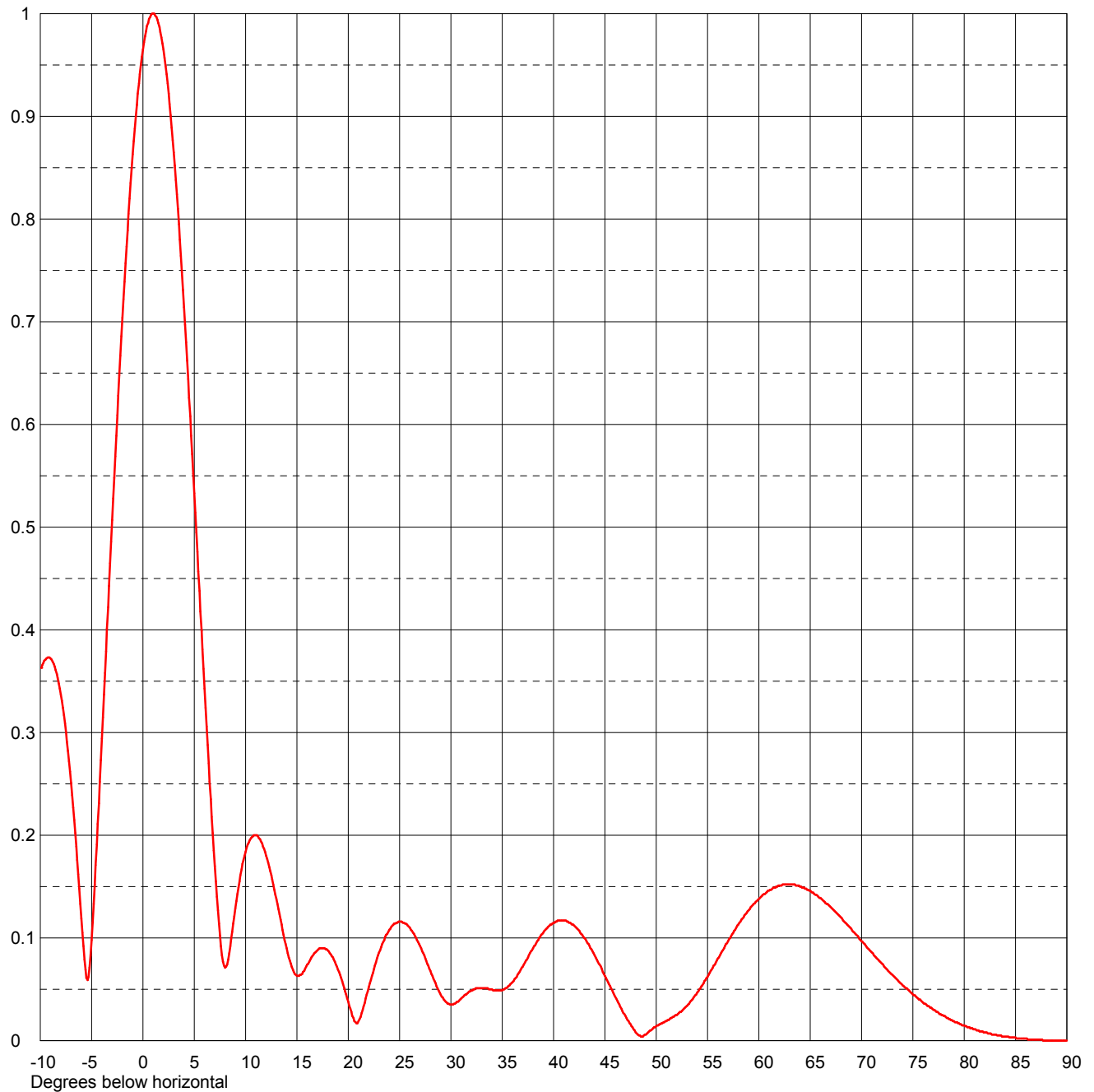
Frequency

509.00 MHz

Calculated / Measured

Calculated

Drawing #

08B080100-90

Remarks:



Date

21 Oct 2022

Call Letters

KENV-DT

Channel

20

Location

Elko, Nevada

Customer

Antenna Type

TFU-8DSB-A

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #

08B080100-90

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.360	2.4	0.932	10.6	0.198	30.5	0.037	51.0	0.019	71.5	0.080
-9.5	0.371	2.6	0.912	10.8	0.200	31.0	0.041	51.5	0.022	72.0	0.075
-9.0	0.372	2.8	0.889	11.0	0.200	31.5	0.045	52.0	0.025	72.5	0.069
-8.5	0.361	3.0	0.865	11.5	0.194	32.0	0.049	52.5	0.029	73.0	0.064
-8.0	0.337	3.2	0.838	12.0	0.180	32.5	0.051	53.0	0.034	73.5	0.059
-7.5	0.300	3.4	0.810	12.5	0.161	33.0	0.051	53.5	0.040	74.0	0.054
-7.0	0.251	3.6	0.780	13.0	0.138	33.5	0.051	54.0	0.047	74.5	0.050
-6.5	0.189	3.8	0.748	13.5	0.113	34.0	0.050	54.5	0.054	75.0	0.045
-6.0	0.119	4.0	0.714	14.0	0.090	34.5	0.049	55.0	0.062	75.5	0.041
-5.5	0.061	4.2	0.680	14.5	0.072	35.0	0.049	55.5	0.071	76.0	0.037
-5.0	0.098	4.4	0.644	15.0	0.063	35.5	0.052	56.0	0.080	76.5	0.034
-4.5	0.191	4.6	0.608	15.5	0.065	36.0	0.057	56.5	0.088	77.0	0.030
-4.0	0.294	4.8	0.571	16.0	0.074	36.5	0.064	57.0	0.097	77.5	0.027
-3.5	0.401	5.0	0.533	16.5	0.082	37.0	0.072	57.5	0.105	78.0	0.024
-3.0	0.507	5.2	0.495	17.0	0.088	37.5	0.081	58.0	0.113	78.5	0.021
-2.8	0.548	5.4	0.457	17.5	0.090	38.0	0.090	58.5	0.120	79.0	0.019
-2.6	0.589	5.6	0.418	18.0	0.088	38.5	0.098	59.0	0.127	79.5	0.017
-2.4	0.628	5.8	0.381	18.5	0.081	39.0	0.105	59.5	0.133	80.0	0.015
-2.2	0.667	6.0	0.343	19.0	0.069	39.5	0.111	60.0	0.138	80.5	0.013
-2.0	0.704	6.2	0.306	19.5	0.055	40.0	0.115	60.5	0.143	81.0	0.011
-1.8	0.739	6.4	0.270	20.0	0.038	40.5	0.117	61.0	0.146	81.5	0.009
-1.6	0.773	6.6	0.235	20.5	0.022	41.0	0.117	61.5	0.149	82.0	0.008
-1.4	0.805	6.8	0.202	21.0	0.019	41.5	0.115	62.0	0.151	82.5	0.007
-1.2	0.835	7.0	0.170	21.5	0.033	42.0	0.112	62.5	0.152	83.0	0.006
-1.0	0.863	7.2	0.140	22.0	0.052	42.5	0.107	63.0	0.152	83.5	0.005
-0.8	0.888	7.4	0.114	22.5	0.070	43.0	0.100	63.5	0.152	84.0	0.004
-0.6	0.911	7.6	0.092	23.0	0.086	43.5	0.092	64.0	0.150	84.5	0.003
-0.4	0.932	7.8	0.077	23.5	0.098	44.0	0.083	64.5	0.148	85.0	0.003
-0.2	0.950	8.0	0.071	24.0	0.108	44.5	0.074	65.0	0.146	85.5	0.002
0.0	0.965	8.2	0.074	24.5	0.114	45.0	0.063	65.5	0.142	86.0	0.002
0.2	0.978	8.4	0.085	25.0	0.116	45.5	0.053	66.0	0.139	86.5	0.001
0.4	0.988	8.6	0.099	25.5	0.114	46.0	0.043	66.5	0.134	87.0	0.001
0.6	0.995	8.8	0.114	26.0	0.110	46.5	0.033	67.0	0.130	87.5	0.001
0.8	0.999	9.0	0.129	26.5	0.102	47.0	0.024	67.5	0.125	88.0	0.000
1.0	1.000	9.2	0.143	27.0	0.092	47.5	0.016	68.0	0.120	88.5	0.000
1.2	0.998	9.4	0.155	27.5	0.080	48.0	0.008	68.5	0.114	89.0	0.000
1.4	0.994	9.6	0.167	28.0	0.068	48.5	0.004	69.0	0.109	89.5	0.000
1.6	0.987	9.8	0.176	28.5	0.056	49.0	0.006	69.5	0.103	90.0	0.000
1.8	0.977	10.0	0.184	29.0	0.045	49.5	0.010	70.0	0.097		
2.0	0.965	10.2	0.191	29.5	0.038	50.0	0.014	70.5	0.091		
2.2	0.949	10.4	0.195	30.0	0.035	50.5	0.017	71.0	0.086		

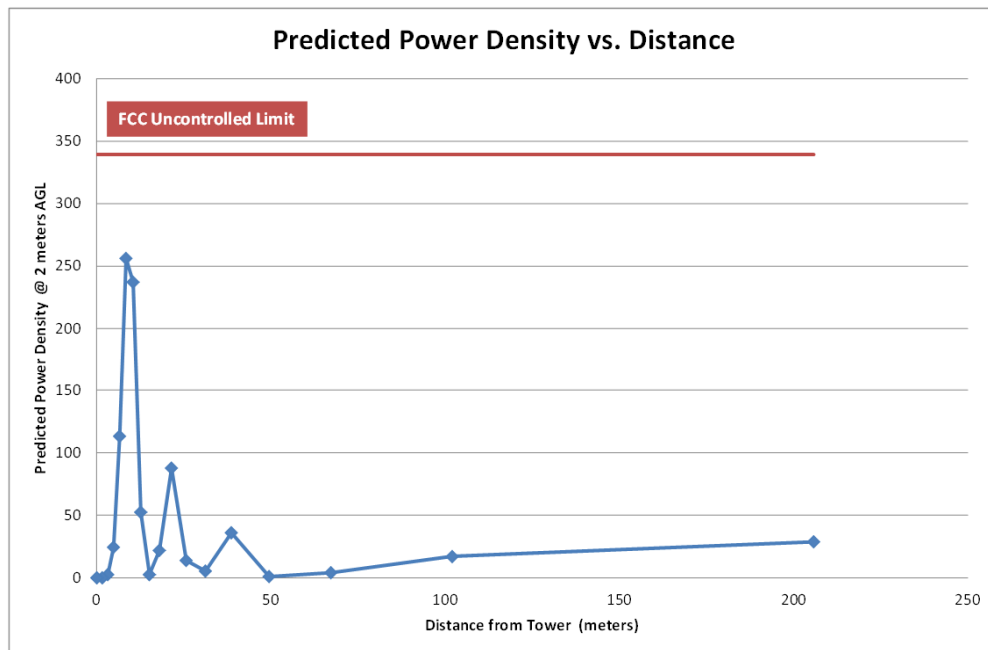
Remarks:

KENV-DT**Channel 20 - Elko, Nevada****ERP = 75000.00 WATTS****APPENDIX A****Maximum ERP 75 kW**

Polarization ----- 2 Circular
 Antenna Height Above Ground -- 20 meters 65.6 feet
 FCC Uncontrolled RFR Limit ---- 339.33 $\mu\text{W}/\text{cm}^2$

Maximum Computed Power Density 256.107 $\mu\text{W}/\text{cm}^2$
 75.47% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	KENV-DT ERP (kW)	KENV-DT Calculated Power Density $\mu\text{W}/\text{cm}^2$	Percent Limit	Limit Exceeded?
0			1.000	75.0000			
5	205.7	206.5	0.495	18.3769	28.780	8.48%	No
10	102.1	103.7	0.191	2.7361	17.010	5.01%	No
15	67.2	69.5	0.063	0.2977	4.111	1.21%	No
20	49.5	52.6	0.022	0.0363	0.875	0.26%	No
25	38.6	42.6	0.114	0.9747	35.892	10.58%	No
30	31.2	36.0	0.037	0.1027	5.292	1.56%	No
35	25.7	31.4	0.052	0.2028	13.756	4.05%	No
40	21.5	28.0	0.117	1.0267	87.458	25.77%	No
45	18.0	25.5	0.053	0.2107	21.718	6.40%	No
50	15.1	23.5	0.017	0.0217	2.622	0.77%	No
55	12.6	22.0	0.071	0.3781	52.304	15.41%	No
60	10.4	20.8	0.143	1.5337	237.152	69.89%	No
65	8.4	19.9	0.142	1.5123	256.107	75.47%	No
70	6.6	19.2	0.091	0.6211	113.070	33.32%	No
75	4.8	18.6	0.041	0.1261	24.252	7.15%	No
80	3.2	18.3	0.013	0.0127	2.534	0.75%	No
85	1.6	18.1	0.002	0.0003	0.061	0.02%	No
90	0.0	18.0	0.000	0.0000	0.000	0.00%	No





KENV-DT - ELKO, NEVADA **AUGUST 2023** **APPENDIX B** **Longley-Rice Interference Analysis**

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: KENV-DT 20 APP, Model: Longley-Rice
Start: 2023.08.04 15:30:09

Study created: 2023.08.04 15:30:09

Study build station data: LMS TV 2023-08-02

Proposal: KENV-DT D20 DT APP *P ELKO, NV
File number: BLANK0000206515
Facility ID: 63845
Station data: LMS TV 2023-08-02
Record ID: 25076ff37529362a0175473115b12280
Country: U.S.
Zone: II

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

Search options:
Non-U.S. records included
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KVME-TV	D20	DT	LIC	BISHOP, CA	BLANK0000001562	415.1 km
Yes	KBOI-TV	D20	DT	CP	BOISE, ID	BLANK0000153318	340.1
No	950306KF	D20	DT	BL	IDAHO FALLS, ID	DTVBL41238	444.7
No	KNSN-TV	D20	DT	CP	RENO, NV	BLANK0000035790	353.4
No	KNSN-TV	D20	DT	LIC	RENO, NV	BLANK0000217304	353.4
No	KTMW	D20	DT	LIC	SALT LAKE CITY, UT	BLCDT20140529AJC	312.0

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: 40 41 58.80 N (NAD83)
Longitude: 115 54 10.90 W
Height AMSL: 2261.0 m
HAAT: 562.2 m
Peak ERP: 75.0 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.80

39.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	75.0 kW	587.0 m	100.2 km
45.0	75.0	604.1	101.0
90.0	75.0	629.4	102.0
135.0	75.0	587.8	100.2
180.0	75.0	544.0	97.5
225.0	75.0	263.3	75.7

Appendix B - Interference Analysis
KENV-DT - Elko, Nevada
Channel 20 -75 kW - Page 2

270.0 75.0 631.3 102.1
 315.0 75.0 618.6 101.6

Database HAAT does not agree with computed HAAT
 Database HAAT: 562 m Computed HAAT: 558 m

Distance to Canadian border: 922.7 km

Distance to Mexican border: 892.8 km

Conditions at FCC monitoring station: Livermore CA
 Bearing: 238.6 degrees Distance: 602.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 90.4 degrees Distance: 902.6 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%

 Interference to BLANK0000153318 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KBOI-TV	D20	DT	CP	BOISE, ID	BLANK0000153318	
Undesireds:	KENV-DT	D20	DT	APP	ELKO, NV	BLANK0000206515	340.1 km
	950306KF	D20	DT	BL	IDAHO FALLS, ID	DTVBL41238	327.7
	KTVM-TV	D20	DT	CP	BUTTE, MT	BLANK0000157471	381.5
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
54408.7	717,322	45536.6		708,345	45421.1	708,344	0.12 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
KENV-DT	D20 DT APP	56.1		0		56.1	0
950306KF	D20 DT BL	111.5		1	111.5 1	111.5	1
KTVM-TV	D20 DT CP	4.0		0	4.0 0	4.0	0

 Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KENV-DT	D20	DT	APP	ELKO, NV	BLANK0000206515	
Undesireds:	KBOI-TV	D20	DT	CP	BOISE, ID	BLANK0000153318	340.1 km
	KNSN-TV	D20	DT	CP	RENO, NV	BLANK0000035790	353.4
Service area		Terrain-limited		IX-free		Percent IX	
30191.5	47,372	19981.5		42,221	19848.0	42,221	0.67 0.00
Undesired		Total IX		Unique IX		Prcnt Unique IX	
KBOI-TV	D20 DT CP	133.5		0	133.5 0	0.67	0.00