

TECHNICAL SUMMARY
LONG FORM APPLICATION FOR CONSTRUCTION PERMIT
NEW TV STATION
VERNAL, UTAH
CHANNEL 16 48.5 KW (DA-MAX) 676 m

1. Purpose of Long Form Application: The applicant, Ventura Media Communications, LLC, was the winning bidder for channel 16 at Vernal, Utah¹ in Auction 112 (construction permit TV-PST26). Therefore, this Long Form application for channel 16 at Vernal, Utah is being filed in response to the FCC Public Notice dated June 23, 2022 and entitled “Auction of Construction Permits for Full Power Television Stations Closes” (DA 22-569, AU Docket No. 21-449). Specifically, it is proposed to operate on channel 16 at Vernal with a directional antenna (DA) maximum ERP of 48.5 kW (elliptical polarization) and an antenna height above average terrain (HAAT) of 676 meters from an existing tower (ASRN 1255348). A Dielectric model DLP-8E/VP, elliptically polarized DA will be mounted at the 40 meter level on the existing tower with a main lobe orientation of 270 degrees true. The RCAMSL will be 2515.9 meters.

2. City Coverage Compliance: The instant modification application will provide the requisite city grade (48 dBu) signal to all of Vernal (see Figure 1).

3. As demonstrated in the *TVStudy* analysis exhibit, the proposal complies with the FCC’s interference protection requirements based on a cell size of 2.0 km and profile resolution of 1.0 points/km.

4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna will be located 40 meters above ground level. The total DTV ERP is 63.1 kW (48.5 kW horizontal polarization, 14.6 kW vertical polarization). A conservative vertical plane relative field value of 0.23 is presumed for the antenna’s downward radiation (for angles below 6 degrees downward, see attached antenna data). The calculated power density at a point 2 meters above ground level is 77.2 uW/cm² which is 23.9% of the FCC’s recommended limit of 323.3 uW/cm² for channel 16 for an uncontrolled environment. Therefore, as the applicant will be the only broadcast station on the existing tower, the proposal will comply with the RF emission rules.

Access to the transmitting site is restricted and appropriately markets with RFR warning signs. Also, a formal RFR protection protocol is in effect in the event that workers or other authorized personnel

¹ Vernal, Utah is located in the Salt Lake City DMA.

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enter the restricted area or climb the tower to ensure that appropriate measure will be taken to assure worker safety with respect to RFR exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.

ELEVATION PATTERN

Proposal No.

Date

Call Letters

Channel **16**

Frequency **485 MHz**

Antenna Type **DLP-8E/VP**

RMS Directivity at Main Lobe

8.1 (9.10 dB)

RMS Directivity at Horizontal

7.6 (8.81 dB)

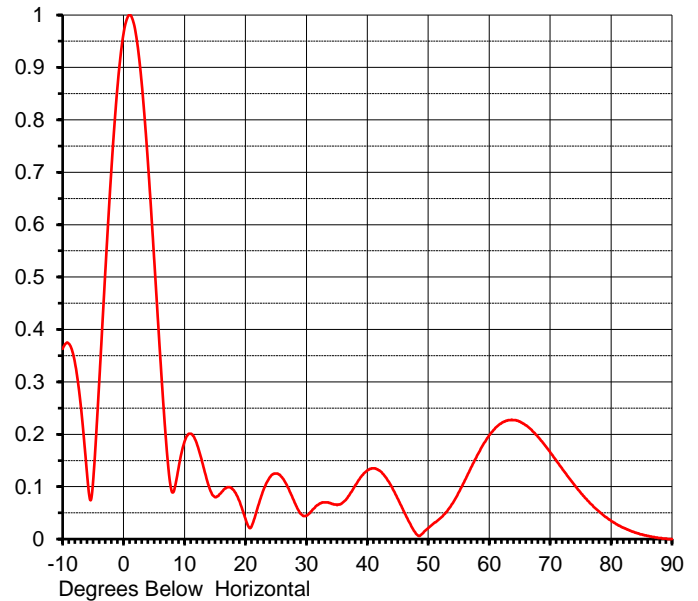
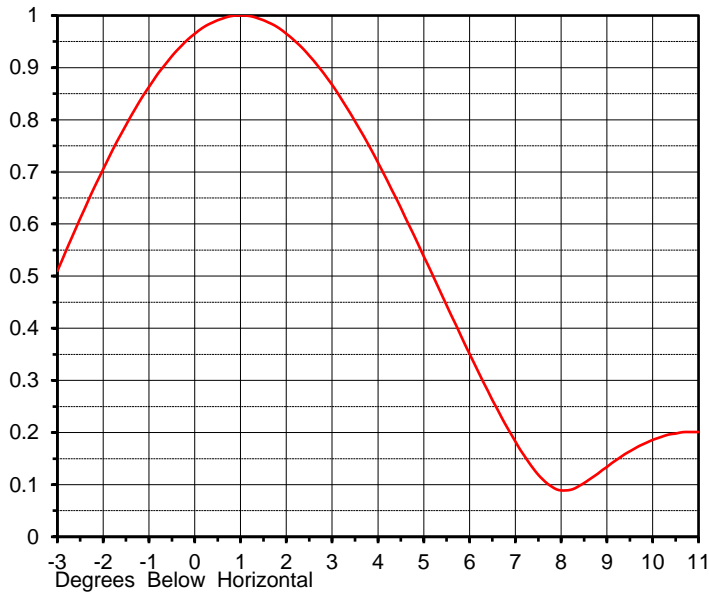
Calculated

Beam Tilt

1.00 deg

Pattern Number

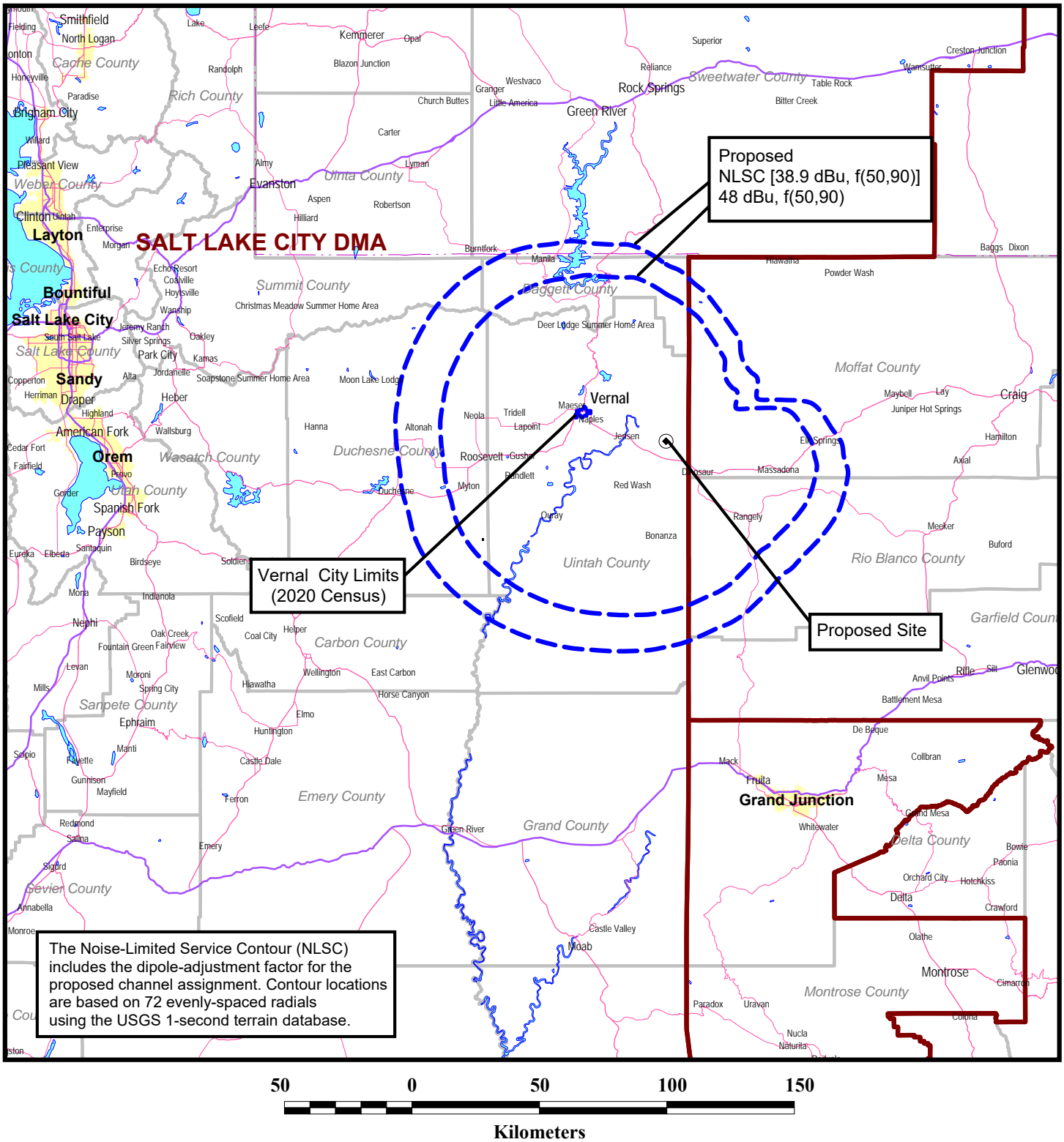
08L081100-35



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.363	10.0	0.186	30.0	0.045	50.0	0.021	70.0	0.166
-9.0	0.373	11.0	0.201	31.0	0.056	51.0	0.031	71.0	0.150
-8.0	0.338	12.0	0.183	32.0	0.066	52.0	0.040	72.0	0.134
-7.0	0.252	13.0	0.143	33.0	0.070	53.0	0.052	73.0	0.118
-6.0	0.125	14.0	0.101	34.0	0.068	54.0	0.068	74.0	0.103
-5.0	0.110	15.0	0.080	35.0	0.065	55.0	0.089	75.0	0.089
-4.0	0.299	16.0	0.088	36.0	0.070	56.0	0.112	76.0	0.076
-3.0	0.510	17.0	0.099	37.0	0.083	57.0	0.136	77.0	0.064
-2.0	0.705	18.0	0.094	38.0	0.102	58.0	0.159	78.0	0.053
-1.0	0.863	19.0	0.073	39.0	0.119	59.0	0.180	79.0	0.043
0.0	0.965	20.0	0.039	40.0	0.131	60.0	0.198	80.0	0.035
1.0	1.000	21.0	0.024	41.0	0.135	61.0	0.212	81.0	0.028
2.0	0.965	22.0	0.060	42.0	0.131	62.0	0.221	82.0	0.022
3.0	0.867	23.0	0.095	43.0	0.118	63.0	0.226	83.0	0.017
4.0	0.718	24.0	0.118	44.0	0.100	64.0	0.227	84.0	0.012
5.0	0.538	25.0	0.125	45.0	0.077	65.0	0.224	85.0	0.009
6.0	0.351	26.0	0.118	46.0	0.053	66.0	0.217	86.0	0.006
7.0	0.183	27.0	0.098	47.0	0.030	67.0	0.208	87.0	0.004
8.0	0.089	28.0	0.072	48.0	0.010	68.0	0.195	88.0	0.002
9.0	0.134	29.0	0.049	49.0	0.010	69.0	0.181	89.0	0.001
								90.0	0.000

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Figure 1



PREDICTED COVERAGE CONTOURS

NEW TV STATION
VERNAL, UTAH
CH 16 48.5 KW (DA-MAX) 676 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

INTERFERENCE ANALYSIS FOR PROPOSED NEW TV STATION
CH 16, VERNAL, UTAH (48.5 KW-DLP-8E/VP, ASRN 1255348)

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: Vernal Ch 16 App, Model: Longley-Rice
Start: 2022.07.18 12:30:11

Study created: 2022.07.18 12:30:10

Study build station data: LMS TV 2022-07-16

Proposal: NEW D16 DT APP VERNAL, UT
File number: Vernal Ch 16 App
Facility ID: 83729
Station data: User record
Record ID: 36
Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KFQX	D15	DT	LIC	GRAND JUNCTION, CO	BLCDT20061020ACO	147.0 km
No	KQDK-CD	D16	DC	LIC	DENVER, CO	BLANK0000071650	372.0
No	KBYU-TV	D17	DT	LIC	PROVO, UT	BLANK0000064428	259.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D16
Latitude: 40 21 4.00 N (NAD83)
Longitude: 109 9 15.10 W
Height AMSL: 2515.9 m
HAAT: 676.0 m
Peak ERP: 48.5 kW
Antenna: DIE-DLP-8E (ID 104196) 270.0 deg
Elev Pattn: Generic

38.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	2.59 kW	494.6 m	70.7 km
45.0	0.858	117.8	44.1
90.0	2.79	452.4	69.7
135.0	0.845	816.1	71.2
180.0	3.13	857.1	82.0
225.0	19.3	919.5	99.9
270.0	48.5	851.9	106.9
315.0	21.0	896.2	100.1

Distance to Canadian border: 961.3 km

Distance to Mexican border: 956.0 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 82.5 degrees Distance: 906.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 92.5 degrees Distance: 331.6 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 proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	NEW	D16	DT	APP	VERNAL, UT	Vernal Ch 16 App	

	Service area		Terrain-limited		IX-free		Percent IX
21677.6	52,117	17834.2	50,811	17834.2	50,811	0.00	0.00