

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
DIGITAL COMPANION OPERATION  
LPTV STATION KELV-LP  
FACILITY ID 36639  
LAS VEGAS, NEVADA  
CH 15 15 KW (DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in response to the FCC Public Notice released June 28, 2010 entitled "Initiation of Nationwide, First-Come, First-Served Digital Licensing For Low Power Television and TV Translator Services Postponed Until Further Notice (DA-10-1168). Although the opportunity for new LPDTV filings was postponed, the Public Notice noted that existing LPTV analog operations could file for new digital companion channels. Thus, this technical exhibit was prepared in support of a digital companion application for LPTV station KELV-LP on channel 27 at Las Vegas, Nevada. LPTV station KELV-LP is licensed (BLTT-19990225JE) for analog operation on channel 27 and proposes a digital companion operation on channel 15 employing a Dielectric TFU-22DSC-R-4S250 DC "cardioid" type directional antenna. The maximum directional ERP will be 15 kW and the antenna radiation center height above mean sea level will be 1354.7 meters. The transmitter will employ a "stringent" out-of-channel emission mask to control adjacent channel interference.

Figure 1 depicts the 74 dBu contour for the licensed analog operation and the proposed 51 dBu contour for the digital operation. As indicated, the proposed 51 dBu completely encompasses the licensed 74 dBu contour.

Response to Paragraph 5 - Antenna Registration

The antenna will be mounted at the 38 meter level on an existing tower having an overall height above ground level of 83.5 meters. The FCC Tower registration number for the existing structure is 1020486.

Response to Paragraph 13 - Interference

A study has been conducted using the provisions of

Section 74.793 and the OET Bulletin 69 interference model.<sup>1</sup> The results indicate that the proposed operation will not create prohibited interference to stations in the Land Mobile Radio Service (LMRS) or other existing, authorized or proposed NTSC or DTV full-power, LPTV, TV translator or Class A stations.

Response to Paragraph 14 - Environmental Protection Act

The proposed LPTV facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."<sup>2</sup> The calculated power density at the base of the tower was calculated using the appropriate equation of the Bulletin.

The power density at the base of the tower was calculated using the appropriate equation on Page 13 of the Bulletin. The vertical relative field pattern is shown on Figure 2. Based on a relative field factor of 0.11 (for angles below 60 degrees downward), and a maximum effective radiated power of 15 kilowatts, the calculated power density at 2 meters above ground at the tower base will be 0.0047 mW/cm<sup>2</sup>. This is 1.472% of the recommended limit of 0.3193 mW/cm<sup>2</sup> for channel 15, applicable to general population/uncontrolled exposure areas. Therefore, the proposal complies with FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a

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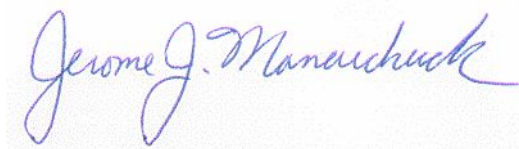
<sup>1</sup>The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed. A Sun based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

<sup>2</sup> See Report and Order in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also First Memorandum Opinion and Order, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512

longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis has been or will be addressed by the tower as part of the registration process.

If there are any questions concerning the technical portion of this application, please contact the office of the undersigned. In addition, it appears that the proposal is otherwise excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

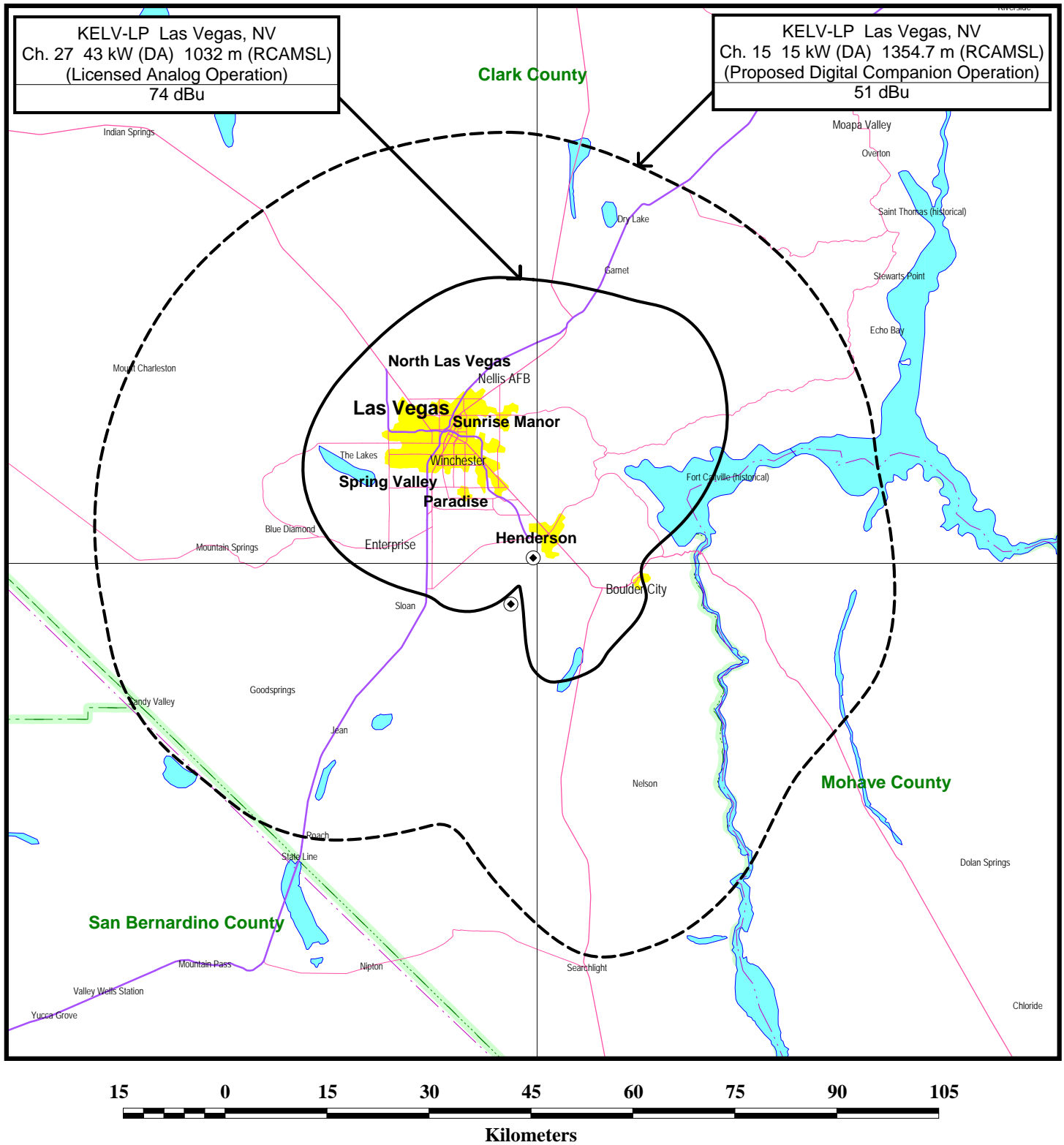


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August 16, 2010

Figure 1



## FCC PREDICTED COVERAGE CONTOURS

LPTV STATION KELV-LP  
LAS VEGAS, NEVADA  
CH 15 15 KW (DA) 1354.7 M (RCAMSL)

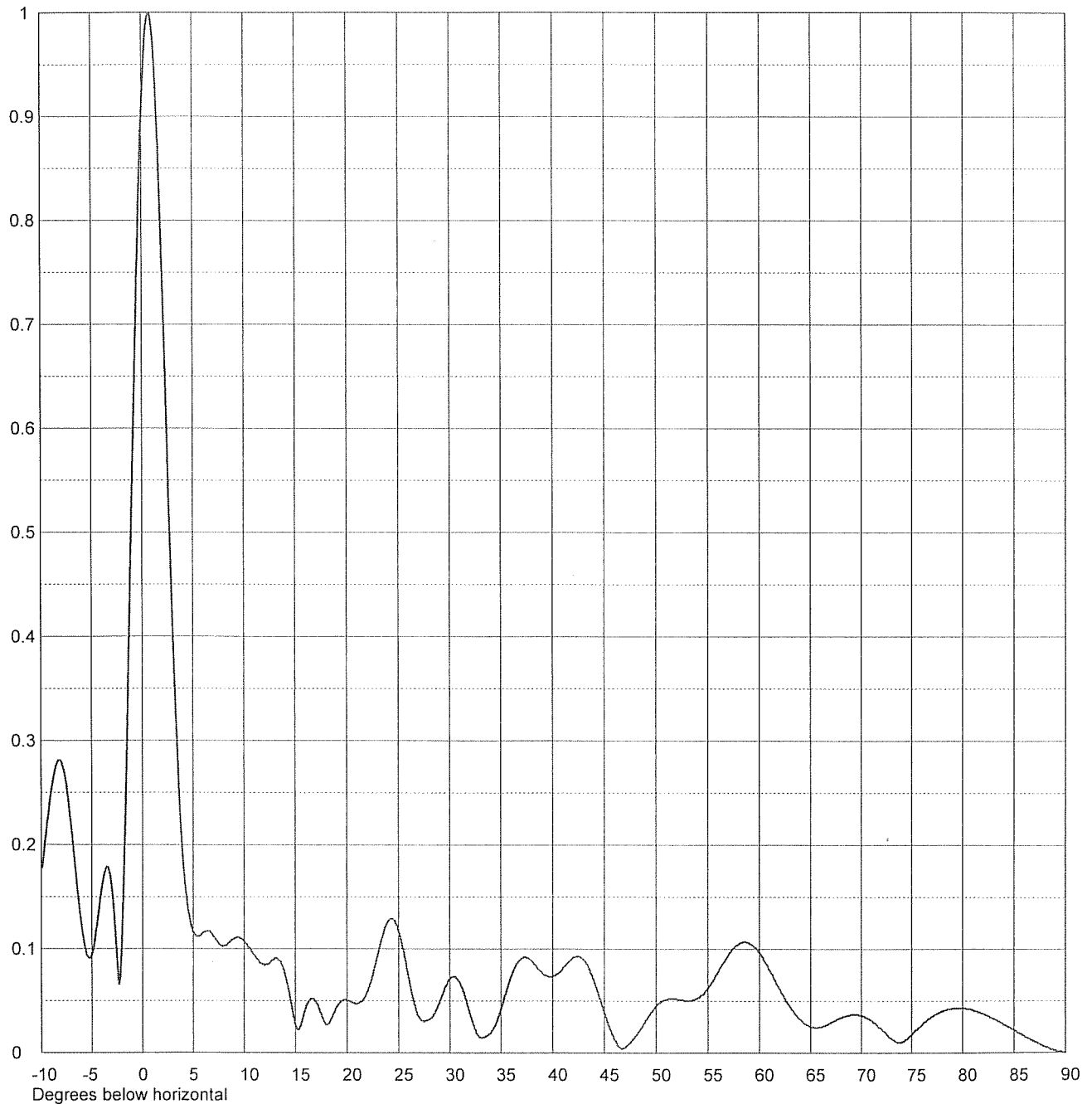
du Treil, Lundin & Rackley, Inc. Sarasota, FL 34237



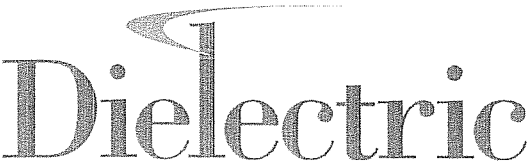
Date	13 Aug 2010		
Call Letters	KELV-LD	Channel	15
Location	Las Vegas, NV		
Customer			
Antenna Type	TFU-22DSC		

ELEVATION PATTERN

RMS Gain at Main Lobe	18.0 (12.55 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	14.8 (11.70 dB)	Frequency	479.00 MHz
Calculated / Measured	Calculated	Drawing #	22q180075-90



Remarks:



Date

13 Aug 2010

Call Letters

KELV-LD

Channel

15

Location

Las Vegas, NV

Customer

Antenna Type

TFU-22DSC

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # 22q180075-90

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.170	2.4	0.612	10.6	0.100	30.5	0.073	51.0	0.051	71.5	0.027
-9.5	0.212	2.6	0.542	10.8	0.097	31.0	0.066	51.5	0.052	72.0	0.023
-9.0	0.252	2.8	0.473	11.0	0.094	31.5	0.053	52.0	0.052	72.5	0.018
-8.5	0.277	3.0	0.409	11.5	0.087	32.0	0.036	52.5	0.051	73.0	0.013
-8.0	0.279	3.2	0.350	12.0	0.084	32.5	0.022	53.0	0.050	73.5	0.010
-7.5	0.256	3.4	0.298	12.5	0.087	33.0	0.015	53.5	0.051	74.0	0.010
-7.0	0.214	3.6	0.253	13.0	0.091	33.5	0.016	54.0	0.053	74.5	0.013
-6.5	0.164	3.8	0.216	13.5	0.088	34.0	0.019	54.5	0.056	75.0	0.018
-6.0	0.121	4.0	0.186	14.0	0.075	34.5	0.028	55.0	0.062	75.5	0.022
-5.5	0.094	4.2	0.162	14.5	0.052	35.0	0.042	55.5	0.070	76.0	0.027
-5.0	0.094	4.4	0.145	15.0	0.027	35.5	0.058	56.0	0.078	76.5	0.031
-4.5	0.123	4.6	0.132	15.5	0.026	36.0	0.074	56.5	0.087	77.0	0.035
-4.0	0.160	4.8	0.122	16.0	0.043	36.5	0.085	57.0	0.094	77.5	0.038
-3.5	0.179	5.0	0.116	16.5	0.052	37.0	0.091	57.5	0.101	78.0	0.040
-3.0	0.155	5.2	0.113	17.0	0.049	37.5	0.091	58.0	0.105	78.5	0.042
-2.8	0.131	5.4	0.112	17.5	0.037	38.0	0.088	58.5	0.107	79.0	0.043
-2.6	0.100	5.6	0.112	18.0	0.027	38.5	0.082	59.0	0.106	79.5	0.043
-2.4	0.071	5.8	0.114	18.5	0.033	39.0	0.077	59.5	0.102	80.0	0.043
-2.2	0.073	6.0	0.116	19.0	0.044	39.5	0.074	60.0	0.096	80.5	0.042
-2.0	0.120	6.2	0.117	19.5	0.050	40.0	0.073	60.5	0.088	81.0	0.041
-1.8	0.189	6.4	0.117	20.0	0.050	40.5	0.076	61.0	0.079	81.5	0.039
-1.6	0.269	6.6	0.117	20.5	0.048	41.0	0.082	61.5	0.070	82.0	0.038
-1.4	0.355	6.8	0.115	21.0	0.047	41.5	0.087	62.0	0.061	82.5	0.035
-1.2	0.444	7.0	0.112	21.5	0.050	42.0	0.092	62.5	0.052	83.0	0.033
-1.0	0.535	7.2	0.109	22.0	0.059	42.5	0.093	63.0	0.044	83.5	0.030
-0.8	0.623	7.4	0.106	22.5	0.075	43.0	0.089	63.5	0.037	84.0	0.027
-0.6	0.707	7.6	0.104	23.0	0.095	43.5	0.081	64.0	0.032	84.5	0.025
-0.4	0.783	7.8	0.103	23.5	0.115	44.0	0.069	64.5	0.028	85.0	0.022
-0.2	0.851	8.0	0.103	24.0	0.127	44.5	0.054	65.0	0.025	85.5	0.019
0.0	0.907	8.2	0.103	24.5	0.128	45.0	0.039	65.5	0.024	86.0	0.016
0.2	0.951	8.4	0.105	25.0	0.117	45.5	0.024	66.0	0.025	86.5	0.013
0.4	0.982	8.6	0.107	25.5	0.097	46.0	0.012	66.5	0.027	87.0	0.011
0.6	0.997	8.8	0.109	26.0	0.071	46.5	0.005	67.0	0.029	87.5	0.008
0.8	0.999	9.0	0.110	26.5	0.048	47.0	0.005	67.5	0.032	88.0	0.006
1.0	0.986	9.2	0.111	27.0	0.034	47.5	0.010	68.0	0.034	88.5	0.004
1.2	0.960	9.4	0.111	27.5	0.030	48.0	0.016	68.5	0.036	89.0	0.002
1.4	0.922	9.6	0.110	28.0	0.032	48.5	0.023	69.0	0.037	89.5	0.001
1.6	0.873	9.8	0.109	28.5	0.038	49.0	0.031	69.5	0.037	90.0	0.000
1.8	0.815	10.0	0.107	29.0	0.049	49.5	0.039	70.0	0.036		
2.0	0.751	10.2	0.105	29.5	0.062	50.0	0.045	70.5	0.034		
2.2	0.683	10.4	0.102	30.0	0.071	50.5	0.049	71.0	0.031		

Remarks: