

TECHNICAL SUMMARY  
APPLICATION FOR CONSTRUCTION PERMIT  
DIGITAL LPTV STATION K29KG-D  
IDAHO FALLS, IDAHO  
CHANNEL 29 15 KW (DA)

1. This minor change application proposes to relocate digital LPTV station K29KG-D on channel 29 at Idaho Falls, Idaho and modify its licensed facilities (LMS File No. 0000087474). Specifically, operation is proposed from an existing tower located 47.2 km southwest of the licensed K29KG-D site with a directional antenna (DA) maximum effective radiated power (ERP) of 15 kW using an ERI model ALP8L1-HSB-29 horizontally polarized DA. The antenna radiation center height will be 1816.6 m AMSL. There will be no change in the overall height of the existing structure (ASRN 1239956).

2. Minor Change Compliance: Figure 1 demonstrates that there is overlap of the licensed and proposed 51 dBu, f(50,90) protected contours as required by Section 73.3572(a)(2)(ii) for minor change applications. In addition, the distance between the licensed and proposed transmitter sites is 47.2 kilometers (29.3 miles). Thus, the proposal also complies with the 48 km (30 mile) limit on site changes for minor change applications.

3. Interference Compliance: As indicated in the attached *TVStudy* analysis, K29KG-D's proposed channel 29 operation meets the FCC's interference protection requirements with respect to all protected facilities based on both the pre- and post-transition allocation environments except with respect to the authorized operation of K29KY-D on channel 29 at Blackfoot, ID (BNPDTL-20100609AHK). However, the proposed K29KG-D operation will result in a reduction in the interference caused to K29KY-D by K29KG-D's licensed operation. Specifically, as indicated in the attached *TVStudy* analysis for K29KG-D's licensed operation, interference is caused to 41.87% of the K29KY-D service area, whereas the proposed K29KG-D operation results in interference to 32.43% of the K29KY-D service area, or a 9.44% reduction in K29KG-D's current interference. Thus, it is believed that the proposed K29KG-D operation complies with the FCC's interference protection requirements to K29KY-D. A cell size of 1.0 km and a profile resolution of 1.0 km points/km were utilized for the *TVStudy* analyses.

4. Compliance With Condition #2 on the K29KG-D CP for Currently Licensed Operation (LMS File No. 0000085572): Condition #2 prohibits future modifications to the

K29KG-D operation from being located within 121 kilometers of the top 100 markets. In this case, the closest top 100 market is Salt Lake City located 239.85 km to the SSE. Thus, the proposed K29KG-D operation complies with condition #2.

5. 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 46 meters above ground level. The total DTV ERP is 15 kW (horizontal polarization). A greater than expected vertical plane relative field value of 0.263 is presumed for the antenna's downward radiation (-60° to -90° elevation, see attached antenna vertical plane relative field pattern). The calculated power density at a point 2 meters above ground level is  $17.9 \text{ uW/cm}^2$  which is 4.77% of the FCC's recommended limit of  $375.3 \text{ uW/cm}^2$  for channel 29 for an uncontrolled environment. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Also, as this is a multi-user site, a formal RFR protection protocol 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 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.

# TABULATED DATA FOR ELEVATION PATTERN

Type: ALP8L1

Polarization: Horizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.102	-19.83	-6.75	0.232	-12.67	-27.00	0.035	-29.12	-50.50	0.053	-25.51	-74.00	0.194	-14.24
4.75	0.126	-17.99	-7.00	0.268	-11.44	-27.50	0.019	-34.42	-51.00	0.064	-23.88	-74.50	0.185	-14.66
4.50	0.171	-15.34	-7.25	0.299	-10.49	-28.00	0.010	-40.00	-51.50	0.073	-22.73	-75.00	0.176	-15.09
4.25	0.225	-12.94	-7.50	0.327	-9.71	-28.50	0.010	-40.00	-52.00	0.079	-22.05	-75.50	0.168	-15.49
4.00	0.285	-10.90	-7.75	0.350	-9.12	-29.00	0.010	-40.00	-52.50	0.084	-21.51	-76.00	0.159	-15.97
3.75	0.348	-9.18	-8.00	0.369	-8.66	-29.50	0.007	-43.10	-53.00	0.086	-21.31	-76.50	0.150	-16.48
3.50	0.411	-7.72	-8.25	0.384	-8.32	-30.00	0.000	-40.00	-53.50	0.086	-21.31	-77.00	0.141	-17.02
3.25	0.474	-6.49	-8.50	0.394	-8.09	-30.50	0.011	-39.17	-54.00	0.083	-21.62	-77.50	0.133	-17.52
3.00	0.535	-5.43	-8.75	0.400	-7.97	-31.00	0.026	-31.70	-54.50	0.078	-22.16	-78.00	0.125	-18.06
2.75	0.595	-4.50	-9.00	0.401	-7.94	-31.50	0.043	-27.33	-55.00	0.071	-22.97	-78.50	0.116	-18.71
2.50	0.654	-3.69	-9.25	0.398	-8.00	-32.00	0.062	-24.15	-55.50	0.062	-24.15	-79.00	0.109	-19.25
2.25	0.708	-2.99	-9.50	0.392	-8.13	-32.50	0.081	-21.83	-56.00	0.051	-25.85	-79.50	0.101	-19.91
2.00	0.760	-2.38	-9.75	0.382	-8.36	-33.00	0.100	-20.00	-56.50	0.040	-27.96	-80.00	0.094	-20.54
1.75	0.808	-1.85	-10.00	0.369	-8.66	-33.50	0.117	-18.64	-57.00	0.031	-30.17	-80.50	0.087	-21.21
1.50	0.851	-1.40	-10.50	0.335	-9.50	-34.00	0.132	-17.59	-57.50	0.027	-31.37	-81.00	0.080	-21.94
1.25	0.889	-1.02	-11.00	0.292	-10.69	-34.50	0.145	-16.77	-58.00	0.034	-29.37	-81.50	0.074	-22.62
1.00	0.923	-0.70	-11.50	0.244	-12.25	-35.00	0.153	-16.31	-58.50	0.048	-26.38	-82.00	0.068	-23.35
0.75	0.950	-0.45	-12.00	0.193	-14.29	-35.50	0.158	-16.03	-59.00	0.064	-23.88	-82.50	0.062	-24.15
0.50	0.972	-0.25	-12.50	0.144	-16.83	-36.00	0.159	-15.97	-59.50	0.082	-21.72	-83.00	0.056	-25.04
0.25	0.988	-0.11	-13.00	0.097	-20.26	-36.50	0.156	-16.14	-60.00	0.101	-19.91	-83.50	0.051	-25.85
0.00	0.997	-0.03	-13.50	0.057	-24.88	-37.00	0.149	-16.54	-60.50	0.119	-18.49	-84.00	0.046	-26.74
-0.25	1.000	0.00	-14.00	0.023	-32.77	-37.50	0.138	-17.20	-61.00	0.137	-17.27	-84.50	0.041	-27.74
-0.50	0.997	-0.03	-14.50	0.001	-60.00	-38.00	0.124	-18.13	-61.50	0.154	-16.25	-85.00	0.037	-28.64
-0.75	0.988	-0.11	-15.00	0.016	-35.92	-38.50	0.107	-19.41	-62.00	0.170	-15.39	-85.50	0.033	-29.63
-1.00	0.972	-0.25	-15.50	0.021	-33.56	-39.00	0.089	-21.01	-62.50	0.186	-14.61	-86.00	0.029	-30.75
-1.25	0.950	-0.44	-16.00	0.019	-34.42	-39.50	0.069	-23.22	-63.00	0.200	-13.98	-86.50	0.025	-32.04
-1.50	0.923	-0.70	-16.50	0.016	-35.92	-40.00	0.050	-26.02	-63.50	0.213	-13.43	-87.00	0.021	-33.56
-1.75	0.890	-1.01	-17.00	0.027	-31.37	-40.50	0.032	-29.90	-64.00	0.224	-13.00	-87.50	0.017	-35.39
-2.00	0.852	-1.39	-17.50	0.051	-25.85	-41.00	0.022	-33.15	-64.50	0.234	-12.62	-88.00	0.014	-37.08
-2.25	0.810	-1.83	-18.00	0.080	-21.94	-41.50	0.027	-31.37	-65.00	0.243	-12.29	-88.50	0.010	-40.00
-2.50	0.763	-2.35	-18.50	0.111	-19.09	-42.00	0.039	-28.18	-65.50	0.250	-12.04	-89.00	0.007	-43.10
-2.75	0.712	-2.96	-19.00	0.142	-16.95	-42.50	0.052	-25.68	-66.00	0.255	-11.87	-89.50	0.003	-50.46
-3.00	0.658	-3.64	-19.50	0.171	-15.34	-43.00	0.063	-24.01	-66.50	0.259	-11.73	-90.00	0.000	-40.00
-3.25	0.601	-4.43	-20.00	0.197	-14.11	-43.50	0.071	-22.97	-67.00	0.262	-11.63			
-3.50	0.541	-5.34	-20.50	0.218	-13.23	-44.00	0.076	-22.38	-67.50	0.263	-11.60			
-3.75	0.481	-6.37	-21.00	0.233	-12.65	-44.50	0.078	-22.16	-68.00	0.263	-11.60			
-4.00	0.419	-7.56	-21.50	0.241	-12.36	-45.00	0.076	-22.38	-68.50	0.262	-11.63			
-4.25	0.357	-8.93	-22.00	0.243	-12.29	-45.50	0.072	-22.85	-69.00	0.260	-11.70			
-4.50	0.296	-10.57	-22.50	0.237	-12.51	-46.00	0.065	-23.74	-69.50	0.256	-11.84			
-4.75	0.237	-12.49	-23.00	0.226	-12.92	-46.50	0.056	-25.04	-70.00	0.252	-11.97			
-5.00	0.182	-14.80	-23.50	0.209	-13.60	-47.00	0.044	-27.13	-70.50	0.247	-12.15			
-5.25	0.135	-17.43	-24.00	0.187	-14.56	-47.50	0.031	-30.17	-71.00	0.241	-12.36			
-5.50	0.102	-19.83	-24.50	0.162	-15.81	-48.00	0.017	-35.39	-71.50	0.234	-12.62			
-5.75	0.098	-20.18	-25.00	0.135	-17.39	-48.50	0.003	-50.46	-72.00	0.227	-12.88			
-6.00	0.121	-18.34	-25.50	0.108	-19.33	-49.00	0.012	-38.42	-72.50	0.219	-13.19			
-6.25	0.157	-16.11	-26.00	0.081	-21.83	-49.50	0.027	-31.37	-73.00	0.211	-13.51			
-6.50	0.195	-14.20	-26.50	0.056	-25.04	-50.00	0.040	-27.96	-73.50	0.203	-13.85			

Preliminary, subject to final design and review.