



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
A MINOR MODIFICATION OF A  
POST REPACK LICENSED FACILITY  
FILE # 0000075047  
KDBZ-CD - BOZEMAN, MONTANA  
DTV - CH. 29 - 15 kW - 207 m HAAT**

Prepared for: Sinclair Media Licensee, LLC

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 Sinclair Media Licensee, LLC, licensee of KDBZ-CD, channel 29, facility ID number 18083, licensed to Bozeman, Montana, to prepare this statement, FCC Form 2100, Schedule E, its technical sections, and the associated exhibits in support of an application for a minor modification of its post-transition license, File # 0000075047. The instant application proposes to relocate KDBZ-CD to a different tower site located 19.36 miles, at an azimuth of 263 degrees, from its currently licensed site. The licensee has been notified that its licensed site will no longer be available after May 1, 2020. The licensee therefore proposes to relocate KDBZ-CD to a new site with a new facility which is fully described in the instant application for a minor modification of license. KDBZ-CD's proposed new facility will encompass the entire area of Bozeman, Montana with a predicted signal level in excess of 75 dBu.

## **DIRECTIONAL ANTENNA**

The applicant proposes to install a new Dielectric model TLP-8B/VP elliptically polarized antenna, with its center of radiation located at a height above ground of 39.4 meters, and a height above average terrain of 207 meters. The antenna manufacturer's horizontal plane azimuth pattern for the horizontally polarized component is shown and tabulated in exhibit 2. The manufacturer's horizontal plane azimuth pattern for the vertically polarized component is shown and tabulated in exhibit 3. The manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 4.

## **PREDICTED COVERAGE CONTOURS**

The predicted coverage contour was 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 obtained from a survey report by Jake Ziska, a Montana Professional Land Surveyor, License No. 18636LS, a copy of which is included herein. Exhibit 1 shows the predicted Protected Class A (51 dBu) contour which completely encompasses the community of license, Bozeman, Montana.

## **ALLOCATION CONSIDERATIONS**

### ***Post-Transition DTV Considerations***

A study was performed, using the FCC's software, *tvstudy*, v. 2.2.5, to determine if the instant application for modification of license is predicted to cause 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 modification of license to relocate KDBZ-CD 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, nor any new interference exceeding 2.0% to any LPTV or translator stations.

### ***International DTV Considerations***

The KDBZ-CD site is located 373.3 kilometers from the nearest point on the US/Canadian border, and more than 1400 kilometers from the US/Mexican border. Since all non-US stations were included in the instant study, and none appeared in the results it is believed that no international coordination is necessary. (See Appendix B)

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities will be either co-located with, or located within 10 km of the new proposed KDBZ-CD 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 SAFETY**

The licensee of KDBZ-CD is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KDBZ-CD antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

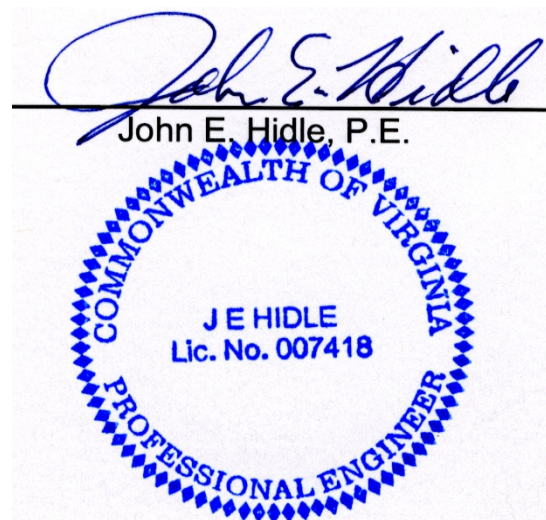
## **RADIO FREQUENCY IMPACT & STATEMENT OF COMPLIANCE**

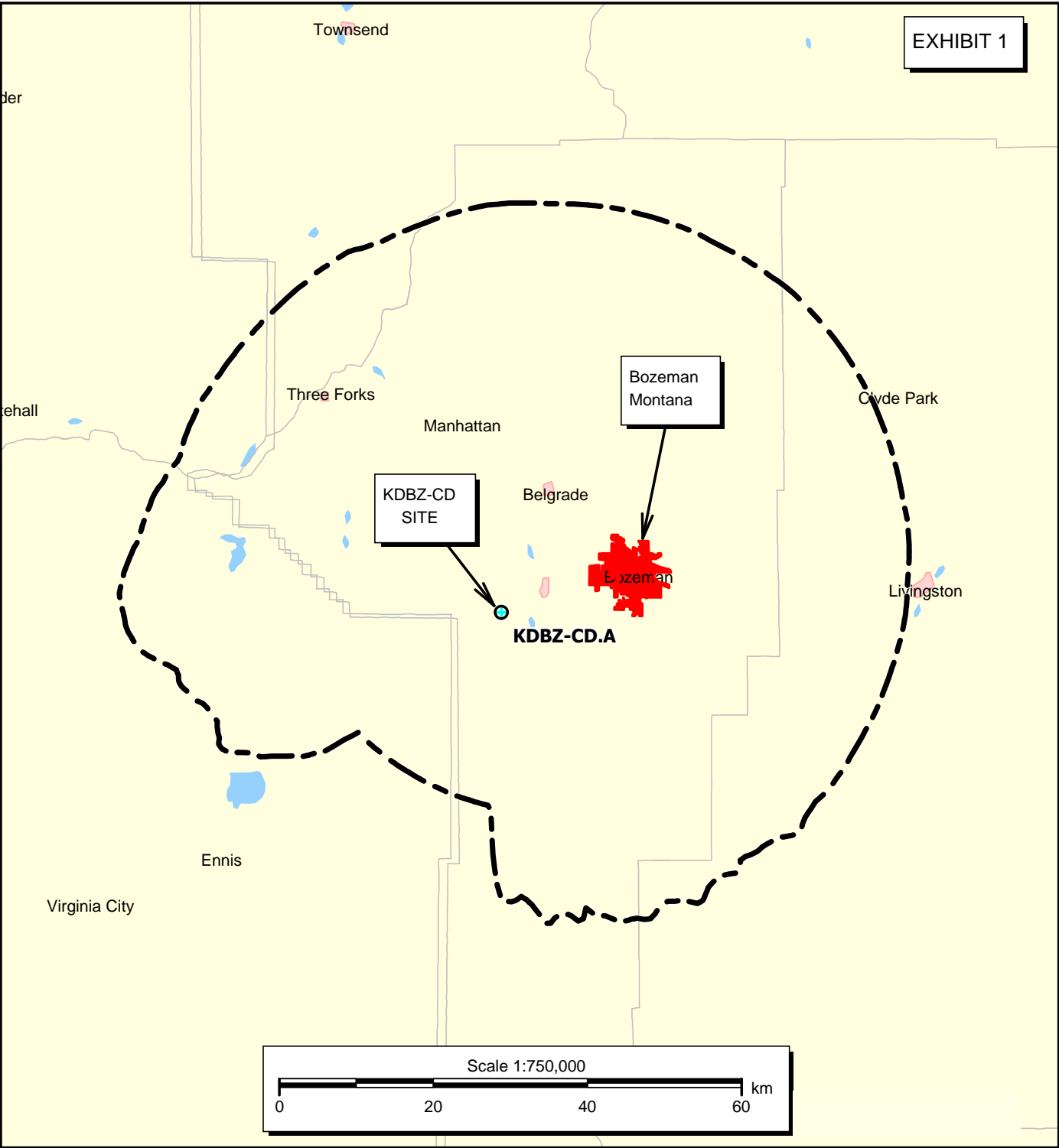
KDBZ-CD's predicted power density contribution at the proposed new site is based on a very conservative vertical plane relative field factor of 0.300. For KDBZ-CD, which will operate on television Channel 29 (560-566 MHz), the MPE is 375.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an "uncontrolled" environment and 1,866.7  $\mu\text{W}/\text{cm}^2$  in a "controlled" environment. The proposed KDBZ-CD facility will operate with a maximum ERP of 15 kW from an elliptically polarized directional transmitting antenna with a centerline height of 39.4 meters above ground level (AGL). The proposed KDBZ-CD facility is predicted to produce a worst-case power density at two meters above ground level of 64.49  $\mu\text{W}/\text{cm}^2$ , which is 17.18% of the FCC guideline value of 375.33  $\mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 3.44% of the FCC's guideline value for "controlled" environments. Currently there are no other facilities proposed to be located at this site. Further, the applicant will continue to cooperate and coordinate with other potential future site users and will 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. (See Appendix A)

**SUMMARY**

It is submitted that the instant application for a minor modification of KDBZ-CD's post-transition channel 29 license, file # 0000075047, to relocate to a different site, as described herein, does comply with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: December 17, 2019





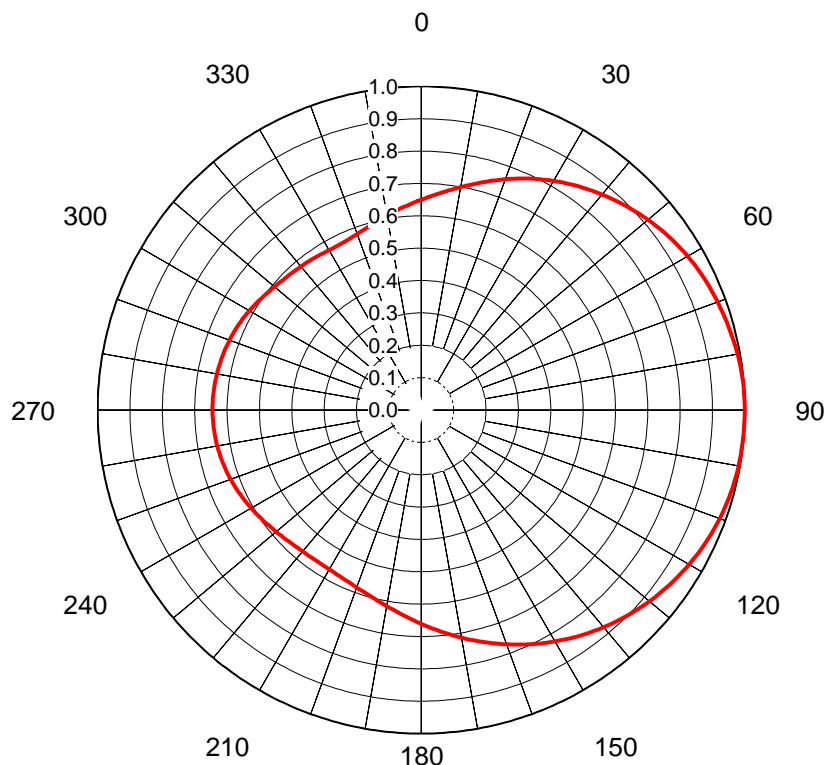
# PREDICTED COVERAGE CONTOURS

KDBZ-CD APP - BOZEMAN, MONTANA  
DTV Channel 29 - 15 kW ERP - 207 M HAAT  
DEC, 2019

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51.0 dBu  
F(50,90) Coverage Contour

## AZIMUTH PATTERN Horizontal Polarization



Proposal No.

Date **13-Dec-19**

Call Letters **KDBZ**

Channel **29**

Frequency **563 MHz**

Antenna Type **TLP-8B/VP**

Gain **1.76 (2.45dB)**

Calculated

Pattern Number **TLP-B-29 Hpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.650	36	0.849	72	0.979	108	0.985	144	0.857	180	0.661	216	0.568	252	0.630	288	0.633	324	0.575
1	0.654	37	0.854	73	0.980	109	0.983	145	0.852	181	0.656	217	0.569	253	0.632	289	0.632	325	0.574
2	0.659	38	0.859	74	0.982	110	0.981	146	0.847	182	0.651	218	0.569	254	0.633	290	0.631	326	0.573
3	0.663	39	0.864	75	0.984	111	0.979	147	0.842	183	0.646	219	0.570	255	0.634	291	0.629	327	0.572
4	0.668	40	0.869	76	0.986	112	0.977	148	0.836	184	0.641	220	0.571	256	0.636	292	0.628	328	0.572
5	0.673	41	0.874	77	0.988	113	0.975	149	0.831	185	0.637	221	0.572	257	0.637	293	0.626	329	0.571
6	0.678	42	0.879	78	0.990	114	0.972	150	0.826	186	0.632	222	0.573	258	0.638	294	0.625	330	0.570
7	0.683	43	0.883	79	0.991	115	0.970	151	0.820	187	0.628	223	0.574	259	0.639	295	0.623	331	0.570
8	0.688	44	0.888	80	0.993	116	0.967	152	0.815	188	0.624	224	0.575	260	0.640	296	0.621	332	0.570
9	0.694	45	0.893	81	0.994	117	0.964	153	0.810	189	0.619	225	0.577	261	0.641	297	0.619	333	0.570
10	0.699	46	0.897	82	0.995	118	0.961	154	0.804	190	0.615	226	0.578	262	0.642	298	0.618	334	0.570
11	0.705	47	0.902	83	0.996	119	0.958	155	0.799	191	0.612	227	0.580	263	0.643	299	0.616	335	0.571
12	0.711	48	0.906	84	0.997	120	0.955	156	0.793	192	0.608	228	0.582	264	0.643	300	0.613	336	0.572
13	0.716	49	0.910	85	0.998	121	0.952	157	0.787	193	0.604	229	0.584	265	0.644	301	0.611	337	0.573
14	0.722	50	0.914	86	0.999	122	0.949	158	0.782	194	0.601	230	0.586	266	0.644	302	0.609	338	0.575
15	0.728	51	0.919	87	0.999	123	0.946	159	0.776	195	0.597	231	0.588	267	0.645	303	0.607	339	0.577
16	0.734	52	0.923	88	0.999	124	0.942	160	0.771	196	0.594	232	0.590	268	0.645	304	0.605	340	0.579
17	0.740	53	0.927	89	1.000	125	0.939	161	0.765	197	0.591	233	0.592	269	0.645	305	0.602	341	0.581
18	0.747	54	0.930	90	1.000	126	0.935	162	0.759	198	0.589	234	0.594	270	0.645	306	0.600	342	0.584
19	0.753	55	0.934	91	1.000	127	0.932	163	0.754	199	0.586	235	0.596	271	0.645	307	0.598	343	0.587
20	0.759	56	0.938	92	0.999	128	0.928	164	0.748	200	0.583	236	0.598	272	0.645	308	0.596	344	0.590
21	0.765	57	0.941	93	0.999	129	0.924	165	0.742	201	0.581	237	0.600	273	0.645	309	0.594	345	0.593
22	0.771	58	0.944	94	0.999	130	0.920	166	0.737	202	0.579	238	0.603	274	0.645	310	0.592	346	0.596
23	0.777	59	0.948	95	0.998	131	0.916	167	0.731	203	0.577	239	0.605	275	0.644	311	0.590	347	0.600
24	0.783	60	0.951	96	0.998	132	0.912	168	0.726	204	0.575	240	0.607	276	0.644	312	0.589	348	0.603
25	0.789	61	0.954	97	0.998	133	0.908	169	0.720	205	0.574	241	0.609	277	0.643	313	0.587	349	0.607
26	0.795	62	0.956	98	0.997	134	0.904	170	0.714	206	0.573	242	0.611	278	0.643	314	0.586	350	0.610
27	0.801	63	0.959	99	0.996	135	0.899	171	0.709	207	0.571	243	0.614	279	0.642	315	0.584	351	0.614
28	0.806	64	0.962	100	0.996	136	0.895	172	0.703	208	0.570	244	0.616	280	0.641	316	0.583	352	0.618
29	0.812	65	0.964	101	0.995	137	0.890	173	0.698	209	0.569	245	0.618	281	0.640	317	0.582	353	0.622
30	0.817	66	0.966	102	0.994	138	0.886	174	0.692	210	0.569	246	0.619	282	0.640	318	0.581	354	0.625
31	0.823	67	0.968	103	0.993	139	0.881	175	0.687	211	0.568	247	0.621	283	0.639	319	0.580	355	0.629
32	0.828	68	0.971	104	0.992	140	0.876	176	0.682	212	0.568	248	0.623	284	0.638	320	0.579	356	0.633
33	0.834	69	0.973	105	0.990	141	0.872	177	0.676	213	0.568	249	0.625	285	0.637	321	0.578	357	0.637
34	0.839	70	0.975	106	0.989	142	0.867	178	0.671	214	0.568	250	0.627	286	0.636	322	0.577	358	0.641
35	0.844	71	0.977	107	0.987	143	0.862	179	0.666	215	0.568	251	0.628	287	0.634	323	0.576	359	0.646

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## AZIMUTH PATTERN Vertical Polarization

Proposal No.

Date **13-Dec-19**

Call Letters **KDBZ**

Channel **29**

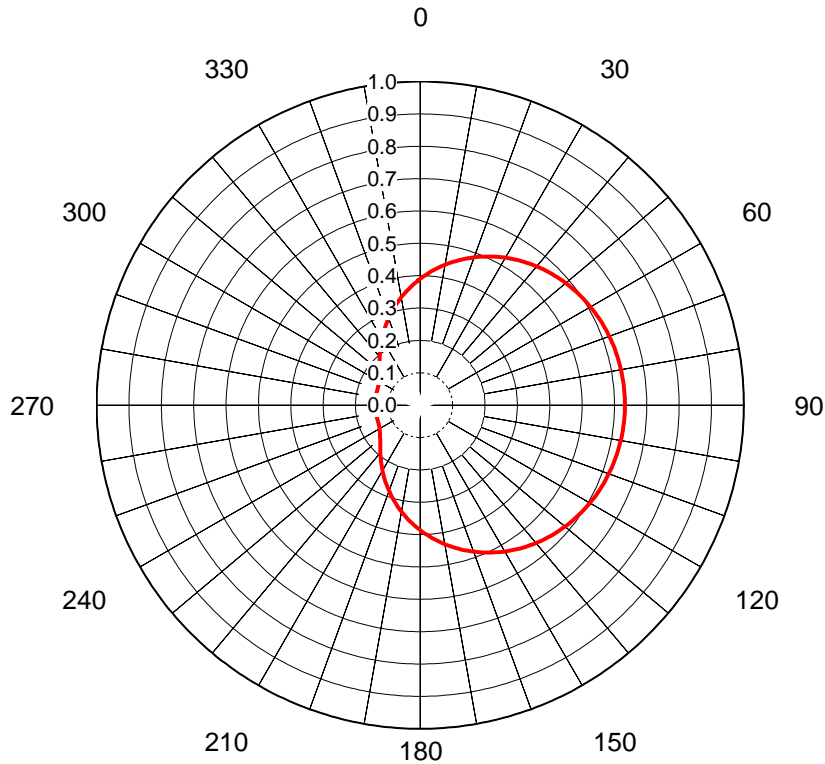
Frequency **563 MHz**

Antenna Type **TLP-8B/VP**

Gain **2.22 (3.47dB)**

Calculated

Pattern Number **TLP-B-29 Vpol**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.391	36	0.547	72	0.624	108	0.622	144	0.543	180	0.386	216	0.207	252	0.140	288	0.140
1	0.396	37	0.550	73	0.625	109	0.621	145	0.540	181	0.381	217	0.203	253	0.140	289	0.141
2	0.401	38	0.553	74	0.626	110	0.620	146	0.537	182	0.376	218	0.199	254	0.140	290	0.141
3	0.406	39	0.557	75	0.627	111	0.619	147	0.533	183	0.371	219	0.196	255	0.140	291	0.141
4	0.411	40	0.560	76	0.627	112	0.618	148	0.529	184	0.366	220	0.192	256	0.140	292	0.141
5	0.416	41	0.563	77	0.628	113	0.616	149	0.526	185	0.360	221	0.188	257	0.140	293	0.142
6	0.421	42	0.566	78	0.629	114	0.615	150	0.522	186	0.355	222	0.185	258	0.140	294	0.142
7	0.426	43	0.568	79	0.629	115	0.613	151	0.518	187	0.350	223	0.182	259	0.140	295	0.143
8	0.431	44	0.571	80	0.630	116	0.612	152	0.515	188	0.345	224	0.178	260	0.140	296	0.143
9	0.436	45	0.574	81	0.630	117	0.610	153	0.511	189	0.339	225	0.175	261	0.140	297	0.144
10	0.440	46	0.577	82	0.631	118	0.609	154	0.507	190	0.334	226	0.172	262	0.140	298	0.145
11	0.445	47	0.579	83	0.631	119	0.607	155	0.503	191	0.329	227	0.170	263	0.140	299	0.146
12	0.450	48	0.582	84	0.632	120	0.605	156	0.499	192	0.324	228	0.167	264	0.140	300	0.147
13	0.455	49	0.584	85	0.632	121	0.603	157	0.495	193	0.318	229	0.164	265	0.140	301	0.148
14	0.459	50	0.587	86	0.632	122	0.601	158	0.490	194	0.313	230	0.162	266	0.141	302	0.149
15	0.464	51	0.589	87	0.632	123	0.599	159	0.486	195	0.308	231	0.160	267	0.141	303	0.151
16	0.468	52	0.591	88	0.632	124	0.597	160	0.482	196	0.303	232	0.158	268	0.141	304	0.152
17	0.473	53	0.594	89	0.632	125	0.595	161	0.478	197	0.298	233	0.156	269	0.141	305	0.154
18	0.477	54	0.596	90	0.632	126	0.593	162	0.473	198	0.292	234	0.154	270	0.141	306	0.156
19	0.482	55	0.598	91	0.632	127	0.591	163	0.469	199	0.287	235	0.152	271	0.141	307	0.158
20	0.486	56	0.600	92	0.632	128	0.589	164	0.464	200	0.282	236	0.150	272	0.141	308	0.160
21	0.490	57	0.602	93	0.632	129	0.586	165	0.460	201	0.277	237	0.149	273	0.141	309	0.162
22	0.494	58	0.604	94	0.632	130	0.584	166	0.455	202	0.272	238	0.148	274	0.141	310	0.164
23	0.499	59	0.606	95	0.632	131	0.581	167	0.450	203	0.267	239	0.146	275	0.141	311	0.167
24	0.503	60	0.607	96	0.631	132	0.579	168	0.446	204	0.262	240	0.145	276	0.141	312	0.169
25	0.507	61	0.609	97	0.631	133	0.576	169	0.441	205	0.257	241	0.144	277	0.141	313	0.172
26	0.511	62	0.611	98	0.630	134	0.574	170	0.436	206	0.252	242	0.143	278	0.141	314	0.175
27	0.515	63	0.612	99	0.630	135	0.571	171	0.431	207	0.247	243	0.143	279	0.140	315	0.178
28	0.518	64	0.614	100	0.629	136	0.568	172	0.427	208	0.243	244	0.142	280	0.140	316	0.181
29	0.522	65	0.615	101	0.629	137	0.565	173	0.422	209	0.238	245	0.141	281	0.140	317	0.184
30	0.526	66	0.617	102	0.628	138	0.562	174	0.417	210	0.233	246	0.141	282	0.140	318	0.188
31	0.530	67	0.618	103	0.627	139	0.559	175	0.412	211	0.229	247	0.141	283	0.140	319	0.191
32	0.533	68	0.619	104	0.626	140	0.556	176	0.407	212	0.224	248	0.140	284	0.140	320	0.195
33	0.537	69	0.621	105	0.625	141	0.553	177	0.402	213	0.220	249	0.140	285	0.140	321	0.199
34	0.540	70	0.622	106	0.624	142	0.550	178	0.397	214	0.216	250	0.140	286	0.140	322	0.203
35	0.544	71	0.623	107	0.623	143	0.547	179	0.392	215	0.211	251	0.140	287	0.140	323	0.206

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## ELEVATION PATTERN

Proposal No.

Date **13-Dec-19**

Call Letters **KDBZ**

Channel **29**

Frequency **563 MHz**

Antenna Type **TLP-8B/VP**

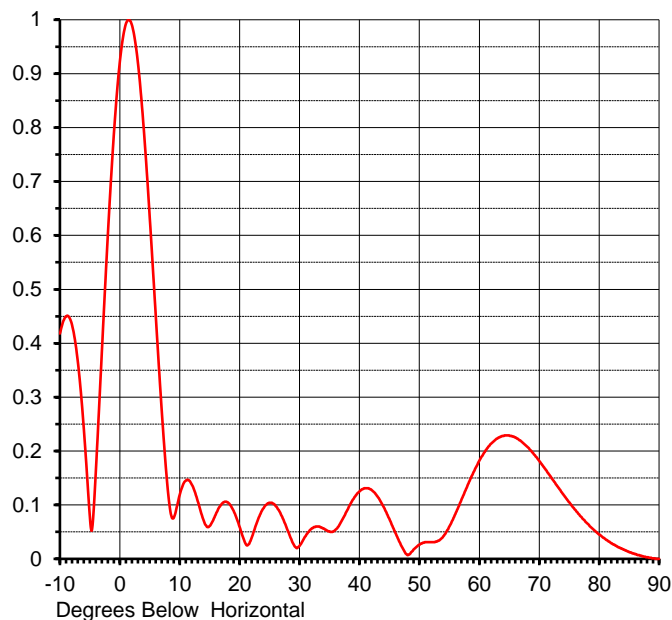
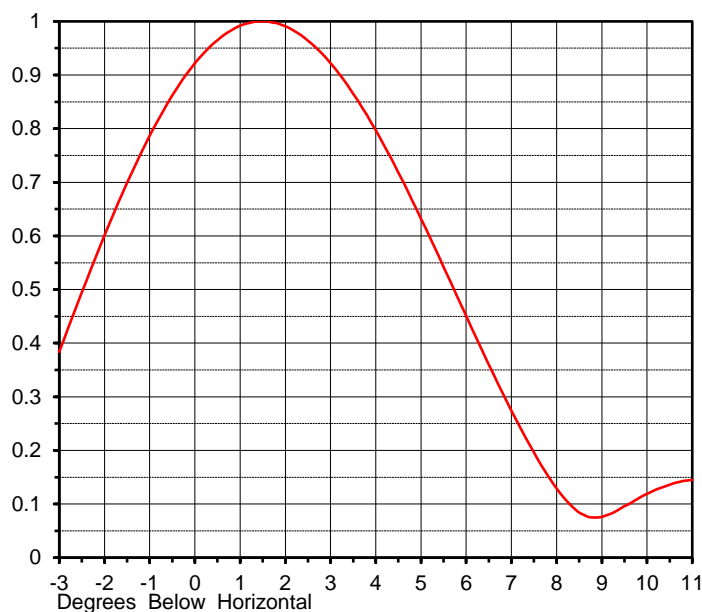
RMS Directivity at Main Lobe **8.0 ( 9.01 dB )**

RMS Directivity at Horizontal **6.8 ( 8.33 dB )**

**Calculated**

Beam Tilt **1.50 deg**

Pattern Number **08L080150-29**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.418	10.0	0.119	30.0	0.024	50.0	0.026	70.0	0.182
-9.0	0.450	11.0	0.145	31.0	0.042	51.0	0.031	71.0	0.167
-8.0	0.435	12.0	0.138	32.0	0.056	52.0	0.031	72.0	0.151
-7.0	0.365	13.0	0.107	33.0	0.060	53.0	0.033	73.0	0.135
-6.0	0.240	14.0	0.071	34.0	0.056	54.0	0.042	74.0	0.120
-5.0	0.078	15.0	0.061	35.0	0.051	55.0	0.060	75.0	0.105
-4.0	0.163	16.0	0.082	36.0	0.054	56.0	0.083	76.0	0.091
-3.0	0.384	17.0	0.102	37.0	0.070	57.0	0.109	77.0	0.078
-2.0	0.601	18.0	0.105	38.0	0.091	58.0	0.135	78.0	0.066
-1.0	0.787	19.0	0.089	39.0	0.111	59.0	0.160	79.0	0.055
0.0	0.922	20.0	0.059	40.0	0.125	60.0	0.182	80.0	0.045
1.0	0.992	21.0	0.028	41.0	0.131	61.0	0.200	81.0	0.037
2.0	0.991	22.0	0.039	42.0	0.128	62.0	0.214	82.0	0.029
3.0	0.922	23.0	0.071	43.0	0.116	63.0	0.223	83.0	0.023
4.0	0.797	24.0	0.094	44.0	0.097	64.0	0.228	84.0	0.018
5.0	0.632	25.0	0.104	45.0	0.074	65.0	0.229	85.0	0.013
6.0	0.451	26.0	0.098	46.0	0.048	66.0	0.225	86.0	0.009
7.0	0.274	27.0	0.080	47.0	0.024	67.0	0.218	87.0	0.006
8.0	0.129	28.0	0.053	48.0	0.007	68.0	0.208	88.0	0.003
9.0	0.076	29.0	0.027	49.0	0.017	69.0	0.196	89.0	0.001
								90.0	0.000

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August 23, 2019

RE: InSite Wireless LLC

Site Name: MT001 High Flats (195' SST)

Tract 1 of Certificate of Survey No. 1520, located in the NW 1/4 of Section 29, Township 2 South, Range 4 East, P.M.M., Gallatin County, Montana

I, Jake K. Ziska, a Professional Land Surveyor registered and licensed to practice land surveying in the State of Montana, do hereby state that the following Latitude and Longitude values for the center of the above referenced antenna tower are accurate to within +/- 20 feet horizontally and that the following elevation at the base of the antenna tower is accurate to within +/- 3 feet vertically.

Center of Proposed Antenna Tower:**Latitude: 45°38'19.83960"N.** (NAD83)**Longitude: 111°15'57.49066" W.** (NAD83)Ground Elevation at Base of Proposed Antenna Tower:**Elevation = 5620.8'** (NAVD88)

Tower Type: 195' Self-supported

Top of Tower Height above Ground: 195.0' +/- 1'

Elevation of Top of Tower: 5815.8' +/- 1'

Height of Highest Appurtenance above Ground: 199.0' +/- 1' (Top of Lightning Rod)

Elevation of Top of Highest Appurtenance: 5819.8' +/- 1' (Top of Lightning Rod)

*Not Valid Unless Seal Contains  
Signature of Professional Land Surveyor*



Jake Ziska, P.L.S., CFedS, E.I.

Montana Professional Land Surveyor, License No. 18636LS

## APPENDIX A

### SUMMARY OF RADIOFREQUENCY RADIATION STUDY

KDBZ-CD  
Bozeman, Montana  
December 17, 2019

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>WORST-CASE PREDICTED POWER DENSITY (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>FCC UNCONTROLLED LIMIT (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KDBZ-CD	DT	29	563	H & V	39.4	15.000	0.300	64.490	375.33	17.18%
<b>TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =</b>										<b>17.18%</b>



## KDBZ-CD - BOZEMAN, MONTANA

### Appendix B - Longley-Rice Interference Analysis

### DECEMBER 2019

tvstudy v2.2.5 (4uoc83)  
 Database: localhost, Study: KDBZ-CD -Rlctd TLP8B\_VP, Model: Longley-Rice  
 Start: 2019.12.17 11:50:46

Study created: 2019.12.17 11:50:46

Study build station data: LMS TV 2019-12-17

Proposal: KDBZ-CD D29 LD APP BOZEMAN, MT  
 File number: KDBZ-CD -Rlctd TLP8B\_VP  
 Facility ID: 18083  
 Station data: User record  
 Record ID: 1178  
 Country: U.S.

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

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
Yes	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	0.0 km
Yes	KWYB-LD	D28	LD	LIC	BOZEMAN, MT	BLDTL20121030AAV	31.2
No	K28NB-D	D28	LD	CP	GLEN, MT	BNPDTL20100609AIP	113.8
No	K28AZ	N28	TX	APP	WEST YELLOWSTONE, MT	BLTT19880426IB	98.6
No	K29KY-D	D29	LD	CP	BLACKFOOT, ID	BNPDTL20100609AHK	285.2
No	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	277.8
No	K29KG-D	D29	LD	CP	IDAHO FALLS, ID	BLANK0000088191	324.2
No	K29BM-D	D29	LD	LIC	MONTPELIER, ID	BLDTT20111116AYI	361.3
No	K29LY-D	D29	LD	LIC	SALMON, ID	BLANK0000059727	221.0
No	K29LG-D	D29	LD	LIC	SODA SPRINGS, ID	BLANK0000059259	335.8
No	K29MM-D	D29	LD	LIC	BILLINGS, MT	BLANK0000064137	227.7
Yes	K29JT-D	D29	LD	CP	BUTTE, MT	BNPDTL20100310ABV	107.4
Yes	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	136.1
Yes	KUHM-TV	D29	DT	APP	HELENA, MT	BLANK0000035768	136.1
No	K29ND-D	D29	LD	LIC	HOT SPRINGS, MT	BLANK0000067785	329.0
No	K29LD-D	D29	LD	CP	LOMA, MT	BNPDTT20130325AHT	262.3
No	K29LQ-D	D29	LD	LIC	POLSON, MT	BLANK0000059725	315.4
No	K29ID-D	D29	LD	LIC	WEEKSVILLE, MT	BLDTT20130919ABX	335.6
No	K29HG-D	D29	LD	LIC	JACKSON, WY	BLDTL20090224AAW	229.1
No	K29IH-D	D29	LD	LIC	MEETEETSE, ETC., WY	BLDTT20120223ACF	247.0
No	KSWY-LP	D29	LD	CP	SHERIDAN, WY	BLANK0000071563	358.9
No	KSWY-LP	N29	TX	LIC	SHERIDAN, WY	BLTTL20100422ADU	359.1
No	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLDTT20110127AAU	177.7
No	K29IG-D	D29	LD	CP	SUNLIGHT BASIN, WY	BLANK0000088037	177.8
No	K30NC-D	D30	LD	CP	MONIDA, ID	BNPDTL20100609AHZ	144.4
No	K30MA-D	D30	LD	CP	COLUMBUS, MT	BNPDTL20100505AGS	152.8
No	K30NG-D	D30	LD	CP	DILLON, MT	BNPDTL20100609AIK	117.6
No	K30KY-D	D30	LD	LIC	PHILIPSBURG, MT	BLANK0000007423	168.4
No	CKAL-DT-1	D29	DT	LIC	LETHBRIDGE, AB	BLANKCANADA29	466.3

No non-directional AM stations found within 0.8 km

# **Appendix B - Interference Analysis** **KDBZ-CD - Bozeman, Montana** **Channel 29 - 15 kW - Page 2**

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D29  
Mask: Full Service  
Latitude: 45 38 19.83 N (NAD83)  
Longitude: 111 15 57.49 W  
Height AMSL: 1752.6 m  
HAAT: 207.0 m  
Peak ERP: 15.0 kW  
Antenna: DIE TLP B at 90 dgs 0.0 deg  
Elev Pattn: Generic

50.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	7.06 kW	340.0 m	54.4 km
45.0	12.1	331.3	56.9
90.0	15.0	244.7	53.2
135.0	12.1	135.8	45.5
180.0	7.06	86.9	38.2
225.0	6.11	-30.7	26.0
270.0	7.18	268.8	50.7
315.0	6.11	275.7	50.2

Distance to Canadian border: 373.3 km

Distance to Mexican border: 1466.2 km

Conditions at FCC monitoring station: Ferndale WA  
Bearing: 297.5 degrees Distance: 926.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 139.2 degrees Distance: 781.5 km

Study cell size: 1.00 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 BLANK0000087315 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	0.0 km
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	136.1
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
6675.3	87,638	4995.8		84,994	4995.8	84,994	0.06 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KDBZ-CD D29 LD APP			3.0	0		3.0	0

-----  
Interference to BLDLTL20121030AAV LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWYB-LD	D28	LD	LIC	BOZEMAN, MT	BLDTL20121030AAV	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	31.2 km
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	143.2

**Appendix B - Interference Analysis**  
**KDBZ-CD - Bozeman, Montana**  
**Channel 29 - 15 kW - Page 3**

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
5128.8 95,689	3781.5 90,910	3781.5 90,910	3726.4 90,490	1.46 0.46
Undesired	Total IX	Unique IX, before	Unique IX, after	
KDBZ-CD D29 LD APP	55.1 420		55.1 420	

-----  
Interference to BNPDTL20100310ABV CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K29JT-D	D29	LD	CP	BUTTE, MT	BNPDTL20100310ABV	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	107.4 km
	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	107.4
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	310.4
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	109.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLDTT20110127AAU	284.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
1890.9 34,572	1402.0 33,614	1397.9 33,614	1394.9 33,614	0.22 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
KDBZ-CD D29 LD APP	4.1 0		3.1 0	
KUHM-TV D29 DT LIC	4.0 0	4.0 0	3.0 0	

-----  
Interference to BNPDTL20100310ABV CP scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K29JT-D	D29	LD	CP	BUTTE, MT	BNPDTL20100310ABV	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	107.4 km
	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	107.4
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	310.4
	KUHM-TV	D29	DT	APP	HELENA, MT	BLANK0000035768	109.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLDTT20110127AAU	284.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
1890.9 34,572	1402.0 33,614	1387.9 33,614	1384.9 33,614	0.22 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
KDBZ-CD D29 LD APP	4.1 0		3.1 0	
KUHM-TV D29 DT APP	14.0 0	14.0 0	13.0 0	

-----  
Interference to BLANK0000004580 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	136.1 km

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
17879.9 154,751	13486.5 142,664	13486.5 142,664	13359.4 142,630	0.94 0.02
Undesired	Total IX	Unique IX, before	Unique IX, after	
KDBZ-CD D29 LD APP	127.2 34		127.2 34	

-----  
Interference to BLANK0000035768 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KUHM-TV	D29	DT	APP	HELENA, MT	BLANK0000035768	
Undesireds:	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	136.1 km

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
23189.1 113,290	16928.9 94,854	16928.9 94,854	16786.4 94,519	0.84 0.35

**Appendix B - Interference Analysis**  
**KDBZ-CD - Bozeman, Montana**  
**Channel 29 - 15 kW - Page 4**

Undesired	Total IX	Unique IX, before	Unique IX, after
KDBZ-CD D29 LD APP 142.5	335		142.5 335

-----  
Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	
Undesireds:	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	0.0 km
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	277.8
	K29MM-D	D29	LD	LIC	BILLINGS, MT	BLANK0000064137	227.7
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	136.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLD TT20110127AAU	177.7
Service area		Terrain-limited		IX-free		Percent IX	
7104.3	89,798	5117.5	85,434	5056.2	85,376	1.20	0.07

Undesired	Total IX	Unique IX	Prcnt Unique IX
K29MM-D D29 LD LIC 2.0	0	1.0	0.02 0.00
KUHM-TV D29 DT LIC 60.3	58	59.3	1.16 0.07

-----  
Interference to proposal scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	
Undesireds:	KWYB-LD	D28	LD	LIC	BOZEMAN, MT	BLD TL20121030AAV	31.2 km
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	277.8
	K29MM-D	D29	LD	LIC	BILLINGS, MT	BLANK0000064137	227.7
	KUHM-TV	D29	DT	LIC	HELENA, MT	BLANK0000004580	136.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLD TT20110127AAU	177.7
Service area		Terrain-limited		IX-free		Percent IX	
7104.3	89,798	5117.5	85,434	4915.2	85,006	3.95	0.50

Undesired	Total IX	Unique IX	Prcnt Unique IX
KWYB-LD D28 LD LIC 150.0	370	141.0	2.76 0.43
K29MM-D D29 LD LIC 2.0	0	1.0	0.02 0.00
KUHM-TV D29 DT LIC 60.3	58	50.2	0.98 0.07

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Interference to proposal scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	
Undesireds:	KWYB-LD	D28	LD	CP	BOZEMAN, MT	BLANK0000087315	0.0 km
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	277.8
	K29MM-D	D29	LD	LIC	BILLINGS, MT	BLANK0000064137	227.7
	KUHM-TV	D29	DT	APP	HELENA, MT	BLANK0000035768	136.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLD TT20110127AAU	177.7
Service area		Terrain-limited		IX-free		Percent IX	
7104.3	89,798	5117.5	85,434	4952.5	85,308	3.22	0.15

Undesired	Total IX	Unique IX	Prcnt Unique IX
K29MM-D D29 LD LIC 2.0	0	1.0	0.02 0.00
KUHM-TV D29 DT APP 164.0	126	163.0	3.18 0.15

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Interference to proposal scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDBZ-CD	D29	LD	APP	BOZEMAN, MT	KDBZ-CD -Rlctd TLP8B_V	

**Appendix B - Interference Analysis**  
**KDBZ-CD - Bozeman, Montana**  
**Channel 29 - 15 kW - Page 5**

Undesireds:	KWYB-LD	D28	LD	LIC	BOZEMAN, MT	BLDTL20121030AAV	31.2 km
	K29KG-D	D29	LD	LIC	IDAHO FALLS, ID	BLANK0000087474	277.8
	K29MM-D	D29	LD	LIC	BILLINGS, MT	BLANK0000064137	227.7
	KUHM-TV	D29	DT	APP	HELENA, MT	BLANK0000035768	136.1
	K29IG-D	D29	LD	LIC	SUNLIGHT BASIN, WY	BLDTT20110127AAU	177.7

Service area		Terrain-limited		IX-free		Percent IX	
7104.3	89,798	5117.5	85,434	4816.5	84,938	5.88	0.58

Undesired				Total IX		Unique IX		Prcnt Unique IX	
KWYB-LD	D28	LD	LIC	150.0	370	136.0	370	2.66	0.43
K29MM-D	D29	LD	LIC	2.0	0	1.0	0	0.02	0.00
KUHM-TV	D29	DT	APP	164.0	126	148.9	126	2.91	0.15