



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
A MINOR MODIFICATION OF A  
POST REPACK CONSTRUCTION PERMIT  
FILE # 0000033734  
KPTH - SIOUX CITY, IOWA  
DTV - CH. 30 - 871 kW - 613 m HAAT**

Prepared for: KPTH 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 KPTH LICENSEE, LLC, licensee of KPTH, channel 49, facility ID number 77451, licensed to Sioux City, Iowa, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor modification of its post-reassignment construction permit, file # 0000033734, that authorizes KPTH to use channel 30 for its post-reassignment broadcasting. The instant application proposes only to decrease KPTH's ERP to 871 kW. The reason for the reduction from 1000 kW is that the power handling safety margin of the transmission line is exceeded if the ERP exceeds 871 kW.

**DETERMINATION OF THE “LARGEST STATION IN THE MARKET”**

It appears from an analysis of the stations that are licensed to communities located in the Sioux City, Iowa Designated Market Area (DMA) that the largest station in geographic area is KCAU-TV, channel 9, Sioux City, Iowa with a predicted coverage area of 51,685 square kilometers. The instant application to decrease KPTH's ERP to 871 kW results in a predicted coverage area of 41,163 square kilometers. Clearly KPTH is entitled, according to Section 73.622(f)(5), to the proposed ERP of 871 kW.

**DIRECTIONAL ANTENNA**

The applicant has installed the authorized Dielectric model TFU-20ETT/VP-R P210 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 597.7 meters, and a height above average terrain of 613 meters. The antenna manufacturer's horizontal plane azimuth radiation 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.

The former channel 49 analog antenna has been removed from the tower structure and the new channel 30 antenna has been installed in its place, while maintaining the overall structure height of 1012.2 meters Above Mean Sea Level (AMSL). (See ASR #1057963)

## **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. Exhibit 1 shows the predicted Noise Limited (40.32 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Sioux City, Iowa.

## **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 construction permit 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 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)

The KPTH site is located neither within the Canadian nor the Mexican coordination zone, Therefore no international considerations are necessary.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed KPTH 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**

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations, and for "uncontrolled" environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 200 microwatts per centimeter squared

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**KPTH - Sioux City, Iowa**  
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( $\mu\text{W}/\text{cm}^2$ ) for an “uncontrolled” environment, and is 1000 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for a “controlled” environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF TV stations, is determined, in  $\mu\text{W}/\text{cm}^2$  for an “uncontrolled” environment by dividing the operating frequency in MHz by 1.5, and is similarly determined for a “controlled” environment by dividing the operating frequency in MHz by 0.3.

The predicted emissions of KPTH must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For KPTH, which will operate on television Channel 30 (566-572 MHz), the MPE is 379.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,896.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed KPTH facility will operate with a maximum ERP of 871 kW from an elliptically polarized directional transmitting antenna with a centerline height of 597.7 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the KPTH facility is predicted to produce a power density at two meters above ground level of 14.845  $\mu\text{W}/\text{cm}^2$ , which is 3.91% of the FCC guideline value for an “uncontrolled” environment, and 0.78% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV stations and two Lo-VHF LPTV stations that are located at the KPTH site. Therefore, the total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations within the relevant proximity, is 9.63% of the limit applicable to “uncontrolled” environments, and 1.93% of the limit for “controlled” environments. (See Appendix A)

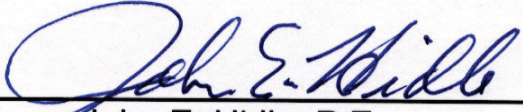
**OCCUPATIONAL SAFETY**

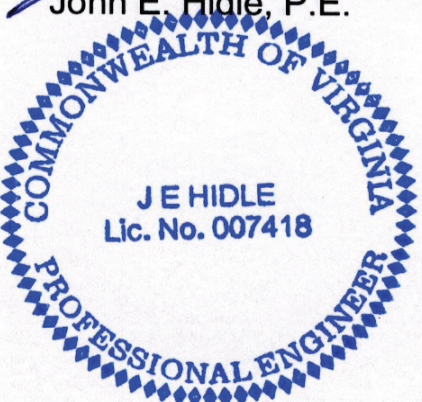
The licensee of KPTH is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KPTH antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

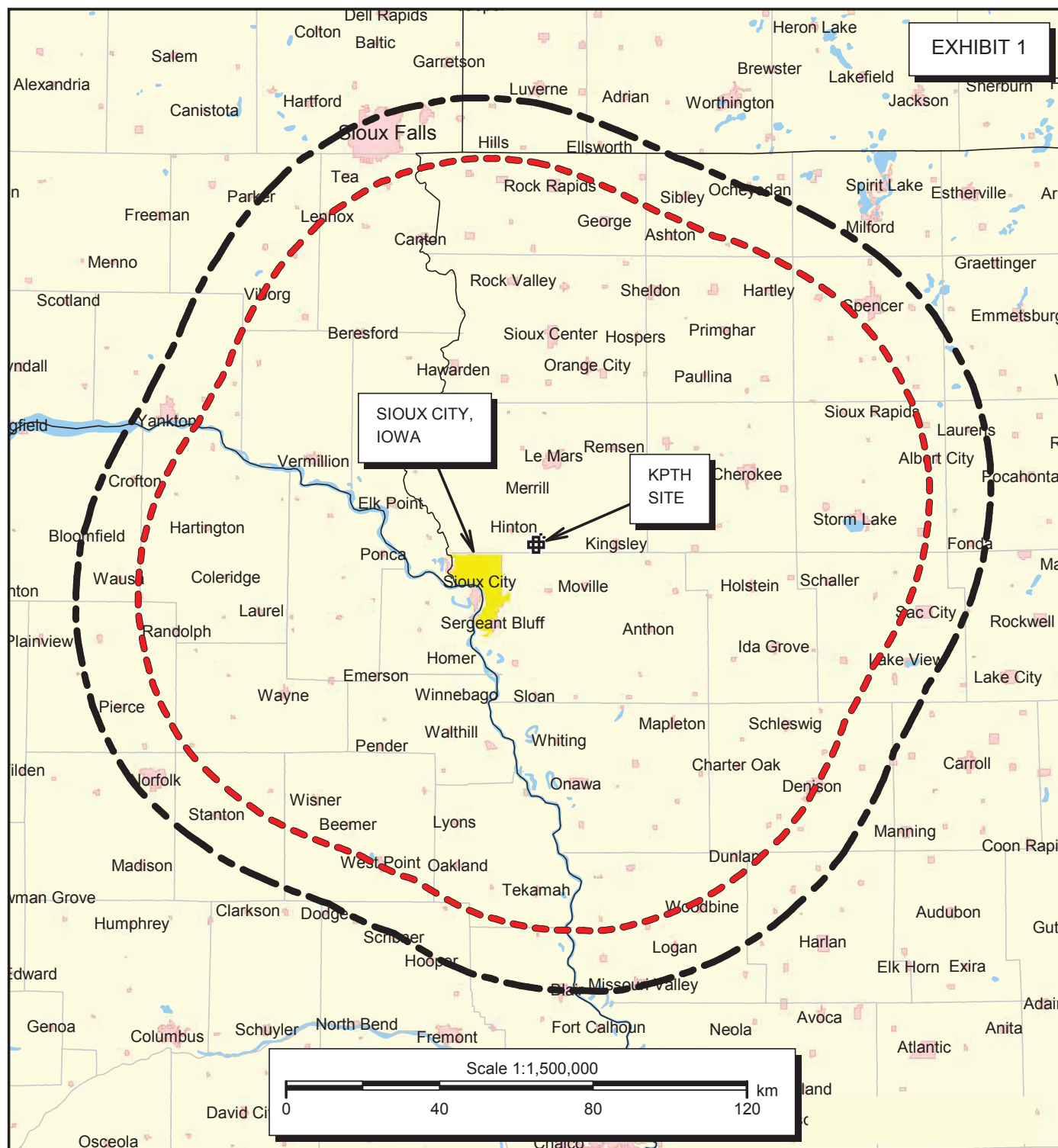
**SUMMARY**

It is submitted that the instant application for minor modification of its post-reassignment channel 30 construction permit, No. 0000033734, to decrease KPTH's ERP to 871 kW, as described herein, complies 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: November 20, 2018

  
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John E. Hidle, P.E.





## PREDICTED COVERAGE CONTOURS

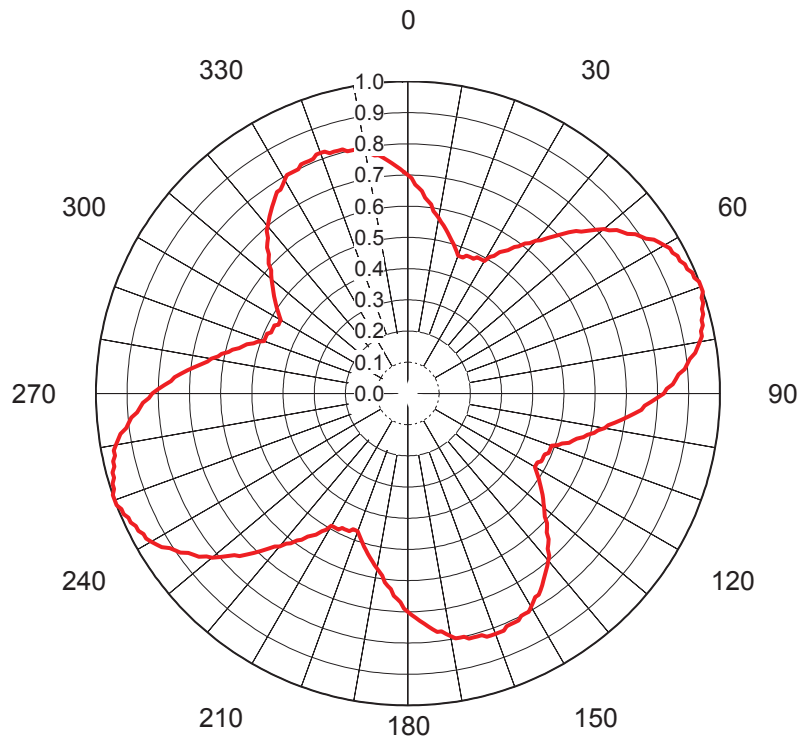
KPTH - SIOUX CITY, IOWA  
DTV Channel 30 - 871 kW ERP - 613 M HAAT  
NOVEMBER, 2018

Predicted Noise Limited 40.32 dBu  
F(50,90) Coverage Contour



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





## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**  
 Gain **1.91 (2.81dB)**  
**Calculated**

Drawing # **P210H D30**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.700	36	0.580	72	0.990	108	0.520	144	0.740	180	0.700	216	0.580	252	0.990	288	0.520
1	0.690	37	0.590	73	0.990	109	0.510	145	0.750	181	0.690	217	0.590	253	0.990	289	0.510
2	0.670	38	0.610	74	0.980	110	0.490	146	0.760	182	0.670	218	0.610	254	0.980	290	0.490
3	0.660	39	0.620	75	0.980	111	0.490	147	0.770	183	0.660	219	0.620	255	0.980	291	0.490
4	0.650	40	0.640	76	0.970	112	0.490	148	0.770	184	0.650	220	0.640	256	0.970	292	0.490
5	0.630	41	0.650	77	0.970	113	0.490	149	0.780	185	0.630	221	0.650	257	0.970	293	0.490
6	0.620	42	0.670	78	0.960	114	0.480	150	0.790	186	0.620	222	0.670	258	0.960	294	0.480
7	0.610	43	0.690	79	0.960	115	0.480	151	0.800	187	0.610	223	0.690	259	0.960	295	0.480
8	0.590	44	0.710	80	0.950	116	0.480	152	0.800	188	0.590	224	0.710	260	0.950	296	0.480
9	0.580	45	0.730	81	0.940	117	0.480	153	0.800	189	0.580	225	0.730	261	0.940	297	0.480
10	0.570	46	0.750	82	0.930	118	0.470	154	0.810	190	0.570	226	0.750	262	0.930	298	0.470
11	0.560	47	0.760	83	0.910	119	0.470	155	0.810	191	0.560	227	0.760	263	0.910	299	0.470
12	0.550	48	0.780	84	0.900	120	0.470	156	0.810	192	0.550	228	0.780	264	0.900	300	0.470
13	0.540	49	0.800	85	0.890	121	0.480	157	0.810	193	0.540	229	0.800	265	0.890	301	0.480
14	0.530	50	0.820	86	0.870	122	0.490	158	0.820	194	0.530	230	0.820	266	0.870	302	0.490
15	0.520	51	0.830	87	0.860	123	0.500	159	0.820	195	0.520	231	0.830	267	0.860	303	0.500
16	0.510	52	0.850	88	0.850	124	0.510	160	0.820	196	0.510	232	0.850	268	0.850	304	0.510
17	0.500	53	0.860	89	0.830	125	0.520	161	0.820	197	0.500	233	0.860	269	0.830	305	0.520
18	0.490	54	0.870	90	0.820	126	0.530	162	0.820	198	0.490	234	0.870	270	0.820	306	0.530
19	0.480	55	0.890	91	0.800	127	0.540	163	0.810	199	0.480	235	0.890	271	0.800	307	0.540
20	0.470	56	0.900	92	0.780	128	0.550	164	0.810	200	0.470	236	0.900	272	0.780	308	0.550
21	0.470	57	0.910	93	0.760	129	0.560	165	0.810	201	0.470	237	0.910	273	0.760	309	0.560
22	0.470	58	0.930	94	0.750	130	0.570	166	0.810	202	0.470	238	0.930	274	0.750	310	0.570
23	0.480	59	0.940	95	0.730	131	0.580	167	0.800	203	0.480	239	0.940	275	0.730	311	0.580
24	0.480	60	0.950	96	0.710	132	0.590	168	0.800	204	0.480	240	0.950	276	0.710	312	0.590
25	0.480	61	0.960	97	0.690	133	0.610	169	0.800	205	0.480	241	0.960	277	0.690	313	0.610
26	0.480	62	0.960	98	0.670	134	0.620	170	0.790	206	0.480	242	0.960	278	0.670	314	0.620
27	0.490	63	0.970	99	0.650	135	0.630	171	0.780	207	0.490	243	0.970	279	0.650	315	0.630
28	0.490	64	0.970	100	0.640	136	0.650	172	0.770	208	0.490	244	0.970	280	0.640	316	0.650
29	0.490	65	0.980	101	0.620	137	0.660	173	0.770	209	0.490	245	0.980	281	0.620	317	0.660
30	0.490	66	0.980	102	0.610	138	0.670	174	0.760	210	0.490	246	0.980	282	0.610	318	0.670
31	0.510	67	0.990	103	0.590	139	0.690	175	0.750	211	0.510	247	0.990	283	0.590	319	0.690
32	0.520	68	0.990	104	0.580	140	0.700	176	0.740	212	0.520	248	0.990	284	0.580	320	0.700
33	0.540	69	1.000	105	0.560	141	0.710	177	0.730	213	0.540	249	1.000	285	0.560	321	0.710
34	0.550	70	1.000	106	0.550	142	0.720	178	0.720	214	0.550	250	1.000	286	0.550	322	0.720
35	0.560	71	1.000	107	0.540	143	0.730	179	0.710	215	0.560	251	1.000	287	0.540	323	0.730

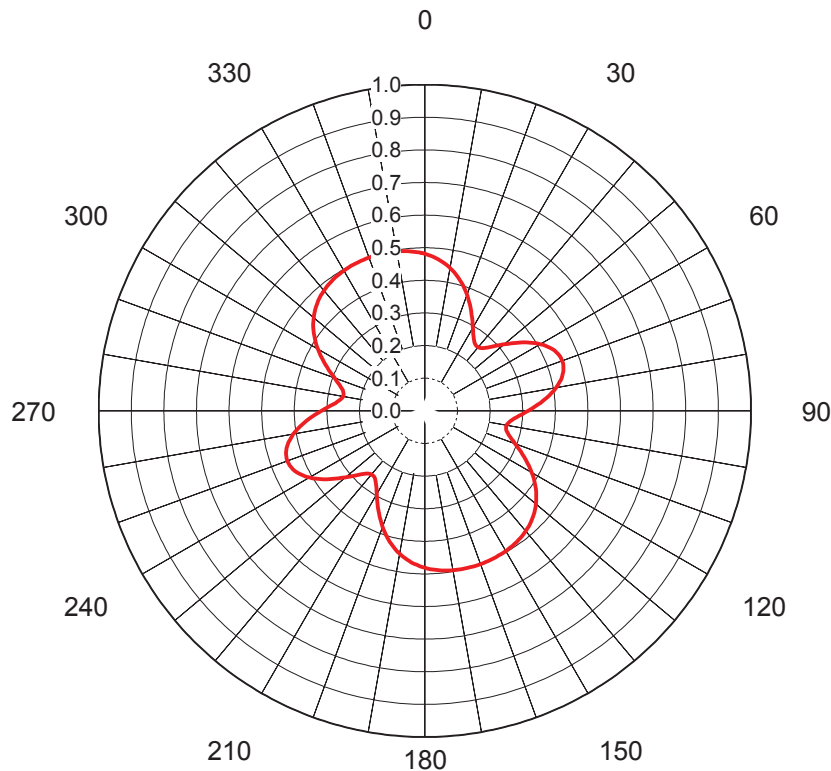
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## AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**  
 Gain **1.54 (1.87dB)**  
**Calculated**

Drawing # **P210V D30**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.481	36	0.259	72	0.447	108	0.280	144	0.489	180	0.481	216	0.259	252	0.447	288	0.280
1	0.479	37	0.256	73	0.445	109	0.287	145	0.491	181	0.479	217	0.256	253	0.445	289	0.287
2	0.476	38	0.254	74	0.442	110	0.295	146	0.492	182	0.476	218	0.254	254	0.442	290	0.295
3	0.473	39	0.254	75	0.438	111	0.303	147	0.493	183	0.473	219	0.254	255	0.438	291	0.303
4	0.470	40	0.254	76	0.434	112	0.311	148	0.495	184	0.470	220	0.254	256	0.434	292	0.311
5	0.466	41	0.256	77	0.429	113	0.319	149	0.495	185	0.466	221	0.256	257	0.429	293	0.319
6	0.463	42	0.259	78	0.423	114	0.328	150	0.496	186	0.463	222	0.259	258	0.423	294	0.328
7	0.459	43	0.263	79	0.416	115	0.337	151	0.497	187	0.459	223	0.263	259	0.416	295	0.337
8	0.454	44	0.269	80	0.409	116	0.345	152	0.498	188	0.454	224	0.269	260	0.409	296	0.345
9	0.450	45	0.275	81	0.401	117	0.354	153	0.498	189	0.450	225	0.275	261	0.401	297	0.354
10	0.445	46	0.282	82	0.393	118	0.362	154	0.499	190	0.445	226	0.282	262	0.393	298	0.362
11	0.440	47	0.290	83	0.384	119	0.371	155	0.499	191	0.440	227	0.290	263	0.384	299	0.371
12	0.434	48	0.298	84	0.375	120	0.379	156	0.499	192	0.434	228	0.298	264	0.375	300	0.379
13	0.428	49	0.307	85	0.366	121	0.387	157	0.500	193	0.428	229	0.307	265	0.366	301	0.387
14	0.422	50	0.317	86	0.356	122	0.394	158	0.500	194	0.422	230	0.317	266	0.356	302	0.394
15	0.415	51	0.327	87	0.346	123	0.402	159	0.500	195	0.415	231	0.327	267	0.346	303	0.402
16	0.409	52	0.336	88	0.336	124	0.409	160	0.500	196	0.409	232	0.336	268	0.336	304	0.409
17	0.402	53	0.346	89	0.327	125	0.415	161	0.500	197	0.402	233	0.346	269	0.327	305	0.415
18	0.394	54	0.356	90	0.317	126	0.422	162	0.500	198	0.394	234	0.356	270	0.317	306	0.422
19	0.387	55	0.366	91	0.307	127	0.428	163	0.500	199	0.387	235	0.366	271	0.307	307	0.428
20	0.379	56	0.375	92	0.298	128	0.434	164	0.499	200	0.379	236	0.375	272	0.298	308	0.434
21	0.371	57	0.384	93	0.290	129	0.440	165	0.499	201	0.371	237	0.384	273	0.290	309	0.440
22	0.362	58	0.393	94	0.282	130	0.445	166	0.499	202	0.362	238	0.393	274	0.282	310	0.445
23	0.354	59	0.401	95	0.275	131	0.450	167	0.498	203	0.354	239	0.401	275	0.275	311	0.450
24	0.345	60	0.409	96	0.269	132	0.454	168	0.498	204	0.345	240	0.409	276	0.269	312	0.454
25	0.337	61	0.416	97	0.263	133	0.459	169	0.497	205	0.337	241	0.416	277	0.263	313	0.459
26	0.328	62	0.423	98	0.259	134	0.463	170	0.496	206	0.328	242	0.423	278	0.259	314	0.463
27	0.319	63	0.429	99	0.256	135	0.466	171	0.495	207	0.319	243	0.429	279	0.256	315	0.466
28	0.311	64	0.434	100	0.254	136	0.470	172	0.495	208	0.311	244	0.434	280	0.254	316	0.470
29	0.303	65	0.438	101	0.254	137	0.473	173	0.493	209	0.303	245	0.438	281	0.254	317	0.473
30	0.295	66	0.442	102	0.254	138	0.476	174	0.492	210	0.295	246	0.442	282	0.254	318	0.476
31	0.287	67	0.445	103	0.256	139	0.479	175	0.491	211	0.287	247	0.445	283	0.256	319	0.479
32	0.280	68	0.447	104	0.259	140	0.481	176	0.489	212	0.280	248	0.447	284	0.259	320	0.481
33	0.274	69	0.448	105	0.263	141	0.484	177	0.488	213	0.274	249	0.448	285	0.263	321	0.484
34	0.268	70	0.448	106	0.268	142	0.486	178	0.486	214	0.268	250	0.448	286	0.268	322	0.486
35	0.263	71	0.448	107	0.274	143	0.488	179	0.484	215	0.263	251	0.448	287	0.274	323	0.488

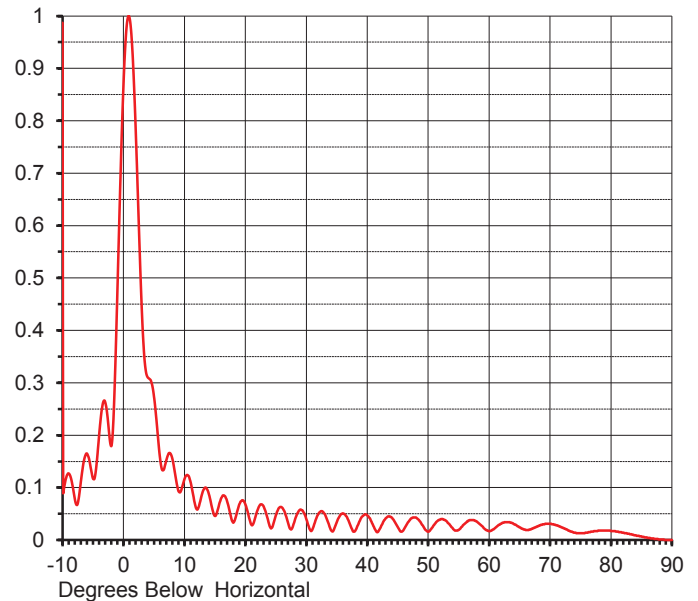
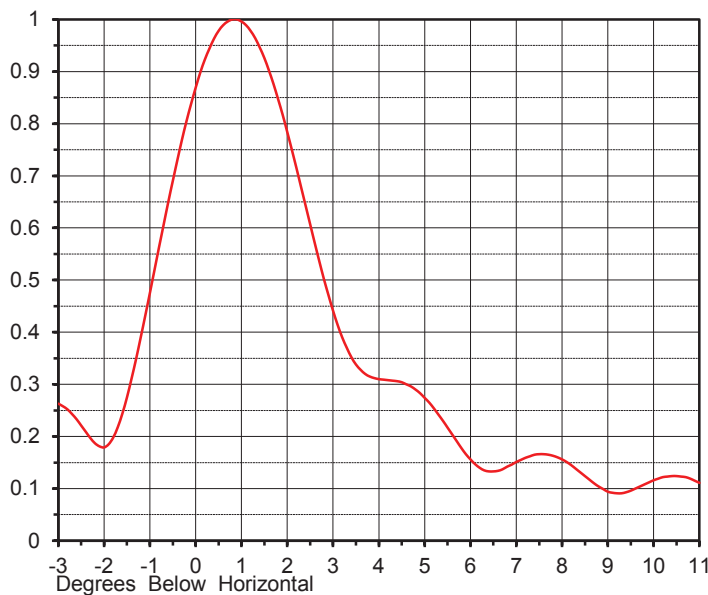
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## ELEVATION PATTERN

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**

RMS Directivity at Main Lobe **18.5 ( 12.67 dB )**  
 RMS Directivity at Horizontal **14.0 ( 11.46 dB )**  
**Calculated**

Beam Tilt **0.75 deg**  
 Drawing Number **20E185075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.987	10.0	0.116	30.0	0.040	50.0	0.016	70.0	0.031
-9.0	0.127	11.0	0.111	31.0	0.020	51.0	0.029	71.0	0.028
-8.0	0.079	12.0	0.059	32.0	0.050	52.0	0.039	72.0	0.024
-7.0	0.111	13.0	0.092	33.0	0.050	53.0	0.036	73.0	0.018
-6.0	0.165	14.0	0.088	34.0	0.020	54.0	0.023	74.0	0.014
-5.0	0.117	15.0	0.046	35.0	0.034	55.0	0.019	75.0	0.013
-4.0	0.200	16.0	0.079	36.0	0.051	56.0	0.031	76.0	0.014
-3.0	0.263	17.0	0.074	37.0	0.035	57.0	0.038	77.0	0.016
-2.0	0.179	18.0	0.033	38.0	0.017	58.0	0.035	78.0	0.018
-1.0	0.475	19.0	0.068	39.0	0.042	59.0	0.025	79.0	0.018
0.0	0.869	20.0	0.068	40.0	0.047	60.0	0.017	80.0	0.017
1.0	0.996	21.0	0.029	41.0	0.027	61.0	0.023	81.0	0.016
2.0	0.784	22.0	0.057	42.0	0.020	62.0	0.031	82.0	0.014
3.0	0.441	23.0	0.064	43.0	0.041	63.0	0.034	83.0	0.012
4.0	0.310	24.0	0.026	44.0	0.043	64.0	0.031	84.0	0.009
5.0	0.274	25.0	0.047	45.0	0.025	65.0	0.024	85.0	0.007
6.0	0.156	26.0	0.062	46.0	0.020	66.0	0.019	86.0	0.004
7.0	0.151	27.0	0.033	47.0	0.038	67.0	0.021	87.0	0.003
8.0	0.156	28.0	0.033	48.0	0.043	68.0	0.026	88.0	0.001
9.0	0.094	29.0	0.058	49.0	0.029	69.0	0.030	89.0	0.000
								90.0	0.000

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## APPENDIX A

### SUMMARY OF RADIOFREQUENCY RADIATION STUDY

KPTH, Sioux City, IA  
Channel 30, 871 kW, 611 m HAAT  
November, 2018

<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>
KPTH	DT	30	569	H & V	596	871.000	0.300	14.845	379.33	3.91%
KTIV	DT	14	473	H	595	484.000	0.300	4.139	315.33	1.31%
KMEG	DT	32	581	H & V	596	1000.000	0.300	17.044	387.33	4.40%
K03IS-D	DT	3	63	H	550	0.300	0.300	0.003	200.00	0.00%
K06QG-D	DT	6	85	H	550	0.300	0.300	0.003	200.00	0.00%

**TOTAL PERCENTAGE OF FCC GUIDELINE VALUE = 9.63%**

\* For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.



## KPTH - SIOUX CITY, IOWA Longley-Rice Interference Analysis November 2018

tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: KPTH 30 1004C 871KW, Model: Longley-Rice  
Start: 2018.11.20 14:21:27

Study created: 2018.11.20 14:21:27

Study build station data: LMS TV 2018-11-19 #238

Proposal: KPTH D30 DT CP SIOUX CITY, IA  
File number: KPTH 30 1004C 871KW  
Facility ID: 77451  
Station data: User record  
Record ID: 858  
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
Yes	KXVO	D29	DT	CP	OMAHA, NE	BLANK0000034544	168.5 km
Yes	KSTC-TV	D30	DT	CP	MINNEAPOLIS, MN	BLANK0000034690	369.8
No	KPXE-TV	D30	DT	LIC	KANSAS CITY, MO	BLANK0000001701	421.4
Yes	KMTV-TV	D31	DT	CP	OMAHA, NE	BLANK0000026767	143.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30  
Latitude: 42 35 12.00 N (NAD83)  
Longitude: 96 13 19.00 W  
Height AMSL: 1004.0 m  
HAAT: 613.0 m  
Peak ERP: 871 kW  
Antenna: Dielectric-TFU-20ETT/VP-R P210 (ID 1002737) 0.0 deg  
Elev Pattern: Generic  
Elec Tilt: 0.75

40.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	427 kW	618.2 m	114.9 km
45.0	464	589.0	114.2
90.0	586	599.0	116.9
135.0	351	621.3	113.2
180.0	427	627.8	115.3
225.0	464	612.0	115.4
270.0	586	626.7	118.3
315.0	351	611.3	112.8

ERP exceeds maximum

# **Appendix B - Interference Analysis** **KPTH - Sioux City, Iowa** **Channel 30 - 871 kW - Page 2**

ERP: 871 kW ERP maximum: 313 kW

Distance to Canadian border: 685.6 km

Distance to Mexican border: 1497.1 km

Conditions at FCC monitoring station: Grand Island NE

Bearing: 225.4 degrees Distance: 260.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 253.2 degrees Distance: 797.7 km

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 BLANK0000034544 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXVO	D29	DT	CP	OMAHA, NE	BLANK0000034544	
Undesireds:	KPTH	D30	DT	BL	SIOUX CITY, IA	DTVBL77451	168.5 km
	KPTH	D30	DT	CP	SIOUX CITY, IA	KPTH 30 1004C 871KW	168.5
	KSIN-TV	D28	DT	LIC	SIOUX CITY, IA	BLEDT20050726AMC	160.6
	KHNE-TV	D28	DT	CP	HASTINGS, NE	BLANK0000035896	160.0
	KGAN	D29	DT	LIC	CEDAR RAPIDS, IA	BLCDT20140416AAI	387.9
	KMBC-TV	D29	DT	LIC	KANSAS CITY, MO	BLCDT20090618ACY	264.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
39877.5 1,404,703		39496.3 1,403,380		38385.5 1,389,420		38373.5 1,389,400	0.03 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KPTH D30 DT BL	108.2 632	52.1 68	
KPTH D30 DT CP	120.2 652		64.2 88
KSIN-TV D28 DT LIC	64.1 580	8.0 16	8.0 16
KHNE-TV D28 DT CP	115.5 437	115.5 437	115.5 437
KGAN D29 DT LIC	32.3 130	16.1 87	16.1 87
KMBC-TV D29 DT LIC	863.0 12,788	846.8 12,745	846.8 12,745

## ----- Interference to BLANK0000034544 CP scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXVO	D29	DT	CP	OMAHA, NE	BLANK0000034544	
Undesireds:	KPTH	D30	DT	BL	SIOUX CITY, IA	DTVBL77451	168.5 km
	KPTH	D30	DT	CP	SIOUX CITY, IA	KPTH 30 1004C 871KW	168.5
	KSIN-TV	D28	DT	LIC	SIOUX CITY, IA	BLEDT20050726AMC	160.6
	KHNE-TV	D28	DT	LIC	HASTINGS, NE	BLEDT20030409ABN	160.0
	KGAN	D29	DT	LIC	CEDAR RAPIDS, IA	BLCDT20140416AAI	387.9
	KMBC-TV	D29	DT	LIC	KANSAS CITY, MO	BLCDT20090618ACY	264.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
39877.5 1,404,703		39496.3 1,403,380		38453.2 1,389,766		38441.2 1,389,746	0.03 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KPTH D30 DT BL	108.2 632	52.1 68	
KPTH D30 DT CP	120.2 652		64.2 88
KSIN-TV D28 DT LIC	64.1 580	8.0 16	8.0 16
KHNE-TV D28 DT LIC	47.8 91	47.8 91	47.8 91
KGAN D29 DT LIC	32.3 130	16.1 87	16.1 87
KMBC-TV D29 DT LIC	863.0 12,788	846.8 12,745	846.8 12,745

# Appendix B - Interference Analysis

KPTH - Sioux City, Iowa

Channel 30 - 871 kW - Page 3

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Interference to BLANK0000034690 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSTC-TV	D30	DT	CP	MINNEAPOLIS, MN	BLANK0000034690	
Undesireds:	KPTH	D30	DT	BL	SIOUX CITY, IA	DTVBL77451	369.9 km
	KPTH	D30	DT	CP	SIOUX CITY, IA	KPTH 30 1004C 871KW	369.8
	WFTC	D29	DT	LIC	MINNEAPOLIS, MN	BLCDT20100809CJF	1.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
38381.9 3,843,788		37779.7 3,835,674		37735.7 3,834,828		37731.7 3,834,824	0.01 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
KPTH D30 DT BL		16.0		627		16.0 627	
KPTH D30 DT CP		20.0		631		20.0 631	
WFTC D29 DT LIC		28.0		219		28.0 219	

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Interference to BLANK0000026767 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KMTV-TV	D31	DT	CP	OMAHA, NE	BLANK0000026767	
Undesireds:	KPTH	D30	DT	BL	SIOUX CITY, IA	DTVBL77451	143.2 km
	KPTH	D30	DT	CP	SIOUX CITY, IA	KPTH 30 1004C 871KW	143.2
	KCWE	D31	DT	LIC	KANSAS CITY, MO	BLCDT20051014ABT	278.4
	KMEG	D32	DT	CP	SIOUX CITY, IA	BLANK0000034618	143.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
34077.8 1,346,549		33745.3 1,344,796		32901.2 1,335,354		32901.2 1,335,354	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
KPTH D30 DT BL		167.9		2,097		0.0 0	
KPTH D30 DT CP		211.9		2,298		0.0 0	
KCWE D31 DT LIC		340.0		5,183		340.0 5,183	
KMEG D32 DT CP		504.0		4,259		292.1 1,961	

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Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPTH	D30	DT	CP	SIOUX CITY, IA	KPTH 30 1004C 871KW	
Undesireds:	KXVO	D29	DT	CP	OMAHA, NE	BLANK0000034544	168.5 km
	KSTC-TV	D30	DT	CP	MINNEAPOLIS, MN	BLANK0000034690	369.8
	KMTV-TV	D31	DT	CP	OMAHA, NE	BLANK0000026767	143.2
Service area		Terrain-limited		IX-free		Percent IX	
41163.4 660,556		40946.7 655,373		40306.6 652,261		1.56 0.47	
Undesired		Total IX		Unique IX		Prct Unique IX	
KXVO D29 DT CP		221.6		1,849		28.2 119	0.07 0.02
KSTC-TV D30 DT CP		11.9		21		11.9 21	0.03 0.00
KMTV-TV D31 DT CP		600.0		2,972		406.6 1,242	0.99 0.19