

Transition to Reassignment Channel

Television Station: KWQC-TV Facility ID 6885 Davenport, IA
Reassignment Ch. 17
Construction Permit LMS file# 0000033932
Transition Phase Assignment: Phase 7
Phase Testing Period Start Date: 10/19/2019
Phase Completion Date: 01/17/2020

STA purpose: KWQC-TV has commenced initial operation on reassignment Ch. 17 with an interim facility pursuant to STA file# 0000080766. The interim operation is with the antenna as authorized in Construction Permit 0000033932 but at the reduced ERP of 160 kW, pending the transition of upstream station WAND (pre-auction Ch. 17, Decatur IL). Now, with consent of WAND's licensee to accept 4.72 percent interference, operation of KWQC-TV at 500 kW ERP is sought until WAND ceases operation on Ch. 17.

STA Channel: 17

STA Site Location: KWQC-TV authorized Ch. 17 site
Antenna Structure Registration # 1035417

STA Antenna System: Side-mount directional (Figure 1 and 1A)
Elliptical polarization (50% vertical)

STA Power and Height: 500 kW effective radiated power
25.8 kW transmitter power output (post-filter)
376.4 meters height above ground level
579.4 meters height above mean sea level
375.1 meters height above average terrain

STA Facility Coverage: Does not extend beyond authorized, provides required principal community coverage (Figure 2)

RF Exposure: The calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 0.5 percent of

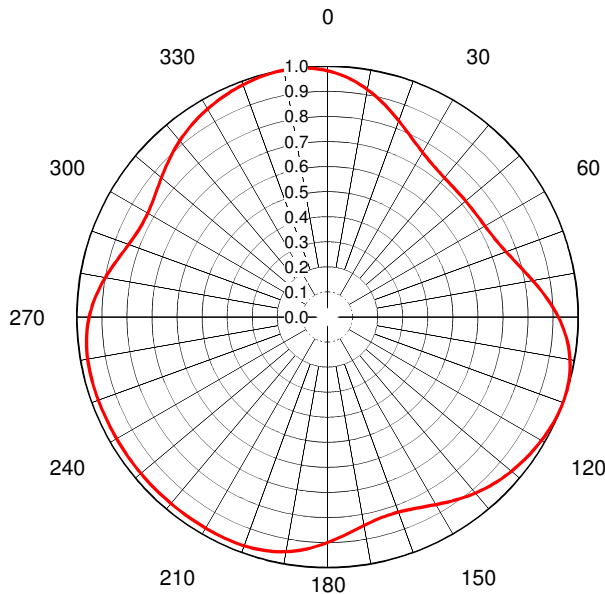
Special Temporary Authority
Purpose and Technical Information
Gray Television Licensee, LLC
(page 2 of 2)



the general population/uncontrolled maximum permitted exposure limit. Calculations conducted pursuant to FCC OET Bulletin Number 65 and incorporate 10 percent relative field at downward angles (from antenna elevation pattern data). This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	January 8, 2020	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



AZIMUTH PATTERN Horizontal Polarization

In Free Space

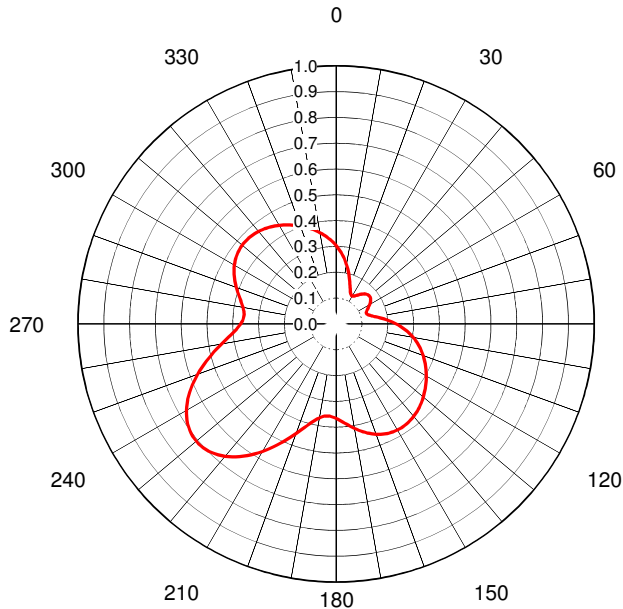
Proposal No. **C-70706-2**
Date **8-Sep-17**
Call Letters **KWQC**
Channel **17**
Frequency **491 MHz**
Antenna Type **TFU-27JSC/VP-R O4SP**
Gain **1.22 (0.86dB)**
Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.982	36	0.734	72	0.770	108	1.000	144	0.897	180	0.900	216	0.972	252	0.973	288	0.854
1	0.978	37	0.731	73	0.777	109	1.000	145	0.891	181	0.906	217	0.971	253	0.973	289	0.849
2	0.974	38	0.729	74	0.784	110	1.000	146	0.886	182	0.912	218	0.971	254	0.973	290	0.844
3	0.969	39	0.727	75	0.791	111	1.000	147	0.880	183	0.918	219	0.971	255	0.973	291	0.840
4	0.963	40	0.726	76	0.799	112	0.999	148	0.875	184	0.923	220	0.971	256	0.973	292	0.837
5	0.957	41	0.724	77	0.807	113	0.998	149	0.870	185	0.929	221	0.971	257	0.973	293	0.834
6	0.950	42	0.723	78	0.815	114	0.997	150	0.865	186	0.934	222	0.971	258	0.973	294	0.831
7	0.944	43	0.722	79	0.824	115	0.995	151	0.859	187	0.939	223	0.971	259	0.972	295	0.829
8	0.936	44	0.721	80	0.832	116	0.994	152	0.855	188	0.943	224	0.971	260	0.971	296	0.828
9	0.929	45	0.721	81	0.841	117	0.992	153	0.850	189	0.947	225	0.971	261	0.971	297	0.827
10	0.921	46	0.720	82	0.850	118	0.990	154	0.846	190	0.951	226	0.971	262	0.970	298	0.827
11	0.913	47	0.720	83	0.859	119	0.988	155	0.842	191	0.954	227	0.972	263	0.968	299	0.827
12	0.904	48	0.720	84	0.868	120	0.986	156	0.838	192	0.957	228	0.972	264	0.967	300	0.829
13	0.895	49	0.719	85	0.878	121	0.983	157	0.835	193	0.960	229	0.972	265	0.965	301	0.830
14	0.887	50	0.719	86	0.886	122	0.981	158	0.832	194	0.963	230	0.972	266	0.963	302	0.832
15	0.878	51	0.719	87	0.895	123	0.979	159	0.830	195	0.965	231	0.972	267	0.960	303	0.835
16	0.868	52	0.720	88	0.904	124	0.976	160	0.829	196	0.967	232	0.972	268	0.957	304	0.838
17	0.859	53	0.720	89	0.913	125	0.973	161	0.827	197	0.968	233	0.972	269	0.954	305	0.842
18	0.850	54	0.720	90	0.921	126	0.970	162	0.827	198	0.970	234	0.971	270	0.951	306	0.846
19	0.841	55	0.721	91	0.929	127	0.967	163	0.827	199	0.971	235	0.971	271	0.947	307	0.850
20	0.832	56	0.721	92	0.936	128	0.964	164	0.828	200	0.971	236	0.971	272	0.943	308	0.855
21	0.824	57	0.722	93	0.944	129	0.961	165	0.829	201	0.972	237	0.971	273	0.939	309	0.859
22	0.815	58	0.723	94	0.950	130	0.958	166	0.831	202	0.973	238	0.971	274	0.934	310	0.865
23	0.807	59	0.724	95	0.957	131	0.955	167	0.834	203	0.973	239	0.971	275	0.929	311	0.870
24	0.799	60	0.726	96	0.963	132	0.951	168	0.837	204	0.973	240	0.971	276	0.923	312	0.875
25	0.791	61	0.727	97	0.969	133	0.947	169	0.840	205	0.973	241	0.971	277	0.918	313	0.880
26	0.784	62	0.729	98	0.974	134	0.943	170	0.844	206	0.973	242	0.971	278	0.912	314	0.886
27	0.777	63	0.731	99	0.978	135	0.940	171	0.849	207	0.973	243	0.971	279	0.906	315	0.891
28	0.770	64	0.734	100	0.982	136	0.935	172	0.854	208	0.973	244	0.972	280	0.900	316	0.897
29	0.764	65	0.737	101	0.986	137	0.931	173	0.859	209	0.973	245	0.972	281	0.894	317	0.902
30	0.759	66	0.741	102	0.989	138	0.927	174	0.864	210	0.973	246	0.972	282	0.888	318	0.907
31	0.753	67	0.744	103	0.992	139	0.922	175	0.870	211	0.972	247	0.972	283	0.882	319	0.912
32	0.749	68	0.749	104	0.994	140	0.917	176	0.876	212	0.972	248	0.972	284	0.876	320	0.917
33	0.744	69	0.753	105	0.997	141	0.912	177	0.882	213	0.972	249	0.972	285	0.870	321	0.922
34	0.741	70	0.759	106	0.998	142	0.907	178	0.888	214	0.972	250	0.973	286	0.864	322	0.927
35	0.737	71	0.764	107	0.999	143	0.902	179	0.894	215	0.972	251	0.973	287	0.859	323	0.931

Figure 1
Interim Antenna Azimuthal Pattern
Horizontal Polarization
KWQC-TV Davenport, IA
Facility ID 6885
Ch. 17 500 kW 375 m

prepared for
Gray Television Licensee, LLC

January, 2020



AZIMUTH PATTERN Vertical Polarization

In Free Space

Proposal No. **C-70706-2**
Date **8-Sep-17**
Call Letters **KWQC**
Channel **17**
Frequency **491 MHz**
Antenna Type **TFU-27JSC/VP-R O4SP**
Gain **2.97 (4.73dB)**
Calculated

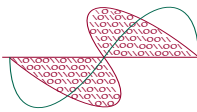
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.304	36	0.137	72	0.125	108	0.349	144	0.473	180	0.366	216	0.636	252	0.547	288	0.401
1	0.297	37	0.140	73	0.127	109	0.354	145	0.474	181	0.363	217	0.645	253	0.535	289	0.406
2	0.291	38	0.144	74	0.129	110	0.359	146	0.475	182	0.361	218	0.654	254	0.522	290	0.411
3	0.284	39	0.147	75	0.132	111	0.364	147	0.475	183	0.359	219	0.662	255	0.510	291	0.416
4	0.277	40	0.150	76	0.136	112	0.369	148	0.475	184	0.358	220	0.669	256	0.498	292	0.421
5	0.270	41	0.153	77	0.141	113	0.373	149	0.475	185	0.358	221	0.676	257	0.486	293	0.426
6	0.263	42	0.156	78	0.146	114	0.378	150	0.475	186	0.359	222	0.683	258	0.474	294	0.431
7	0.256	43	0.159	79	0.151	115	0.382	151	0.474	187	0.360	223	0.688	259	0.462	295	0.435
8	0.248	44	0.161	80	0.158	116	0.387	152	0.473	188	0.362	224	0.693	260	0.451	296	0.440
9	0.240	45	0.164	81	0.164	117	0.391	153	0.472	189	0.366	225	0.697	261	0.440	297	0.444
10	0.233	46	0.165	82	0.171	118	0.395	154	0.470	190	0.369	226	0.701	262	0.430	298	0.448
11	0.225	47	0.167	83	0.179	119	0.399	155	0.468	191	0.374	227	0.704	263	0.420	299	0.451
12	0.217	48	0.168	84	0.186	120	0.403	156	0.466	192	0.380	228	0.706	264	0.410	300	0.455
13	0.209	49	0.168	85	0.194	121	0.407	157	0.464	193	0.386	229	0.707	265	0.402	301	0.458
14	0.201	50	0.169	86	0.201	122	0.411	158	0.461	194	0.394	230	0.707	266	0.394	302	0.461
15	0.194	51	0.168	87	0.209	123	0.415	159	0.458	195	0.402	231	0.707	267	0.386	303	0.464
16	0.186	52	0.168	88	0.217	124	0.419	160	0.455	196	0.410	232	0.706	268	0.380	304	0.466
17	0.179	53	0.167	89	0.225	125	0.423	161	0.451	197	0.420	233	0.704	269	0.374	305	0.468
18	0.171	54	0.165	90	0.233	126	0.427	162	0.448	198	0.430	234	0.701	270	0.369	306	0.470
19	0.164	55	0.164	91	0.240	127	0.430	163	0.444	199	0.440	235	0.697	271	0.366	307	0.472
20	0.158	56	0.161	92	0.248	128	0.434	164	0.440	200	0.451	236	0.693	272	0.362	308	0.473
21	0.151	57	0.159	93	0.256	129	0.438	165	0.435	201	0.462	237	0.688	273	0.360	309	0.474
22	0.146	58	0.156	94	0.263	130	0.441	166	0.431	202	0.474	238	0.683	274	0.359	310	0.475
23	0.141	59	0.153	95	0.270	131	0.444	167	0.426	203	0.486	239	0.676	275	0.358	311	0.475
24	0.136	60	0.150	96	0.277	132	0.447	168	0.421	204	0.498	240	0.669	276	0.358	312	0.475
25	0.132	61	0.147	97	0.284	133	0.450	169	0.416	205	0.510	241	0.662	277	0.359	313	0.475
26	0.129	62	0.144	98	0.291	134	0.453	170	0.411	206	0.522	242	0.654	278	0.361	314	0.475
27	0.127	63	0.140	99	0.297	135	0.456	171	0.406	207	0.535	243	0.645	279	0.363	315	0.474
28	0.125	64	0.137	100	0.304	136	0.459	172	0.401	208	0.547	244	0.636	280	0.366	316	0.473
29	0.125	65	0.134	101	0.310	137	0.461	173	0.396	209	0.559	245	0.626	281	0.369	317	0.472
30	0.125	66	0.131	102	0.316	138	0.464	174	0.391	210	0.571	246	0.616	282	0.373	318	0.471
31	0.125	67	0.129	103	0.322	139	0.466	175	0.386	211	0.582	247	0.605	283	0.377	319	0.469
32	0.127	68	0.127	104	0.328	140	0.468	176	0.381	212	0.594	248	0.594	284	0.381	320	0.468
33	0.129	69	0.125	105	0.333	141	0.469	177	0.377	213	0.605	249	0.582	285	0.386	321	0.466
34	0.131	70	0.125	106	0.339	142	0.471	178	0.373	214	0.616	250	0.571	286	0.391	322	0.464
35	0.134	71	0.125	107	0.344	143	0.472	179	0.369	215	0.626	251	0.559	287	0.396	323	0.461



Figure 1A
Interim Antenna Azimuthal Pattern
Vertical Polarization
KWQC-TV Davenport, IA
Facility ID 6885
Ch. 17 500 kW 375 m

prepared for
Gray Television Licensee, LLC

January, 2020



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 2
Proposed Interim Contours
KWQC-TV Davenport, IA
Facility ID 6885
Ch. 17 500 kW 375 m

prepared for
Gray Television Licensee, LLC

January, 2020

