



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN  
APPLICATION TO AMEND A PENDING  
APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT  
BMPCDT-20020716AAI  
WDKY-DT - DANVILLE, KENTUCKY  
DTV - CH. 4 - 26.5 kW - 327.4 m HAAT**

Prepared for: WDKY 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 registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

**GENERAL**

This office has been authorized by WDKY Licensee, LLC, licensee of WDKY-TV, channel 56, Danville, Kentucky, and permittee of paired DTV allotment WDKY-DT, channel 4, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of an application to amend a pending application for modification of construction permit, BMPCDT-20020716AAI, to specify a different antenna site. It is proposed herein to re-locate WDKY-DT's transmission facilities to a new tower support structure located at 37°52' 51" N latitude, 84°19' 16" W longitude, owned by WDKY, Inc. The structure is registered in the FCC tower registration database, registration number 1240955. This application seeks to co-locate WDKY-DT with the facilities of WDKY-TV

as proposed in a separate application to amend a pending application for construction permit, BPCT-20020621AAB. The re-location of WDKY-TV, and its paired DTV allotment for WDKY-DT, as proposed herein is necessary because the licensee has been informed that the site specified in WDKY-TV's pending application for construction permit, and in WDKY-DT's pending application for modification of construction permit is no longer available. The licensee was informed that World Tower Corp. has been unable to secure local zoning approval for its proposed tower, specified in both of WDKY-TV's pending applications, and has abandoned the project.

WDKY Licensee, LLC has since diligently searched for a new site which can be utilized by both WDKY-TV and WDKY-DT. The licensee has determined that the site proposed herein is suitable for its purposes. SpectraSite, the licensee's contractor, has obtained all necessary permits and approvals in order to construct a tower at the proposed site. The licensee is therefore requesting authorization to relocate all of WDKY's facilities to that site. Additionally, co-location of both TV and DTV facilities will serve to further the Commission's goals in the deployment of DTV service in the United States since the proposed support structure has been designed to accommodate multiple television transmission facilities.

#### **PROPOSED DIRECTIONAL ANTENNA**

The applicant proposes to install a new antenna, a Dielectric THB-C3-5M/15M-1-R custom directional transmitting antenna which is to be mounted on the support structure

directly beneath the WDKY-TV antenna, as proposed in an application to amend the pending application, BPCT-20020621AAB. The antenna manufacturer's horizontal plane azimuth radiation pattern, illustrating the proposed antenna's directional pattern characteristics is shown in exhibit 2, and tabulated in exhibit 3. The vertical plane radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, is shown in exhibit 4A and 4B, and tabulated in exhibit 5. It is intended to stack the antenna beneath the WDKY-TV antenna, which is proposed, in separate application to amend an application for construction permit, BPCT-20020621AAB, at the same site. It is proposed in that application to use a Dielectric TUA-C4-SP-14/42H-1-T custom directional antenna for WDKY-TV to be mounted above the proposed WDKY-DT antenna. A Vertical Plan Antenna Sketch showing various elevations at the proposed site is provided in Exhibit 1.

#### **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 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 National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates

were determined from FCC antenna registration data. Exhibit 6 shows the predicted Noise Limited (28 dBu) contour, and the principal community (35 dBu) contour. The 35 dBu contour completely encompasses the principal community of license, Danville, Kentucky.

## **ALLOCATION CONSIDERATIONS**

### **NTSC Allocation Considerations**

An allocation study was performed, using the Commission's application processing software, tv\_process, to ensure that the proposed transmitter site and DTV facility complies with the Commission's *de minimis* interference criteria in Section 73.623(c)(2). The study revealed that the proposed site satisfies the *de minimis* interference requirements to all pertinent authorized NTSC facilities.

### **DTV Allocation Considerations**

A study was performed to determine if the proposed relocation of WDKY-DT is predicted to cause any level of new prohibited interference to DTV stations, expansion construction permits or DTV allotments. Results of the FCC program "tv-process" indicate that the instant proposal to relocate WDKY-DT is predicted to cause no unacceptable level of new interference to the populations served by any DTV station, expansion construction permit or allotment.

### **Class A Television Allocation Considerations**

As required in Section 73.623(c)(5) of the FCC's Rules, as established in the Report and Order establishing Class A Television Service, released April 4, 2000, a study of interference contour overlap was considered, based on the proposed relocated WDKY-DT

facility, to establish compliance with the protection requirements contained therein. The study revealed contour overlap with a co-channel class A LPTV station, WMEV-LP, channel 4, Pennington Gap, Virginia. However, as shown in exhibit 7, the interfering contour proposed in the instant application provides a reduction in overlap compared to the overlap authorized by WDKY-DT's construction permit, BPCDT-19991028ACG; therefore, in relation to WMEV-LP, the instant application complies with the Commission's class A rules and policies.

The study also revealed another co-channel Class A LPTV station, W04BP, channel 4, Campbellsville, Kentucky, which is located only 79.4 km from the WDKY-DT allotted site, and 111.1 km from the site proposed herein. (LPTV stations with co-channel geographic separations of 280 km or less to DTV stations are eligible for displacement relief. See below). Analysis of the study indicates that WDKY-DT's allotment has severe contour overlap with W04BP's 62 dBu service area, as shown in exhibit 8. That contour overlap is permitted since the allotment predates the creation of the class A LPTV service. Additionally, as shown in exhibit 9, further analysis using tv\_process, reveals that W04BP interferes with WDKY-DT's allotment in excess of the 0.5 percent *de minimis* criteria in Section 73.6013 of the Commission's rules. W04BP thus fails to meet the Commission's interference criteria for Class A status on channel 4, as set forth in Section 73.6013, and therefore is ineligible for co-channel interference protection from WDKY-DT.

WDKY-DT is, however, sympathetic to W04BP's plight. To that end WDKY-DT has expended further effort to find an equitable solution, and has determined that W04BP is

eligible for "displacement relief" according to established Commission policy. The Commission recognizes that significant interference to Low Power TV stations is a common result of its creation of the DTV Table Of Allotments on April 3, 1997.<sup>1</sup> Even before the creation of Class A LPTV stations in 1999<sup>2</sup> the Commission recognized the plight of LPTV stations' secondary service status and provided "displacement relief" for such LPTV stations that would be impacted by DTV allotments.<sup>3</sup> The Commission clarified the parameters to be considered to determine eligibility for displacement relief. Once eligibility is established, an application for displacement relief may be submitted at any time during the transition process.

The Commission assumes that a low power station is impacted if the spacing between the low power station and a DTV allotment is less than the following distances: Stations on VHF channels 2-6 ; 280 km (171 miles). Engineering showings of predicted interference may also be submitted to justify a need for displacement. The geographic spacing between WDKY-DT's allotment site and W04BP's licensed site is only 79.4 km, over 200 km less than the Commission's impact distance. It is clear that W04BP is eligible for displacement relief.

WDKY-DT has determined that W04BP can maintain its class A status while being displaced from its current channel 4 operation to first adjacent channel 5, in compliance

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<sup>1</sup> *Sixth Report and Order*, MM Docket No. 87-268, 12 FCC Rcd 14588 (1997).

<sup>2</sup> Community Broadcasters Protection Act of 1999, Section 5008 of Pub Law 106-113 Stat. 1501 (1999).

<sup>3</sup> *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket No. 87-268, adopted February 17, 1998, 13 Rcd 7418 (1998). At Paragraph 116, Footnote 79.

with the Commission's rules. Exhibits 10, 11 and 12 show that such operation complies with the Commission's rules in Subpart J as to protection of other services by Class A stations. Exhibit 10 shows the absence of prohibited overlap with any full-service TV station. Exhibit 11 shows the absence of prohibited overlap with any LPTV station on channel 6. Exhibit 12 shows the absence of prohibited overlap with any LPTV station on channel 5. There are no other relevant Class A stations or other DTV facilities to be considered. The licensee of W04BP is permitted to submit an application for displacement relief at any time during the DTV transition. Further, WDKY-DT offers to support W04BP in its efforts to obtain "displacement relief" provided by Commission policy.

Finally, a Longley-Rice tv\_process study simply states that "proposal causes no interference" to either LPTV facility. In accordance with Section 73.623(c)(5)(iii) WDKY-DT requests, in each instance, waiver of Section 73.623(c)(5)(i), if deemed necessary.

### **BLANKETING AND INTERMODULATION INTERFERENCE**

A number of broadcast and non-broadcast facilities are located within 10 km of the proposed WDKY-DT antenna site. The applicant recognizes its responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

### **ENVIRONMENTAL CONSIDERATIONS**

#### **RADIO FREQUENCY IMPACT**

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines 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 provide a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that 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 in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula,  $(\text{frequency}/1500)$ . The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula,  $(\text{frequency}/300)$ . The predicted emissions of WDKY-DT channel 4 must be considered,



along with the predicted emissions from other proposed and existing stations at the proposed site. For WDKY-DT, which operates on television Channel 4 (66-72 MHz), the MPE is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an "uncontrolled" environment and  $1.0 \text{ mW}/\text{cm}^2$  in a "controlled" environment. The proposed WDKY-DT facility will operate with a maximum ERP of 26.5 kW from a horizontally polarized directional transmitting antenna with a centerline height of 318.7 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WDKY-DT facility is predicted to produce a power density at two meters above ground level of  $0.00079 \text{ mW}/\text{cm}^2$ , which is 0.40% of the FCC's guideline value for an "uncontrolled" environment, and 0.080% of the FCC's guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations within relevant proximity is only 75.73% of the limit for "uncontrolled" environments, and 15.15% of the limit for "controlled" environments.

### **OCCUPATIONAL SAFETY**

The permittee of WDKY-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WDKY-DT antenna. The applicant is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel. In light of the above, the proposed WDKY-DT facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**SUMMARY**

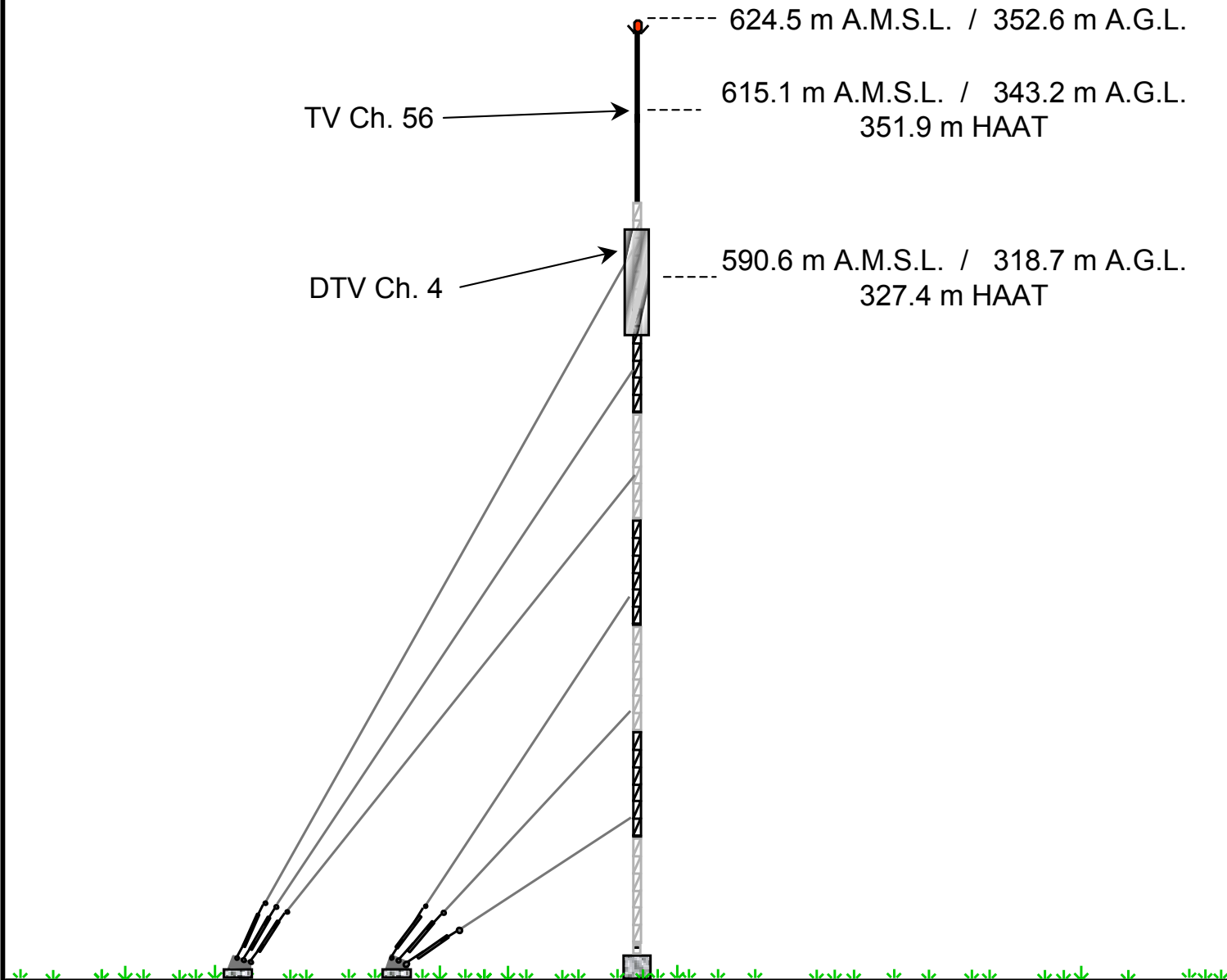
It is submitted that the instant proposal for construction permit for WDKY-DT as described herein complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission, except possibly for Section 73.623(c)(5)(i), in which case waiver is herein sought, if deemed necessary by the Commission. This statement, FCC Form 301, Sections III and III-D, 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 6, 2003

  
John E. Hidle, P.E.



COORDINATES NAD-27  
NORTH LATITUDE: 37° 52' 57"  
WEST LONGITUDE: 84° 19' 16"



**VERTICAL PLAN ANTENNA SKETCH**  
WDKY-DT - DANVILLE, KENTUCKY  
TV - Ch. 4 - 26.5 kW - 327.4 m HAAT  
NOVEMBER, 2003

**CARL T. JONES**  
CORPORATION

NOTE : NOT DRAWN TO SCALE



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

**10 Oct 2003**

**WDKY-DT**

**Danville, KY**

**WDKY Licensee, LLC**

**THB-C3-5M/15H-1-R**

Revision

**Exhibit 2**

Channel **4**

### AZIMUTH PATTERN

Gain

Calculated / Measured

**1.80 (2.55 dB)**

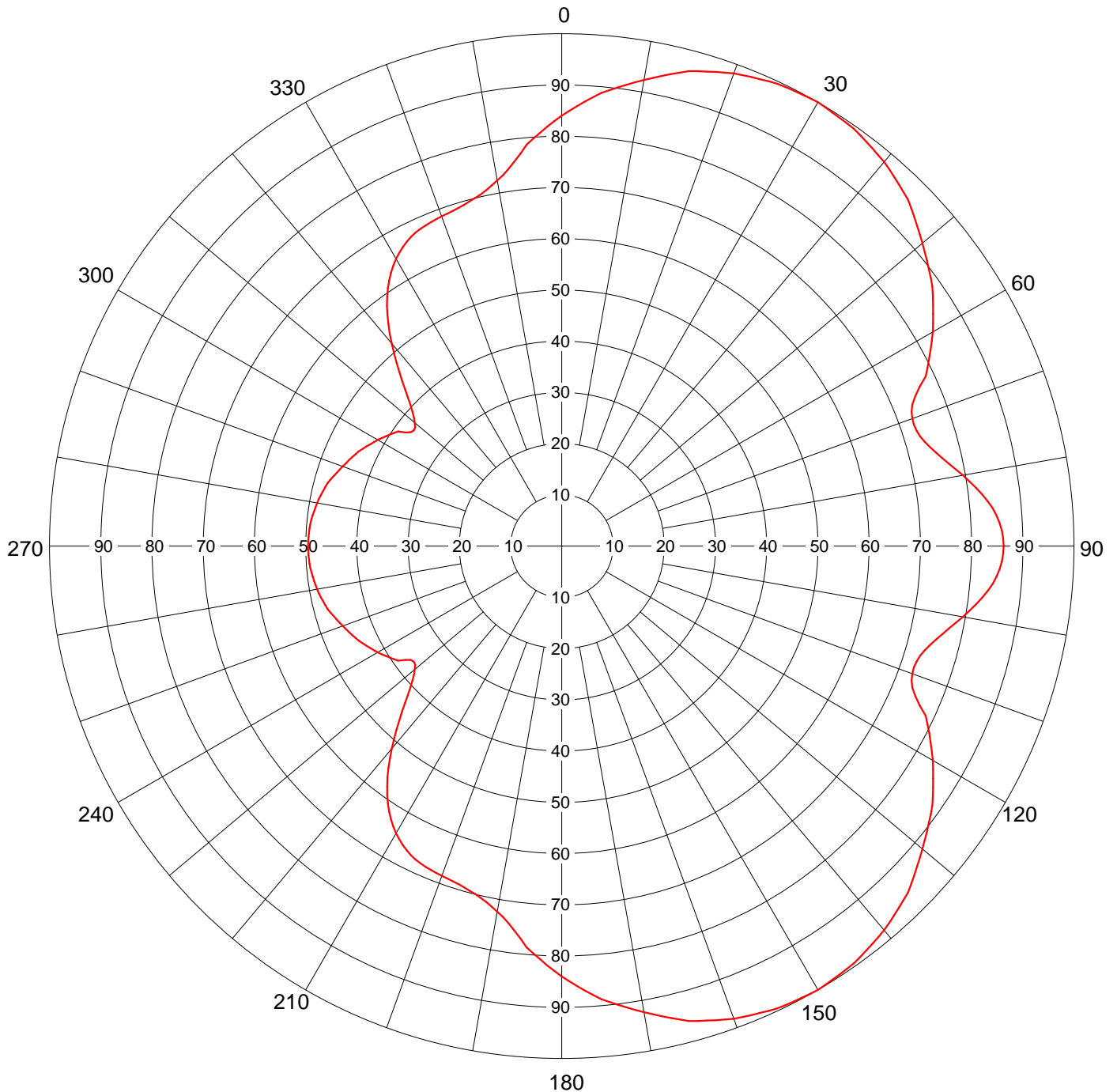
**Calculated**

Frequency

Drawing #

**69 MHz**

**THB-C3-0690-8-FT-CORNER**



Remarks: Mounted off corners of 8-ft triangular tower



Proposal Number  
 Date **10 Oct 2003**  
 Call Letters **WDKY-DT**  
 Location **Danville, KY**  
 Customer **WDKY Licensee, LLC**  
 Antenna Type **THB-C3-5M/15H-1-R**

Revision  
**Exhibit 3**  
 Channel **4**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **THB-C3-0690-8-FT-COF**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.840	45	0.956	90	0.863	135	0.956	180	0.840	225	0.432	270	0.495	315	0.432
1	0.850	46	0.948	91	0.862	136	0.960	181	0.829	226	0.418	271	0.495	316	0.448
2	0.859	47	0.941	92	0.860	137	0.965	182	0.819	227	0.404	272	0.494	317	0.465
3	0.869	48	0.934	93	0.856	138	0.970	183	0.808	228	0.392	273	0.494	318	0.482
4	0.878	49	0.926	94	0.851	139	0.974	184	0.797	229	0.382	274	0.493	319	0.499
5	0.888	50	0.919	95	0.845	140	0.979	185	0.786	230	0.374	275	0.493	320	0.516
6	0.895	51	0.912	96	0.836	141	0.982	186	0.770	231	0.368	276	0.491	321	0.533
7	0.902	52	0.905	97	0.827	142	0.985	187	0.756	232	0.366	277	0.490	322	0.549
8	0.909	53	0.897	98	0.817	143	0.988	188	0.744	233	0.370	278	0.488	323	0.565
9	0.916	54	0.890	99	0.806	144	0.991	189	0.733	234	0.378	279	0.487	324	0.580
10	0.924	55	0.883	100	0.795	145	0.994	190	0.725	235	0.390	280	0.485	325	0.594
11	0.931	56	0.874	101	0.784	146	0.995	191	0.717	236	0.395	281	0.483	326	0.607
12	0.938	57	0.864	102	0.773	147	0.996	192	0.710	237	0.400	282	0.480	327	0.618
13	0.945	58	0.855	103	0.763	148	0.998	193	0.704	238	0.405	283	0.478	328	0.629
14	0.952	59	0.846	104	0.753	149	0.999	194	0.700	239	0.410	284	0.476	329	0.639
15	0.960	60	0.836	105	0.745	150	1.000	195	0.696	240	0.415	285	0.473	330	0.647
16	0.964	61	0.826	106	0.737	151	0.999	196	0.693	241	0.419	286	0.470	331	0.654
17	0.969	62	0.815	107	0.732	152	0.998	197	0.690	242	0.424	287	0.466	332	0.661
18	0.973	63	0.805	108	0.728	153	0.997	198	0.688	243	0.428	288	0.462	333	0.666
19	0.977	64	0.794	109	0.727	154	0.996	199	0.686	244	0.433	289	0.459	334	0.671
20	0.982	65	0.784	110	0.728	155	0.996	200	0.685	245	0.437	290	0.455	335	0.675
21	0.985	66	0.765	111	0.731	156	0.993	201	0.683	246	0.441	291	0.451	336	0.678
22	0.987	67	0.750	112	0.738	157	0.990	202	0.682	247	0.444	292	0.448	337	0.680
23	0.990	68	0.738	113	0.750	158	0.987	203	0.680	248	0.448	293	0.444	338	0.682
24	0.993	69	0.731	114	0.765	159	0.985	204	0.678	249	0.451	294	0.441	339	0.683
25	0.996	70	0.728	115	0.784	160	0.982	205	0.675	250	0.455	295	0.437	340	0.685
26	0.996	71	0.727	116	0.794	161	0.977	206	0.671	251	0.459	296	0.433	341	0.686
27	0.997	72	0.728	117	0.805	162	0.973	207	0.666	252	0.462	297	0.428	342	0.688
28	0.998	73	0.732	118	0.815	163	0.969	208	0.661	253	0.466	298	0.424	343	0.690
29	0.999	74	0.737	119	0.826	164	0.964	209	0.654	254	0.470	299	0.419	344	0.693
30	1.000	75	0.745	120	0.836	165	0.960	210	0.647	255	0.473	300	0.415	345	0.696
31	0.999	76	0.753	121	0.846	166	0.952	211	0.639	256	0.476	301	0.410	346	0.700
32	0.998	77	0.763	122	0.855	167	0.945	212	0.629	257	0.478	302	0.405	347	0.704
33	0.996	78	0.773	123	0.864	168	0.938	213	0.618	258	0.480	303	0.400	348	0.710
34	0.995	79	0.784	124	0.874	169	0.931	214	0.607	259	0.483	304	0.395	349	0.717
35	0.994	80	0.795	125	0.883	170	0.924	215	0.594	260	0.485	305	0.390	350	0.725
36	0.991	81	0.806	126	0.890	171	0.916	216	0.580	261	0.487	306	0.378	351	0.733
37	0.988	82	0.817	127	0.897	172	0.909	217	0.565	262	0.488	307	0.370	352	0.744
38	0.985	83	0.827	128	0.905	173	0.902	218	0.549	263	0.490	308	0.366	353	0.756
39	0.982	84	0.836	129	0.912	174	0.895	219	0.533	264	0.491	309	0.368	354	0.770
40	0.979	85	0.845	130	0.919	175	0.888	220	0.516	265	0.493	310	0.374	355	0.786
41	0.974	86	0.851	131	0.926	176	0.878	221	0.499	266	0.493	311	0.382	356	0.797
42	0.970	87	0.856	132	0.934	177	0.869	222	0.482	267	0.494	312	0.392	357	0.808
43	0.965	88	0.860	133	0.941	178	0.859	223	0.465	268	0.494	313	0.404	358	0.819
44	0.960	89	0.862	134	0.948	179	0.850	224	0.448	269	0.495	314	0.418	359	0.829

Remarks: Mounted off corners of 8-ft triangular tower

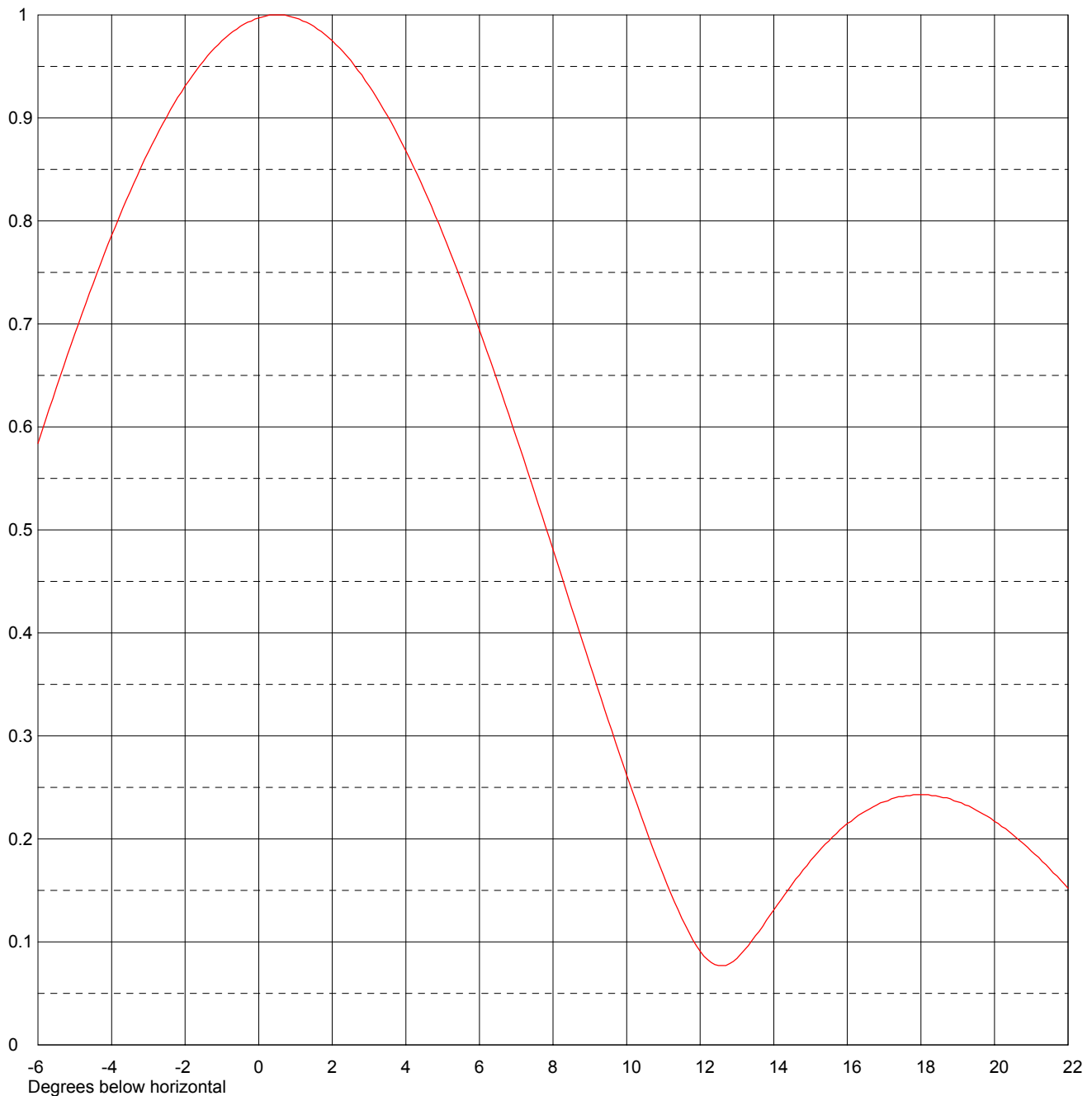


Exhibit No.  
**4A**

Date	<b>10 Oct 2003</b>	
Call Letters	<b>WDKY-DT</b>	Channel <b>4</b>
Location	<b>Danville, KY</b>	
Customer	<b>WDKY Licensee, LLC</b>	
Antenna Type	<b>THB-C3-5M/15H-1-R</b>	

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>5.1 (7.08 dB)</b>	Beam Tilt	<b>0.50 Degrees</b>
RMS Gain at Horizontal	<b>5.1 (7.08 dB)</b>	Frequency	<b>69.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>05H051050</b>



Remarks:

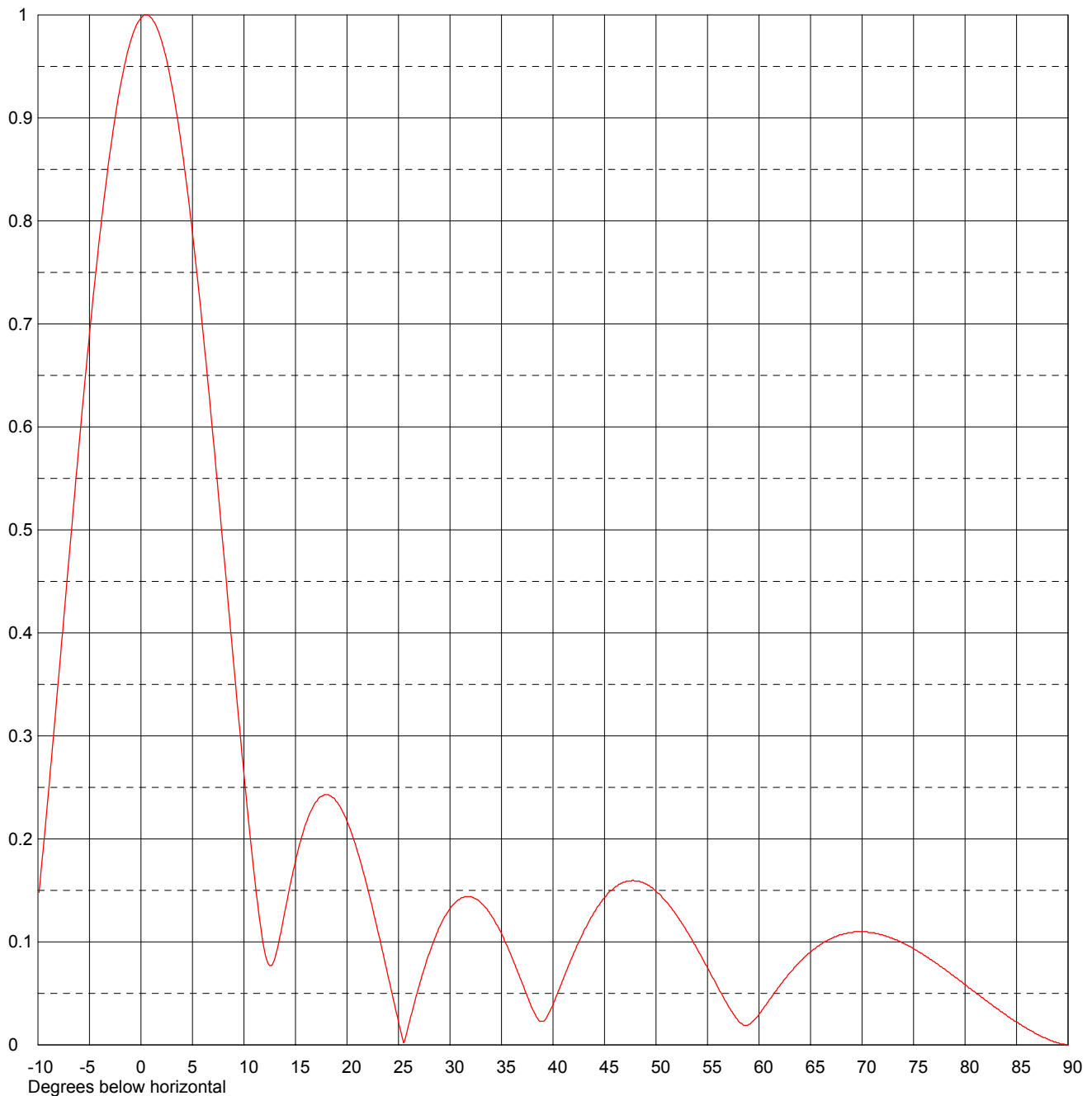


Exhibit No.  
**4B**

Date	<b>10 Oct 2003</b>	
Call Letters	<b>WDKY-DT</b>	Channel <b>4</b>
Location	<b>Danville, KY</b>	
Customer	<b>WDKY Licensee, LLC</b>	
Antenna Type	<b>THB-C3-5M/15H-1-R</b>	

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>5.1 (7.08 dB)</b>	Beam Tilt	<b>0.50 Degrees</b>
RMS Gain at Horizontal	<b>5.1 (7.08 dB)</b>	Frequency	<b>69.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>05H051050-90</b>



Remarks:



Exhibit No.  
5

Date **10 Oct 2003**  
 Call Letters **WDKY-DT** Channel **4**  
 Location **Danville, KY**  
 Customer **WDKY Licensee, LLC**  
 Antenna Type **THB-C3-5M/15H-1-R**

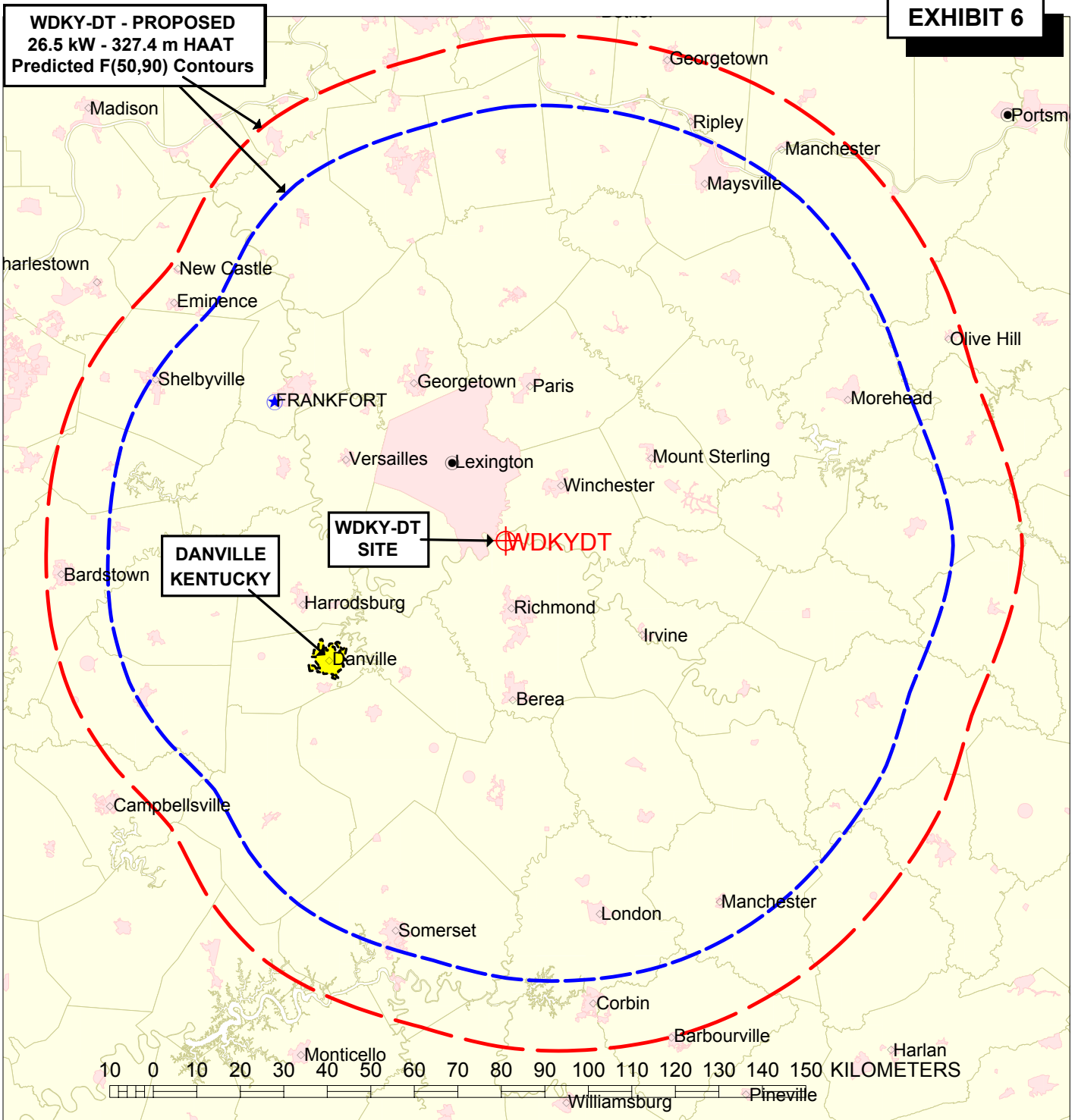
## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **05H051050**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.138	2.4	0.960	10.6	0.202	30.5	0.138	51.0	0.139	71.5	0.108
-9.5	0.189	2.6	0.951	10.8	0.183	31.0	0.142	51.5	0.133	72.0	0.107
-9.0	0.243	2.8	0.942	11.0	0.165	31.5	0.144	52.0	0.126	72.5	0.105
-8.5	0.299	3.0	0.931	11.5	0.123	32.0	0.144	52.5	0.118	73.0	0.103
-8.0	0.356	3.2	0.920	12.0	0.091	32.5	0.142	53.0	0.110	73.5	0.101
-7.5	0.414	3.4	0.908	12.5	0.077	33.0	0.138	53.5	0.102	74.0	0.099
-7.0	0.471	3.6	0.896	13.0	0.084	33.5	0.133	54.0	0.093	74.5	0.096
-6.5	0.528	3.8	0.882	13.5	0.106	34.0	0.126	54.5	0.084	75.0	0.093
-6.0	0.584	4.0	0.868	14.0	0.131	34.5	0.117	55.0	0.075	75.5	0.090
-5.5	0.638	4.2	0.853	14.5	0.156	35.0	0.108	55.5	0.065	76.0	0.087
-5.0	0.690	4.4	0.838	15.0	0.179	35.5	0.097	56.0	0.056	76.5	0.084
-4.5	0.739	4.6	0.822	15.5	0.198	36.0	0.085	56.5	0.047	77.0	0.081
-4.0	0.786	4.8	0.805	16.0	0.215	36.5	0.073	57.0	0.038	77.5	0.077
-3.5	0.828	5.0	0.788	16.5	0.227	37.0	0.060	57.5	0.030	78.0	0.074
-3.0	0.867	5.2	0.770	17.0	0.236	37.5	0.047	58.0	0.023	78.5	0.070
-2.8	0.881	5.4	0.752	17.5	0.241	38.0	0.035	58.5	0.019	79.0	0.066
-2.6	0.895	5.6	0.733	18.0	0.243	38.5	0.026	59.0	0.020	79.5	0.062
-2.4	0.908	5.8	0.714	18.5	0.241	39.0	0.023	59.5	0.024	80.0	0.059
-2.2	0.920	6.0	0.694	19.0	0.236	39.5	0.029	60.0	0.030	80.5	0.055
-2.0	0.931	6.2	0.674	19.5	0.228	40.0	0.039	60.5	0.037	81.0	0.051
-1.8	0.941	6.4	0.654	20.0	0.217	40.5	0.052	61.0	0.044	81.5	0.047
-1.6	0.951	6.6	0.633	20.5	0.204	41.0	0.064	61.5	0.051	82.0	0.043
-1.4	0.960	6.8	0.612	21.0	0.188	41.5	0.077	62.0	0.057	82.5	0.040
-1.2	0.968	7.0	0.590	21.5	0.171	42.0	0.089	62.5	0.064	83.0	0.036
-1.0	0.975	7.2	0.569	22.0	0.152	42.5	0.100	63.0	0.070	83.5	0.032
-0.8	0.981	7.4	0.547	22.5	0.132	43.0	0.111	63.5	0.076	84.0	0.029
-0.6	0.986	7.6	0.525	23.0	0.110	43.5	0.120	64.0	0.081	84.5	0.025
-0.4	0.991	7.8	0.503	23.5	0.089	44.0	0.129	64.5	0.086	85.0	0.022
-0.2	0.994	8.0	0.481	24.0	0.066	44.5	0.136	65.0	0.090	85.5	0.019
0.0	0.997	8.2	0.459	24.5	0.044	45.0	0.143	65.5	0.094	86.0	0.016
0.2	0.999	8.4	0.436	25.0	0.022	45.5	0.149	66.0	0.098	86.5	0.013
0.4	1.000	8.6	0.414	25.5	0.002	46.0	0.153	66.5	0.101	87.0	0.010
0.6	1.000	8.8	0.392	26.0	0.020	46.5	0.156	67.0	0.103	87.5	0.008
0.8	0.999	9.0	0.370	26.5	0.039	47.0	0.158	67.5	0.105	88.0	0.006
1.0	0.997	9.2	0.348	27.0	0.057	47.5	0.159	68.0	0.107	88.5	0.004
1.2	0.994	9.4	0.326	27.5	0.074	48.0	0.159	68.5	0.108	89.0	0.002
1.4	0.991	9.6	0.305	28.0	0.089	48.5	0.158	69.0	0.109	89.5	0.001
1.6	0.986	9.8	0.283	28.5	0.103	49.0	0.156	69.5	0.110	90.0	0.000
1.8	0.981	10.0	0.262	29.0	0.115	49.5	0.153	70.0	0.110		
2.0	0.975	10.2	0.242	29.5	0.125	50.0	0.149	70.5	0.110		
2.2	0.968	10.4	0.222	30.0	0.132	50.5	0.145	71.0	0.109		

Remarks:





## PREDICTED COVERAGE CONTOURS

PROPOSED

WDKY-DT, DANVILLE, KENTUCKY

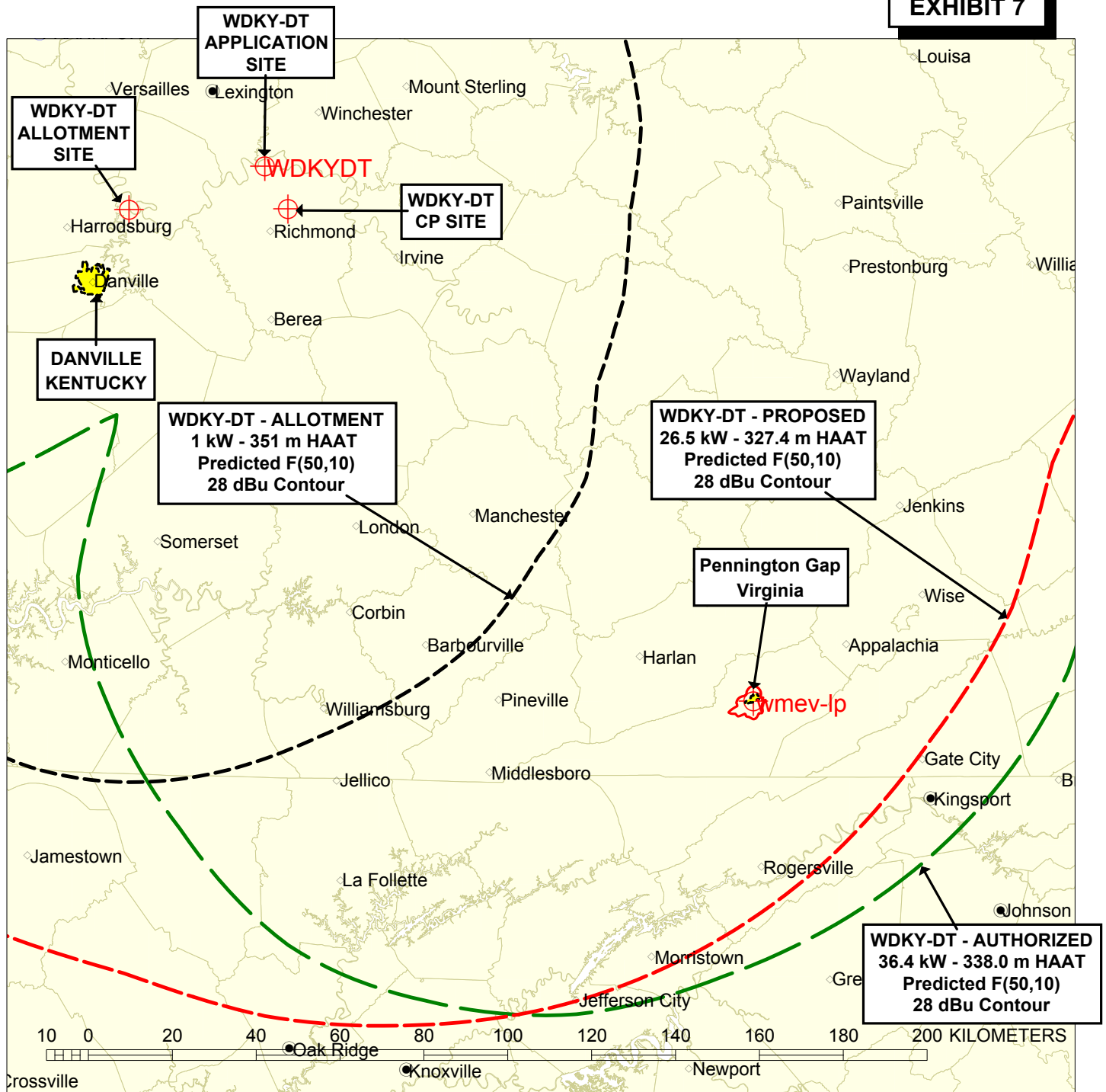
CH. 4, 26.5 kW - 327.4 m HAAT

-----  
 Predicted Principal Community Contour  
 F(50,90) - 35 dBu

-----  
 Predicted Noise Limited Contour  
 F(50,90) - 28 dBu

NOVEMBER, 2003

**CARL T. JONES**  
 CORPORATION



# **PREDICTED INTERFERENCE CONTOURS PROPOSED**

**WDKY-DT, DANVILLE, KENTUCKY  
CH. 4, 26.5 kW - 327.4 m HAAT**

**Predicted Interference Contour  
F(50,10) - 28 dBu**

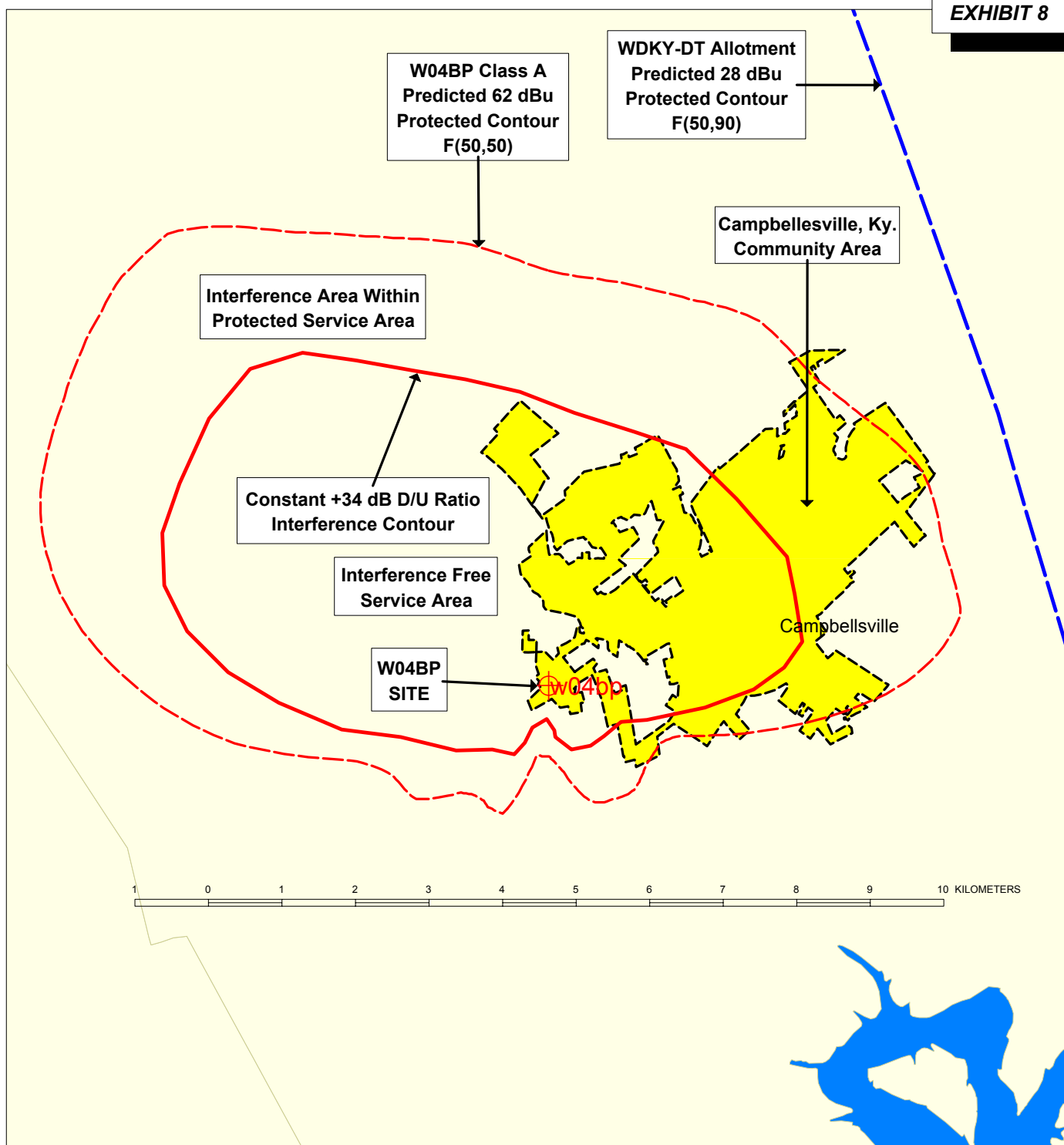
**Predicted Interference Contour  
F(50,10) - 28 dBu  
WDKY-DT - ALLOTMENT**

**Predicted Interference Contour  
F(50,10) - 28 dBu  
WDKY-DT - Construction Permit**

**WMEV-LP - Licensed F(50,50)  
Predicted 62 dBu Service Contour  
Ch. 4 - 0.043 kW - 578 m AMSL**

**NOVEMBER, 2003**

**CARL T. JONES  
CORPORATION**



### PREDICTED COVERAGE CONTOURS

**W04BP - CLASS A**  
**CH. 4, 0.07 kW, 92 m HAAT**  
**Campbellsville, Ky.**

**Reduction of W04BP's**  
**Protected Service Area**  
**Caused By Interference From**  
**WDKY-DT's DTV Allotment**

**WDKY-DT ALLOTMENT**  
**CH. 4, 1.0 kW, 351 m HAAT**  
**Danville, Ky.**

**JUNE 2002**

**CARL T. JONES**  
**CORPORATION**



## TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-11-2002 Time: 15:30:45

## Record Selected for Analysis

W04BP BLTVL -19860513IF CAMPBELLSVILLE KY US  
 Channel 04 ERP 0.070 kW HAAT 0.00 m RCAMSL 328.0 m  
 Latitude 037-20-7. Longitude 0085-22-33  
 Status APP Zone Border Offset -  
 Dir Antenna Make CDB Model 00000000023449 Beam tilt N Ref Azimuth 0.0  
 Last update Cutoff date 19860606 Docket  
 Comments  
 Applicant CAMPSVILLE UNIVERSITY

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Azimuth (Deg)	ERP (kW)	HAAT (m)	47.0 dBu F(50,50) (km)
0.0	0.038	58.0	13.0
45.0	0.066	46.6	13.4
90.0	0.009	86.5	11.2
135.0	0.000	89.3	4.4
180.0	0.000	101.7	2.7
225.0	0.000	128.0	5.8
270.0	0.011	111.9	13.1
315.0	0.067	96.4	19.7

## SPACING VIOLATION FOUND BETWEEN STATION

W04BP 04 CAMPBELLSVILLE KY BLTVL 19860513IF

and station

SHORT TO: WDKY-DT 04 DANVILLE KY DTVPLN DTVP0012  
 037-47-18 0084-40-49  
 Req. separation 273.6 Actual separation 79.4 Short 194.2 km

SHORT TO: WDKY-TV 04 DANVILLE KY BPCDT 19991028ACG  
 037-47-24 0084-15-34  
 Req. separation 273.6 Actual separation 110.8 Short 162.8 km

SHORT TO: WTTV 04 BLOOMINGTON IN BLCT 19951003KE  
039-24-27 0086-08-52  
Req. separation 272.7 Actual separation 239.7 Short 33.0 km

SHORT TO: WSMV-TV 04 NASHVILLE TN BMLCT 19880822KI  
036-08-27 0086-51-56  
Req. separation 304.9 Actual separation 187.8 Short 117.1 km

\*\*\*\*\*

### Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
04	W04BP	CAMPBELLSVILLE KY	BLTVL 19860513IF

### Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
04	WDKY-DT	DANVILLE KY	79.3	PLN	DTVPLN	-DTVP0012
04	WDKY-TV	DANVILLE KY	110.6	CP	BPCDT	-19991028ACG
04	WANE-TV	FORT WAYNE IN	418.1	CP	BPCDT	-19991018AAQ
04	WANE-DT	FORT WAYNE IN	418.1	PLN	DTVPLN	-DTVP0011

%%%

### Analysis of Interference to Affected Station 1

#### DTV Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
04	WDKY-DT	DANVILLE KY	DTVPLN	-DTVP0012

### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
04	WANE-DT	FORT WAYNE IN	369.9	PLN	DTVPLN	-DTVP0011
04	WTTV	BLOOMINGTON IN	220.5	PLN	DTVPLN	-NPLN0507
03	WAVE	LOUISVILLE KY	98.7	PLN	DTVPLN	-NPLN0604
04	WCMHTV	COLUMBUS OH	281.6	PLN	DTVPLN	-NPLN1107
04	WYFF	GREENVILLE SC	350.7	PLN	DTVPLN	-NPLN1308
04	WSMVTN	NASHVILLE TN	266.8	PLN	DTVPLN	-NPLN1410
04	WOAYTV	OAK HILL WV	310.2	PLN	DTVPLN	-NPLN1704

Results for: 4A KY DANVILLE DTVPLN DTVP0012 PLN

HAAT 351.0 m, ATV ERP 1.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	747776	19175.7
not affected by terrain losses	743685	18818.3
lost to NTSC IX	18815	915.6
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	18815	915.6

#### NTSC Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
---------	------	------------	-------------	----------

56 WDKYTV DANVILLE KY DTVPLN -NPLN0690

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
49	WDRB-DT	LOUISVILLE KY	119.8	PLN	DTVPLN	-DTVP1351
55	WHAS-DT	LOUISVILLE KY	120.1	PLN	DTVPLN	-DTVP1494
56	WCLJ-DT	BLOOMINGTON IN	220.1	PLN	DTVPLN	-DTVP1509
56	WLOS-DT	ASHEVILLE NC	313.7	PLN	DTVPLN	-DTVP1515
56	WBGU-DT	BOWLING GREEN OH	378.1	PLN	DTVPLN	-DTVP1518
56	WTVF-DT	NASHVILLE TN	252.0	PLN	DTVPLN	-DTVP1521
59	WKYT-DT	LEXINGTON KY	37.0	PLN	DTVPLN	-DTVP1574
58	WFTE	SALEM IN	119.8	PLN	DTVPLN	-NPLN0590
54	WCVNTV	COVINGTON KY	138.9	PLN	DTVPLN	-NPLN0687
57	WYMTTV	HAZARD KY	147.8	PLN	DTVPLN	-NPLN0692

Results for: 56N KY DANVILLE	DTVPLN	NPLN0690	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	691874	16404.8	
not affected by terrain losses	674815	15469.1	
lost to NTSC IX	414	52.2	
lost to additional IX by ATV	15167	706.8	
lost to all IX	15581	759.0	

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
04	WDKY-DT	DANVILLE KY	DTVPLN	-DTVP0012

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
04	W04BP	CAMPBELLSVILLE KY	79.3	APP	BLTVL	-19860513IF
03	WAVE	LOUISVILLE KY	98.7	LIC	BLCT	-19900727KH
04	WTTV	BLOOMINGTON IN	220.5	LIC	BLCT	-19951003KE
04	WANE-TV	FORT WAYNE IN	369.9	CP	BPCDT	-19991018AAQ
04	WCMH-TV	COLUMBUS OH	281.6	LIC	BLCT	-19820820KF
04	WYFF	GREENVILLE SC	350.5	CP	BPCT	-19990715KE
04	WYFF	GREENVILLE SC	350.7	LIC	BLCT	-2363
04	WSMV-TV	NASHVILLE TN	266.8	LIC	BMLCT	-19880822KI
04	WOAY-TV	OAK HILL WV	310.2	LIC	BLCT	-449
04	WANE-DT	FORT WAYNE IN	369.9	PLN	DTVPLN	-DTVP0011

Total scenarios = 2

Result key: 1  
Scenario 1 Affected station 1  
Before Analysis

Results for: 4A KY DANVILLE	DTVPLN	DTVP0012	PLN
HAAT 351.0 m, ATV ERP 1.0 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	747776	19175.7	
not affected by terrain losses	743685	18818.3	
lost to NTSC IX	18815	915.6	
lost to additional IX by ATV	0	0.0	
lost to ATV IX only	0	0.0	

lost to all IX 18815 915.6

Potential Interferring Stations Included in above Scenario 1

3N KY LOUISVILLE	BLCT	19900727KH	LIC
4N IN BLOOMINGTON	BLCT	19951003KE	LIC
4N OH COLUMBUS	BLCT	19820820KF	LIC
4N SC GREENVILLE	BPCT	19990715KE	CP
4N TN NASHVILLE	BMLCT	19880822KI	LIC
4N WV OAK HILL	BLCT	449	LIC

After Analysis

Results for: 4A KY DANVILLE DTVPLN DTVP0012 PLN

HAAT 351.0 m, ATV ERP 1.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	747776	19175.7
not affected by terrain losses	743685	18818.3
lost to NTSC IX	23257	1148.5
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	23257	1148.5

Potential Interferring Stations Included in above Scenario 1

3N KY LOUISVILLE	BLCT	19900727KH	LIC
4N IN BLOOMINGTON	BLCT	19951003KE	LIC
4N OH COLUMBUS	BLCT	19820820KF	LIC
4N SC GREENVILLE	BPCT	19990715KE	CP
4N TN NASHVILLE	BMLCT	19880822KI	LIC
4N WV OAK HILL	BLCT	449	LIC
4N KY CAMPBELLSVILLE	BLTVL	19860513IF	APP

The following station failed the de minimis interference criteria.

4N KY CAMPBELLSVILLE BLTVL 19860513IF  
ERP 0.07 kW HAAT 0.0 m RCAMSL 328.0 m  
Antenna CDB 00000000023449

Due to interference to the following station and scenario: 1

4D KY DANVILLE DTVPLN DTVP0012  
ERP 1.00 kW HAAT 351.0 m RCAMSL 606.0 m  
Antenna rep KYDANVILLE\_\_04

**Percent Service lost without proposal: 0.0 to DTVPLN DTVP0012**  
**Percent Service lost with proposal: 0.6 to DTVPLN DTVP0012**

Result key: 2  
Scenario 2 Affected station 1  
Before Analysis

Results for: 4A KY DANVILLE DTVPLN DTVP0012 PLN

HAAT 351.0 m, ATV ERP 1.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	747776	19175.7
not affected by terrain losses	743685	18818.3
lost to NTSC IX	18815	915.6

lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	18815	915.6

Potential Interferring Stations Included in above Scenario 2

3N KY LOUISVILLE	BLCT	19900727KH	LIC
4N IN BLOOMINGTON	BLCT	19951003KE	LIC
4N OH COLUMBUS	BLCT	19820820KF	LIC
4N SC GREENVILLE	BLCT	2363	LIC
4N TN NASHVILLE	BMLCT	19880822KI	LIC
4N WV OAK HILL	BLCT	449	LIC

After Analysis

Results for: 4A KY DANVILLE DTVPLN DTVP0012 PLN  
 HAAT 351.0 m, ATV ERP 1.0 kW  
 POPULATION AREA (sq km)  
 within Noise Limited Contour 747776 19175.7  
 not affected by terrain losses 743685 18818.3  
 lost to NTSC IX 23257 1148.5  
 lost to additional IX by ATV 0 0.0  
 lost to ATV IX only 0 0.0  
 lost to all IX 23257 1148.5

Potential Interferring Stations Included in above Scenario 2

3N KY LOUISVILLE	BLCT	19900727KH	LIC
4N IN BLOOMINGTON	BLCT	19951003KE	LIC
4N OH COLUMBUS	BLCT	19820820KF	LIC
4N SC GREENVILLE	BLCT	2363	LIC
4N TN NASHVILLE	BMLCT	19880822KI	LIC
4N WV OAK HILL	BLCT	449	LIC
4N KY CAMPBELLSVILLE	BLTVL	19860513IF	APP

The following station failed the de minimis interference criteria.

4N KY CAMPBELLSVILLE BLTVL 19860513IF  
 ERP 0.07 kW HAAT 0.0 m RCAMSL 328.0 m  
 Antenna CDB 00000000023449

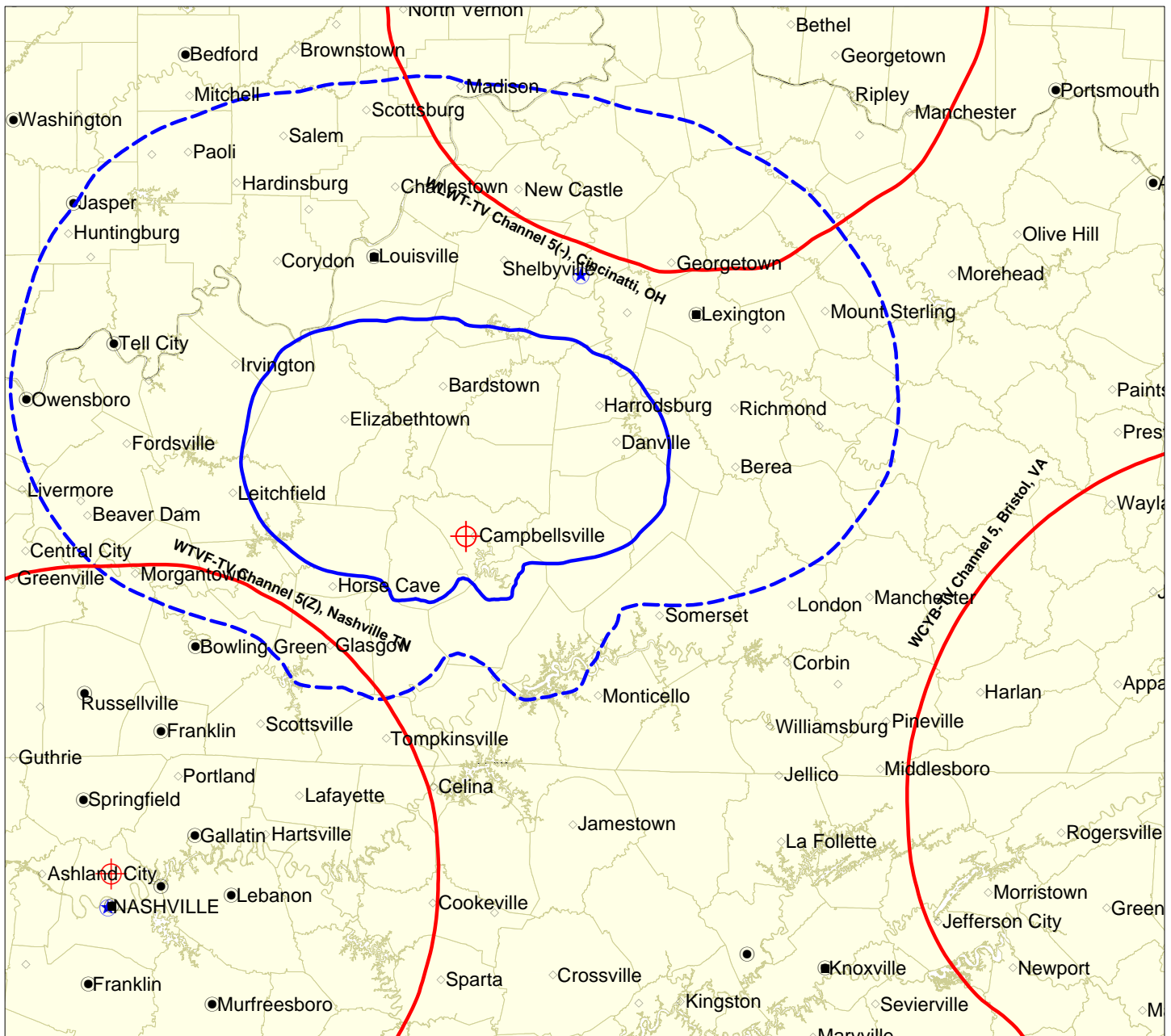
Due to interference to the following station and scenario: 2

4D KY DANVILLE DTVPLN DTVP0012  
 ERP 1.00 kW HAAT 351.0 m RCAMSL 606.0 m  
 Antenna rep KYDANVILLE\_\_04

**Percent Service lost without proposal: 0.0 to DTVPLN DTVP0012**  
**Percent Service lost with proposal: 0.6 to DTVPLN DTVP0012**

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19 dBu F(50,10) 28 dB Offset Interfering Contour

2 dBu F(50,10) 45 dB Non-Offset Interfering Contour

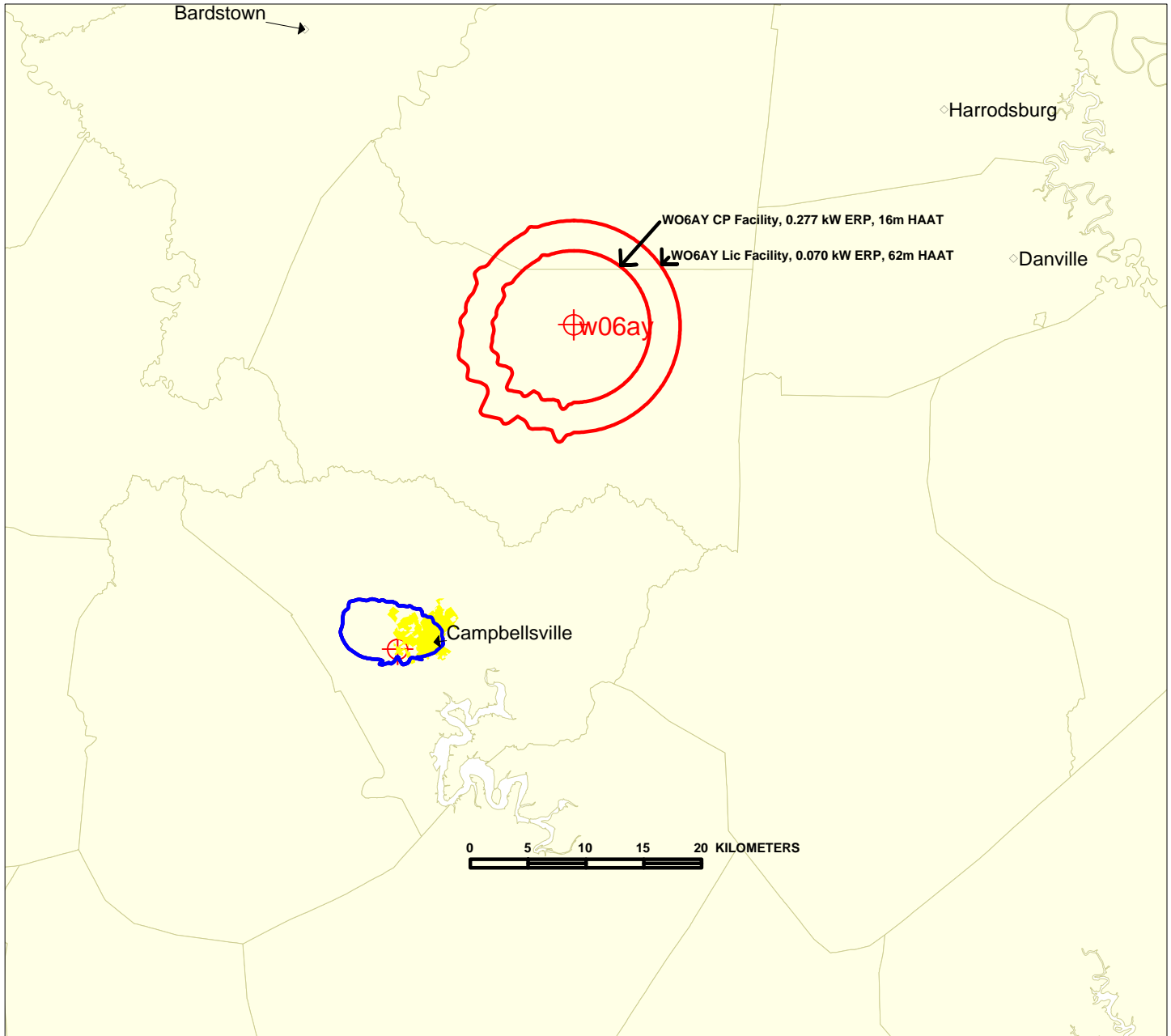
W04BP (CA) Facility On Channel 5  
0.070 kW ERP; 92 m HAAT, Directional

Full Service NTSC Facilities on Channel 5  
47 dBu F(50,50) Protected Grade B Contour

● Campbellsville Corporate Limits

**W04BP Danville, KY**  
**Interfering Contours on Channel 5**  
**June, 2002**

**CARL T. JONES**  
**CORPORATION**



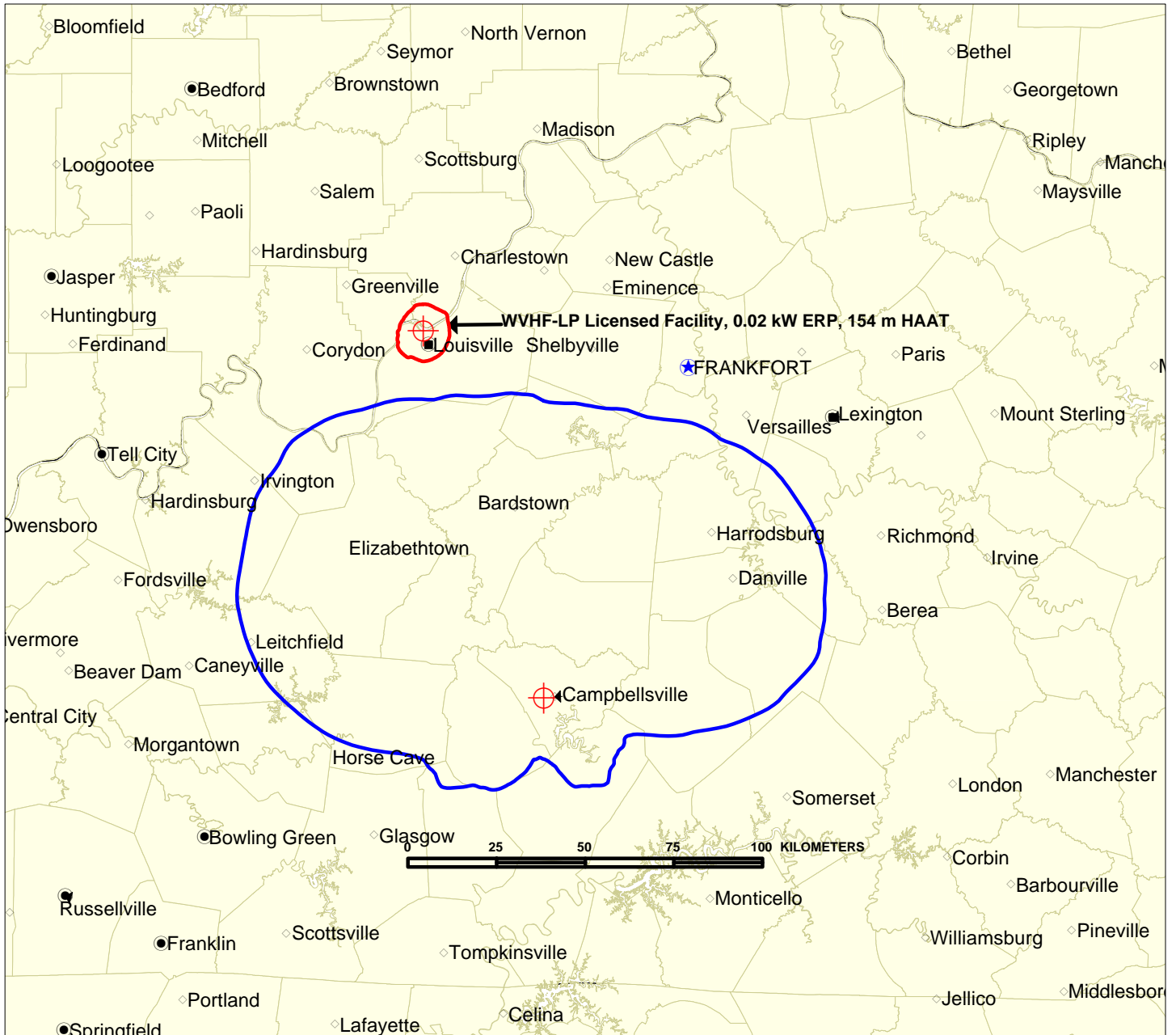
**68 dBu F(50,50) Interfering Contour**

**W04BP (CA) Facility On Channel 5  
0.070 kW ERP; 92 m HAAT, Directional**

**W06AY Translator Facility on Channel 6  
62 dBu F(50,50) Protected Contour**

***W04BP Danville, KY  
Interfering Contours on Channel 5  
June, 2002***

**CARL T. JONES  
CORPORATION**



17 dBu F(50,10) Interfering Contour

W04BP (CA) Facility On Channel 5  
0.070 kW ERP; 92 m HAAT, Directional

WVHF-LP Translator Facility on Channel 5  
62 dBu F(50,50) Protected Contour

**W04BP Danville, KY**  
**Interfering Contours on Channel 5**  
**June, 2002**

**CARL T. JONES**  
**CORPORATION**

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
WDKY-DT, DANVILLE, KENTUCKY  
CHANNEL 4, 26.5 kW ERP, 327.4 m HAAT  
NOVEMBER, 2003

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WDKY-TV	TV	56	725	H	341.2	5000.000	0.300	0.06457	0.483	13.36%
WDKY-DT	DT	4	69	H	316.7	26.500	0.300	0.00079	0.200	0.40%
WKLE(TV)*	TV	46	665	H	249	1260.000	0.300	0.03055	0.443	6.89%
WKLE-DT*	DT	42	641	H	232	48.000	0.300	0.00268	0.427	0.63%
WEKU*	FM	205	88.9	H & V	203	50.000	1.000	0.08107	0.200	40.54%
WLRO*	FM	268	101.5	H & V	147	9.000	1.000	0.02783	0.200	13.91%
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>										<b>75.73%</b>

\* The four broadcast facilities indicated are not located precisely at the proposed site.  
However, the site is within relevant proximity and, as such, the four facilities are included in this study.

\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights  
so that the predicted power densities consider the 2 meter human height allowance.