

## **ENGINEERING EXHIBIT**

### **Application for Post-Transition Digital Television Station Construction Permit**

prepared for

**CBS Broadcasting Inc.**  
KCBS-DT Los Angeles, CA  
Facility ID 9628  
Ch. 43 540 kW 951 m

*CBS Broadcasting Inc.* (“*CBS*”) is the licensee of television station KCBS-TV, analog Channel 2 and digital Channel 60, Los Angeles, CA. *CBS* herein proposes construction of the KCBS-DT post-transition digital facility on Channel 43. This channel was established in Appendix B of the Seventh Report and Order in MB Docket 87-278.

The instant proposal specifies an effective radiated power (“ERP”) of 540 kW at 951 meters antenna height above average terrain (“HAAT”), with a directional antenna. The proposed coverage contour extends beyond that of the Appendix B parameters of 300 kW ERP and 947 meters HAAT. The Appendix B facility contour location falls well short of much of the KCBS-TV analog Channel 2 Grade B contour area.

The proposed digital Channel 43 operation will employ the existing directional antenna system licensed for the present KCAL-DT (Ch. 43, Los Angeles, CA).<sup>1</sup> The antenna is a horizontally polarized Harris model TAD-16UDA-8/64. The antenna employs 1.70 degrees of electrical beam tilt, 1.0 degree of mechanical beamtilt at an azimuth of 217 degrees True, and is directional in the horizontal plane. The antenna’s horizontal plane pattern, expressed in terms of relative field<sup>2</sup> without consideration of the mechanical beamtilt, is supplied as **Figure 1. Figure 1A**

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<sup>1</sup> The antenna HAAT was recalculated for the instant proposal using USGS 3 arc-second terrain data, however the antenna height AMSL of 1844 meters matches KCBS-DT Appendix B data and the KCAL-DT licensed value.

<sup>2</sup> These patterns are supplied in terms of relative field. In recent years, FCC Staff have not required pattern data in dBk format however such patterns are available upon request.

depicts the horizontal plane relative field pattern with the introduction of the mechanical beamtilt, as determined towards the radio horizon along each azimuth and scaled per the Commission’s policies.

**Table 1** presents a tabulation of the horizontal plane relative field pattern, to supplement the relative field data within the Form 301 Section III-D “Tech Box” (item 10e). **Table 1** includes pertinent terrain elevation data and provides the derivation of the relative field pattern towards the radio horizon. Digitized USGS 3 arc-second terrain data was employed. **Figure 2** graphically presents the theoretical vertical plane (elevation) pattern for the antenna system. Along each azimuth (considering the mechanical beamtilt), radiation at any angle above horizontal elevations does not exceed the maximum radiation realized at horizontal or below.

The antenna is situated on an existing antenna supporting structure, having FCC Antenna Structure Registration (“ASR”) number 1007719. No change to the overall structure height and no tower work are required to carry out this proposal.

A map is supplied as **Figure 3**, which depicts the standard predicted coverage contours. This map includes the location of Los Angeles, KCBS-DT’s principal community. As demonstrated thereon, the proposed facility complies with §73.625(a)(1), as the entire principal community will be encompassed by the 48 dBμ contour.

The proposed KCBS-DT facility’s predicted service population provides a 99.6 percent match of the Appendix B facility, as detailed in the table below.

<b>Post-Transition Population Summary</b>		
Population Summary (2000 Census) OET Bulletin 69 method	Appendix B	Proposed
Within Noise Limited Contour	16,082,271	16,139,103
Not affected by terrain losses	14,892,979	14,905,548
Lost to all interference	77,071	147,322
Net DTV Service	<b>14,815,908</b>	<b>14,758,226</b>
Match of Appendix B	---	<b>99.61%</b>

## Freeze Waiver Request

A waiver of the Commission's August 3, 2004 "freeze" concerning expansion in service area<sup>3</sup> is requested. The proposal complies with the criteria for a freeze waiver request outlined in the Report and Order in the Third Periodic Review.<sup>4</sup> KCBS-DT will change channel for post-transition operation and will utilize an existing directional antenna.<sup>5</sup>

The map attached as **Figure 4** supplies a comparison of the 41 dB $\mu$  digital service contour corresponding to the proposed KCBS-DT facility and the Appendix B parameters. As shown thereon, the amount of contour extension does not exceed five miles at any azimuth.

Absent the waiver, the KCBS-DT ERP would have to be reduced to 300 kW to avoid a contour extension. At this power level, the resulting DTV service contour would not cover 313,868 persons within an area of 12,624 sq. km that are presently within the KCBS-TV analog Grade B contour. The potential loss area is depicted in **Figure 4A**.

A detailed interference study per OET Bulletin 69<sup>6</sup> shows that the proposal complies with the 0.5 percent limit of new interference caused to other stations' Appendix B facilities, as summarized in the following.

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<sup>3</sup>Public Notice "Freeze on the Filing of Certain TV and DTV Requests for Allotment or Service Area Changes," DA 04-2446, released August 3, 2004.

<sup>4</sup>Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MB Docket No. 07-91, FCC 07-228, released December 31, 2007.

<sup>5</sup> FCC Staff have informally advised that stations such as KCBS-DT that are changing to a channel other than their analog channel are also eligible for a waiver under the "5 mile" policy, and that such stations do not have to use their existing analog channel antennas to be eligible for the waiver.

<sup>6</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

**Post-Transition Interference Analysis Summary**

Ch	Call Sign	State/City Facility ID	Power (kW) HAAT (m)	Dist (km) Bear (°T)	Appendix B	New Interference	
					Baseline Population (2000 Census)	From Proposal Population	Percent
42	KWHY-DT	CA LOS ANGELES 26231	486 892	1.6 162.6	14,376,860	10,786	0.08%
42	KESQ-DT	CA PALM SPRINGS 25577	50 219	156.0 104.5	372,435	0	0.00%
43	KGMC-DT	CA CLOVIS 23302	283 642	300.5 338.9	--- no interference caused ---		
44	KHIZ-DT	CA BARSTOW 63865	1000 596	83.3 59.1	1,578,242	0	0.00%

Protection requirements towards authorized Class A stations are also satisfied. The potentially affected Class A stations are listed below. An OET Bulletin 69 interference analysis with a 0.5 km cell size and 1990 census shows that no new interference would be caused to these stations. Pursuant to §73.616(e)(1), FCC processing of this proposal is requested on the basis of a **0.5 km cell size** with respect to Class A stations.

**Class A Station Interference Analysis Summary (cell size = 0.5 km)**

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (1990 Census)---	
						Baseline	New Interference
43	KBOP-CA	SAN DIEGO CA	199.8	LIC	BLTTA-20041008ABL	84,001	0 (0.00%)
43	KBOP-CA	SAN DIEGO CA	199.8	CP	BPTTA-20050725ADK	20,984	0 (0.00%)
43	KSKT-CA	SAN MARCOS CA	169.2	LIC	BLTT-19941201JC	---	none

Regarding interference to the licensed Class A KBOP-CA facility, the Appendix B KCBS-DT facility parameters are identical to those of the licensed KCAL-DT facility. KCAL-DT is a “non-checklist” expansion (*i.e.*, “maximization”) facility which causes existing interference to KBOP-CA. This existing interference came about since the licensed KCAL-DT facility was authorized prior to November, 1999 when the Class A Television service was established. The OET

Bulletin 69 analysis results are expanded in the following and show that the instant proposal would not increase interference to KBOP-CA above the existing situation.

Analysis of **Appendix B** KCBS-DT facility towards KBOP-CA

Percent new DTV interference without proposal:	0.0	BLTTA-20041008ABL
Percent new DTV interference with proposal:	12.4	BLTTA-20041008ABL

Analysis of **Proposed** KCBS-DT facility towards KBOP-CA

Percent new DTV interference without proposal:	0.0	BLTTA-20041008ABL
Percent new DTV interference with proposal:	12.4	BLTTA-20041008ABL

**Maximum ERP**

The proposed 540 kW ERP exceeds the maximum allowed for the proposed antenna HAAT of 951 meters currently permitted by §73.622(f)(6)(i). Section 73.622(f)(5) permits the maximum ERP to be exceeded in order to provide the same geographic coverage area as the largest station within the same market. The total area within the proposed KCBS-DT 41 dBμ contour is 44,902 square kilometers, which does not exceed the Appendix B coverage contour area of KNBC-DT (53,084 sq. km, Ch. 36, Los Angeles, CA) as shown in **Figure 5**. Thus, the 540 kW ERP specified herein is in compliance with §73.622(f)(5) of the Commission’s Rules.

**Other Allocation Considerations**

The nearest FCC monitoring station is 511 km distant at Livermore, CA. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with “quiet” zones specified in §73.1030(a) and (b). There are no AM stations within 3.2 kilometers of the site, based on information contained within the Commission’s database. The site location is within the Mexican coordination zone (207 km to the Mexico border), thus further international coordination may be necessary beyond that to establish Appendix B parameters.

**Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposal will involve use of an existing transmitting antenna. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No tower construction or change in

structure height is proposed. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

The transmitting location is on Mount Wilson overlooking the Los Angeles metropolitan area. There are numerous other transmitting facilities at this site area situated on various antenna supporting structures, each within a fenced compound with RF exposure warning signs. *CBS* participates in a radiofrequency ("RF") electromagnetic field exposure safety program, along with other broadcasters and FCC licensees that utilize the Mount Wilson site area. Following construction of the proposed facility, *CBS* will conduct RF exposure measurements (and/or detailed calculations) to evaluate the level of RF exposure resulting from the KCBS-DT facility. As necessary, based on these results and considering all emitters, appropriate exposure abatement procedures will be established and followed, in order to comply with the Commission's exposure limits. Such abatement procedures may involve the restriction of access to certain areas and/or facility modifications to reduce RF levels.

Considering the post-construction measurement and an appropriate abatement program, the general public and workers will not be exposed to RF levels attributable to the proposal in excess of the Commission's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, authorized personnel will be trained and/or supervised as necessary for access to any "controlled" areas. *CBS* will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

Joseph M. Davis, P.E.  
April 6, 2008

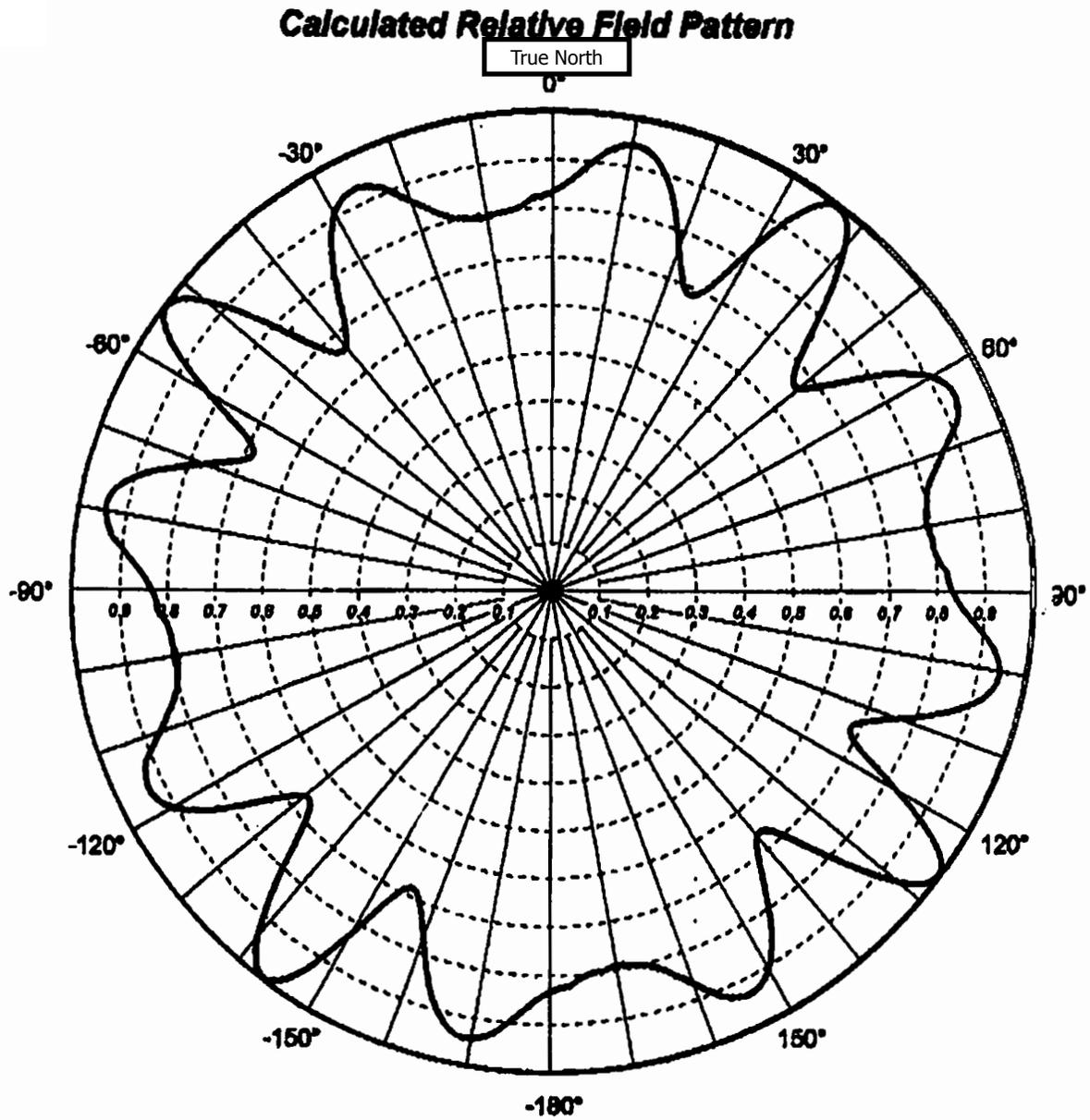
**Chesapeake RF Consultants, LLC**  
11993 Kahns Road  
Manassas, VA 20112  
703-650-9600

### List of Attachments

Figure 1, 1A	Antenna Horizontal Plane Pattern
Figure 2	Antenna Vertical Plane (Elevation) Pattern
Table 1	Antenna Pattern and Elevation Data
Figure 3	Proposed Coverage Contours
Figure 4	Coverage Contour Comparison
Figure 4A	Potential Loss Area Without Waiver
Figure 5	Largest Station in Market
Form 301	Saved Version of Engineering Sections from FCC Form at Time of Upload

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**Figure 1**  
**Antenna Horizontal Plane Main Beam Radiation Pattern**  
**(No Consideration of Mechanical Beamtilt)**

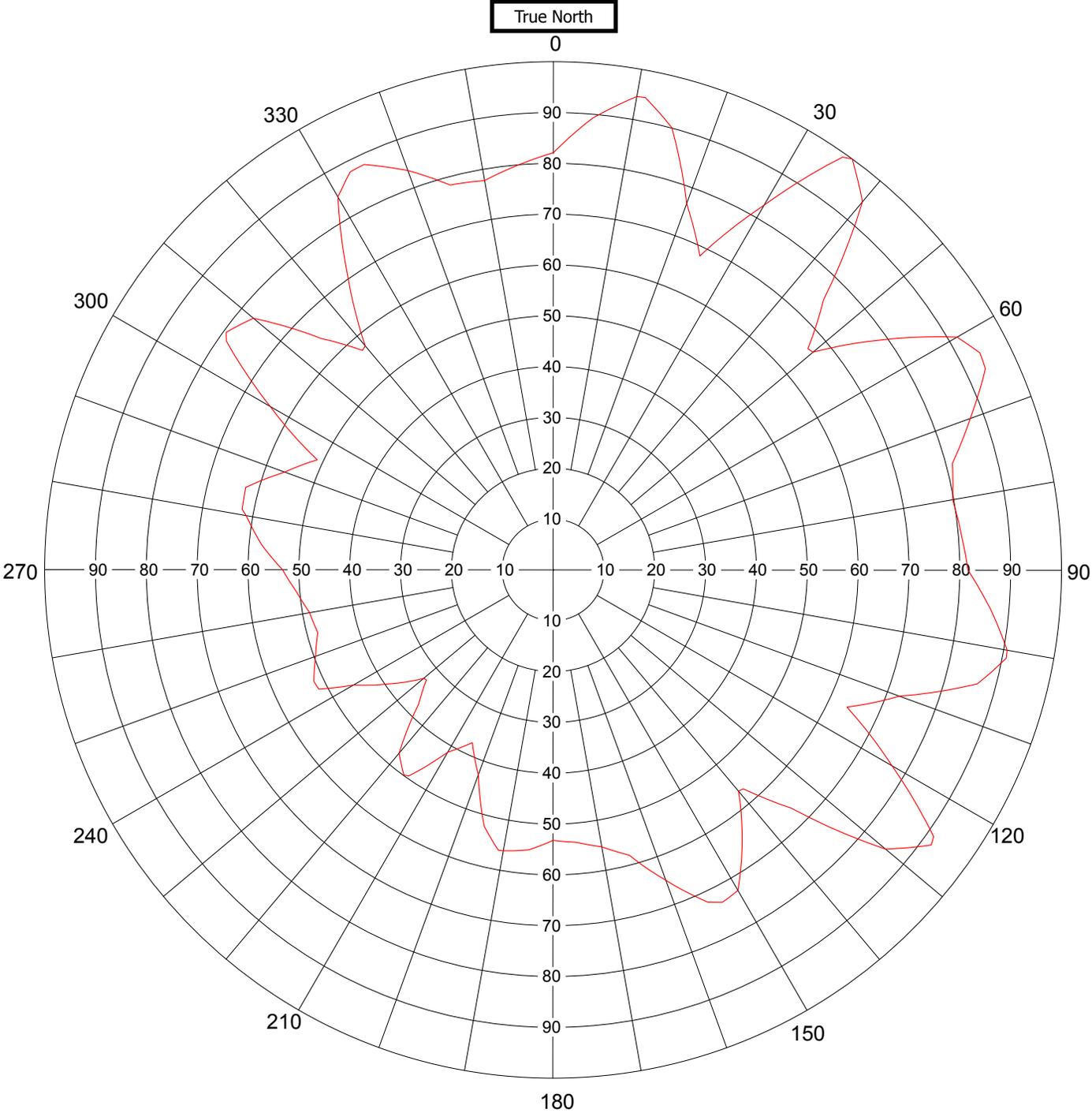


**Harris Model No.: TAD-16UDA-8/84**

**Harris Pattern No.: KCALRA02**

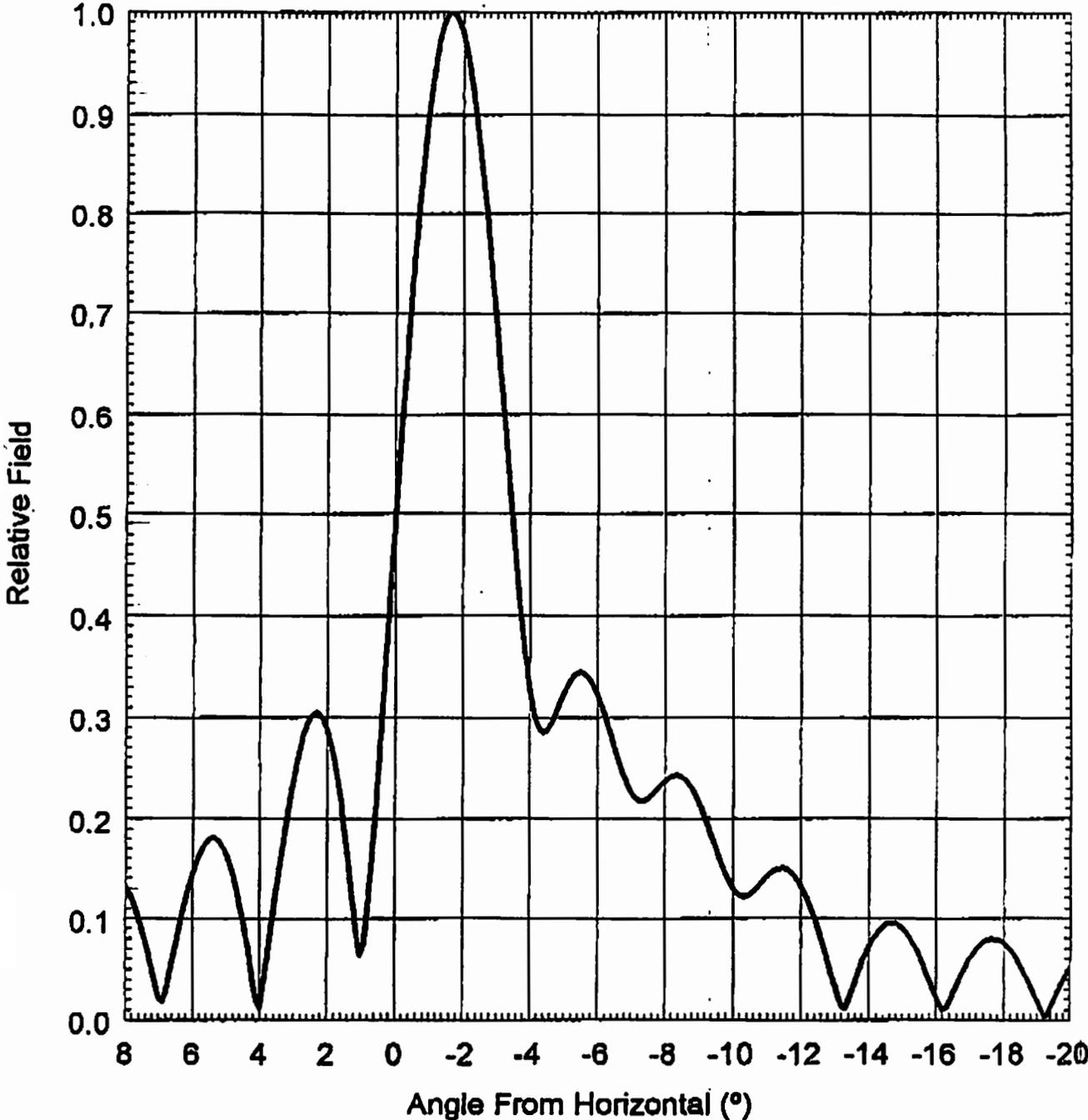
**Figure 1A**  
**Antenna Horizontal Plane Radiation Pattern**  
**Towards Radio Horizon**  
**Considering Mechanical Beamtilt**  
**(1.0 Degree at 217 Degrees True)**

**AZIMUTH PATTERN - RELATIVE FIELD**



**Figure 2**  
**Antenna Vertical (Elevation) Plane Pattern**

***Calculated Elevation Pattern***



Harris Model No.: TAD-16UDA-8/64

Harris Pattern No.: KCALRE02

**Table 1**  
**Antenna Pattern and Elevation Data**  
prepared for  
**KCBS-DT CBS Broadcasting Inc.**

Azimuth (°T)	Average Elevation (meters)	Effective Height (meters)	Antenna Horizontal Plane Relative Field Before Beamtilt <sup>1</sup>	FCC Depression Angle (∠) (degrees)	Mechanical Tilt (degrees)	Effective Tilt (degrees)	Vertical Plane Relative Field at ∠	Composite Relative Field	Normalized Relative Field <sup>2</sup>
0	1425.4	418.6	0.833	0.57	-0.80	0.90	0.972	0.810	0.822
5	1311.6	532.4	0.894	0.64	-0.85	0.85	0.985	0.880	0.893
10	1313.4	530.6	0.945	0.64	-0.89	0.81	0.987	0.933	0.946
11	1343.5	500.5	0.946	0.62	-0.90	0.80	0.987	0.933	0.947
15	1419.7	424.3	0.902	0.57	-0.93	0.77	0.985	0.889	0.901
20	1480.5	363.5	0.768	0.53	-0.96	0.74	0.985	0.756	0.767
25	1517.2	326.8	0.683	0.50	-0.98	0.72	0.984	0.672	0.682
30	1508.0	336.0	0.829	0.51	-0.99	0.71	0.986	0.817	0.829
35	1510.1	333.9	0.992	0.51	-1.00	0.70	0.986	0.978	0.992
36	<b>max</b> 1513.2	330.8	1.000	0.50	-1.00	0.70	0.986	0.986	1.000
40	1455.2	388.8	0.943	0.55	-1.00	0.70	0.989	0.932	0.945
45	1444.8	399.2	0.750	0.55	-0.99	0.71	0.989	0.742	0.752
49	1418.0	426.0	0.662	0.57	-0.98	0.72	0.989	0.655	0.664
50	1407.8	436.2	0.665	0.58	-0.97	0.73	0.989	0.658	0.667
55	1289.8	554.2	0.784	0.65	-0.95	0.75	0.993	0.779	0.790
60	1156.3	687.7	0.908	0.73	-0.92	0.78	0.996	0.904	0.917
63	1136.4	707.6	0.933	0.74	-0.90	0.80	0.995	0.928	0.942
65	1078.3	765.7	0.929	0.77	-0.88	0.82	0.996	0.925	0.938
70	1046.1	797.9	0.866	0.78	-0.84	0.86	0.994	0.861	0.873
75	915.6	928.4	0.806	0.84	-0.79	0.91	0.995	0.802	0.813
80	831.1	1012.9	0.792	0.88	-0.73	0.97	0.994	0.787	0.798
85	913.1	930.9	0.805	0.85	-0.67	1.03	0.987	0.794	0.806
90	1147.0	697.0	0.833	0.73	-0.60	1.10	0.966	0.805	0.816
95	1151.3	692.7	0.894	0.73	-0.53	1.17	0.952	0.851	0.863
100	1060.9	783.1	0.945	0.78	-0.45	1.25	0.947	0.895	0.908
101	1046.8	797.2	0.946	0.78	-0.44	1.26	0.947	0.895	0.908
105	932.5	911.5	0.902	0.84	-0.37	1.33	0.945	0.852	0.864
110	908.9	935.1	0.768	0.85	-0.29	1.41	0.930	0.715	0.725
115	849.0	995.0	0.683	0.87	-0.21	1.49	0.921	0.629	0.638
120	711.7	1132.3	0.829	0.93	-0.12	1.58	0.916	0.759	0.770
125	589.0	1255.0	0.992	0.98	-0.03	1.67	0.909	0.902	0.914
126	<b>max</b> 566.6	1277.4	1.000	0.99	-0.02	1.68	0.907	0.907	0.920
130	486.3	1357.7	0.943	1.02	0.05	1.75	0.892	0.842	0.854
135	431.8	1412.2	0.750	1.04	0.14	1.84	0.871	0.653	0.662
139	400.7	1443.3	0.662	1.05	0.21	1.91	0.849	0.562	0.570
140	394.9	1449.1	0.665	1.05	0.22	1.92	0.842	0.560	0.568
145	373.6	1470.4	0.784	1.06	0.31	2.01	0.816	0.640	0.649
150	337.7	1506.3	0.908	1.08	0.39	2.09	0.791	0.718	0.728

<sup>1</sup> Depicted in **Figure 1**

<sup>2</sup> Depicted in **Figure 1A** and reported in FCC Form 301 Tech Box

**Table 1**  
**KCBS-DT CBS Broadcasting Inc.**  
 (page 2 of 3)



Azimuth (°T)	Average Elevation (meters)	Effective Height (meters)	Antenna	FCC	Mechanical Tilt (degrees)	Effective Tilt (degrees)	Vertical Plane Relative Field at ∠	Composite Relative Field	Normalized Relative Field <sup>2</sup>
			Horizontal Plane Relative Field Before Beamtilt <sup>1</sup>	Depression Angle (∠) (degrees)					
153	313.9	1530.1	0.933	1.08	0.44	2.14	0.776	0.724	0.734
155	299.0	1545.0	0.929	1.09	0.47	2.17	0.765	0.711	0.721
160	295.4	1548.6	0.866	1.09	0.54	2.24	0.740	0.641	0.650
165	312.6	1531.4	0.806	1.08	0.62	2.32	0.711	0.573	0.581
170	313.6	1530.4	0.792	1.08	0.68	2.38	0.689	0.546	0.554
175	314.5	1529.5	0.805	1.08	0.74	2.44	0.659	0.531	0.538
180	302.6	1541.4	0.833	1.09	0.80	2.50	0.630	0.525	0.532
185	297.4	1546.6	0.894	1.09	0.85	2.55	0.610	0.546	0.553
190	294.8	1549.2	0.945	1.09	0.89	2.59	0.586	0.553	0.561
191	295.5	1548.5	0.946	1.09	0.90	2.60	0.586	0.554	0.562
195	302.1	1541.9	0.902	1.09	0.93	2.63	0.571	0.515	0.522
200	309.6	1534.4	0.768	1.09	0.96	2.66	0.551	0.423	0.429
205	311.7	1532.3	0.683	1.08	0.98	2.68	0.541	0.370	0.375
210	325.2	1518.8	0.829	1.08	0.99	2.69	0.492	0.408	0.414
215	340.7	1503.3	0.992	1.07	1.00	2.70	0.492	0.488	0.495
216	<b>max</b> 340.0	1504.0	1.000	1.07	1.00	2.70	0.492	0.492	0.499
220	331.2	1512.8	0.943	1.08	1.00	2.70	0.492	0.464	0.471
225	352.2	1491.8	0.750	1.07	0.99	2.69	0.492	0.369	0.374
229	389.2	1454.8	0.662	1.06	0.98	2.68	0.492	0.326	0.330
230	398.6	1445.4	0.665	1.05	0.97	2.67	0.492	0.327	0.332
235	458.7	1385.3	0.784	1.03	0.95	2.65	0.492	0.386	0.391
240	487.3	1356.7	0.908	1.02	0.92	2.62	0.492	0.447	0.453
243	500.3	1343.7	0.933	1.02	0.90	2.60	0.546	0.510	0.517
245	519.1	1324.9	0.929	1.01	0.88	2.58	0.551	0.512	0.519
250	548.5	1295.5	0.866	1.00	0.84	2.54	0.566	0.490	0.497
255	579.1	1264.9	0.806	0.99	0.79	2.49	0.586	0.472	0.479
260	638.1	1205.9	0.792	0.96	0.73	2.43	0.605	0.479	0.486
265	712.6	1131.4	0.805	0.93	0.67	2.37	0.620	0.499	0.506
270	823.0	1021.0	0.833	0.89	0.60	2.30	0.630	0.525	0.532
275	961.2	882.8	0.894	0.82	0.53	2.23	0.635	0.568	0.576
280	1083.3	760.7	0.945	0.76	0.45	2.15	0.640	0.605	0.614
281	1086.7	757.3	0.946	0.76	0.44	2.14	0.650	0.615	0.623
285	1068.6	775.4	0.902	0.77	0.37	2.07	0.684	0.617	0.626
290	1036.7	807.3	0.768	0.79	0.29	1.99	0.722	0.554	0.562
295	1108.2	735.8	0.683	0.75	0.21	1.91	0.740	0.505	0.512
300	1127.7	716.3	0.829	0.74	0.12	1.82	0.765	0.634	0.643
305	1222.9	621.1	0.992	0.69	0.03	1.73	0.780	0.774	0.785
306	<b>max</b> 1232.0	612.0	1.000	0.69	0.02	1.72	0.783	0.783	0.794
310	1258.1	585.9	0.943	0.67	-0.05	1.65	0.805	0.759	0.770
315	1217.8	626.2	0.750	0.69	-0.14	1.56	0.845	0.634	0.643
319	1291.7	552.3	0.662	0.65	-0.21	1.49	0.852	0.564	0.572
320	1320.0	524.0	0.665	0.63	-0.22	1.48	0.852	0.567	0.575
325	1319.8	524.2	0.784	0.63	-0.31	1.39	0.885	0.694	0.704
330	1232.8	611.2	0.908	0.68	-0.39	1.31	0.920	0.835	0.847
333	1228.0	616.0	0.933	0.69	-0.44	1.26	0.929	0.866	0.879

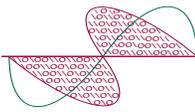
**Table 1**  
**KCBS-DT CBS Broadcasting Inc.**  
 (page 3 of 3)



Azimuth (°T)	Average Elevation (meters)	Effective Height (meters)	Antenna	FCC	Mechanical Tilt (degrees)	Effective Tilt (degrees)	Vertical Plane Relative Field at ∠	Composite Relative Field	Normalized Relative Field <sup>2</sup>
			Horizontal Plane Relative Field Before Beamtilt <sup>1</sup>	Depression Angle (∠) (degrees)					
335	1232.2	611.8	0.929	0.69	-0.47	1.23	0.934	0.868	0.880
340	1194.8	649.2	0.866	0.71	-0.54	1.16	0.952	0.824	0.836
345	1234.6	609.4	0.806	0.68	-0.62	1.08	0.959	0.773	0.784
350	1271.4	572.6	0.792	0.66	-0.68	1.02	0.968	0.767	0.778
355	1345.2	498.8	0.805	0.62	-0.74	0.96	0.972	0.782	0.793
Radiation Center Height AMSL			1844.0	m					
Eight-Radial Average Terrain AMSL			893.1	m					
Radiation Center Height AAT			950.9	m					
Effective Radiated Power (AVG)			540	kW		27.32	dBk		

**Beamtilt details**

1.7 degrees electrical tilt and 1.0 degree mechanical tilt at 217° True  
 Effective Tilt = (Electrical Tilt)<sup>°</sup> + [(Maximum Mechanical Tilt)Cosφ]<sup>°</sup> = (1.7)<sup>°</sup> + (1.0\*Cos(270-Azimuth))<sup>°</sup>  
 Where φ = 0° at azimuth towards mechanical tilt  
 Maximum radiation of 540 kW occurs at 36, 126, 216, and 306 degrees True (horizontal plane relative field = 1.000)

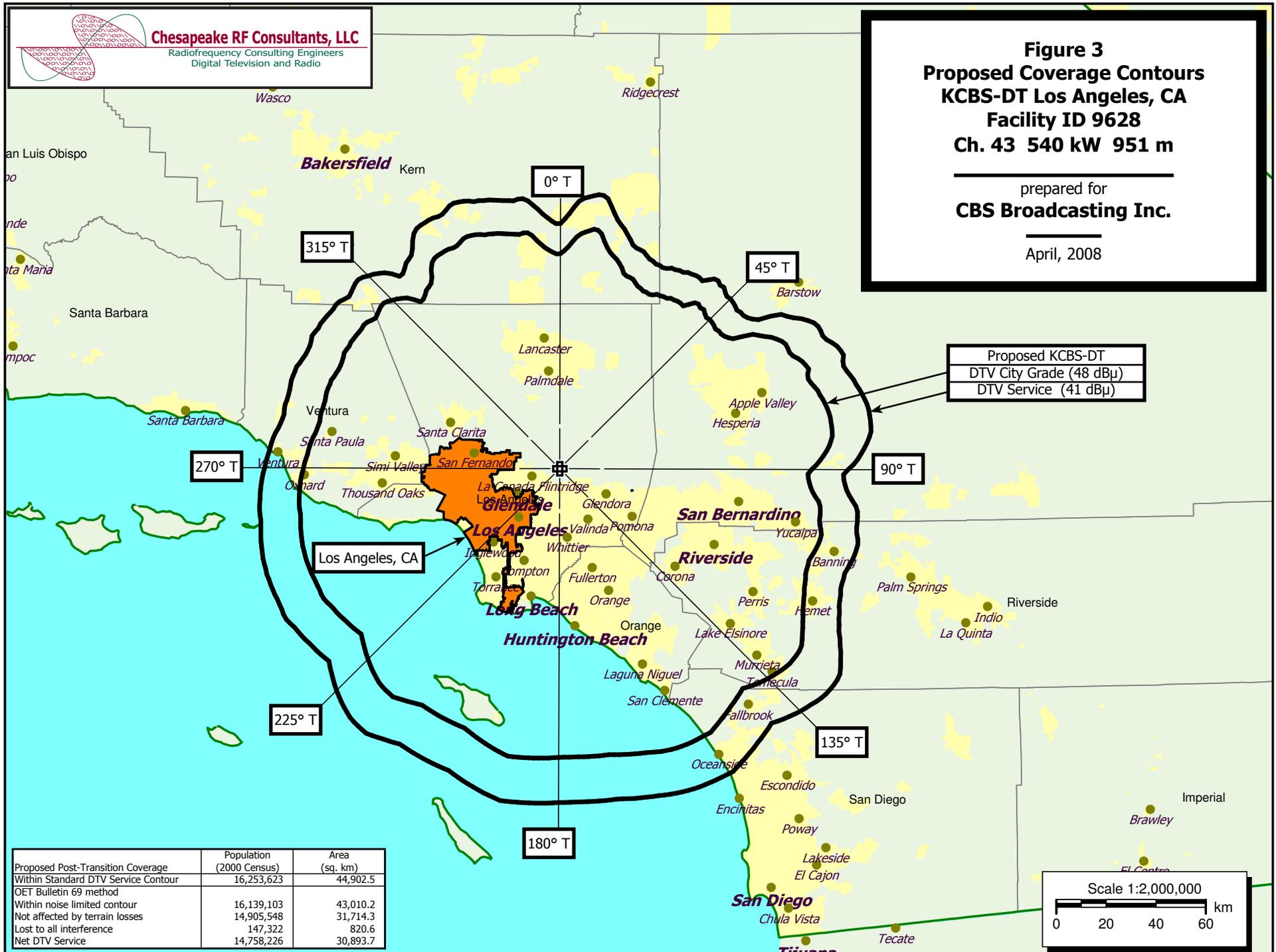


**Chesapeake RF Consultants, LLC**  
 Radiofrequency Consulting Engineers  
 Digital Television and Radio

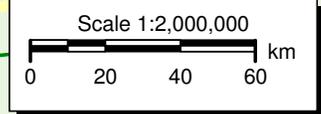
**Figure 3**  
**Proposed Coverage Contours**  
**KCBS-DT Los Angeles, CA**  
**Facility ID 9628**  
**Ch. 43 540 kW 951 m**

prepared for  
**CBS Broadcasting Inc.**

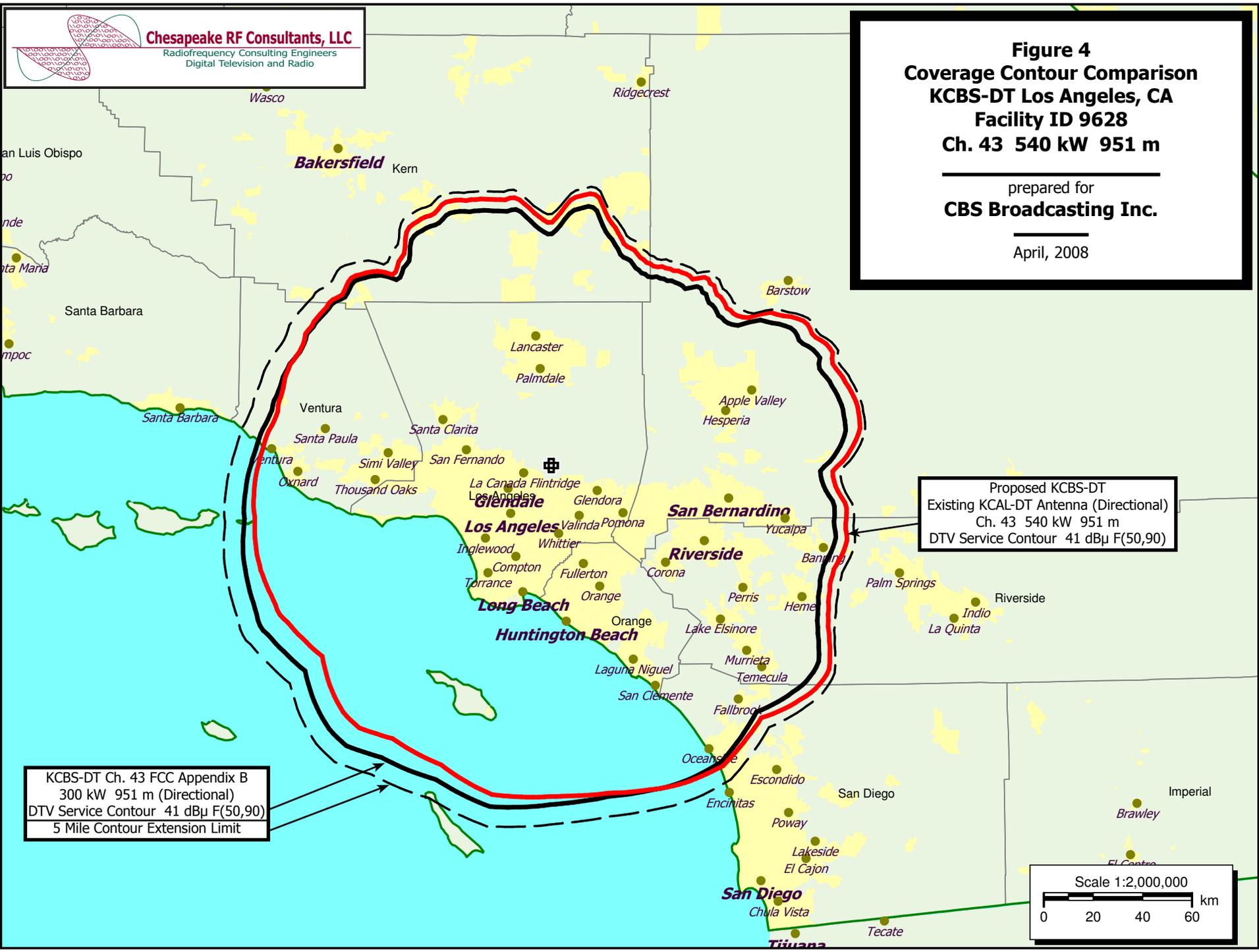
April, 2008



Proposed KCBS-DT  
 DTV City Grade (48 dBμ)  
 DTV Service (41 dBμ)



**Figure 4**  
**Coverage Contour Comparison**  
**KCBS-DT Los Angeles, CA**  
**Facility ID 9628**  
**Ch. 43 540 kW 951 m**  
 prepared for  
**CBS Broadcasting Inc.**  
 April, 2008



KCBS-DT Ch. 43 FCC Appendix B  
 300 kW 951 m (Directional)  
 DTV Service Contour 41 dBμ F(50,90)  
 5 Mile Contour Extension Limit

Proposed KCBS-DT  
 Existing KCAL-DT Antenna (Directional)  
 Ch. 43 540 kW 951 m  
 DTV Service Contour 41 dBμ F(50,90)

Scale 1:2,000,000  
 0 20 40 60 km

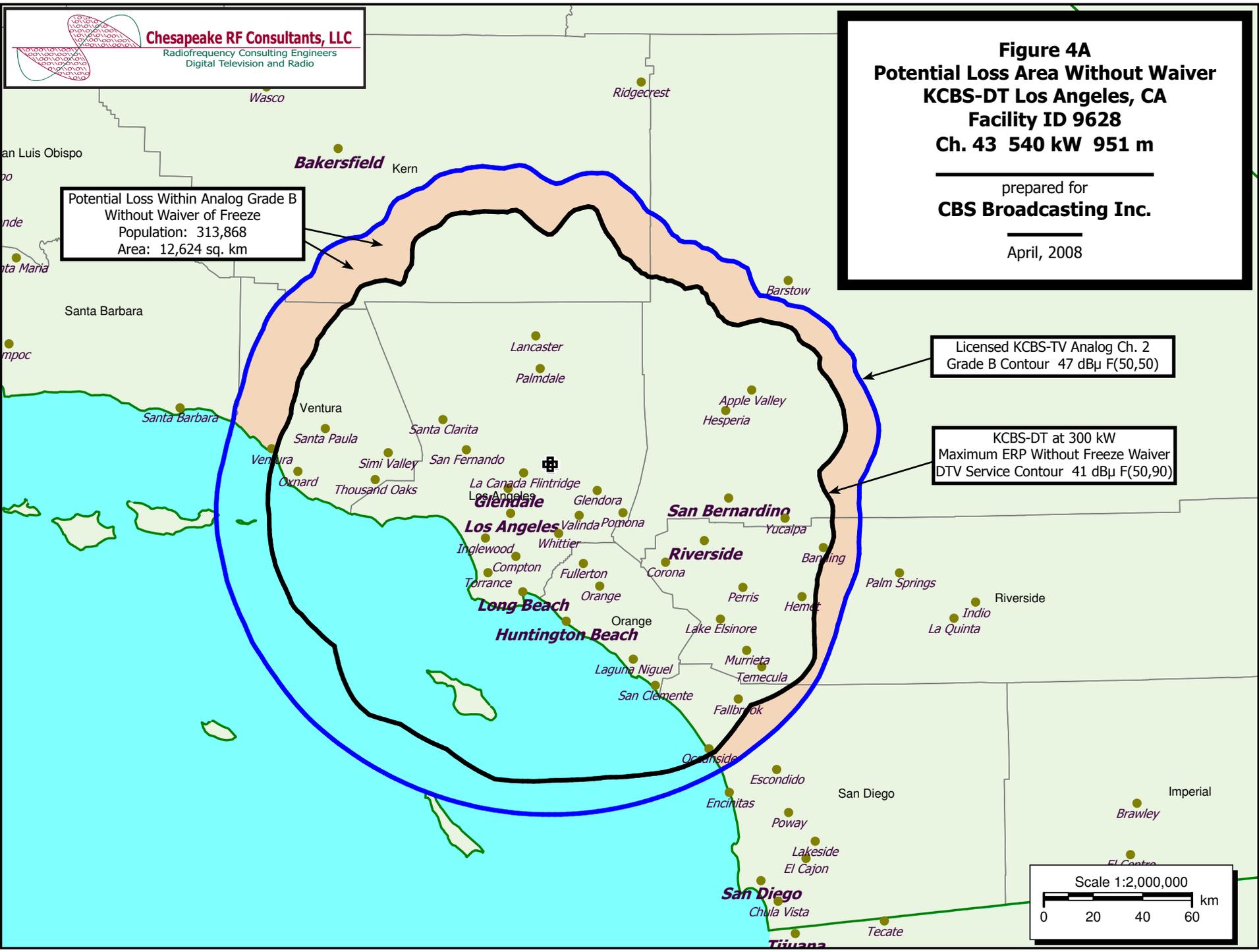
**Figure 4A**  
**Potential Loss Area Without Waiver**  
**KCBS-DT Los Angeles, CA**  
**Facility ID 9628**  
**Ch. 43 540 kW 951 m**

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prepared for  
**CBS Broadcasting Inc.**

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April, 2008

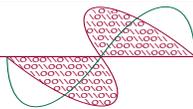


Potential Loss Within Analog Grade B  
 Without Waiver of Freeze  
 Population: 313,868  
 Area: 12,624 sq. km

Licensed KCBS-TV Analog Ch. 2  
 Grade B Contour 47 dBμ F(50,50)

KCBS-DT at 300 kW  
 Maximum ERP Without Freeze Waiver  
 DTV Service Contour 41 dBμ F(50,90)

Scale 1:2,000,000  
 0 20 40 60 km



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

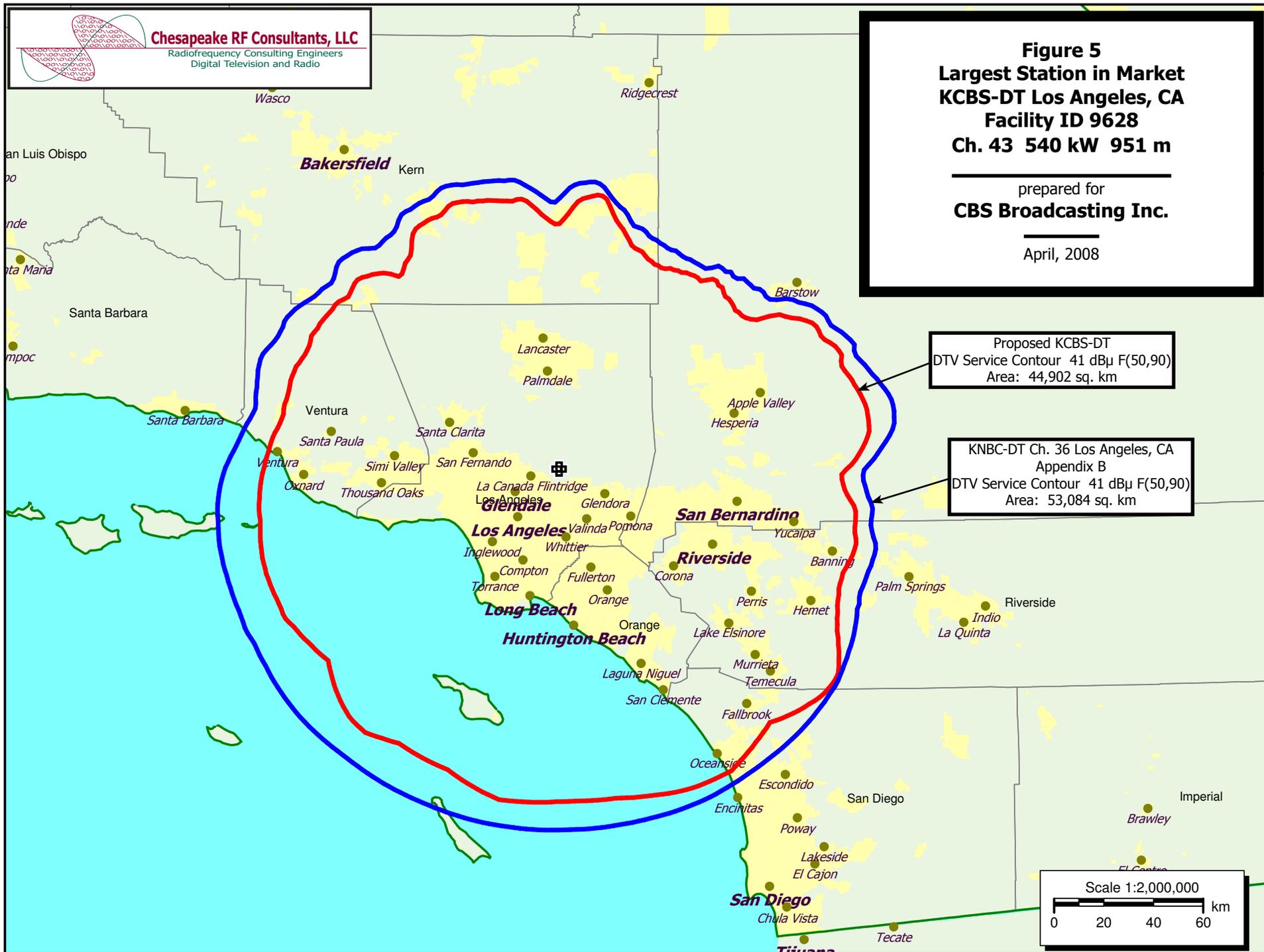
**Figure 5**  
**Largest Station in Market**  
**KCBS-DT Los Angeles, CA**  
**Facility ID 9628**  
**Ch. 43 540 kW 951 m**

prepared for  
**CBS Broadcasting Inc.**

April, 2008

Proposed KCBS-DT  
 DTV Service Contour 41 dBμ F(50,90)  
 Area: 44,902 sq. km

KNBC-DT Ch. 36 Los Angeles, CA  
 Appendix B  
 DTV Service Contour 41 dBμ F(50,90)  
 Area: 53,084 sq. km



SECTION III-D - DTV Engineering	
<b>Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.</b>	
<p><b>Pre-Transition Certification Checklist:</b> An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to change pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.</p> <p><b>Post-Transition Expedited Processing.</b> An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.</p>	
1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:	
(a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622.	<input checked="" type="radio"/> Yes <input type="radio"/> No
(b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input checked="" type="radio"/> No
(c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622.	<input type="radio"/> Yes <input checked="" type="radio"/> No
(d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B").	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
(e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must <b>submit the Exhibit</b> called for in Item 13.	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community.	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable.	<input checked="" type="radio"/> Yes <input type="radio"/> No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	<input checked="" type="radio"/> Yes <input type="radio"/> No

SECTION III-D - DTV Engineering	
<b>TECHNICAL SPECIFICATIONS</b>	
Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.	
<b>TECH BOX</b>	
1. Channel Number: DTV 43 Analog TV, if any 2	
2. Zone: <input type="radio"/> I <input checked="" type="radio"/> II <input type="radio"/> III	
3. Antenna Location Coordinates: (NAD 27) Latitude: Degrees 34 Minutes 13 Seconds 38 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 118 Minutes 4 Seconds 0 <input checked="" type="radio"/> West <input type="radio"/> East	
4. Antenna Structure Registration Number: 1007719 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA	
5. Antenna Location Site Elevation Above Mean Sea Level:	1741 meters
6. Overall Tower Height Above Ground Level:	141.4 meters
7. Height of Radiation Center Above Ground Level:	103 meters
8. Height of Radiation Center Above Average Terrain :	950.9 meters

9. Maximum Effective Radiated Power (average power): 540 kW

10. Antenna Specifications:

a. Manufacturer HAR Model TAD-16UDA-8/64

b. Electrical Beam Tilt:  
1.7 degrees  Not Applicable

c. Mechanical Beam Tilt:  
1 degrees toward azimuth  
217 degrees True  Not Applicable  
Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 42]

d. Polarization:  
 Horizontal  Circular  Elliptical

e. Directional Antenna Relative Field Values:  Not applicable (Nondirectional)

[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.]  
[Relative Field Values]

**10e. Directional Antenna Relative Field Values**

[Fill in this subform for a composite directional (not off-the-shelf) antenna, only.]

e. Directional Antenna Relative Field Values:

Rotation (Degrees):  No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.822	10	0.946	20	0.767	30	0.829	40	0.945	50	0.667
60	0.917	70	0.873	80	0.798	90	0.816	100	0.908	110	0.725
120	0.77	130	0.854	140	0.568	150	0.728	160	0.65	170	0.554
180	0.532	190	0.561	200	0.429	210	0.414	220	0.471	230	0.332
240	0.453	250	0.497	260	0.486	270	0.532	280	0.614	290	0.562
300	0.643	310	0.77	320	0.575	330	0.847	340	0.836	350	0.778
Additional Azimuths		36	1	126	0.92	216	0.499	306	0.794		

Relative Field Polar Plot

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [Exhibit 43]

11. Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616?  Yes  No [Exhibit 44]

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if **Certification Checklist** item 3 is answered "No.") [Exhibit 45]

13. **Environmental Protection Act. Submit in an Exhibit** the following: [Exhibit 46]  
If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.  
  
By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.  
  
If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.

**PREPARERS CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.**

**SECTION III - PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.	Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature	Date 4/6/2008	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

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Any specified rotation has already been applied to the plotted pattern.  
Field strength values shown on a rotated pattern may differ from the listed values because intermediate azimuths are interpolated between entered azimuths.

