ENGINEERING STATEMENT
APPLICATION FOR LICENSE
CONSTRUCTION PERMIT BPEDT-20000501AHE
WNVC-DT, FAIRFAX, VIRGINIA
CHANNEL 57   7.25 KW ERP   173.7 METERS HAAT

DECEMBER 2003

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This engineering statement has been prepared on behalf of Commonwealth Public Broadcasting Corporation and accompanies the request for license. The purpose of this engineering statement is to accompany the request to license the DTV facility specified in construction permit BPEDT-20000501AHE. The antenna specified in the construction permit is a Scala, Type SL-8 and the antenna actually installed is a Dielectric, Type DL-8.

The Dielectric, Type DL-8 directional pattern is very similar to the Scala, Type SL-8. For completeness attached is the Scala, Type SL-8 pattern and tabulation of relative field value and the pattern and tabulation for the Dielectric, Type DL-8 and a comparison in tabular form of the directional patterns. It is noted that the Scala, Type SL-8 specified an electrical beam tilt of 1.75° and the Dielectric, Type DL-8 as built has an electrical tilt of 1.0. Since the pattern of each antenna is inside the contour of the predicted 41 dBu allotment, there is no allocation issued raised.

There are no changes from that proposed and authorized.

TABLE I
WNVC-DT, FAIRFAX, VIRGINIA
CHANNEL 57   7.25 KW ERP   173.7 METERS HAAT
ANTENNA COMPARISON
BETWEEN SCALA SL-8 and DIELECTRIC DL-8
DECEMBER 2003

| | Relative Field Values | | | Relative Field Values | |
Azimuth N ° E,T	Scala SL-8	Dielectric DL-8	Azimuth N ° E,T	Scala SL-8	Dielectric DL-8
0	0.85	0.817	180	0.65	0.569
10	0.89	0.869	190	0.66	0.571
20	0.93	0.914	200	0.68	0.586
30	0.96	0.951	210	0.69	0.607
40	0.98	0.975	220	0.70	0.627
50	0.99	0.993	230	0.71	0.640
60	1.00	1.000	240	0.72	0.645
70	0.99	0.996	250	0.70	0.641
80	0.99	0.981	260	0.96	0.631
90	0.97	0.955	270	0.67	0.613
100	0.94	0.920	280	0.65	0.592
110	0.91	0.876	290	0.64	0.579
120	0.85	0.826	300	0.64	0.570
130	0.78	0.771	310	0.65	0.579
140	0.73	0.714	320	0.66	0.610
150	0.68	0.661	330	0.69	0.650
160	0.66	0.615	340	0.74	0.699
170	0.65	0.583	350	0.79	0.759

EXHIBIT E - 1A
SCALA SL-8 AZIMUTH PATTERN
DIRECTIONAL ANTENNA DATA
**WNVC-DT, FAIRFAX, VIRGINIA**
DECEMBER 2003
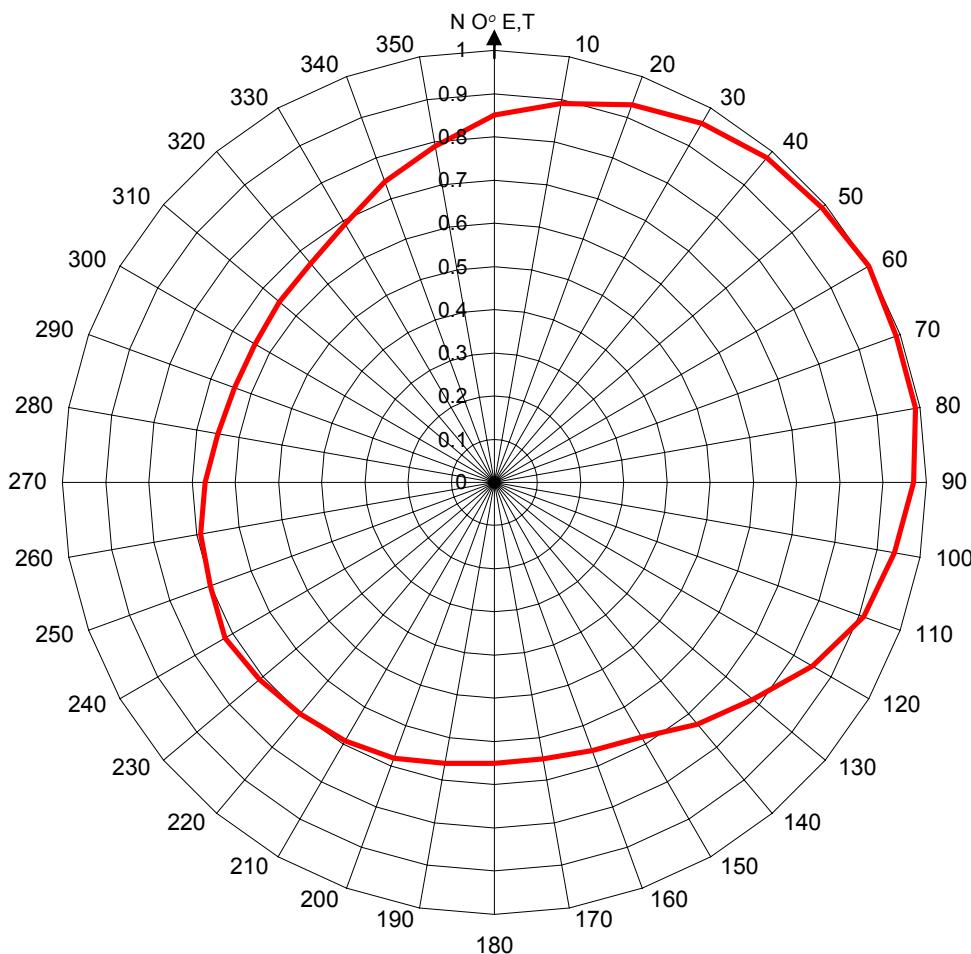
EXHIBIT E - 1B
SCALA SL-8
DIRECTIONAL ANTENNA DATA
WNVC-DT, FAIRFAX, VIRGINIA
DECEMBER 2003

Azimuth N ° E, T	Relative Field	ERP kW	Azimuth N ° E, T	Relative Field	ERP kW
0	0.85	5.274	180	0.65	3.084
10	0.89	5.782	190	0.66	3.180
20	0.93	6.314	200	0.68	3.376
30	0.96	6.728	210	0.69	3.476
40	0.98	7.011	220	0.70	3.577
50	0.99	7.155	230	0.71	3.680
60	1.00	7.300	240	0.72	3.784
70	0.99	7.155	250	0.70	3.577
80	0.99	7.155	260	0.69	3.476
90	0.97	6.869	270	0.67	3.277
100	0.94	6.450	280	0.65	3.084
110	0.91	6.045	290	0.64	2.990
120	0.85	5.274	300	0.64	2.990
130	0.78	4.441	310	0.65	3.084
140	0.73	3.890	320	0.66	3.180
150	0.68	3.376	330	0.69	3.476
160	0.66	3.180	340	0.74	3.997
170	0.65	3.084	350	0.79	4.556
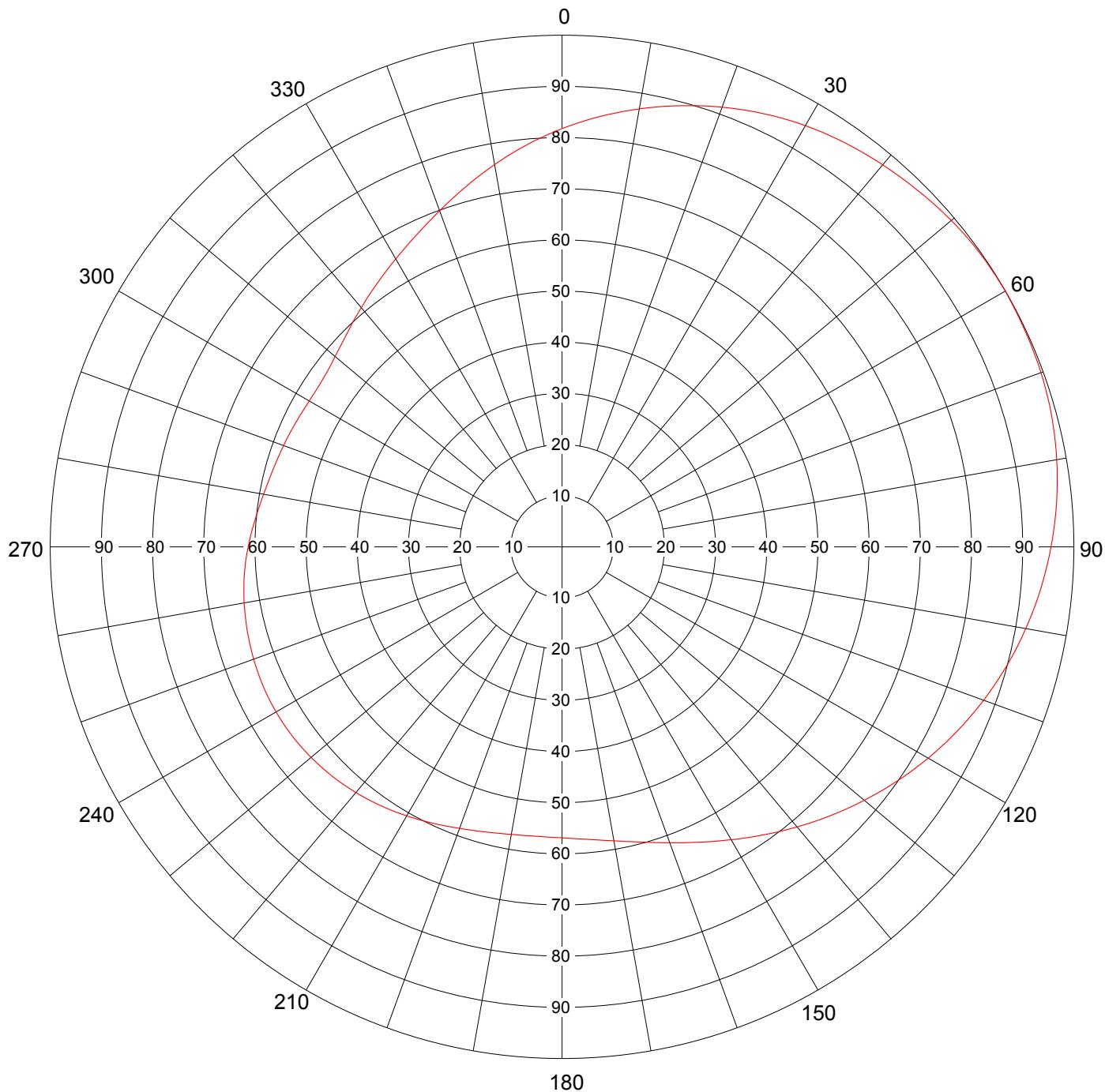
Date	**22 Dec 2003**	
Call Letters	**WNVC-DT**	Channel **57**
Location	**FAIRFAX, VA**	
Customer		
Antenna Type	**DL-8**	

AZIMUTH PATTERN

Gain	**1.70 (2.30 dB)**	Frequency	**731 MHz**
Calculated / Measured	**Calculated**	Drawing #	**DL-B**

Remarks:

Dielectric

Date **22 Dec 2003**
Call Letters **WNVC-DT** Channel **57**
Location **FAIRFAX, VA**
Customer
Antenna Type **DL-8**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **DL-B**

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

Remarks: