



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
POST REPACK CONSTRUCTION PERMIT  
WNAB - NASHVILLE, TENNESSEE  
DTV - CH. 30 - 200 kW - 425 m HAAT**

Prepared for: NASHVILLE LICENSE HOLDINGS, L.L.C.

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, License No. 7418, and in the State of New York, License No. 63418.

#### **GENERAL**

This office has been authorized by NASHVILLE LICENSE HOLDINGS, L.L.C., licensee of WNAB channel 23, facility ID number 73310, licensed to Nashville, Tennessee, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for construction permit, in accordance with the Incentive Auction Closing and Channel Reassignment Public Notice, DA 17-314, and the technical information provided in the confidential reassignment letter from the FCC announcing the substitution for DTV channel 23 with new DTV channel 30 to be used by WNAB for its post-reassignment broadcasting.

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## **DIRECTIONAL ANTENNA**

The applicant proposes to install a new Dielectric TFU-26DSC/VP-R C180 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 366 meters, and a height above average terrain of 425 meters. The antenna manufacturer's directional 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.

## **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, Nashville, Tennessee.

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## **ALLOCATION CONSIDERATIONS**

### ***Post-Transition DTV Considerations***

A study was performed, using the FCC's software, tv\_study, v. 2.2.2, 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. The study also shows that WNAB's proposed service area is within the baseline plus 1%. (See Appendix B)

### ***International DTV Considerations***

The WNAB site is located beyond the coordination distances from the nearest points on both the US-Canadian border and US/Mexican border.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WNAB site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

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**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 ( $\mu\text{W}/\text{cm}^2$ ) 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 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

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frequency in MHZ by 0.3.

The predicted emissions of WNAB must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WNAB, 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 WNAB facility will operate with a maximum ERP of 200 kW from an elliptically polarized directional transmitting antenna with a centerline height of 366 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WNAB facility is predicted to produce a power density at two meters above ground level of 5.674  $\mu\text{W}/\text{cm}^2$ , which is 1.496% of the FCC guideline value for an "uncontrolled" environment, and 0.299% of the FCC's guideline value for "controlled" environments. There are two other full-power DTV facilities, one LPTV DTV facility, four full-power FM stations, one LPFM station and three FM auxiliary facilities that are located at the WNAB site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 67.76% of the limit applicable to "uncontrolled" environments, and 13.552% of the limit for "controlled" environments. (See Appendix A)

**OCCUPATIONAL SAFETY**

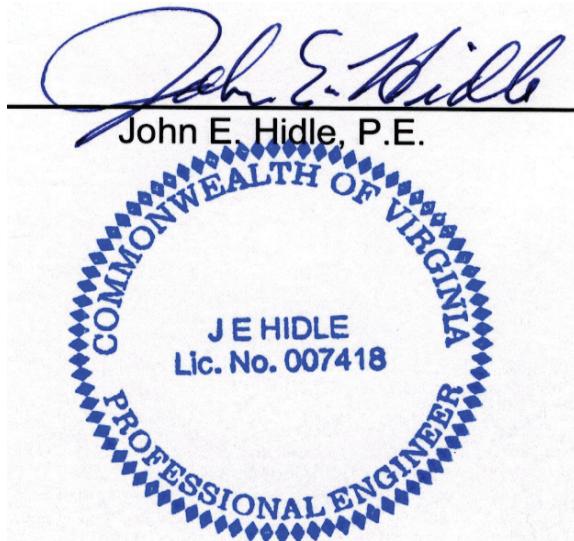
The licensee of WNAB is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WNAB antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

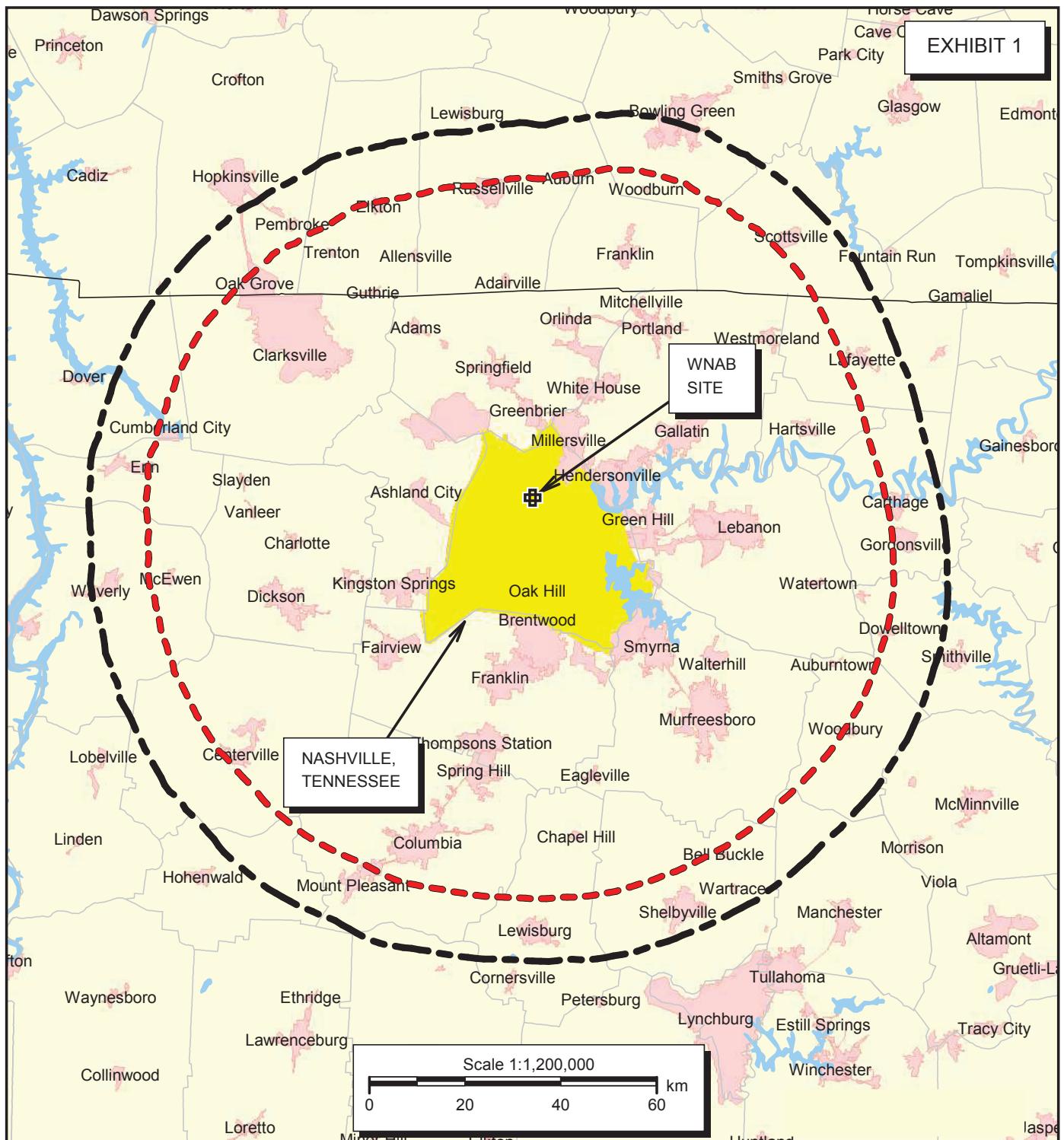
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**SUMMARY**

It is submitted that the instant application for construction permit to change WNAB from channel 23 to channel 30, 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: June 22, 2017





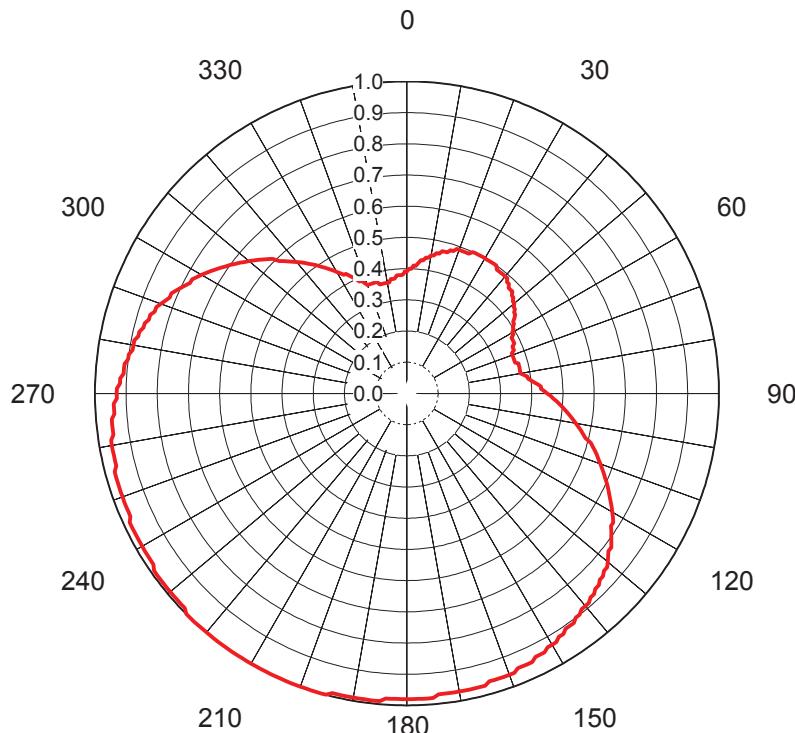
## PREDICTED COVERAGE CONTOURS

WNAB - NASHVILLE, TENNESSEE  
 DTV Channel 30 - 200 kW ERP - 425 M HAAT  
 MAY, 2017

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



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



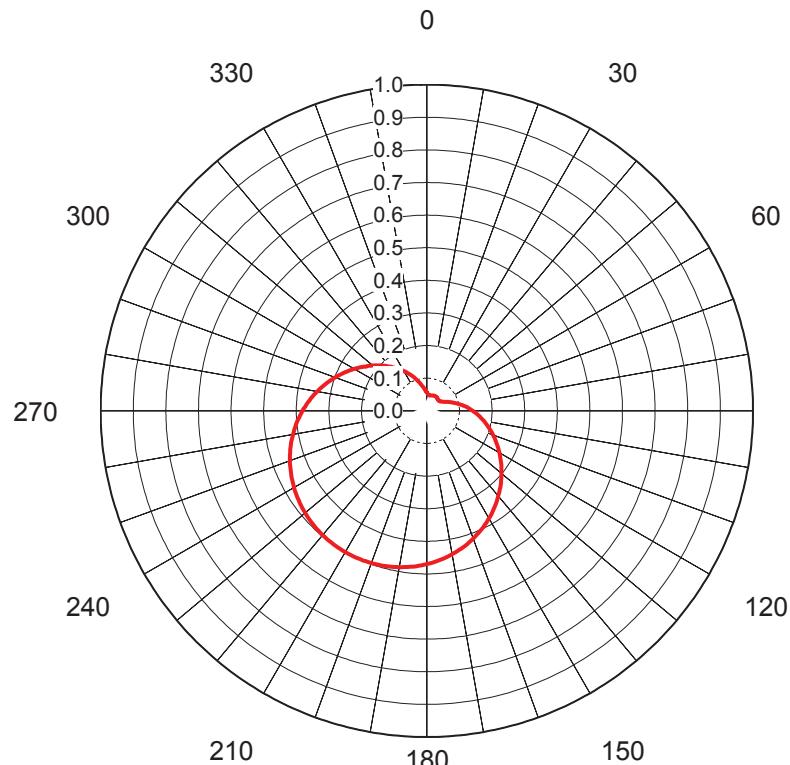
## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No.	<b>C-70153</b>
Date	<b>23-Mar-17</b>
Call Letters	<b>WNAB</b>
Channel	<b>30</b>
Frequency	<b>569 MHz</b>
Antenna Type	<b>TFU-26DSC/VP-R C180</b>
Gain	<b>1.77 (2.48dB)</b>
Calculated	

Deg	Value																		
0	0.390	36	0.490	72	0.360	108	0.640	144	0.910	180	0.980	216	1.000	252	0.970	288	0.850	324	0.510
1	0.400	37	0.490	73	0.360	109	0.650	145	0.910	181	0.980	217	1.000	253	0.970	289	0.850	325	0.500
2	0.400	38	0.490	74	0.360	110	0.660	146	0.910	182	0.980	218	1.000	254	0.970	290	0.840	326	0.490
3	0.410	39	0.490	75	0.370	111	0.670	147	0.920	183	0.980	219	1.000	255	0.970	291	0.830	327	0.480
4	0.410	40	0.490	76	0.370	112	0.680	148	0.920	184	0.980	220	1.000	256	0.960	292	0.820	328	0.470
5	0.420	41	0.490	77	0.370	113	0.690	149	0.930	185	0.990	221	1.000	257	0.960	293	0.820	329	0.460
6	0.430	42	0.480	78	0.370	114	0.700	150	0.930	186	0.990	222	1.000	258	0.960	294	0.810	330	0.450
7	0.430	43	0.480	79	0.370	115	0.710	151	0.930	187	0.990	223	1.000	259	0.960	295	0.800	331	0.440
8	0.440	44	0.470	80	0.370	116	0.720	152	0.940	188	0.990	224	1.000	260	0.960	296	0.790	332	0.430
9	0.440	45	0.470	81	0.380	117	0.730	153	0.940	189	0.990	225	1.000	261	0.960	297	0.780	333	0.430
10	0.450	46	0.470	82	0.390	118	0.740	154	0.940	190	0.990	226	0.990	262	0.950	298	0.780	334	0.420
11	0.450	47	0.460	83	0.390	119	0.750	155	0.950	191	0.990	227	0.990	263	0.950	299	0.770	335	0.410
12	0.460	48	0.460	84	0.400	120	0.760	156	0.950	192	0.990	228	0.990	264	0.950	300	0.760	336	0.400
13	0.460	49	0.450	85	0.410	121	0.770	157	0.950	193	0.990	229	0.990	265	0.950	301	0.750	337	0.390
14	0.470	50	0.450	86	0.420	122	0.780	158	0.950	194	0.990	230	0.990	266	0.940	302	0.740	338	0.390
15	0.470	51	0.440	87	0.430	123	0.780	159	0.960	195	1.000	231	0.990	267	0.940	303	0.730	339	0.380
16	0.470	52	0.440	88	0.430	124	0.790	160	0.960	196	1.000	232	0.990	268	0.940	304	0.720	340	0.370
17	0.480	53	0.430	89	0.440	125	0.800	161	0.960	197	1.000	233	0.990	269	0.930	305	0.710	341	0.370
18	0.480	54	0.430	90	0.450	126	0.810	162	0.960	198	1.000	234	0.990	270	0.930	306	0.700	342	0.370
19	0.490	55	0.420	91	0.460	127	0.820	163	0.960	199	1.000	235	0.990	271	0.930	307	0.690	343	0.370
20	0.490	56	0.410	92	0.470	128	0.820	164	0.960	200	1.000	236	0.980	272	0.920	308	0.680	344	0.370
21	0.490	57	0.410	93	0.480	129	0.830	165	0.970	201	1.000	237	0.980	273	0.920	309	0.670	345	0.370
22	0.490	58	0.400	94	0.490	130	0.840	166	0.970	202	1.000	238	0.980	274	0.910	310	0.660	346	0.360
23	0.490	59	0.400	95	0.500	131	0.850	167	0.970	203	1.000	239	0.980	275	0.910	311	0.650	347	0.360
24	0.490	60	0.390	96	0.510	132	0.850	168	0.970	204	1.000	240	0.980	276	0.910	312	0.640	348	0.360
25	0.500	61	0.390	97	0.520	133	0.860	169	0.970	205	1.000	241	0.980	277	0.900	313	0.630	349	0.360
26	0.500	62	0.380	98	0.530	134	0.860	170	0.970	206	1.000	242	0.980	278	0.900	314	0.620	350	0.360
27	0.500	63	0.380	99	0.540	135	0.870	171	0.970	207	1.000	243	0.980	279	0.890	315	0.610	351	0.360
28	0.500	64	0.380	100	0.550	136	0.870	172	0.970	208	1.000	244	0.980	280	0.890	316	0.590	352	0.370
29	0.500	65	0.380	101	0.560	137	0.880	173	0.970	209	1.000	245	0.980	281	0.890	317	0.580	353	0.370
30	0.500	66	0.370	102	0.570	138	0.880	174	0.970	210	1.000	246	0.970	282	0.880	318	0.570	354	0.370
31	0.500	67	0.370	103	0.580	139	0.890	175	0.980	211	1.000	247	0.970	283	0.880	319	0.560	355	0.380
32	0.500	68	0.370	104	0.590	140	0.890	176	0.980	212	1.000	248	0.970	284	0.870	320	0.550	356	0.380
33	0.500	69	0.360	105	0.610	141	0.890	177	0.980	213	1.000	249	0.970	285	0.870	321	0.540	357	0.380
34	0.500	70	0.360	106	0.620	142	0.900	178	0.980	214	1.000	250	0.970	286	0.860	322	0.530	358	0.380
35	0.500	71	0.360	107	0.630	143	0.900	179	0.980	215	1.000	251	0.970	287	0.860	323	0.520	359	0.390

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## AZIMUTH PATTERN Vertical Polarization

In Free Space

Proposal No.	C-70153
Date	23-Mar-17
Call Letters	WNAB
Channel	30
Frequency	569 MHz
Antenna Type	TFU-26DSC/VP-R C180
Gain	2.58 (4.12dB)
Calculated	

Deg	Value																
0	0.056	36	0.051	72	0.083	108	0.208	144	0.358	180	0.470	216	0.499	252	0.441	288	0.308
1	0.055	37	0.051	73	0.085	109	0.212	145	0.362	181	0.472	217	0.498	253	0.438	289	0.303
2	0.053	38	0.051	74	0.088	110	0.216	146	0.366	182	0.474	218	0.498	254	0.435	290	0.299
3	0.052	39	0.050	75	0.091	111	0.220	147	0.370	183	0.476	219	0.497	255	0.432	291	0.295
4	0.051	40	0.050	76	0.094	112	0.224	148	0.373	184	0.478	220	0.497	256	0.429	292	0.291
5	0.050	41	0.050	77	0.097	113	0.228	149	0.377	185	0.479	221	0.496	257	0.426	293	0.286
6	0.050	42	0.049	78	0.101	114	0.232	150	0.381	186	0.481	222	0.495	258	0.423	294	0.282
7	0.049	43	0.049	79	0.104	115	0.236	151	0.385	187	0.482	223	0.494	259	0.420	295	0.278
8	0.049	44	0.049	80	0.107	116	0.240	152	0.389	188	0.484	224	0.494	260	0.417	296	0.274
9	0.048	45	0.049	81	0.110	117	0.244	153	0.392	189	0.485	225	0.493	261	0.413	297	0.269
10	0.048	46	0.048	82	0.113	118	0.248	154	0.396	190	0.487	226	0.492	262	0.410	298	0.265
11	0.048	47	0.048	83	0.117	119	0.253	155	0.400	191	0.488	227	0.490	263	0.407	299	0.261
12	0.048	48	0.048	84	0.120	120	0.257	156	0.403	192	0.489	228	0.489	264	0.403	300	0.257
13	0.048	49	0.048	85	0.125	121	0.261	157	0.407	193	0.490	229	0.488	265	0.400	301	0.253
14	0.048	50	0.048	86	0.127	122	0.265	158	0.410	194	0.492	230	0.487	266	0.396	302	0.248
15	0.049	51	0.048	87	0.130	123	0.269	159	0.413	195	0.493	231	0.485	267	0.392	303	0.244
16	0.049	52	0.049	88	0.134	124	0.274	160	0.417	196	0.494	232	0.484	268	0.389	304	0.240
17	0.049	53	0.049	89	0.137	125	0.278	161	0.420	197	0.494	233	0.482	269	0.385	305	0.236
18	0.049	54	0.050	90	0.141	126	0.282	162	0.423	198	0.495	234	0.481	270	0.381	306	0.230
19	0.050	55	0.050	91	0.144	127	0.286	163	0.426	199	0.496	235	0.479	271	0.377	307	0.228
20	0.050	56	0.051	92	0.148	128	0.291	164	0.429	200	0.497	236	0.478	272	0.373	308	0.224
21	0.050	57	0.052	93	0.152	129	0.295	165	0.432	201	0.497	237	0.476	273	0.370	309	0.220
22	0.051	58	0.053	94	0.155	130	0.299	166	0.435	202	0.498	238	0.474	274	0.366	310	0.216
23	0.051	59	0.055	95	0.159	131	0.303	167	0.438	203	0.498	239	0.472	275	0.362	311	0.212
24	0.051	60	0.056	96	0.162	132	0.308	168	0.441	204	0.499	240	0.470	276	0.358	312	0.208
25	0.051	61	0.058	97	0.166	133	0.312	169	0.444	205	0.499	241	0.468	277	0.354	313	0.204
26	0.052	62	0.059	98	0.170	134	0.316	170	0.447	206	0.499	242	0.466	278	0.349	314	0.200
27	0.052	63	0.061	99	0.174	135	0.320	171	0.449	207	0.500	243	0.464	279	0.345	315	0.196
28	0.052	64	0.063	100	0.177	136	0.325	172	0.452	208	0.500	244	0.462	280	0.341	316	0.193
29	0.052	65	0.065	101	0.181	137	0.329	173	0.454	209	0.500	245	0.459	281	0.337	317	0.189
30	0.052	66	0.067	102	0.185	138	0.333	174	0.457	210	0.500	246	0.457	282	0.333	318	0.185
31	0.052	67	0.070	103	0.189	139	0.337	175	0.459	211	0.500	247	0.454	283	0.329	319	0.181
32	0.052	68	0.072	104	0.193	140	0.341	176	0.462	212	0.500	248	0.452	284	0.325	320	0.177
33	0.052	69	0.075	105	0.196	141	0.345	177	0.464	213	0.500	249	0.449	285	0.320	321	0.174
34	0.052	70	0.077	106	0.200	142	0.349	178	0.466	214	0.499	250	0.447	286	0.316	322	0.170
35	0.051	71	0.080	107	0.204	143	0.354	179	0.468	215	0.499	251	0.444	287	0.312	323	0.166
																359	0.058

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## ELEVATION PATTERN

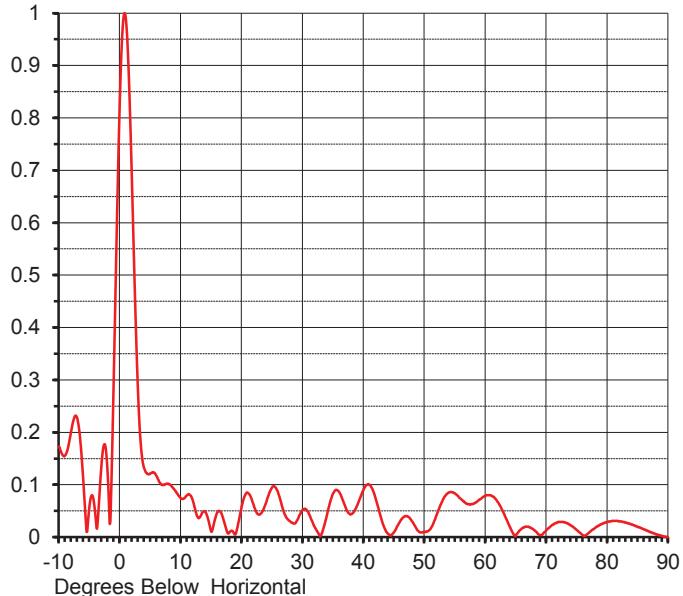
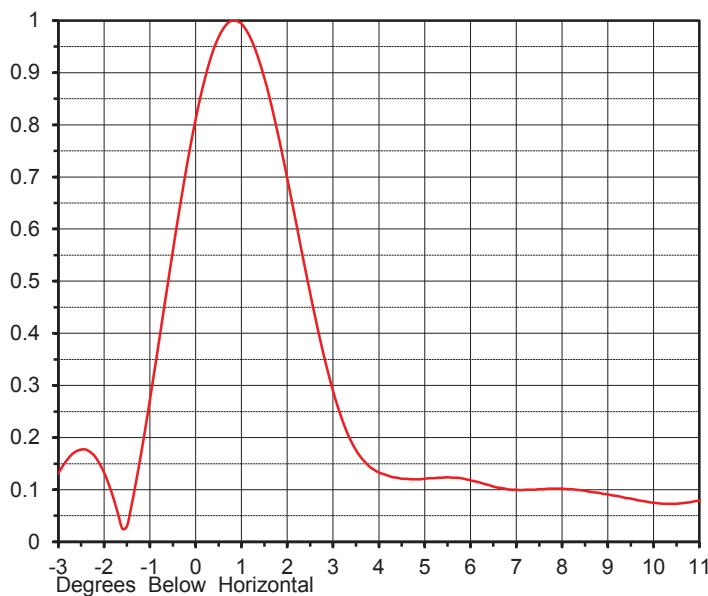
Proposal No. C-70153  
 Date 23-Mar-17  
 Call Letters WNAB  
 Channel 30  
 Frequency 569 MHz  
 Antenna Type TFU-26DSC/VP-R C180

RMS Directivity at Main Lobe  
 RMS Directivity at Horizontal

**22.5 ( 13.52 dB )**  
**16.3 ( 12.12 dB )**

Calculated

Beam Tilt 0.75 deg  
 Pattern Number 26Q225075



Angle	Field								
-10.0	0.173	10.0	0.074	30.0	0.052	50.0	0.010	70.0	0.014
-9.0	0.156	11.0	0.080	31.0	0.044	51.0	0.017	71.0	0.024
-8.0	0.204	12.0	0.067	32.0	0.018	52.0	0.044	72.0	0.029
-7.0	0.225	13.0	0.037	33.0	0.004	53.0	0.072	73.0	0.028
-6.0	0.100	14.0	0.048	34.0	0.045	54.0	0.085	74.0	0.022
-5.0	0.062	15.0	0.010	35.0	0.084	55.0	0.083	75.0	0.013
-4.0	0.035	16.0	0.048	36.0	0.085	56.0	0.072	76.0	0.003
-3.0	0.146	17.0	0.032	37.0	0.057	57.0	0.063	77.0	0.009
-2.0	0.111	18.0	0.010	38.0	0.044	58.0	0.064	78.0	0.018
-1.0	0.328	19.0	0.007	39.0	0.063	59.0	0.072	79.0	0.025
0.0	0.852	20.0	0.061	40.0	0.092	60.0	0.079	80.0	0.029
1.0	0.982	21.0	0.084	41.0	0.099	61.0	0.079	81.0	0.031
2.0	0.653	22.0	0.058	42.0	0.071	62.0	0.067	82.0	0.030
3.0	0.260	23.0	0.044	43.0	0.030	63.0	0.045	83.0	0.028
4.0	0.130	24.0	0.067	44.0	0.006	64.0	0.019	84.0	0.024
5.0	0.122	25.0	0.096	45.0	0.010	65.0	0.004	85.0	0.019
6.0	0.116	26.0	0.082	46.0	0.031	66.0	0.017	86.0	0.015
7.0	0.099	27.0	0.044	47.0	0.040	67.0	0.020	87.0	0.010
8.0	0.101	28.0	0.029	48.0	0.029	68.0	0.013	88.0	0.005
9.0	0.089	29.0	0.031	49.0	0.011	69.0	0.004	89.0	0.002
								90.0	0.000

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**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
WNAB, Nashville, TN  
Channel 30, 200 kW, 425 m HAAT  
June, 2017

CALL	SERVICE	CHANNEL	FREQUENCY	POLARIZATION	ANTENNA HEIGHT	ERP (kW)	RELATIVE FIELD FACTOR**	WORST-CASE PREDICTED POWER DENSITY ( $\mu\text{W}/\text{cm}^2$ )	FCC UNCONTROLLED LIMIT ( $\mu\text{W}/\text{cm}^2$ )	PERCENT OF UNCONTROLLED LIMIT
WNAB*	DT	30	569	H	366	200,000	0.300	4,539	379,33	1.20%
WNAB*	DT	30	569	V	366	50,000	0.300	1,135	379,33	0.30%
WZTV*	DT	20	509	H	350	1000,000	0.300	24,829	339,33	7.32%
WZTV*	DT	20	509	V	350	250,000	0.300	6,207	339,33	1.83%
WUXP-TV	DT	21	515	H	352	1000,000	0.300	24,546	343,33	7.15%
WRTN-LD (CP)	DT	17	491	H	305	15,000	0.300	0,491	327,33	0.15%
W223BV	FM	223	92.5	H & V	283	0.140	1,000	0,118	200,00	0.06%
WCJK	FM	242	96.3	H & V	372	39,000	<note 1>	0,123	200,00	0.06%
WLVU	FM	246	97.1	H & V	168	9,000	<note 2>	0,240	200,00	0.12%
WSIX-FM (AUX)	FM	250	97.9	H & V	237	15,500	1,000	18,754	200,00	9.38%
WUBT	FM	266	101.1	H & V	237	1,900	1,000	2,299	200,00	1.15%
WNRQ (AUX)	FM	290	105.9	H & V	237	15,500	1,000	18,754	200,00	9.38%
WNFN	FM	294	106.7	H & V	233	2,950	1,000	3,694	200,00	1.85%
WRVW (AUX)	FM	298	107.5	H & V	237	46,000	1,000	55,658	200,00	27.83%

**TOTAL PERCENTAGE OF FCC GUIDELINE VALUE = 67.76%**

\* WNAB and WZTV are proposing elliptical polarization. The table above includes both the horizontal and vertical power levels for the proposed WNAB and WZTV operations.

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

note 1: FM Model Antenna: EPA Type 3; ER: Rotatiller Type, 8-bay, half-wave spaced antenna.

note 2: FM Model Antenna: EPA Type 1 (worst case analysis); 13-bay, 0.83-wave spaced antenna.





## WNAB - NASHVILLE, TENNESSEE Longley-Rice Interference Analysis

tvstudy v2.2.2  
Database: localhost, Study: WNAB\_609C425H200K\_R10, Model: Longley-Rice  
Start: 2017.05.22 13:02:50

Study created: 2017.05.22 13:02:43

Study build station data: LMS TV 2017-05-16 (10)

Proposal: WNAB D30 DT APP NASHVILLE, TN  
File number: WNAB\_609C425H200K\_R10  
Facility ID: 73310  
Station data: User record  
Record ID: 423  
Country: U.S.  
Zone: II

Non-U.S. records included

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	92.9 km
WKOP-TV	D29	DT	APP	KNOXVILLE, TN	BLANK0000024513	256.5
WKOP-TV	D29	DT	BL	KNOXVILLE, TN	DTVBL18267	256.5
WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	234.1
WEIU-TV	D30	DT	BL	CHARLESTON, IL	DTVBL18301	390.8
WTCT	D30	DT	BL	MARION, IL	DTVBL67786	244.8
WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	248.8
WKMR	D30	DT	BL	MOREHEAD, KY	DTVBL34202	367.7
WYFF	D30	DT	BL	GREENVILLE, SC	DTVBL53905	399.1
WKMA-TV	D31	DT	BL	MADISONVILLE, KY	DTVBL34212	121.2
WBXX-TV	D31	DT	BL	CROSSVILLE, TN	DTVBL72971	221.0

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: 36 15 49.80 N (NAD83)  
Longitude: 86 47 38.90 W  
Height AMSL: 609.0 m  
HAAT: 425.0 m  
Peak ERP: 200 kW  
Antenna: TFU-26DSC1800 10.0 deg

40.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	25.9 kW	368.7 m	77.1 km
45.0	49.0	426.0	85.0
90.0	27.4	454.4	82.5
135.0	128	446.9	92.8

## Appendix B - Interference Analysis

WNAB - Nashville, Tennessee

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180.0	188	455.3	96.5
225.0	200	458.1	97.2
270.0	184	403.9	93.1
315.0	101	386.0	87.6

Proposal service area is within baseline plus 1.0%

Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 698.6 km

Distance to Mexican border: 1493.7 km

Conditions at FCC monitoring station: Powder Springs GA

Bearing: 144.2 degrees Distance: 326.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 290.5 degrees Distance: 1662.7 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 DTVBL34177 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	92.9
	WEVV-TV	D28	DT	BL	EVANSVILLE, IN	DTVBL72041	119.6
	W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	264.4
	WJYL-CD	D29	DC	BL	JEFFERSONVILLE, IN	DTVBL6837	158.9
	WPTO	D29	DT	BL	OXFORD, OH	DTVBL25065	290.4
	WKOP-TV	D29	DT	APP	KNOXVILLE, TN	BLANK0000024513	268.3
	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	158.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
13748.9	384,619	13637.1	383,360	13541.4 381,788 13541.4 381,788 0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	35.9	904	31.9 870
WNAB D30 DT APP	35.9	904	31.9 870
WEVV-TV D28 DT BL	39.8	517	39.8 517
WJYL-CD D29 DC BL	15.9	139	8.0 59
WPTO D29 DT BL	4.0	27	0.0 0
WKOP-TV D29 DT APP	4.0	53	0.0 0
WKNO D29 DT LIC	8.0	46	4.0 12

### Interference to DTVBL34177 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km

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WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	92.9
WEVV-TV	D28	DT	BL	EVANSVILLE, IN	DTVBL72041	119.6
W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	264.4
WJYL-CD	D29	DC	BL	JEFFERSONVILLE, IN	DTVBL6837	158.9
WPTO	D29	DT	BL	OXFORD, OH	DTVBL25065	290.4
WKOP-TV	D29	DT	BL	KNOXVILLE, TN	DTVBL18267	268.3
WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0
WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	158.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
13748.9	384,619	13637.1	383,360	13541.4      381,788      0.00      0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	35.9	904	31.9      870
WNAB D30 DT APP	35.9	904	31.9      870
WEVV-TV D28 DT BL	39.8	517	39.8      517
WJYL-CD D29 DC BL	15.9	139	8.0      59
WPTO D29 DT BL	4.0	27	0.0      0
WKOP-TV D29 DT BL	4.0	53	0.0      0
WKNO D29 DT LIC	8.0	46	4.0      12

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Interference to DTVBL34177 BL, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	92.9
	WEVV-TV	D28	DT	BL	EVANSVILLE, IN	DTVBL72041	119.6
	W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	264.4
	WJYL-CD	D29	DC	BL	JEFFERSONVILLE, IN	DTVBL6837	158.9
	WPTO	D29	DT	BL	OXFORD, OH	DTVBL25065	290.4
	WKOP-TV	D29	DT	APP	KNOXVILLE, TN	BLANK0000024513	268.3
	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	158.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
13748.9	384,619	13637.1	383,360	13541.4      381,788      0.00      0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	35.9	904	31.9      870
WNAB D30 DT APP	35.9	904	31.9      870
WEVV-TV D28 DT BL	39.8	517	39.8      517
WJYL-CD D29 DC BL	15.9	139	8.0      59
WPTO D29 DT BL	4.0	27	0.0      0
WKOP-TV D29 DT APP	4.0	53	0.0      0
WKNO D29 DT LIC	8.0	46	4.0      12

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Interference to DTVBL34177 BL, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	92.9
	WEVV-TV	D28	DT	BL	EVANSVILLE, IN	DTVBL72041	119.6
	W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	264.4
	WJYL-CD	D29	DC	BL	JEFFERSONVILLE, IN	DTVBL6837	158.9
	WPTO	D29	DT	BL	OXFORD, OH	DTVBL25065	290.4

## Appendix B - Interference Analysis

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WKOP-TV	D29	DT	BL	KNOXVILLE, TN	DTVBL18267	268.3
WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0
WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	158.6

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
13748.9	384,619	13637.1	383,360	13541.4	381,788	13541.4	381,788	0.00	0.00

Undesired	Total IX	Unique IX, before		Unique IX, after	
WNAB D30 DT BL	35.9	904	31.9	870	
WNAB D30 DT APP	35.9	904		31.9	870
WEVV-TV D28 DT BL	39.8	517	39.8	517	39.8
WJYL-CD D29 DC BL	15.9	139	8.0	59	8.0
WPTO D29 DT BL	4.0	27	0.0	0	0.0
WKOP-TV D29 DT BL	4.0	53	0.0	0	0.0
WKNO D29 DT LIC	8.0	46	4.0	12	4.0

---

Interference to BLANK0000024513 APP, scenario 1

Proposal causes no interference.

---

Interference to BLANK0000024513 APP, scenario 2

Proposal causes no interference.

---

Interference to DTVBL18267 BL, scenario 1

Proposal causes no interference.

---

Interference to DTVBL18267 BL, scenario 2

Proposal causes no interference.

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Interference to BLCDT20021219AAV LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	308.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	308.9
	WBRC	D29	DT	BL	BIRMINGHAM, AL	DTVBL71221	0.8
	WGIQ	D30	DT	BL	LOUISVILLE, AL	DTVBL710	234.7
	WEIQ	D30	DT	BL	MOBILE, AL	DTVBL721	330.2
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	215.4
	WMGT-TV	D30	DT	BL	MACON, GA	DTVBL43847	312.7
	WLBT	D30	DT	LIC	JACKSON, MS	BLCDT20100119AEE	362.5
	WNCF	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	148.4

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
32651.6	1,837,072	31395.4	1,802,810	30122.2	1,780,898	30198.0	1,784,110	-0.25	-0.18

Undesired	Total IX	Unique IX, before		Unique IX, after	
WNAB D30 DT BL	199.5	6,889	199.5	6,889	
WNAB D30 DT APP	123.7	3,677		123.7	3,677
WBRC D29 DT BL	371.9	7,110	367.9	7,106	367.9
WGIQ D30 DT BL	260.1	3,684	232.0	3,079	232.0
WEIQ D30 DT BL	40.1	869	20.1	117	20.1
WDGA-CD D30 DC BL	8.0	408	8.0	408	8.0
WMGT-TV D30 DT BL	8.0	446	4.0	38	4.0
WLBT D30 DT LIC	12.0	583	0.0	0	0.0
WNCF D31 DT LIC	417.8	3,115	397.7	3,083	397.7

---

Interference to BLCDT20021219AAV LIC, scenario 2

## Appendix B - Interference Analysis

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Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	308.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	308.9
	WBRC	D29	DT	BL	BIRMINGHAM, AL	DTVBL71221	0.8
	WGIQ	D30	DT	BL	LOUISVILLE, AL	DTVBL710	234.7
	WEIQ	D30	DT	BL	MOBILE, AL	DTVBL721	330.2
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	215.4
	WMGT-TV	D30	DT	BL	MACON, GA	DTVBL43847	312.7
	WLBT	D30	DT	LIC	JACKSON, MS	BLCDT20100119AEE	362.5
	WNCF	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	148.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
32651.6	1,837,072	31395.4	1,802,810	30122.2	1,780,898	30198.0	1,784,110	-0.25	-0.18

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	199.5	6,889	199.5
WNAB D30 DT APP	123.7	3,677	123.7
WBRC D29 DT BL	371.9	7,110	367.9
WGIQ D30 DT BL	260.1	3,684	232.0
WEIQ D30 DT BL	40.1	869	20.1
WDGA-CD D30 DC BL	8.0	408	8.0
WMGT-TV D30 DT BL	8.0	446	4.0
WLBT D30 DT LIC	12.0	583	0.0
WNCF D31 DT LIC	417.8	3,115	397.7

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Interference to DTVBL49235 BL, scenario 1  
Proposal causes no interference.

---

Interference to DTVBL49235 BL, scenario 2  
Proposal causes no interference.

---

Interference to DTVBL49235 BL, scenario 3  
Proposal causes no interference.

---

Interference to DTVBL49235 BL, scenario 4  
Proposal causes no interference.

---

Interference to DTVBL18301 BL, scenario 1  
Proposal causes no interference.

---

Interference to DTVBL67786 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WTCT	D30	DT	BL	MARION, IL	DTVBL67786	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	244.8 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	244.8
	W29CI-D	D29	DC	LIC	SALEM, IL	BLDPA20120913AAP	111.8
	WEIU-TV	D30	DT	BL	CHARLESTON, IL	DTVBL18301	232.3
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	293.8
	WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	181.9
	WKMA-TV	D31	DT	BL	MADISONVILLE, KY	DTVBL34212	139.5
	KDNL-TV	D31	DT	LIC	ST. LOUIS, MO	BLCDT20021216AAE	161.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
23207.2	576,690	23087.6	575,953	22967.9	575,246	23003.9	575,651	-0.16	-0.07

Undesired                      Total IX              Unique IX, before              Unique IX, after

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WNAB - Nashville, Tennessee

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WNAB D30 DT BL	87.8	616	75.8	573		
WNAB D30 DT APP	43.9	192			39.9	168
W29CI-D D29 DC LIC	16.0	51	16.0	51	16.0	51
WEIU-TV D30 DT BL	27.7	83	15.8	40	23.8	59
WKPC-TV D30 DT BL	4.0	24	0.0	0	0.0	0

---

Interference to DTVBL21432 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	248.8 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	248.8
	WJYL-CD	D29	DC	BL	JEFFERSONVILLE, IN	DTVBL6837	0.3
	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	158.6
	WPTO	D29	DT	BL	OXFORD, OH	DTVBL25065	139.4
	WEIU-TV	D30	DT	BL	CHARLESTON, IL	DTVBL18301	252.3
	WTCT	D30	DT	BL	MARION, IL	DTVBL67786	293.8
	WSJV	D30	DT	BL	ELKHART, IN	DTVBL74007	362.5
	WKMR	D30	DT	BL	MOREHEAD, KY	DTVBL34202	212.8
	DWKOG-LP	D31	DC	BL	INDIANAPOLIS, IN	DTVBL34894	158.1
	WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	146.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
15427.2	1,489,989	15132.0	1,481,500	14901.1 1,471,774 14905.1 1,471,827 -0.03 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	27.8	441	4.0 53
WNAB D30 DT APP	15.8	356	0.0 0
WJYL-CD D29 DC BL	111.3	4,197	87.3 3,874 91.4 3,881
WEIU-TV D30 DT BL	64.0	2,215	44.0 1,032 44.0 1,032
WTCT D30 DT BL	35.9	3,724	11.9 2,461 15.9 2,486
WKMR D30 DT BL	63.7	1,283	35.8 643 35.8 643

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Interference to DTVBL34202 BL, scenario 1

Proposal causes no interference.

---

Interference to DTVBL34202 BL, scenario 2

Proposal causes no interference.

---

Interference to DTVBL53905 BL, scenario 1

Proposal causes no interference.

---

Interference to DTVBL53905 BL, scenario 2

Proposal causes no interference.

---

Interference to DTVBL53905 BL, scenario 3

Proposal causes no interference.

---

Interference to DTVBL53905 BL, scenario 4

Proposal causes no interference.

---

Interference to DTVBL34212 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKMA-TV	D31	DT	BL	MADISONVILLE, KY	DTVBL34212	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	121.2 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	121.2

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WNAB - Nashville, Tennessee

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WTCT	D30	DT	BL	MARION, IL	DTVBL67786	139.5
DWKOG-LP	D31	DC	BL	INDIANAPOLIS, IN	DTVBL34894	309.8
WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	162.6
KDNL-TV	D31	DT	LIC	ST. LOUIS, MO	BLCDT20021216AAE	291.4
WBXX-TV	D31	DT	BL	CROSSVILLE, TN	DTVBL72971	307.6
WLMT	D31	DT	LIC	MEMPHIS, TN	BLCDT20050427ABN	293.9
WNPX-TV	D32	DT	BL	COOKEVILLE, TN	DTVBL28468	120.7

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX
15946.7	452,060	15863.0	451,707	15524.3	447,899	15524.3	447,899

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	7.9	174	0.0
WNAB D30 DT APP	4.0	94	0.0
WVUT D31 DT BL	39.8	564	19.8
KDNL-TV D31 DT LIC	95.7	345	75.8
WBXX-TV D31 DT BL	71.9	1,304	32.1
WLMT D31 DT LIC	55.9	376	39.9
WNPX-TV D32 DT BL	139.2	1,931	107.4

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Interference to DTVBL72971 BL, scenario 1  
Proposal causes no interference.

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Interference to proposal, scenario 1  
0.55% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	
Undesireds:	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	92.9 km
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	234.1
	WTCT	D30	DT	BL	MARION, IL	DTVBL67786	244.8
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	248.8
	WKMR	D30	DT	BL	MOREHEAD, KY	DTVBL34202	367.7
	WKMA-TV	D31	DT	BL	MADISONVILLE, KY	DTVBL34212	121.2

Service area	Terrain-limited		IX-free	Percent IX
25062.4	2,062,370	24617.2	2,051,466	24032.2

Undesired	Total IX	Unique IX	Prcnt Unique IX
WKGB-TV D29 DT BL	48.2	1,672	32.1
WIAT D30 DT LIC	96.7	3,105	84.7
WTCT D30 DT BL	456.2	6,704	416.1
WKPC-TV D30 DT BL	28.0	634	12.0

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Interference to proposal, scenario 2  
0.55% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB_609C425H200K_R10	
Undesireds:	WKGB-TV	D29	DT	BL	BOWLING GREEN, KY	DTVBL34177	92.9 km
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	234.1
	WTCT	D30	DT	BL	MARION, IL	DTVBL67786	244.8
	WKPC-TV	D30	DT	BL	LOUISVILLE, KY	DTVBL21432	248.8
	WKMR	D30	DT	BL	MOREHEAD, KY	DTVBL34202	367.7
	WKMA-TV	D31	DT	BL	MADISONVILLE, KY	DTVBL34212	121.2

## Appendix B - Interference Analysis

WNAB - Nashville, Tennessee

Channel 30 - 200 kW - Page 8

Service area	Terrain-limited		IX-free	Percent IX				
	25062.4	2,062,370	24617.2	2,051,466	24032.2	2,040,090	2.38	0.55
Undesired		Total IX		Unique IX	Prcnt Unique IX			
WKGB-TV D29 DT BL	48.2	1,672	32.1	1,375	0.13	0.07		
WIAT D30 DT LIC	96.7	3,105	84.7	3,084	0.34	0.15		
WTCT D30 DT BL	456.2	6,704	416.1	6,129	1.69	0.30		
WKPC-TV D30 DT BL	28.0	634	12.0	213	0.05	0.01		