



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
A MINOR MODIFICATION OF A
POST REPACK CONSTRUCTION PERMIT
FILE # 0000025130
WOAI-TV - SAN ANTONIO, TEXAS
DTV - CH. 28 - 800 kW - 457 m HAAT**

Prepared for: WOAI 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 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 WOAI LICENSEE, LLC, licensee of WOAI-TV, channel 48, facility ID number 69618, licensed to San Antonio, Texas, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor modification of its post-reassignment construction permit, File # 0000025130, that authorizes WOAI-TV to use channel 28 for its post-reassignment broadcasting. The instant application proposes only to increase WOAI-TV's ERP to 800 kW.

NON-DIRECTIONAL ANTENNA

The applicant will install its authorized antenna, a Dielectric model TFU-24GTH/VP-R O4 (SP) elliptically polarized omni-directional transmitting antenna with its center of radiation located at a height above ground of 459 meters, and a height above average terrain of 457 meters. The antenna manufacturer's omni-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.

The existing channel 48 main DTV antenna will be removed from the tower structure and the new channel 28 antenna will be installed in its place, while maintaining WOAI-TV's HAAT at 457 meters and the overall structure height of 624.5 meters Above Mean Sea Level (AMSL). (See ASR #1226610) During the removal and installation of the main DTV antenna WOAI-TV will maintain its broadcast operation utilizing an Auxiliary antenna.

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

STATEMENT OF JOHN E. HIDLE, P.E.
WOAI-TV - San Antonio, Texas
PAGE 3

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 (40.14 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, San Antonio, Texas.

ALLOCATION CONSIDERATIONS

Post-Transition DTV Considerations

A study was performed, using the FCC's software, tv_study, v. 2.2.3, 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.

International DTV Considerations

The WOAI-TV site is located 216.7 kilometers from the nearest point on the US-Mexican border. Note that four Mexican DTV facilities are listed in the study as "potentially affected" and are included in the interference analysis. The study results show that none of the four is affected by the instant proposal. (See Appendix B)

BLANKETING AND INTERMODULATION INTERFERENCE

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

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

STATEMENT OF JOHN E. HIDLE, P.E.
WOAI-TV - San Antonio, Texas
PAGE 5

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 1,000 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 frequency in MHz by 0.3.

The predicted emissions of WOAI-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WOAI-TV, which will operate on television Channel 28 (554-560 MHz), the MPE is 371.3 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an "uncontrolled" environment and 1,856.7 $\mu\text{W}/\text{cm}^2$ in a "controlled" environment. The proposed WOAI-TV facility will operate with a maximum ERP of 800 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 459 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WOAI-TV facility is predicted to produce a power density at two meters above ground level of 23.03 $\mu\text{W}/\text{cm}^2$, which is 6.20% of the FCC guideline value for an "uncontrolled" environment, and 1.24% of the FCC's guideline value for "controlled" environments. There is one other full-power DTV station located at the WOAI-TV 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 12.95% of the limit applicable to "uncontrolled" environments, and 2.59% of the limit for "controlled" environments. (See Appendix A)

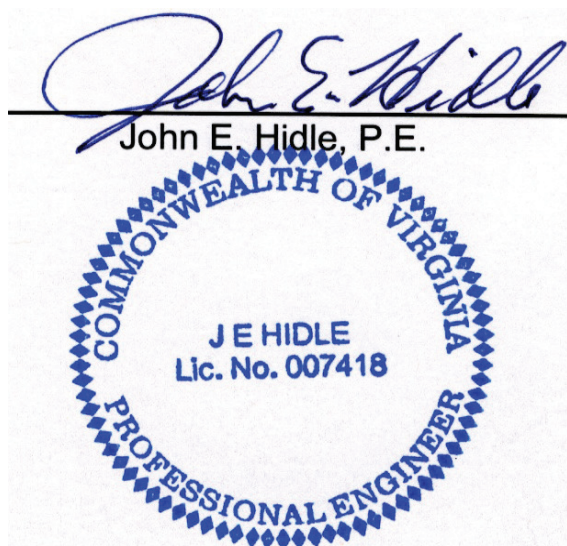
OCCUPATIONAL SAFETY

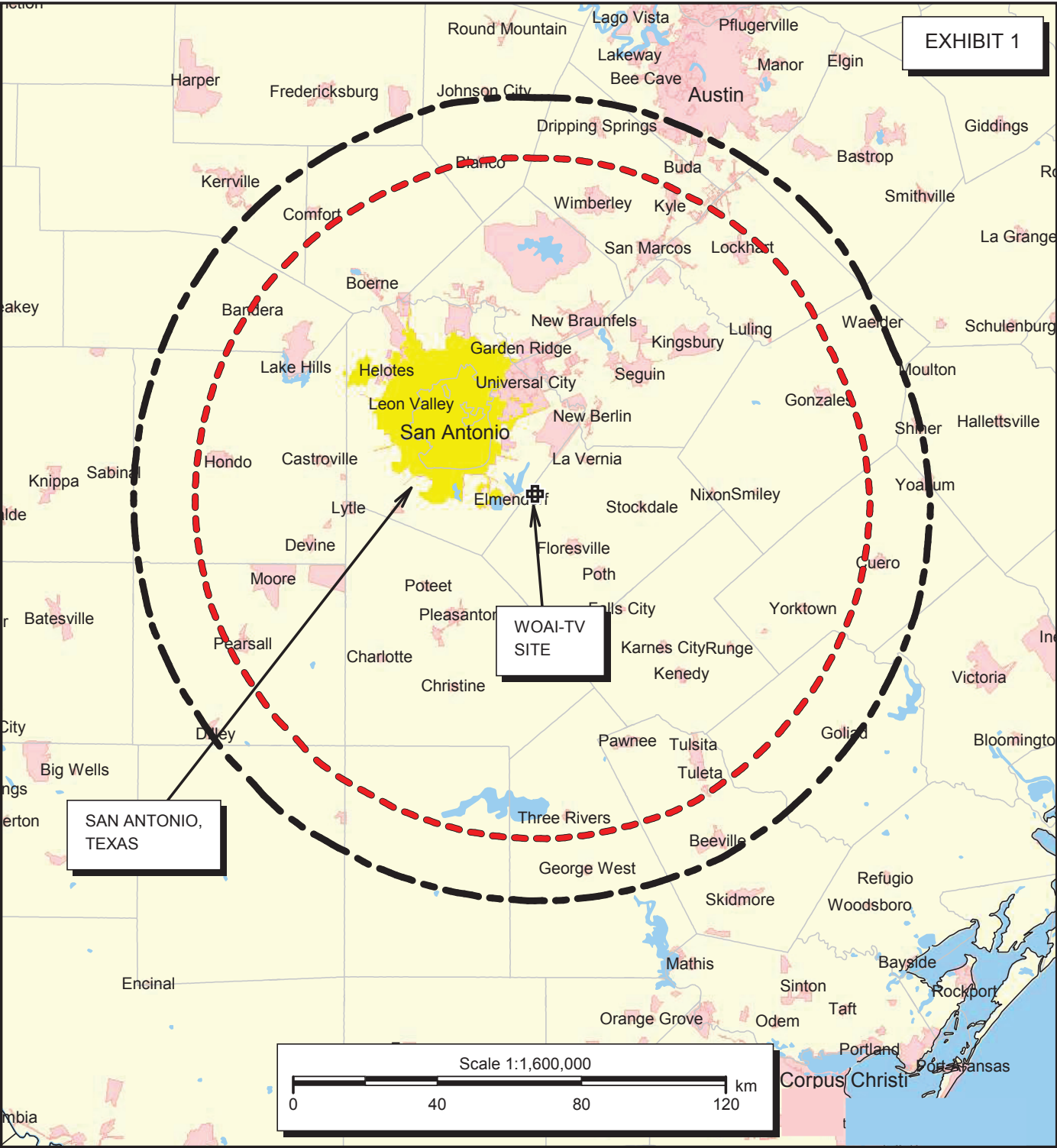
The licensee of WOAI-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WOAI-TV antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to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

SUMMARY

It is submitted that the instant application for minor modification of its post-reassignment channel 28 construction permit to increase WOAI-TV's ERP to 800 kW, 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: October 11, 2017





PREDICTED COVERAGE CONTOURS

WOAI-TV - SAN ANTONIO, TEXAS
DTV Channel 28 - 800 kW ERP - 457 M HAAT
OCTOBER, 2017

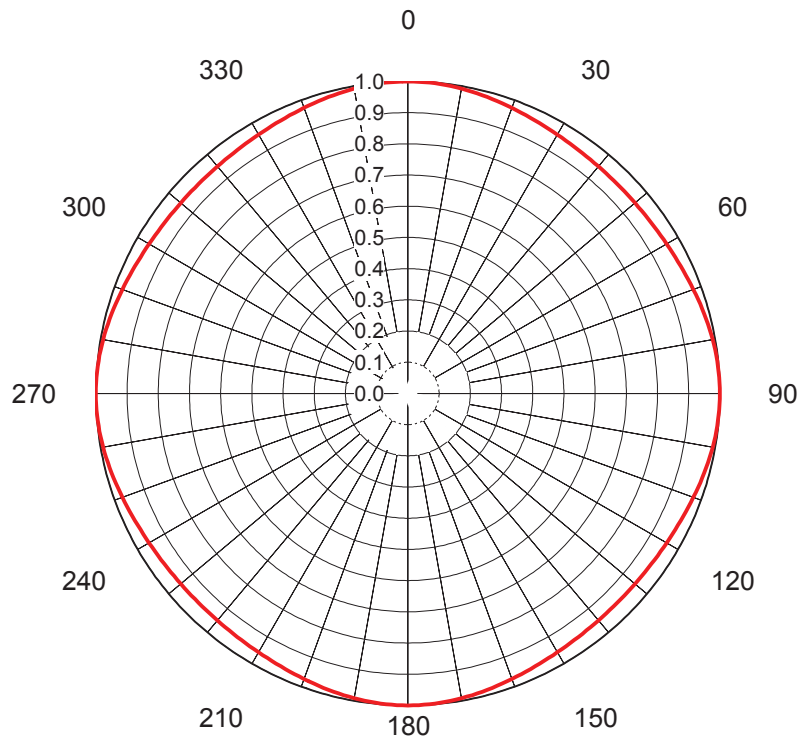


Predicted Noise Limited 40.14 dBu
F(50,90) Coverage Contour



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





AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70045-1**
 Date **21-Feb-17**
 Call Letters **WOAI** **28**
 Frequency **557 MHz**
 Antenna Type **TFU-24GTH/VP-R-04 (SP)**

 Gain **1.06 (0.25dB)**
 Calculated
 Circularity **+/- 1.0 dB**

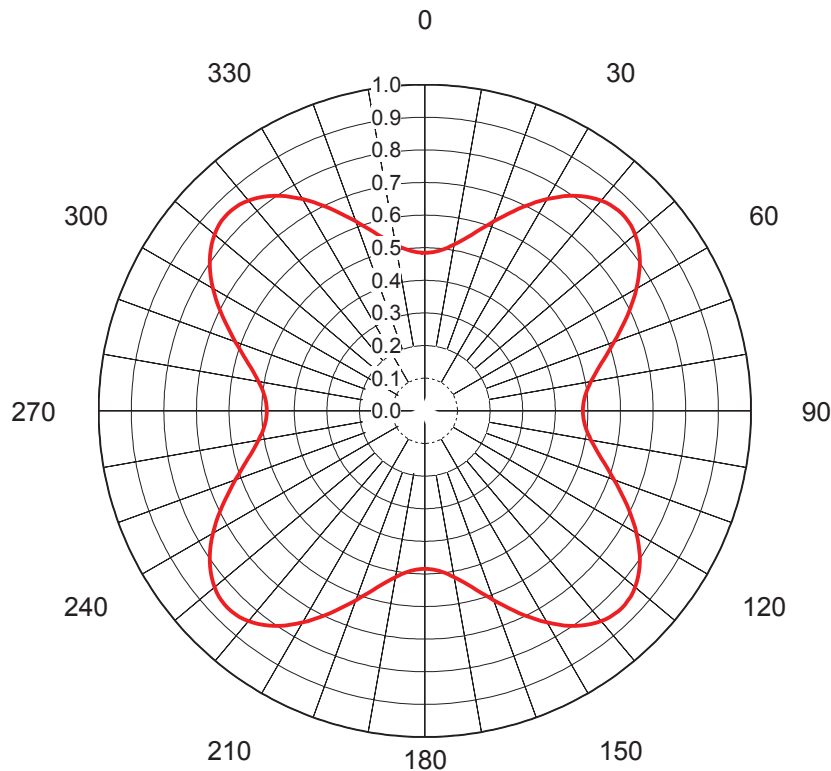
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	1.000	36	0.952	72	0.978	108	0.978	144	0.952	180	1.000	216	0.952	252	0.978	288	0.978
1	1.000	37	0.951	73	0.980	109	0.976	145	0.953	181	1.000	217	0.951	253	0.980	289	0.976
2	1.000	38	0.951	74	0.982	110	0.974	146	0.954	182	1.000	218	0.951	254	0.982	290	0.974
3	0.999	39	0.950	75	0.983	111	0.972	147	0.955	183	0.999	219	0.950	255	0.983	291	0.972
4	0.999	40	0.950	76	0.985	112	0.970	148	0.956	184	0.999	220	0.950	256	0.985	292	0.970
5	0.998	41	0.950	77	0.987	113	0.969	149	0.957	185	0.998	221	0.950	257	0.987	293	0.968
6	0.997	42	0.949	78	0.989	114	0.967	150	0.958	186	0.997	222	0.949	258	0.989	294	0.967
7	0.996	43	0.949	79	0.990	115	0.965	151	0.959	187	0.996	223	0.949	259	0.990	295	0.965
8	0.995	44	0.949	80	0.992	116	0.963	152	0.961	188	0.995	224	0.949	260	0.992	296	0.963
9	0.993	45	0.949	81	0.993	117	0.962	153	0.962	189	0.993	225	0.949	261	0.993	297	0.962
10	0.992	46	0.949	82	0.995	118	0.961	154	0.963	190	0.992	226	0.949	262	0.995	298	0.961
11	0.990	47	0.949	83	0.996	119	0.959	155	0.965	191	0.990	227	0.949	263	0.996	299	0.959
12	0.989	48	0.949	84	0.997	120	0.958	156	0.967	192	0.989	228	0.949	264	0.997	300	0.958
13	0.987	49	0.950	85	0.998	121	0.957	157	0.969	193	0.987	229	0.950	265	0.998	301	0.957
14	0.985	50	0.950	86	0.999	122	0.956	158	0.970	194	0.985	230	0.950	266	0.999	302	0.956
15	0.983	51	0.950	87	0.999	123	0.955	159	0.972	195	0.983	231	0.950	267	0.999	303	0.955
16	0.982	52	0.951	88	1.000	124	0.954	160	0.974	196	0.982	232	0.951	268	1.000	304	0.954
17	0.980	53	0.951	89	1.000	125	0.953	161	0.976	197	0.980	233	0.951	269	1.000	305	0.953
18	0.978	54	0.952	90	1.000	126	0.952	162	0.978	198	0.978	234	0.952	270	1.000	306	0.952
19	0.976	55	0.953	91	1.000	127	0.951	163	0.980	199	0.976	235	0.953	271	1.000	307	0.951
20	0.974	56	0.954	92	1.000	128	0.951	164	0.982	200	0.974	236	0.954	272	1.000	308	0.951
21	0.972	57	0.955	93	0.999	129	0.950	165	0.983	201	0.972	237	0.955	273	0.999	309	0.950
22	0.970	58	0.956	94	0.999	130	0.950	166	0.985	202	0.970	238	0.956	274	0.999	310	0.950
23	0.969	59	0.957	95	0.998	131	0.950	167	0.987	203	0.969	239	0.957	275	0.998	311	0.950
24	0.967	60	0.958	96	0.997	132	0.949	168	0.989	204	0.967	240	0.958	276	0.997	312	0.949
25	0.965	61	0.959	97	0.996	133	0.949	169	0.990	205	0.965	241	0.959	277	0.996	313	0.949
26	0.963	62	0.961	98	0.995	134	0.949	170	0.992	206	0.963	242	0.961	278	0.995	314	0.949
27	0.962	63	0.962	99	0.993	135	0.949	171	0.993	207	0.962	243	0.962	279	0.993	315	0.949
28	0.961	64	0.963	100	0.992	136	0.949	172	0.995	208	0.961	244	0.963	280	0.992	316	0.949
29	0.959	65	0.965	101	0.990	137	0.949	173	0.996	209	0.959	245	0.965	281	0.990	317	0.949
30	0.958	66	0.967	102	0.989	138	0.949	174	0.997	210	0.958	246	0.967	282	0.989	318	0.949
31	0.957	67	0.968	103	0.987	139	0.950	175	0.998	211	0.957	247	0.968	283	0.987	319	0.950
32	0.956	68	0.970	104	0.985	140	0.950	176	0.999	212	0.956	248	0.970	284	0.985	320	0.950
33	0.955	69	0.972	105	0.983	141	0.950	177	0.999	213	0.955	249	0.972	285	0.983	321	0.950
34	0.954	70	0.974	106	0.982	142	0.951	178	1.000	214	0.954	250	0.974	286	0.982	322	0.951
35	0.953	71	0.976	107	0.980	143	0.951	179	1.000	215	0.953	251	0.976	287	0.980	323	0.951

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70045-1**
Date **21-Feb-17**
Call Letters **WOAI** **28**
Frequency **557 MHz**
Antenna Type **TFU-24GTH/VP-R-04 (SP)**

Gain **1.61 (2.08dB)**
Circularity **Calculated
+/- 3.0 dB**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.485	36	0.814	72	0.593	108	0.593	144	0.814	180	0.485	216	0.814	252	0.593	288	0.593
1	0.485	37	0.822	73	0.582	109	0.605	145	0.805	181	0.485	217	0.822	253	0.582	289	0.605
2	0.486	38	0.829	74	0.571	110	0.618	146	0.795	182	0.486	218	0.829	254	0.571	290	0.618
3	0.487	39	0.836	75	0.560	111	0.630	147	0.784	183	0.487	219	0.836	255	0.560	291	0.630
4	0.490	40	0.842	76	0.550	112	0.644	148	0.773	184	0.490	220	0.842	256	0.550	292	0.644
5	0.493	41	0.846	77	0.541	113	0.657	149	0.762	185	0.493	221	0.846	257	0.541	293	0.657
6	0.496	42	0.850	78	0.533	114	0.670	150	0.749	186	0.496	222	0.850	258	0.533	294	0.670
7	0.501	43	0.852	79	0.525	115	0.684	151	0.737	187	0.501	223	0.852	259	0.525	295	0.684
8	0.506	44	0.854	80	0.518	116	0.697	152	0.724	188	0.506	224	0.854	260	0.518	296	0.697
9	0.511	45	0.854	81	0.511	117	0.711	153	0.711	189	0.511	225	0.854	261	0.511	297	0.711
10	0.518	46	0.854	82	0.506	118	0.724	154	0.697	190	0.518	226	0.854	262	0.506	298	0.724
11	0.525	47	0.852	83	0.501	119	0.737	155	0.684	191	0.525	227	0.852	263	0.501	299	0.737
12	0.533	48	0.850	84	0.496	120	0.749	156	0.670	192	0.533	228	0.850	264	0.496	300	0.749
13	0.541	49	0.846	85	0.493	121	0.762	157	0.657	193	0.541	229	0.846	265	0.493	301	0.762
14	0.550	50	0.842	86	0.490	122	0.773	158	0.644	194	0.550	230	0.842	266	0.490	302	0.773
15	0.560	51	0.836	87	0.487	123	0.784	159	0.630	195	0.560	231	0.836	267	0.487	303	0.784
16	0.571	52	0.829	88	0.486	124	0.795	160	0.618	196	0.571	232	0.829	268	0.486	304	0.795
17	0.582	53	0.822	89	0.485	125	0.805	161	0.605	197	0.582	233	0.822	269	0.485	305	0.805
18	0.593	54	0.814	90	0.485	126	0.814	162	0.593	198	0.593	234	0.814	270	0.485	306	0.814
19	0.605	55	0.805	91	0.485	127	0.822	163	0.582	199	0.605	235	0.805	271	0.485	307	0.822
20	0.618	56	0.795	92	0.486	128	0.829	164	0.571	200	0.618	236	0.795	272	0.486	308	0.829
21	0.630	57	0.784	93	0.487	129	0.836	165	0.560	201	0.630	237	0.784	273	0.487	309	0.836
22	0.644	58	0.773	94	0.490	130	0.842	166	0.550	202	0.644	238	0.773	274	0.490	310	0.842
23	0.657	59	0.762	95	0.493	131	0.846	167	0.541	203	0.657	239	0.762	275	0.493	311	0.846
24	0.670	60	0.749	96	0.496	132	0.850	168	0.533	204	0.670	240	0.749	276	0.496	312	0.850
25	0.684	61	0.737	97	0.501	133	0.852	169	0.525	205	0.684	241	0.737	277	0.501	313	0.852
26	0.697	62	0.724	98	0.506	134	0.854	170	0.518	206	0.697	242	0.724	278	0.506	314	0.854
27	0.711	63	0.711	99	0.511	135	0.854	171	0.511	207	0.711	243	0.711	279	0.511	315	0.854
28	0.724	64	0.697	100	0.518	136	0.854	172	0.506	208	0.724	244	0.697	280	0.518	316	0.854
29	0.737	65	0.684	101	0.525	137	0.852	173	0.501	209	0.737	245	0.684	281	0.525	317	0.852
30	0.749	66	0.670	102	0.533	138	0.850	174	0.496	210	0.749	246	0.670	282	0.533	318	0.850
31	0.762	67	0.657	103	0.541	139	0.846	175	0.493	211	0.762	247	0.657	283	0.541	319	0.846
32	0.773	68	0.644	104	0.550	140	0.842	176	0.490	212	0.773	248	0.644	284	0.550	320	0.842
33	0.784	69	0.630	105	0.560	141	0.836	177	0.487	213	0.784	249	0.630	285	0.560	321	0.836
34	0.795	70	0.618	106	0.571	142	0.829	178	0.486	214	0.795	250	0.618	286	0.571	322	0.829
35	0.805	71	0.605	107	0.582	143	0.822	179	0.485	215	0.805	251	0.605	287	0.582	323	0.822

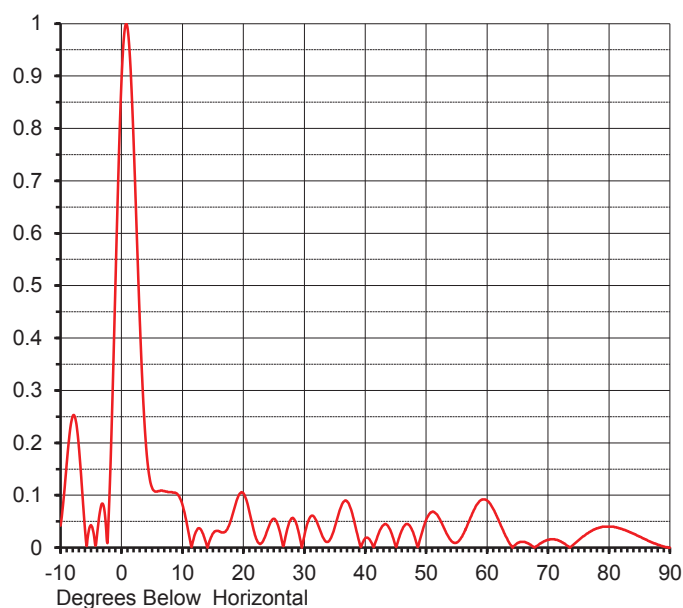
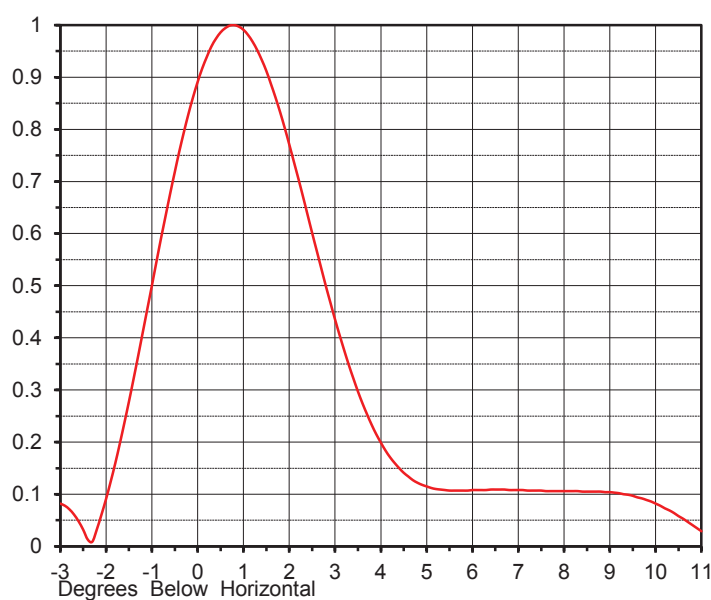
This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

ELEVATION PATTERN

Proposal No. **C-70045-1**
 Date **21-Feb-17**
 Call Letters **WOAI 28**
 Frequency **557 MHz**
 Antenna Type **TFU-24GTH/VP-R-O4 (SP)**

RMS Directivity at Main Lobe **20.00 (13.01 dB)**
 RMS Directivity at Horizontal **15.90 (12.01 dB)**
Calculated

Beam Tilt **0.75 deg**
 Drawing Number **24G200075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.042	10.0	0.082	30.0	0.022	50.0	0.053	70.0	0.015
-9.0	0.159	11.0	0.029	31.0	0.059	51.0	0.068	71.0	0.016
-8.0	0.251	12.0	0.024	32.0	0.051	52.0	0.059	72.0	0.012
-7.0	0.193	13.0	0.035	33.0	0.021	53.0	0.036	73.0	0.005
-6.0	0.036	14.0	0.004	34.0	0.012	54.0	0.015	74.0	0.004
-5.0	0.043	15.0	0.027	35.0	0.039	55.0	0.010	75.0	0.014
-4.0	0.026	16.0	0.031	36.0	0.077	56.0	0.024	76.0	0.023
-3.0	0.082	17.0	0.030	37.0	0.089	57.0	0.049	77.0	0.031
-2.0	0.091	18.0	0.054	38.0	0.059	58.0	0.075	78.0	0.037
-1.0	0.500	19.0	0.093	39.0	0.012	59.0	0.091	79.0	0.040
0.0	0.891	20.0	0.104	40.0	0.018	60.0	0.090	80.0	0.040
1.0	0.991	21.0	0.068	41.0	0.010	61.0	0.074	81.0	0.039
2.0	0.771	22.0	0.021	42.0	0.021	62.0	0.049	82.0	0.036
3.0	0.435	23.0	0.009	43.0	0.043	63.0	0.023	83.0	0.032
4.0	0.199	24.0	0.035	44.0	0.036	64.0	0.003	84.0	0.027
5.0	0.115	25.0	0.055	45.0	0.003	65.0	0.009	85.0	0.021
6.0	0.108	26.0	0.030	46.0	0.033	66.0	0.011	86.0	0.016
7.0	0.108	27.0	0.025	47.0	0.045	67.0	0.006	87.0	0.010
8.0	0.106	28.0	0.056	48.0	0.024	68.0	0.002	88.0	0.006
9.0	0.104	29.0	0.033	49.0	0.016	69.0	0.010	89.0	0.002
								90.0	0.000

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

APPENDIX A

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WOAI-TV, San Antonio, Texas
CHANNEL 28, 800 kW ERP, 457 m HAAT
October, 2017

<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/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WOAI-TV	DT	28	557	H & V	457	800.000	0.300	0.02303	0.371	6.20%
KENS	DT	29	563	H & V	440	816.000	0.300	0.02534	0.375	6.75%
TOTAL PERCENTAGE OF ANSI VALUE=										12.95%

*** 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.
This evaluation includes facilities collocated at the site, and facilities located within 315 meters.*





WOAI-TV - SAN ANTONIO, TEXAS Longley-Rice Interference Analysis

tvstudy v2.2.3 (Dxtpx3)

Database: localhost, Study: WOAI-28 OMNI 800K 171005, Model: Longley-Rice

Start: 2017.10.05 13:38:11

Study created: 2017.10.05 13:37:37

Study build station data: LMS TV 2017-10-01 (38)

Proposal: WOAI-TV D28 DT CP SAN ANTONIO, TX
File number: WOAI-28 OMNI 800K 171005
Facility ID: 69618
Station data: User record
Record ID: 1851
Country: U.S.
Zone: III

Search options:

Non-U.S. records included

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	159.1 km
KYVW-TV	D28	DT	APP	DEL RIO, TX	BMPCDT20080618ACC	163.9
KYVW-TV	D28	DT	LIC	DEL RIO, TX	BLCDT20110527AKP	251.7
KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	244.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D28
Latitude: 29 16 11.50 N (NAD83)
Longitude: 98 15 55.90 W
Height AMSL: 617.2 m
HAAT: 457.0 m
Peak ERP: 800 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.8

40.1 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	800 kW	445.1 m	110.0 km
45.0	800	442.7	109.7
90.0	800	439.7	109.5
135.0	800	469.2	112.0
180.0	800	479.8	112.8
225.0	800	469.8	112.0
270.0	800	460.9	111.3
315.0	800	455.7	110.9

Database HAAT does not agree with computed HAAT

Database HAAT: 457 m Computed HAAT: 458 m

ERP exceeds maximum

ERP: 800 kW ERP maximum: 637 kW

**Proposal service area extends beyond baseline plus 1.0%

Proposal service area population is more than 95.0% of baseline

Appendix B - Interference Analysis **WOAI-TV - San Antonio, Texas** **Channel 28 - 800 kW - Page 2**

Distance to Canadian border: 1955.5 km

**Proposal is within coordination distance of Mexican border
Distance to Mexican border: 216.7 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 169.5 degrees Distance: 206.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 334.1 degrees Distance: 1362.1 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 BLCDT20090622ABA LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KBVO	D27	DT	LIC	LLANO, TX	BLCDT20090622ABA	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	159.1 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	159.1
	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	126.3
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	140.4
	KORO	D27	DT	LIC	CORPUS CHRISTI, TX	BLCDT20060626ACE	342.2
	KDFI	D27	DT	CP	DALLAS, TX	BLANK0000027211	257.3
	KXOF-CD	D27	DC	APP	LAREDO, TX	BMPDTA20120918AAW	362.9
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	137.8

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
24628.4 1,498,015	23251.2 1,312,360	22165.7 1,172,479	22157.6 1,172,466	0.04 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAI-TV D28 DT BL	32.2 226	12.1 96	
WOAI-TV D28 DT CP	40.2 239		20.1 109
KPXL-TV D26 DT LIC	64.4 230	32.2 109	32.2 109
KXXV D26 DT LIC	761.4 87,544	339.0 16,103	339.0 16,103
KORO D27 DT LIC	152.8 46,149	116.6 45,900	116.6 45,900
KDFI D27 DT CP	206.7 26,585	111.1 5,962	111.1 5,962
KWKT-TV D28 DT CP	418.4 71,347	8.0 21	8.0 21

----- Interference to BMPCDT20080618ACC APP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KYVV-TV	D28	DT	APP	DEL RIO, TX	BMPCDT20080618ACC	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	163.9 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	163.9
	KPBT-TV	D28	DT	APP	ODESSA, TX	BLANK0000028621	367.0
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	323.9
	KENS	D29	DT	CP	SAN ANTONIO, TX	BLANK0000027994	163.9
	XHCHW	D27	DT	LIC	CIUDAD ACUNA, CI	BLANKBFFS20160226AAJ	94.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
37358.8 288,751	36728.4 272,171	33473.2 207,400	33248.5 206,786	0.67 0.30
2554.8 303,964	2554.8 303,964	2469.7 252,054	2461.7 252,050	0.32 0.00 (in Mexico)

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAI-TV D28 DT BL	3208.2 60,264	2900.3 51,448	
WOAI-TV D28 DT CP	3443.4 61,738		3125.0 52,062

Appendix B - Interference Analysis
WOAI-TV - San Antonio, Texas
Channel 28 - 800 kW - Page 3

WOAI-TV D28 DT BL	28.0	283	16.0	11			(in Mexico)
WOAI-TV D28 DT CP	40.1	5,480			24.1	15	(in Mexico)
KPBT-TV D28 DT APP	28.1	3	16.1	0	12.0	0	
KWKT-TV D28 DT CP	20.1	35	8.0	0	8.0	0	
KENS D29 DT CP	275.8	9,173	4.0	401	0.0	0	
XHCHW D27 DT LIC	30.9	4,112	18.9	4,106	16.4	3,647	
XHCHW D27 DT LIC	69.1	51,899	57.1	51,627	53.1	46,434	(in Mexico)

Interference to BMPCDT20080618ACC APP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KYVV-TV	D28	DT	APP	DEL RIO, TX	BMPCDT20080618ACC	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	163.9 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	163.9
	KPBT-TV	D28	DT	BL	ODESSA, TX	DTVBL50044	353.9
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	323.9
	KENS	D29	DT	CP	SAN ANTONIO, TX	BLANK0000027994	163.9
	XHCHW	D27	DT	LIC	CIUDAD ACUNA, CI	BLANKBFFS20160226AAJ	94.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
37358.8	288,751	36728.4	272,171	33485.2	207,400	33256.5	206,786
2554.8	303,964	2554.8	303,964	2469.7	252,054	2461.7	252,050
Mexico)							0.68 0.30
							0.32 0.00 (in

Undesired	Total IX		Unique IX, before		Unique IX, after	
WOAI-TV D28 DT BL	3208.2	60,264	2912.4	51,451		
WOAI-TV D28 DT CP	3443.4	61,738			3141.1	52,065
WOAI-TV D28 DT BL	28.0	283	16.0	11		(in Mexico)
WOAI-TV D28 DT CP	40.1	5,480			24.1	15 (in Mexico)
KPBT-TV D28 DT BL	4.0	0	4.0	0	4.0	0
KWKT-TV D28 DT CP	20.1	35	8.0	0	8.0	0
KENS D29 DT CP	275.8	9,173	4.0	401	0.0	0
XHCHW D27 DT LIC	30.9	4,112	18.9	4,106	16.4	3,647
XHCHW D27 DT LIC	69.1	51,899	57.1	51,627	53.1	46,434 (in Mexico)

Interference to BLCDT20110527AKP LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KYVV-TV	D28	DT	LIC	DEL RIO, TX	BLCDT20110527AKP	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	251.7 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	251.7
	KPBT-TV	D28	DT	APP	ODESSA, TX	BLANK0000028621	333.8
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
9635.9	67,201	9439.2	67,201	9138.7	67,201	9050.4	67,201
7687.3	187,668	7647.2	187,668	7635.2	187,668	7635.2	187,668
Mexico)							0.97 0.00
							0.00 0.00 (in

Undesired	Total IX		Unique IX, before		Unique IX, after	
WOAI-TV D28 DT BL	280.4	0	276.4	0		
WOAI-TV D28 DT CP	368.7	0			364.6	0
WOAI-TV D28 DT BL	12.1	0	12.1	0		(in Mexico)
WOAI-TV D28 DT CP	12.1	0			12.1	0 (in Mexico)
KPBT-TV D28 DT APP	24.1	0	20.1	0	20.1	0

Interference to BLCDT20110527AKP LIC, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KYVV-TV	D28	DT	LIC	DEL RIO, TX	BLCDT20110527AKP	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	251.7 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	251.7

Appendix B - Interference Analysis
WOAI-TV - San Antonio, Texas
Channel 28 - 800 kW - Page 4

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
9635.9	67,201	9439.2	67,201	9158.8	67,201	9070.5	67,201	0.96	0.00
7687.3	187,668	7647.2	187,668	7635.2	187,668	7635.2	187,668	0.00	0.00 (in Mexico)

Undesired		Total IX	Unique IX, before		Unique IX, after	
WOAI-TV D28 DT BL	280.4	0	280.4	0		
WOAI-TV D28 DT CP	368.7	0			368.7	0
WOAI-TV D28 DT BL	12.1	0	12.1	0		(in Mexico)
WOAI-TV D28 DT CP	12.1	0			12.1	0 (in Mexico)

Interference to BLANK0000028462 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	244.5 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	244.5
	KTBS-TV	D28	DT	LIC	SHREVEPORT, LA	BLCDT20020911ABZ	354.3
	KLEG-CD	D28	DC	CP	DALLAS, TX	BLANK0000028671	170.1
	KYVV-TV	D28	DT	APP	DEL RIO, TX	BMPCDT20080618ACC	323.9
	KFDX-TV	D28	DT	LIC	WICHITA FALLS, TX	BLCDT20090205ABU	308.5
	KHPX-CD	D29	DC	CP	GEORGETOWN, TX	BLANK0000027655	85.4

Service area				Terrain-limited		IX-free, before		IX-free, after		Percent	New IX
23535.9	999,944			23476.2	999,642	23131.2	955,416	23059.3	953,581	0.31	0.19
Undesired				Total IX		Unique IX, before		Unique IX, after			
WOAI-TV D28 DT BL				227.6	43,598	207.6	36,072				
WOAI-TV D28 DT CP				299.5	45,433			279.5	37,907		
KTBS-TV D28 DT LIC				8.1	30	8.1	30	8.1	30		
KLEG-CD D28 DC CP				93.1	386	89.0	267	89.0	267		
KYVV-TV D28 DT APP				8.0	257	0.0	0	0.0	0		
KFDX-TV D28 DT LIC				20.3	331	16.2	212	16.2	212		
KHPX-CD D29 DC CP				12.0	7,269	0.0	0	0.0	0		

Interference to BLANK0000028462 CP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	
Undesireds:	WOAI-TV	D28	DT	BL	SAN ANTONIO, TX	DTVBL69618	244.5 km
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	244.5
	KTBS-TV	D28	DT	LIC	SHREVEPORT, LA	BLCDT20020911ABZ	354.3
	KLEG-CD	D28	DC	CP	DALLAS, TX	BLANK0000028671	170.1
	KFDX-TV	D28	DT	LIC	WICHITA FALLS, TX	BLCDT20090205ABU	308.5
	KHPX-CD	D29	DC	CP	GEORGETOWN, TX	BLANK0000027655	85.4

Service area				Terrain-limited		IX-free, before		IX-free, after		Percent	New IX				
23535.9				999,944		23476.2		999,642		23131.2	955,416	23059.3	953,581	0.31	0.19
Undesired										Total IX		Unique IX, before		Unique IX, after	
WOAI-TV D28 DT BL				227.6		43,598		215.5		36,329					
WOAI-TV D28 DT CP				299.5		45,433						287.5		38,164	
KTBS-TV D28 DT LIC				8.1		30		8.1		30		8.1		30	
KLEG-CD D28 DC CP				93.1		386		89.0		267		89.0		267	
KFDX-TV D28 DT LIC				20.3		331		16.2		212		16.2		212	
KHPX-CD D29 DC CP				12.0		7,269		0.0		0		0.0		0	

Interference to proposal, scenario 1

**MX: 3.74% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	

Appendix B - Interference Analysis
WOAI-TV - San Antonio, Texas
Channel 28 - 800 kW - Page 5

Undesireds:	KORO	D27	DT	LIC	CORPUS CHRISTI, TX	BLCDDT20060626ACE	184.3 km
	KBVO	D27	DT	LIC	LLANO, TX	BLCDDT20090622ABA	159.1
	KYVV-TV	D28	DT	APP	DEL RIO, TX	BMPCDDT20080618ACC	163.9
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	244.5

	Service area		Terrain-limited		IX-free		Percent IX
38713.3	2,525,811	37962.1	2,513,887	32371.7	2,419,872	14.73	3.74

Undesired			Total IX		Unique IX	Prcnt Unique IX
KORO D27 DT LIC	20.2	847	0.0	0	0.00	0.00
KBVO D27 DT LIC	24.1	46	4.0	0	0.01	0.00
KYVV-TV D28 DT APP	5381.4	72,856	5264.8	66,126	13.87	2.63
KWKT-TV D28 DT CP	301.4	27,042	192.9	21,118	0.51	0.84

Interference to proposal, scenario 2
1.27% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOAI-TV	D28	DT	CP	SAN ANTONIO, TX	WOAI-28 OMNI 800K 1710	
Undesireds:	KORO	D27	DT	LIC	CORPUS CHRISTI, TX	BLCDDT20060626ACE	184.3 km
	KBVO	D27	DT	LIC	LLANO, TX	BLCDDT20090622ABA	159.1
	KYVV-TV	D28	DT	LIC	DEL RIO, TX	BLCDDT20110527AKP	251.7
	KWKT-TV	D28	DT	CP	WACO, TX	BLANK0000028462	244.5

	Service area		Terrain-limited		IX-free		Percent IX
38713.3	2,525,811	37962.1	2,513,887	37135.9	2,482,071	2.18	1.27

Undesired			Total IX		Unique IX	Prcnt Unique IX
KORO D27 DT LIC	20.2	847	20.2	847	0.05	0.03
KBVO D27 DT LIC	24.1	46	4.0	0	0.01	0.00
KYVV-TV D28 DT LIC	536.8	4,168	500.6	3,927	1.32	0.16
KWKT-TV D28 DT CP	301.4	27,042	245.2	26,755	0.65	1.06