

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY CHRISTIAN CENTER OF SANTA ANA, INC., licensee of full-power digital television station WBUY-DT, Channel 41 in Holly Springs, Mississippi, in support of its application for modification of Construction Permit 0000026691, which authorizes operation on its post-repack channel, Channel 26. It is proposed herein to increase the effective radiated power of the station. No change in transmitter site location, antenna radiation pattern or antenna height is proposed herein.

It is still proposed to mount an ERI directional, horizontally-polarized slotted cylinder antenna at the 336-meter level of the existing 365-meter tower on which the present WBUY-DT antenna is mounted. The proposed effective radiated power for the facility is 950 kW. Exhibit B is a map upon which the predicted service contours are plotted. As shown, the community of Holly Springs is completely encompassed by the proposed 48 dBu city-grade service contour.

Elevation and azimuth pattern information for the proposed antenna are provided in Exhibit C. Exhibit D contains the summary results from a TVStudy interference study, which was conducted using a cell size of 2 kilometers and increment spacing of 1.0 kilometer. It concludes that the proposed WBUY-DT facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A facilities. A power density calculation appears as Exhibit E.

Since no change in the overall height or location of the existing WBUY-DT tower is proposed herein, the Federal Aviation Administration has not been notified of this application.

EXHIBIT A

In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1057943 to this tower.

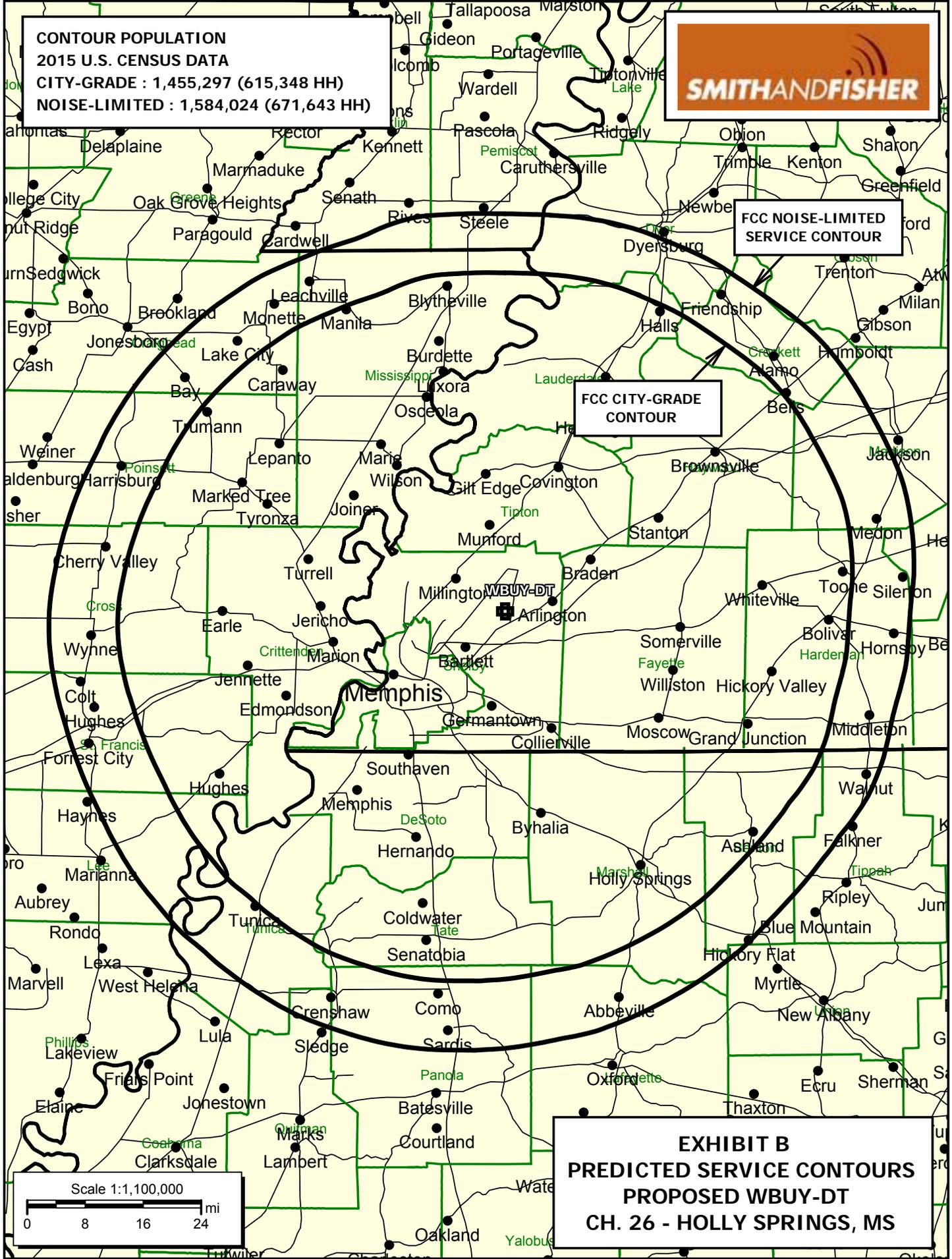
I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is stylized with a large "K" and "F" and a smaller "T" in the middle.

KEVIN T. FISHER

October 30, 2017

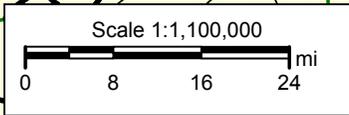
**CONTOUR POPULATION**  
**2015 U.S. CENSUS DATA**  
**CITY-GRADE : 1,455,297 (615,348 HH)**  
**NOISE-LIMITED : 1,584,024 (671,643 HH)**



**FCC NOISE-LIMITED SERVICE CONTOUR**

**FCC CITY-GRADE CONTOUR**

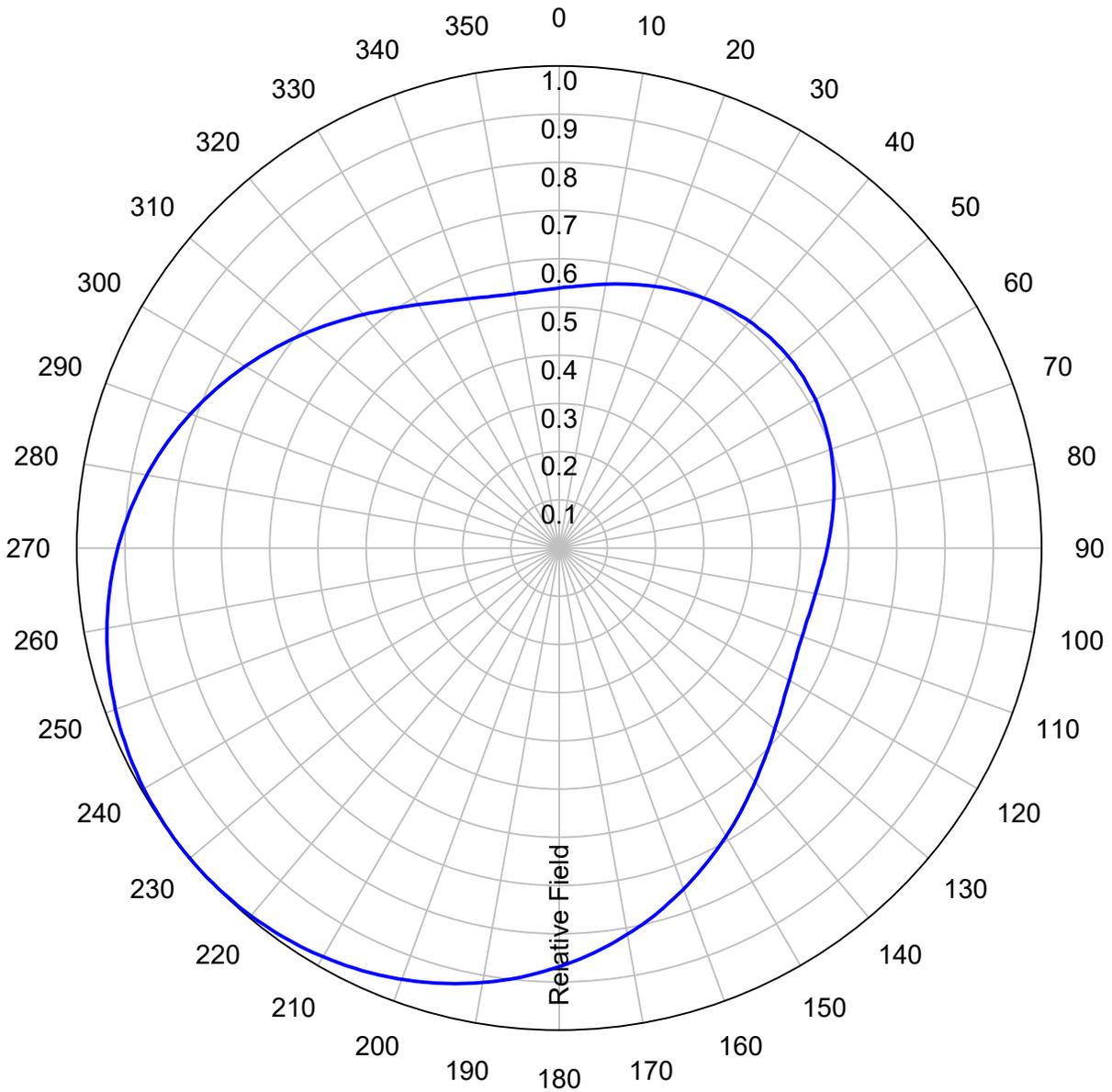
**EXHIBIT B**  
**PREDICTED SERVICE CONTOURS**  
**PROPOSED WBUY-DT**  
**CH. 26 - HOLLY SPRINGS, MS**



### AZIMUTH PATTERN

Type: ATW-S  
Numeric 1.83 dBd 2.62  
Directivity:  
Peak(s) at:

Channel: 26  
Location:  
Polarization: Horizontal  
Note: Pattern shape and directivity may vary with channel and mouting configuration.



Preliminary, subject to final design and review.

## TABULATED DATA FOR AZIMUTH PATTERN

Type: ATW-S

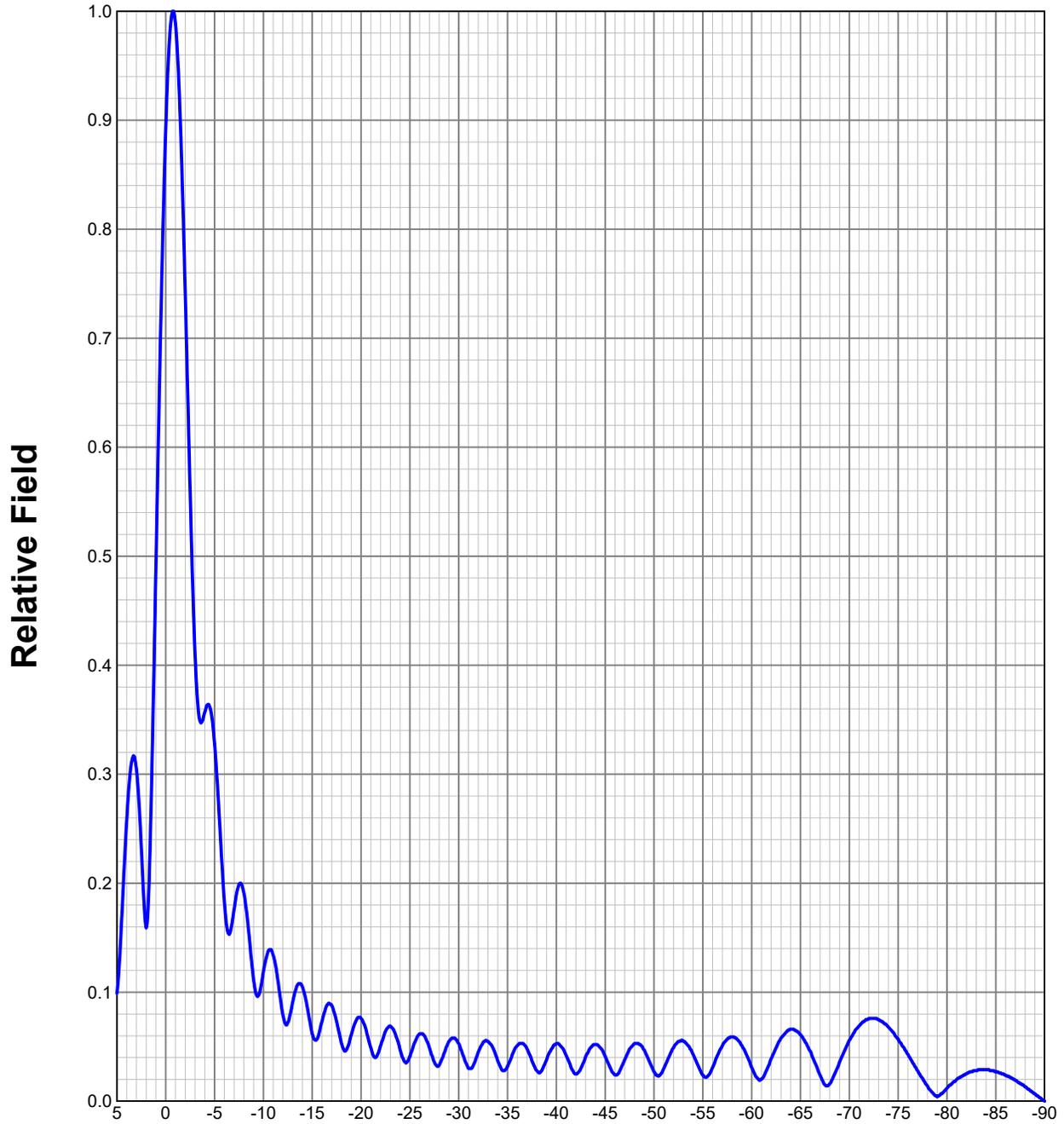
PolarizationHorizontal

ANGLE	FIELD	dB									
0	0.539	-5.37	92	0.552	-5.16	184	0.888	-1.03	276	0.888	-1.03
2	0.542	-5.32	94	0.548	-5.22	186	0.897	-0.94	278	0.878	-1.13
4	0.545	-5.27	96	0.545	-5.27	188	0.906	-0.86	280	0.868	-1.23
6	0.548	-5.22	98	0.542	-5.32	190	0.915	-0.77	282	0.858	-1.33
8	0.552	-5.16	100	0.539	-5.37	192	0.923	-0.70	284	0.847	-1.44
10	0.556	-5.10	102	0.538	-5.38	194	0.931	-0.62	286	0.836	-1.56
12	0.560	-5.04	104	0.536	-5.42	196	0.938	-0.56	288	0.825	-1.67
14	0.564	-4.97	106	0.535	-5.43	198	0.945	-0.49	290	0.813	-1.80
16	0.569	-4.90	108	0.535	-5.43	200	0.952	-0.43	292	0.802	-1.92
18	0.573	-4.84	110	0.536	-5.42	202	0.958	-0.37	294	0.790	-2.05
20	0.578	-4.76	112	0.537	-5.40	204	0.964	-0.32	296	0.778	-2.18
22	0.582	-4.70	114	0.539	-5.37	206	0.969	-0.27	298	0.765	-2.33
24	0.587	-4.63	116	0.542	-5.32	208	0.974	-0.23	300	0.753	-2.46
26	0.591	-4.57	118	0.546	-5.26	210	0.979	-0.18	302	0.740	-2.62
28	0.595	-4.51	120	0.550	-5.19	212	0.983	-0.15	304	0.728	-2.76
30	0.599	-4.45	122	0.555	-5.11	214	0.986	-0.12	306	0.715	-2.91
32	0.602	-4.41	124	0.561	-5.02	216	0.990	-0.09	308	0.703	-3.06
34	0.606	-4.35	126	0.568	-4.91	218	0.992	-0.07	310	0.691	-3.21
36	0.609	-4.31	128	0.575	-4.81	220	0.995	-0.04	312	0.679	-3.36
38	0.611	-4.28	130	0.583	-4.69	222	0.997	-0.03	314	0.667	-3.52
40	0.614	-4.24	132	0.592	-4.55	224	0.998	-0.02	316	0.655	-3.68
42	0.615	-4.22	134	0.601	-4.42	226	0.999	-0.01	318	0.643	-3.84
44	0.617	-4.19	136	0.611	-4.28	228	1.000	0.00	320	0.632	-3.99
46	0.618	-4.18	138	0.621	-4.14	230	1.000	0.00	322	0.621	-4.14
48	0.619	-4.17	140	0.632	-3.99	232	1.000	0.00	324	0.611	-4.28
50	0.619	-4.17	142	0.643	-3.84	234	0.999	-0.01	326	0.601	-4.42
52	0.619	-4.17	144	0.655	-3.68	236	0.998	-0.02	328	0.592	-4.55
54	0.618	-4.18	146	0.667	-3.52	238	0.997	-0.03	330	0.583	-4.69
56	0.617	-4.19	148	0.679	-3.36	240	0.995	-0.04	332	0.575	-4.81
58	0.615	-4.22	150	0.691	-3.21	242	0.992	-0.07	334	0.568	-4.91
60	0.614	-4.24	152	0.703	-3.06	244	0.990	-0.09	336	0.561	-5.02
62	0.611	-4.28	154	0.715	-2.91	246	0.986	-0.12	338	0.555	-5.11
64	0.609	-4.31	156	0.728	-2.76	248	0.983	-0.15	340	0.550	-5.19
66	0.606	-4.35	158	0.740	-2.62	250	0.979	-0.18	342	0.546	-5.26
68	0.602	-4.41	160	0.753	-2.46	252	0.974	-0.23	344	0.542	-5.32
70	0.599	-4.45	162	0.765	-2.33	254	0.969	-0.27	346	0.539	-5.37
72	0.595	-4.51	164	0.778	-2.18	256	0.964	-0.32	348	0.537	-5.40
74	0.591	-4.57	166	0.790	-2.05	258	0.958	-0.37	350	0.536	-5.42
76	0.587	-4.63	168	0.802	-1.92	260	0.952	-0.43	352	0.535	-5.43
78	0.582	-4.70	170	0.813	-1.80	262	0.945	-0.49	354	0.535	-5.43
80	0.578	-4.76	172	0.825	-1.67	264	0.938	-0.56	356	0.536	-5.42
82	0.573	-4.84	174	0.836	-1.56	266	0.931	-0.62	358	0.538	-5.38
84	0.569	-4.90	176	0.847	-1.44	268	0.923	-0.70	360	0.539	-5.37
86	0.564	-4.97	178	0.858	-1.33	270	0.915	-0.77			
88	0.560	-5.04	180	0.868	-1.23	272	0.906	-0.86			
90	0.556	-5.10	182	0.878	-1.13	274	0.897	-0.94			

Preliminary, subject to final design and review.

### ELEVATION PATTERN

Type:	ATW19H3H		Channel:	26
Directivity:	Numeric	dBd	Location:	
Main Lobe:	19.00	12.79	Beam Tilt:	-0.75
Horizontal:	15.12	11.79	Polarization:	Horizontal



Preliminary, subject to final design and review.

TVSTUDY INTERFERENCE ANALYSIS RESULTS  
PROPOSED WBUY-DT  
CHANNEL 26 – HOLLY SPRINGS, MISSISSIPPI

Study created: 2017.10.30 11:58:02

Study build station data: LMS TV 2017-10-24 (1)

Proposal: WBUY-TV D26 DT CP HOLLY SPRINGS, MS  
File number: BLANK0000026691  
Facility ID: 60830  
Station data: User record  
Record ID: 37  
Country: U.S.  
Zone: II

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
WTJP-TV	D26	DT	LIC	GADSDEN, AL	BLCDT20110304ACB	345.3 km
WFIE	D26	DT	CP	EVANSVILLE, IN	BLANK0000025161	353.4
WFIE	D26	DT	BL	EVANSVILLE, IN	DTVBL13991	353.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D26  
Latitude: 35 16 33.00 N (NAD83)  
Longitude: 89 46 38.00 W  
Height AMSL: 412.2 m  
HAAT: 317.0 m  
Peak ERP: 950 kW  
Antenna: AND-ATW19H3-HSS-26H (ID 1001514) 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 0.75

40.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	276 kW	308.0 m	88.3 km
45.0	361	313.0	91.3

90.0	294	317.6	90.0
135.0	351	303.3	89.8
180.0	716	304.6	96.5
225.0	945	325.7	101.2
270.0	795	341.6	101.1
315.0	416	324.5	93.9

\*\*Proposal service area extends beyond baseline plus 1.0%  
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 935.3 km

Distance to Mexican border: 1232.4 km

Conditions at FCC monitoring station: Powder Springs GA  
Bearing: 107.3 degrees Distance: 488.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 296.2 degrees Distance: 1458.9 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%

No IX check failures found.

POWER DENSITY CALCULATION

PROPOSED WBUY-DT  
CHANNEL 26 – HOLLY SPRINGS, MISSISSIPPI  
[MODIFICATION OF CONSTRUCTION PERMIT 0000026691]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Holly Springs facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 950 kW, an antenna radiation center 336 meters above ground, and the specific elevation pattern of the proposed ERI antenna, maximum power density two meters above ground of  $0.0015 \text{ mW/cm}^2$  is calculated to occur 105 meters from the base of the tower. Since this is only 0.4 percent of the  $0.36 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 26 (542-548 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.