



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION TO MODIFY A  
LICENSED DTV FACILITY - FILE NUMBER BLEDT-20040206AAA  
WYIN - GARY, INDIANA  
DTV - CH. 17 - 1000 kW - 309 m HAAT**

Prepared for: NORTHWEST INDIANA PUBLIC BROADCASTING, INC.

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, No. 7418, and in New York State, No. 63418.

**GENERAL**

This office has been authorized by Northwest Indiana Public Broadcasting, Inc., licensee of WYIN, channel 17, facility ID number 49803, licensed to Gary, Indiana, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for modification of its licensed DTV facility, file number BLEDT-20040206AAA. The instant application proposes to replace WYIN's licensed horizontally polarized directional antenna, an Andrew ATW14H4HSCX-17H, with a new Dielectric model TFU-24ETT/VP-R C400 elliptically polarized antenna with a different directional horizontal azimuth pattern. In addition to elliptical polarization and different directional horizontal azimuth pattern the instant application seeks a modest increase in HAAT of 19 meters to 309 meters and an increase in ERP from 300 kW to 1000 kW. No other modifications are herein proposed.

## **DIRECTIONAL ANTENNA**

The applicant proposes to utilize a new Dielectric model TFU-24ETT/VP-R C400 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 298.8 meters, and a height above average terrain of 309 meters. The antenna manufacturer's antenna data, including the horizontal azimuth patterns of both the horizontal and vertical signal components and the vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane are shown and tabulated in the antenna exhibit.

## **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 (39.04 dBu) contour, and the principal community (48 dBu) contour, which will completely encompass the principal community of license, Gary, Indiana.

## **ALLOCATION CONSIDERATIONS**

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

A new study was performed, using the FCC's software, *tvstudy*, v. 2.2.5, to determine if the instant proposed modification to WYIN's license 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 license modification 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. (See Appendix B)

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

The WYIN site is located 361 kilometers from the nearest point on the US/Canadian border and more than 1800 kilometers from the nearest point on the US/Mexican border. Therefore there are no international considerations.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WYIN site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules. The licensee is also committed to the protection of station personnel and/or tower contractors working in the vicinity of the WYIN antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

**RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE**

The licensee of WYIN is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WYIN antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

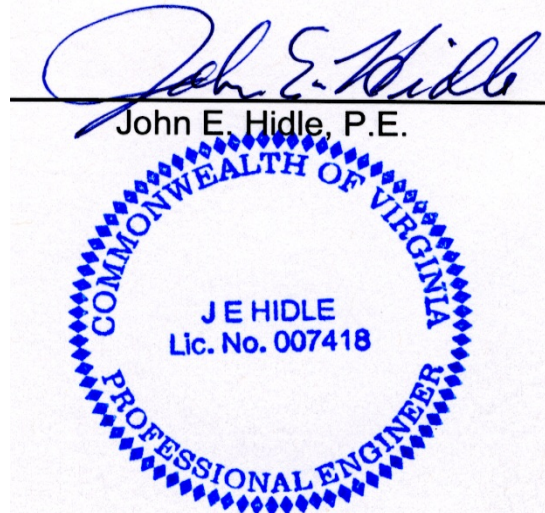
As shown in Appendix A the proposed WYIN channel 17 facility, as proposed herein, will operate with a maximum ERP of 1000 kW from an elliptically polarized directional transmitting antenna with a centerline height of 298.8 meters above ground level (AGL). Considering the elevation pattern provided elsewhere in this submission, the vertical plane relative field factor is less than 0.100 at all depression angles greater than 8 degrees. The proposed WYIN channel 17 facility is predicted to produce a worst-case power density at two meters above ground level, at 207.8 meters from the tower base, of  $0.623 \mu\text{W}/\text{cm}^2$ , which is 0.19% of the FCC guideline value of  $327.33 \mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 0.038% of the FCC's guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, because the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, the proposal's power density contribution is considered insignificant. Further, the Applicant will continue to cooperate/coordinate with other site users and reduce power and/or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

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**WYIN - Gary, Indiana**  
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**SUMMARY**

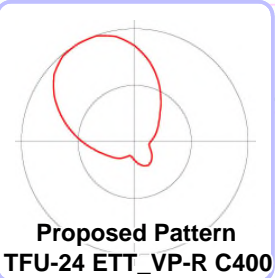
It is submitted that the instant application for modification of WYIN's licensed facility, BLEDT-20040206AAA, to substitute a new elliptically polarized directional antenna, to increase its HAAT to 309 meters and to increase its ERP to 1000 kW, as described herein, complies with the Rules, Regulations 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: February 16, 2023

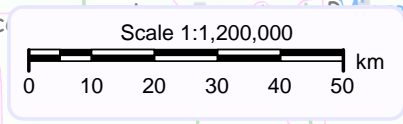
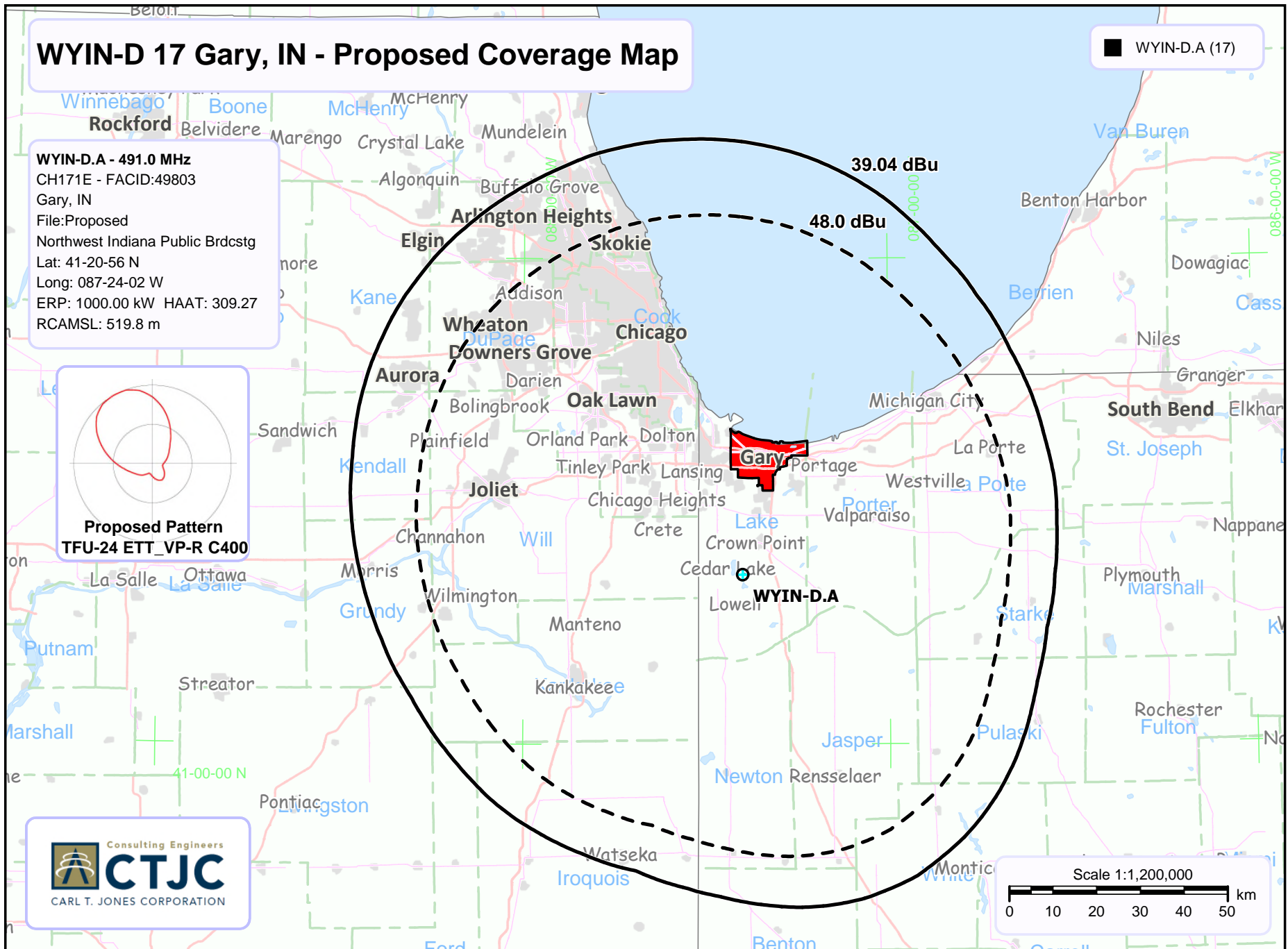


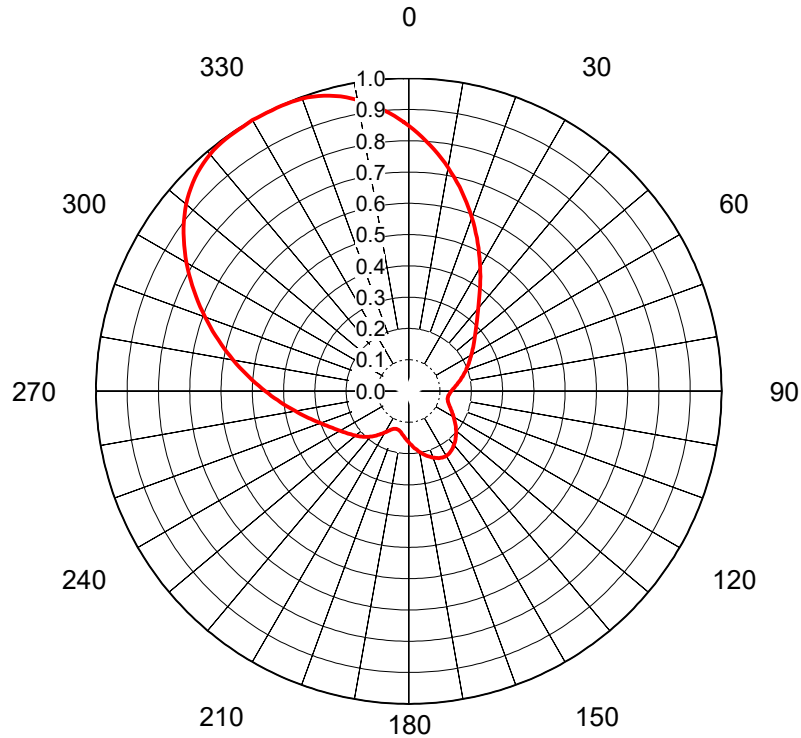
# WYIN-D 17 Gary, IN - Proposed Coverage Map

**WYIN-D.A - 491.0 MHz**  
CH171E - FACID:49803  
Gary, IN  
File:Proposed  
Northwest Indiana Public Brdcstg  
Lat: 41-20-56 N  
Long: 087-24-02 W  
ERP: 1000.00 kW HAAT: 309.27  
RCAMSL: 519.8 m



■ WYIN-D.A (17)





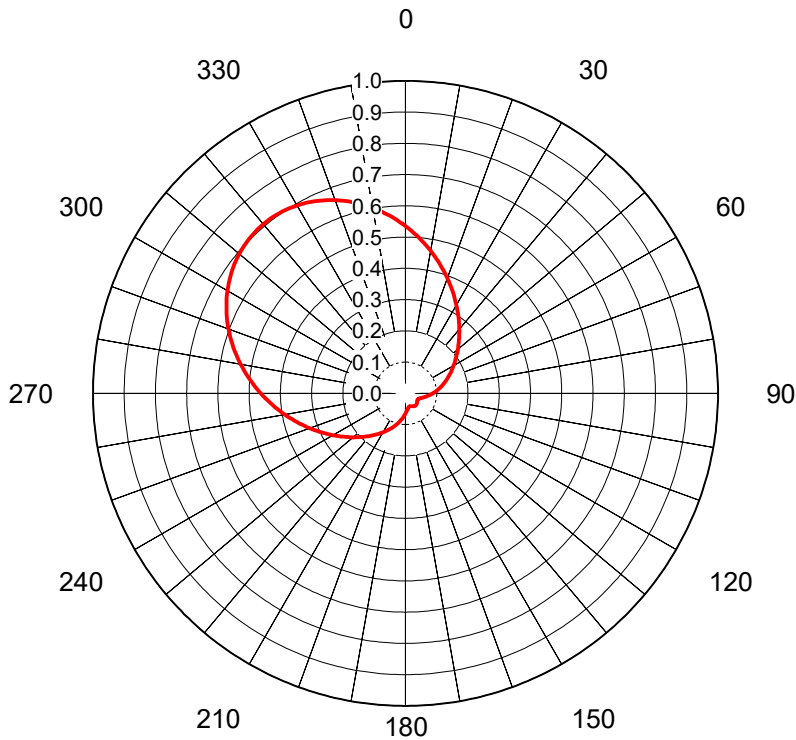
## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-71834-5**  
 Date **1-Dec-22**  
 Call Letters **WYIN**  
 Channel **17**  
 Frequency **491 MHz**  
 Antenna Type **TFU-24ETT/VP-R C400**  
 Gain **3.87 (5.88dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.848	36	0.386	72	0.188	108	0.135	144	0.233	180	0.164	216	0.175	252	0.312	288	0.668
1	0.836	37	0.375	73	0.185	109	0.137	145	0.235	181	0.161	217	0.179	253	0.319	289	0.680
2	0.825	38	0.365	74	0.181	110	0.139	146	0.236	182	0.158	218	0.183	254	0.325	290	0.693
3	0.813	39	0.356	75	0.178	111	0.141	147	0.238	183	0.155	219	0.187	255	0.332	291	0.706
4	0.801	40	0.346	76	0.175	112	0.143	148	0.239	184	0.152	220	0.190	256	0.339	292	0.719
5	0.789	41	0.338	77	0.172	113	0.146	149	0.239	185	0.149	221	0.194	257	0.346	293	0.731
6	0.776	42	0.330	78	0.168	114	0.149	150	0.240	186	0.146	222	0.197	258	0.354	294	0.744
7	0.764	43	0.322	79	0.165	115	0.151	151	0.240	187	0.143	223	0.201	259	0.361	295	0.757
8	0.751	44	0.315	80	0.162	116	0.154	152	0.239	188	0.141	224	0.204	260	0.369	296	0.770
9	0.738	45	0.308	81	0.159	117	0.157	153	0.239	189	0.138	225	0.207	261	0.377	297	0.783
10	0.725	46	0.301	82	0.156	118	0.160	154	0.238	190	0.136	226	0.210	262	0.385	298	0.795
11	0.712	47	0.295	83	0.153	119	0.163	155	0.236	191	0.134	227	0.213	263	0.394	299	0.808
12	0.699	48	0.289	84	0.151	120	0.166	156	0.235	192	0.132	228	0.216	264	0.402	300	0.820
13	0.685	49	0.283	85	0.148	121	0.169	157	0.233	193	0.131	229	0.219	265	0.411	301	0.833
14	0.672	50	0.277	86	0.146	122	0.172	158	0.231	194	0.129	230	0.222	266	0.420	302	0.845
15	0.659	51	0.272	87	0.143	123	0.175	159	0.229	195	0.128	231	0.225	267	0.430	303	0.856
16	0.645	52	0.267	88	0.141	124	0.179	160	0.226	196	0.128	232	0.228	268	0.439	304	0.868
17	0.631	53	0.262	89	0.139	125	0.182	161	0.224	197	0.127	233	0.231	269	0.449	305	0.879
18	0.618	54	0.257	90	0.137	126	0.185	162	0.221	198	0.127	234	0.234	270	0.459	306	0.890
19	0.604	55	0.253	91	0.135	127	0.188	163	0.219	199	0.127	235	0.237	271	0.469	307	0.900
20	0.590	56	0.248	92	0.133	128	0.191	164	0.216	200	0.128	236	0.240	272	0.480	308	0.910
21	0.577	57	0.244	93	0.132	129	0.194	165	0.213	201	0.129	237	0.243	273	0.490	309	0.919
22	0.563	58	0.240	94	0.130	130	0.198	166	0.210	202	0.131	238	0.247	274	0.501	310	0.928
23	0.549	59	0.235	95	0.129	131	0.201	167	0.207	203	0.133	239	0.250	275	0.512	311	0.937
24	0.536	60	0.231	96	0.128	132	0.204	168	0.204	204	0.135	240	0.254	276	0.523	312	0.945
25	0.522	61	0.227	97	0.128	133	0.207	169	0.200	205	0.137	241	0.258	277	0.535	313	0.952
26	0.509	62	0.223	98	0.127	134	0.210	170	0.197	206	0.140	242	0.262	278	0.546	314	0.959
27	0.495	63	0.220	99	0.127	135	0.212	171	0.194	207	0.143	243	0.266	279	0.558	315	0.965
28	0.482	64	0.216	100	0.127	136	0.215	172	0.191	208	0.146	244	0.270	280	0.570	316	0.971
29	0.469	65	0.212	101	0.127	137	0.218	173	0.187	209	0.149	245	0.275	281	0.581	317	0.976
30	0.457	66	0.209	102	0.127	138	0.220	174	0.184	210	0.153	246	0.279	282	0.593	318	0.980
31	0.444	67	0.205	103	0.128	139	0.223	175	0.181	211	0.156	247	0.284	283	0.606	319	0.984
32	0.432	68	0.202	104	0.129	140	0.225	176	0.177	212	0.160	248	0.289	284	0.618	320	0.988
33	0.420	69	0.198	105	0.130	141	0.227	177	0.174	213	0.164	249	0.295	285	0.630	321	0.991
34	0.408	70	0.195	106	0.131	142	0.229	178	0.171	214	0.168	250	0.301	286	0.643	322	0.993
35	0.397	71	0.191	107	0.133	143	0.231	179	0.167	215	0.172	251	0.306	287	0.655	323	0.995

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## AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-71834-5**  
 Date **1-Dec-22**  
 Call Letters **WYIN**  
 Channel **17**  
 Frequency **491 MHz**  
 Antenna Type **TFU-24ETT/VP-R C400**  
 Gain **3.61 (5.58dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.535	36	0.290	72	0.138	108	0.050	144	0.050	180	0.064	216	0.163	252	0.339	288	0.590	324	0.705
1	0.528	37	0.284	73	0.135	109	0.049	145	0.050	181	0.066	217	0.167	253	0.345	289	0.596	325	0.704
2	0.521	38	0.279	74	0.132	110	0.048	146	0.050	182	0.069	218	0.170	254	0.351	290	0.602	326	0.702
3	0.514	39	0.273	75	0.129	111	0.047	147	0.049	183	0.071	219	0.174	255	0.358	291	0.609	327	0.701
4	0.507	40	0.268	76	0.126	112	0.046	148	0.049	184	0.073	220	0.178	256	0.365	292	0.615	328	0.699
5	0.499	41	0.262	77	0.123	113	0.045	149	0.048	185	0.076	221	0.181	257	0.371	293	0.621	329	0.697
6	0.492	42	0.257	78	0.120	114	0.045	150	0.048	186	0.078	222	0.185	258	0.378	294	0.626	330	0.694
7	0.485	43	0.252	79	0.117	115	0.044	151	0.047	187	0.080	223	0.189	259	0.385	295	0.632	331	0.692
8	0.478	44	0.247	80	0.114	116	0.044	152	0.047	188	0.083	224	0.193	260	0.392	296	0.637	332	0.689
9	0.470	45	0.242	81	0.112	117	0.044	153	0.047	189	0.085	225	0.197	261	0.399	297	0.643	333	0.686
10	0.463	46	0.237	82	0.109	118	0.044	154	0.046	190	0.088	226	0.201	262	0.406	298	0.648	334	0.682
11	0.456	47	0.232	83	0.106	119	0.044	155	0.046	191	0.090	227	0.205	263	0.413	299	0.653	335	0.679
12	0.449	48	0.228	84	0.104	120	0.044	156	0.045	192	0.093	228	0.210	264	0.420	300	0.658	336	0.675
13	0.441	49	0.223	85	0.101	121	0.044	157	0.045	193	0.096	229	0.214	265	0.427	301	0.662	337	0.671
14	0.434	50	0.219	86	0.098	122	0.044	158	0.044	194	0.098	230	0.219	266	0.434	302	0.667	338	0.667
15	0.427	51	0.214	87	0.096	123	0.045	159	0.044	195	0.101	231	0.223	267	0.441	303	0.671	339	0.662
16	0.420	52	0.210	88	0.093	124	0.045	160	0.044	196	0.104	232	0.228	268	0.449	304	0.675	340	0.658
17	0.413	53	0.205	89	0.090	125	0.046	161	0.044	197	0.106	233	0.232	269	0.456	305	0.679	341	0.653
18	0.406	54	0.201	90	0.088	126	0.046	162	0.044	198	0.109	234	0.237	270	0.463	306	0.682	342	0.648
19	0.399	55	0.197	91	0.085	127	0.047	163	0.044	199	0.112	235	0.242	271	0.470	307	0.686	343	0.643
20	0.392	56	0.193	92	0.083	128	0.047	164	0.044	200	0.114	236	0.247	272	0.478	308	0.689	344	0.637
21	0.385	57	0.189	93	0.080	129	0.047	165	0.044	201	0.117	237	0.252	273	0.485	309	0.692	345	0.632
22	0.378	58	0.185	94	0.078	130	0.048	166	0.045	202	0.120	238	0.257	274	0.492	310	0.694	346	0.626
23	0.371	59	0.181	95	0.076	131	0.048	167	0.045	203	0.123	239	0.262	275	0.499	311	0.697	347	0.621
24	0.365	60	0.178	96	0.073	132	0.049	168	0.046	204	0.126	240	0.268	276	0.507	312	0.699	348	0.615
25	0.358	61	0.174	97	0.071	133	0.049	169	0.047	205	0.129	241	0.273	277	0.514	313	0.701	349	0.609
26	0.351	62	0.170	98	0.069	134	0.050	170	0.048	206	0.132	242	0.279	278	0.521	314	0.702	350	0.602
27	0.345	63	0.167	99	0.066	135	0.050	171	0.049	207	0.135	243	0.284	279	0.528	315	0.704	351	0.596
28	0.339	64	0.163	100	0.064	136	0.050	172	0.050	208	0.138	244	0.290	280	0.535	316	0.705	352	0.590
29	0.332	65	0.160	101	0.062	137	0.050	173	0.052	209	0.141	245	0.296	281	0.542	317	0.706	353	0.583
30	0.326	66	0.157	102	0.060	138	0.050	174	0.053	210	0.144	246	0.302	282	0.549	318	0.707	354	0.577
31	0.320	67	0.153	103	0.058	139	0.051	175	0.055	211	0.147	247	0.308	283	0.556	319	0.707	355	0.570
32	0.314	68	0.150	104	0.057	140	0.051	176	0.057	212	0.150	248	0.314	284	0.563	320	0.707	356	0.563
33	0.308	69	0.147	105	0.055	141	0.051	177	0.058	213	0.153	249	0.320	285	0.570	321	0.707	357	0.556
34	0.302	70	0.144	106	0.053	142	0.050	178	0.060	214	0.157	250	0.326	286	0.577	322	0.707	358	0.549
35	0.296	71	0.141	107	0.052	143	0.050	179	0.062	215	0.160	251	0.332	287	0.583	323	0.706	359	0.542

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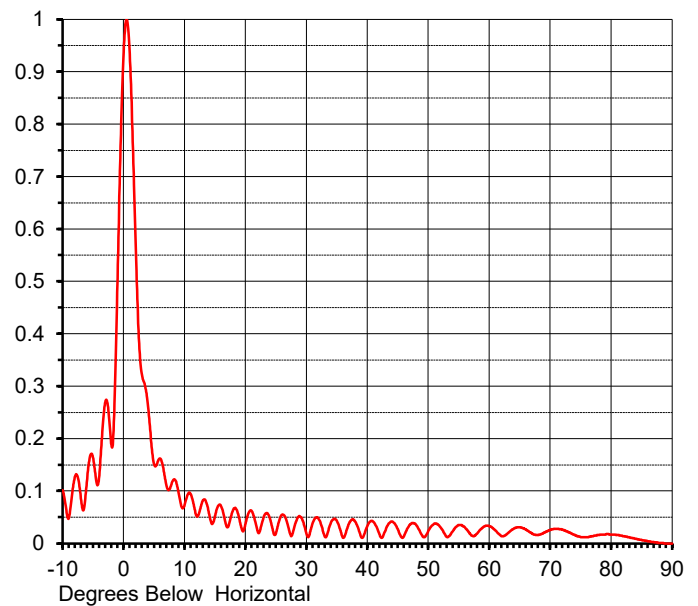
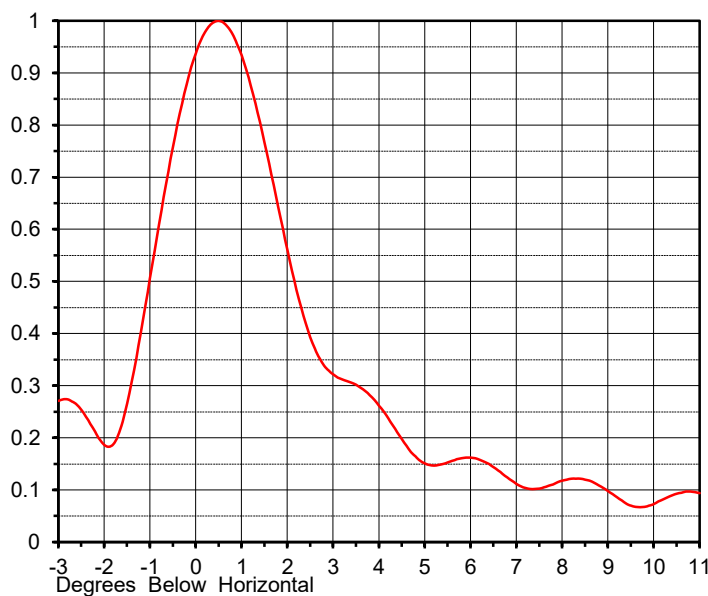


## ELEVATION PATTERN

Proposal No. **C-71834-5**  
 Date **1-Dec-22**  
 Call Letters **WYIN**  
 Channel **17**  
 Frequency **491 MHz**  
 Antenna Type **TFU-24ETT/VP-R C400**

RMS Directivity at Main Lobe **22.0 ( 13.42 dB )**  
 RMS Directivity at Horizontal **19.4 ( 12.88 dB )**  
**Calculated**

Beam Tilt **0.50 deg**  
 Pattern Number **24E220050**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.102	10.0	0.073	30.0	0.019	50.0	0.024	70.0	0.026
-9.0	0.048	11.0	0.094	31.0	0.038	51.0	0.038	71.0	0.028
-8.0	0.127	12.0	0.052	32.0	0.047	52.0	0.031	72.0	0.026
-7.0	0.086	13.0	0.082	33.0	0.013	53.0	0.013	73.0	0.022
-6.0	0.123	14.0	0.058	34.0	0.039	54.0	0.023	74.0	0.016
-5.0	0.162	15.0	0.052	35.0	0.043	55.0	0.035	75.0	0.012
-4.0	0.130	16.0	0.071	36.0	0.011	56.0	0.031	76.0	0.012
-3.0	0.271	17.0	0.031	37.0	0.038	57.0	0.016	77.0	0.014
-2.0	0.187	18.0	0.065	38.0	0.042	58.0	0.019	78.0	0.016
-1.0	0.506	19.0	0.046	39.0	0.012	59.0	0.031	79.0	0.017
0.0	0.938	20.0	0.038	40.0	0.033	60.0	0.033	80.0	0.017
1.0	0.934	21.0	0.062	41.0	0.041	61.0	0.025	81.0	0.016
2.0	0.560	22.0	0.023	42.0	0.017	62.0	0.014	82.0	0.014
3.0	0.322	23.0	0.051	43.0	0.026	63.0	0.019	83.0	0.012
4.0	0.262	24.0	0.048	44.0	0.042	64.0	0.028	84.0	0.009
5.0	0.151	25.0	0.020	45.0	0.027	65.0	0.031	85.0	0.007
6.0	0.162	26.0	0.055	46.0	0.014	66.0	0.027	86.0	0.004
7.0	0.112	27.0	0.032	47.0	0.036	67.0	0.019	87.0	0.003
8.0	0.118	28.0	0.031	48.0	0.035	68.0	0.016	88.0	0.001
9.0	0.098	29.0	0.051	49.0	0.015	69.0	0.021	89.0	0.000
								90.0	0.000

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WYIN

Channel 17 - Gary, Indiana

ERP = 1000000.00 WATTS

## APPENDIX A

Maximum ERP 1000 kW

Polarization ----- 2

Antenna Height Above Ground -- 298.8

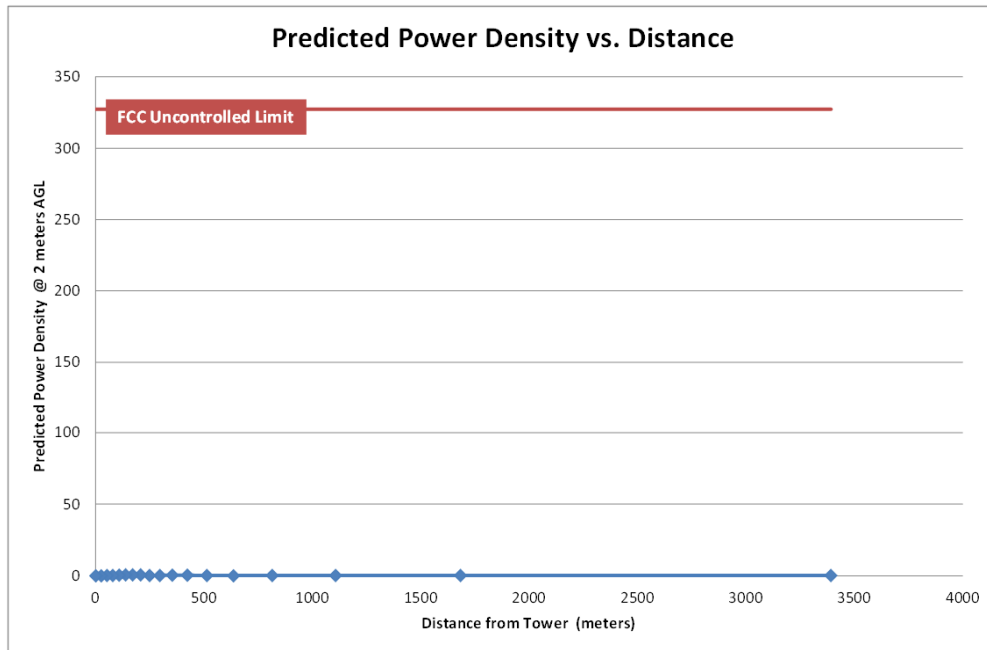
FCC Uncontrolled RFR Limit ---- 327.33

Circular meters 980.3 feet  
 $\mu\text{W}/\text{cm}^2$

298.8

Maximum Computed Power Density 0.623  $\mu\text{W}/\text{cm}^2$   
 0.19% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	WYIN ERP (kW)	WYIN Calculated Power Density $\mu\text{W}/\text{cm}^2$	Percent Limit	Limit Exceeded?
0			1.000	1000.0000			
5	3392.4	3405.4	0.151	22.8010	0.131	0.04%	No
10	1683.2	1709.2	0.073	5.3290	0.122	0.04%	No
15	1107.7	1146.7	0.052	2.7040	0.137	0.04%	No
20	815.5	867.8	0.038	1.4440	0.128	0.04%	No
25	636.5	702.3	0.020	0.4000	0.054	0.02%	No
30	514.1	593.6	0.019	0.3610	0.068	0.02%	No
35	423.9	517.5	0.043	1.8490	0.461	0.14%	No
40	353.7	461.7	0.033	1.0890	0.341	0.10%	No
45	296.8	419.7	0.027	0.7290	0.276	0.08%	No
50	249.0	387.4	0.024	0.5760	0.256	0.08%	No
55	207.8	362.3	0.035	1.2250	0.623	0.19%	No
60	171.4	342.7	0.033	1.0890	0.619	0.19%	No
65	138.4	327.5	0.031	0.9610	0.599	0.18%	No
70	108.0	315.8	0.026	0.6760	0.453	0.14%	No
75	79.5	307.3	0.012	0.1440	0.102	0.03%	No
80	52.3	301.4	0.017	0.2890	0.213	0.06%	No
85	26.0	297.9	0.007	0.0490	0.037	0.01%	No
90	0.0	296.8	0.000	0.0000	0.000	0.00%	No





# **WYIN - GARY, INDIANA** **FEBRUARY 2023** **APPENDIX B** **Longley-Rice Interference Analysis**

Please process using: **Study cell size: 0.50 km and Profile point spacing: 1.00 km**

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: WYIN 17 - TFU-24ETT VP-R C400, Model: Longley-Rice  
Start: 2022.12.01 10:25:43

Study created: 2022.12.01 10:25:42

Study build station data: LMS TV 2022-12-01

Proposal: WYIN D17 DT APP GARY, IN  
File number: WYIN 17 - TFU-24ETT VP-R C400  
Facility ID: 49803  
Station data: User record  
Record ID: 10  
Country: U.S.  
Zone: I

Build options:  
Protect pre-transition records not on baseline channel

Search options:  
Non-U.S. records included  
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WTVO	D16	DT	LIC	ROCKFORD, IL	BLCDT20021024AAS	179.9 km
No	WRSP-TV	D16	DT	LIC	SPRINGFIELD, IL	BLANK0000203556	244.4
No	WFWC-CD	D16	DC	LIC	FORT WAYNE, IN	BLANK0000087020	190.6
No	WDNI-CD	D16	DC	LIC	INDIANAPOLIS, IN	BLANK0000086458	205.2
Yes	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	257.3
No	WALV-CD	D17	DC	LIC	INDIANAPOLIS, IN	BLANK0000090311	188.4
No	WKOI	D17	DT	LIC	OWENSBORO, KY	BLANK0000087401	388.7
Yes	WOTV	D17	DT	LIC	BATTLE CREEK, MI	BLANK0000141782	209.6
No	WBNX-TV	D17	DT	LIC	AKRON, OH	BLANK0000100132	475.9
No	WCET	D17	DT	LIC	CINCINNATI, OH	BLANK0000087307	347.5
No	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	468.4
Yes	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	200.7
No	WBXC-CD	D18	DC	LIC	CHAMPAIGN/URBANA, IL	BLANK0000112220	154.8
Yes	WMEU-CD	D18	DC	LIC	CHICAGO, IL	BLANK0000086889	62.1
Yes	WMEU-CD	D18	DC	CP	CHICAGO, IL	BLANK0000196962	63.9
No	WFWA	D18	DT	LIC	FORT WAYNE, IN	BLANK0000063130	186.7
No	WAWV-TV	D18	DT	LIC	TERRE HAUTE, IN	BLANK0000087258	234.1
No	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	258.6
No	CHWI-DT-60D17		DT	BL	WINDSOR, ON	DTVBL703974	376.7

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

# **Appendix B - Interference Analysis** **WYIN - Gary, Indiana** **Channel 17 -1000 kW - Page 2**

Record parameters as studied:

Channel: D17  
Latitude: 41 20 56.00 N (NAD83)  
Longitude: 87 24 2.00 W  
Height AMSL: 519.8 m  
HAAT: 309.3 m  
Peak ERP: 1000 kW  
Antenna: WYIN 17 - TFU-24ETT VP-R C400 330 degs  
Elev Pattnr: Generic  
Elec Tilt: 1.00

39.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	719 kW	305.1 m	98.5 km
45.0	97.0	303.9	81.5
90.0	18.8	304.7	71.8
135.0	44.7	314.6	77.6
180.0	26.9	317.1	74.8
225.0	42.4	304.9	76.4
270.0	211	300.0	86.8
315.0	918	303.8	100.6

Database HAAT does not agree with computed HAAT

Database HAAT: 309 m Computed HAAT: 307 m

Distance to Canadian border: 361.1 km

Distance to Mexican border: 1800.6 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 40.0 degrees Distance: 183.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 270.8 degrees Distance: 1504.1 km

No land mobile station failures found

**Study cell size: 0.50 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 BLANK0000097891 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	
Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	257.2 km
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	257.3
	WTVO	D16	DT	LIC	ROCKFORD, IL	BLCDT20021024AAS	135.8
	KDIT-CD	D17-	DC	LIC	Des Moines, IA	BLANK0000199021	262.3
	KMIZ	D17	DT	CP	COLUMBIA, MO	BLANK0000127487	355.1
	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	348.7
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	272.1
	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	184.7
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	35485.1	1,066,599	35137.9	1,054,860	34742.6	1,038,198	34626.3 1,035,027 0.33 0.31

**Appendix B - Interference Analysis**  
**WYIN - Gary, Indiana**  
**Channel 17 -1000 kW - Page 3**

Undesired		Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	251.2	11,324	224.4	10,934
WYIN D17 DT APP	389.3	15,362		
WTVO D16 DT LIC	48.0	246	39.1	186
KDIT-CD D17- DC LIC	10.2	280	7.0	153
KMIZ D17 DT CP	5.4	71	3.9	29
WEAU D17 DT LIC	113.8	5,303	89.0	4,843
WBME-CD D17 DC LIC	6.2	38	0.2	0
WMSN-TV D18 DT LIC	1.7	8	0.2	0

-----  
Interference to BLANK0000097891 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	
Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	257.2 km
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	257.3
	WTVO	D16	DT	LIC	ROCKFORD, IL	BLCDT20021024AAS	135.8
	KDIT-CD	D17-	DC	LIC	Des Moines, IA	BLANK0000199021	262.3
	KMIZ	D17	DT	LIC	COLUMBIA, MO	BLANK0000089534	355.1
	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	348.7
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	272.1
	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	184.7
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
35485.1		1,066,599		35137.9		1,035,055	0.34 0.31

Undesired		Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	251.2	11,324	224.9	10,934
WYIN D17 DT APP	389.3	15,362		
WTVO D16 DT LIC	48.0	246	39.1	186
KDIT-CD D17- DC LIC	10.2	280	7.2	180
KMIZ D17 DT LIC	2.2	16	1.5	1
WEAU D17 DT LIC	113.8	5,303	89.0	4,843
WBME-CD D17 DC LIC	6.2	38	0.2	0
WMSN-TV D18 DT LIC	1.7	8	0.2	0

-----  
Interference to BLANK0000141782 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOTV	D17	DT	LIC	BATTLE CREEK, MI	BLANK0000141782	
Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	209.6 km
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	209.6
	WSMH	D16	DT	LIC	FLINT, MI	BLANK0000185127	134.8
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	209.4
	WMEU-CD	D18	DC	LIC	CHICAGO, IL	BLANK0000086889	194.2
	WEYI-TV	D18	DT	LIC	SAGINAW, MI	BLANK0000185142	159.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
27579.9		2,372,499		27565.1		2,351,939	0.57 0.35

Undesired		Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	110.5	10,770	105.4	10,680
WYIN D17 DT APP	269.4	19,175		
WSMH D16 DT LIC	39.0	984	34.6	958
WBME-CD D17 DC LIC	9.8	401	4.7	311
WEYI-TV D18 DT LIC	4.4	26	0.0	0

-----  
Interference to BLANK0000086894 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	

# Appendix B - Interference Analysis

## WYIN - Gary, Indiana

### Channel 17 -1000 kW - Page 4

Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	200.7 km
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	200.7
	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	272.1
	WOTV	D17	DT	LIC	BATTLE CREEK, MI	BLANK0000141782	209.4
	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	297.8
	WMEU-CD	D18	DC	LIC	CHICAGO, IL	BLANK0000086889	139.1
	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	130.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
10842.9 1,844,785	10820.7 1,844,287	10782.8 1,843,482	10734.0 1,841,949	0.45 0.08

Undesired	Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	15.1 369	4.6 193	
WYIN D17 DT APP	74.4 2,222		53.4 1,726
KWQC-TV D17 DT LIC	6.6 211	0.0 0	0.0 0
WOTV D17 DT LIC	26.4 505	9.8 199	5.6 50
WEAU D17 DT LIC	18.1 328	2.9 14	1.7 7
WMSN-TV D18 DT LIC	2.4 3	0.7 0	0.5 0

#### Interference to BLANK0000086889 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WMEU-CD	D18	DC	LIC	CHICAGO, IL	BLANK0000086889			
Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	62.1 km		
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	62.1		
	WFWA	D18	DT	LIC	FORT WAYNE, IN	BLANK0000063130	221.0		
	WLUK-TV	D18	DT	LIC	GREEN BAY, WI	BLANK0000199689	282.7		
	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	203.3		
	WGN-TV	D19	DT	LIC	CHICAGO, IL	BLANK0000189522	0.0		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
13736.3	8,556,346	13734.5	8,555,894	13681.6	8,535,462	13681.1	8,535,424	0.00	0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	3.5 74	2.5 58	
WYIN D17 DT APP	7.1 123		3.0 96
WFWA D18 DT LIC	0.2 20	0.0 0	0.0 0
WLUK-TV D18 DT LIC	0.2 20	0.0 0	0.0 0
WMSN-TV D18 DT LIC	18.6 8,765	11.4 6,250	11.4 6,250
WGN-TV D19 DT LIC	38.5 14,104	31.0 11,593	28.0 11,582

#### Interference to BLANK0000196962 CP scenario 1

Desired:	Call WMEU-CD	Chan D18	Svc DC	Status CP	City, State CHICAGO, IL	File Number BLANK0000196962	Distance		
Undesireds:	WYIN	D17	DT	BL	GARY, IN	DTVBL49803	63.9 km		
	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	63.9		
	WFWA	D18	DT	LIC	FORT WAYNE, IN	BLANK0000063130	220.9		
	WMSN-TV	D18	DT	LIC	MADISON, WI	BLANK0000113879	202.7		
	WGN-TV	D19	DT	LIC	CHICAGO, IL	BLANK0000189522	2.5		
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX		
12607.5	8,306,023	12607.0	8,305,924	12162.3	8,041,791	12162.3	8,041,791	0.00	0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WYIN D17 DT BL	17.6 561	1.5 36	
WYIN D17 DT APP	21.7 626		1.5 36
WFWA D18 DT LIC	0.7 763	0.0 0	0.0 0
WMSN-TV D18 DT LIC	22.6 9,989	8.9 4,586	8.9 4,586
WGN-TV D19 DT LIC	434.1 259,181	404.8 253,583	400.8 253,518

**Appendix B - Interference Analysis**  
**WYIN - Gary, Indiana**  
**Channel 17 -1000 kW - Page 5**

-----  
Interference to proposal scenario 1

1.50% interference received      **Applicant accepts received interference**

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	
Undesireds:	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	257.3 km
	WOTV	D17	DT	LIC	BATTLE CREEK, MI	BLANK0000141782	209.6
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	200.7
	WMEU-CD	D18	DC	LIC	CHICAGO, IL	BLANK0000086889	62.1

	Service area		Terrain-limited		IX-free		Percent IX
	22223.8	8,115,525	22220.1	8,113,867	21853.6	7,991,783	1.65 1.50
Undesired				Total IX		Unique IX	Prcnt Unique IX
KWQC-TV D17 DT LIC		124.2		78,517	111.5	66,306	0.50 0.82
WOTV D17 DT LIC		74.6		4,957	70.6	2,474	0.32 0.03
WBME-CD D17 DC LIC		8.5		1,866	0.0	0	0.00 0.00
WMEU-CD D18 DC LIC		182.6		52,802	163.9	38,709	0.74 0.48

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Interference to proposal scenario 2

1.45% interference received      **Applicant accepts received interference**

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WYIN	D17	DT	APP	GARY, IN	WYIN 17 - TFU-24ETT V	
Undesireds:	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	257.3 km
	WOTV	D17	DT	LIC	BATTLE CREEK, MI	BLANK0000141782	209.6
	WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	200.7
	WMEU-CD	D18	DC	CP	CHICAGO, IL	BLANK0000196962	63.9

	Service area		Terrain-limited		IX-free		Percent IX
	22223.8	8,115,525	22220.1	8,113,867	21837.3	7,996,489	1.72 1.45
Undesired				Total IX		Unique IX	Prcnt Unique IX
KWQC-TV D17 DT LIC		124.2		78,517	116.2	72,925	0.52 0.90
WOTV D17 DT LIC		74.6		4,957	70.6	2,474	0.32 0.03
WBME-CD D17 DC LIC		8.5		1,866	0.0	0	0.00 0.00
WMEU-CD D18 DC CP		193.7		41,318	180.3	34,003	0.81 0.42