

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Minor Modification of Digital Television Station Construction Permit

prepared for

Detroit Television Station WKBD Inc.

WKBD-TV Detroit, MI
Facility ID 51570
Ch. 34 285 kW 291 m

Detroit Television Station WKBD Inc. (“DTSW”) is the licensee of digital television station WKBD-TV, Channel 14, Facility ID 51570, Detroit, MI. Reassignment of WKBD-TV from Channel 14 to Channel 34 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice (“CCRPN”*, DA 17-317, released April 13, 2017). A Construction Permit (“CP” file# 0000034396) authorizes WKBD-TV to operate on Channel 34 at 285 kW effective radiated power (“ERP”) with a directional antenna top-mounted at 295 meters height above average terrain (“HAAT”). *DTSW* proposes herein a minor modification of the reassignment CP to reduce the antenna’s height. No other changes are sought.

The existing Channel 14 facility employs a side-mount antenna located just beneath the candelabra of the WKBD-TV tower. The tower structure corresponds to FCC Antenna Structure Registration number 1007996. As with the current authorization, the proposed Channel 34 antenna will be installed above the candelabra at a top-mount position. The final configuration above the candelabra will place the antenna’s center of radiation at 309.7 meters above ground level, which is a 4.5 meter reduction from that which is currently authorized. The proposed antenna HAAT is 291 meters (290.6 meters, unrounded). No change in ERP or directional antenna is proposed, and no change to the overall structure height will result.

The proposed antenna is an elliptically polarized Dielectric model TFU-18GTH/VP-R 4C180 (25 percent vertical polarization). The maximum horizontally polarized ERP is 285 kW and the maximum vertically polarized ERP is 71.25 kW. The vertically polarized component

will not exceed the horizontally polarized component at any azimuth. The directional antenna's azimuthal patterns are depicted in Figures 1 and 1A for horizontal and vertical polarization, respectively. The antenna's elevation pattern is depicted in Figure 2.

Figure 3 supplies a map that demonstrates compliance with §73.625(a)(1) regarding coverage of the entire principal community. The proposed facility's predicted population exceeds 95 percent of the *CCRPN* baseline facility's population.

At 285 kW ERP / 295 m HAAT, the presently authorized WKBD-TV noise limited service contour ("NLSC") extends beyond that of the *CCRPN* facility and resulted from a minor modification application filed during the second filing window.¹ The height reduction sought herein provides an NLSC which also exceeds that of the *CCRPN* facility but is within that of the present authorization. A comparison map of the WKBD-TV authorized, proposed, and reassignment NLSC is provided as Figure 4. Therefore, the proposal complies with the FCC's NLSC expansion "freeze" Public Notice² of April 5, 2013 (DA 13-618) to the extent it may be applicable to reassigned stations such as WKBD-TV.

Interference study per FCC OET Bulletin 69³ shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby post-auction full service and Class A television stations and reassignments as required by §73.616. The interference study output report is provided as Table 1.

¹Public Notice "*Incentive Auction Task Force and Media Bureau Announce the Opening of the Second Filing Window for Eligible Full Power and Class A Television Station—October 3 Through November 2, 2017*" DA 17-911, released September 20, 2017.

²"*Media Bureau Announces Limitations on the Filing and Processing of Full Power and Class A Television Station Modification Applications, Effective Immediately, and Reminds Stations of Spectrum Act Preservation Mandate*," DA 13-618, Public Notice, released April 5, 2013.

³FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 2 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

The site location is within the Canadian coordination zone (27 km to the Canada border). No further coordination with Canada should be required, since the proposal merely seeks to reduce the antenna height of an existing authorization and no extension of NLSC will result.

The nearest FCC monitoring station is 218 km distant at Allegan, MI. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with “quiet” zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 kilometers of the site.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC’s OET Bulletin Number 65. Based on OET-65 equation (10), and considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 15 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $1.3 \mu\text{W}/\text{cm}^2$, which is 0.3 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal’s contribution is less than five percent.

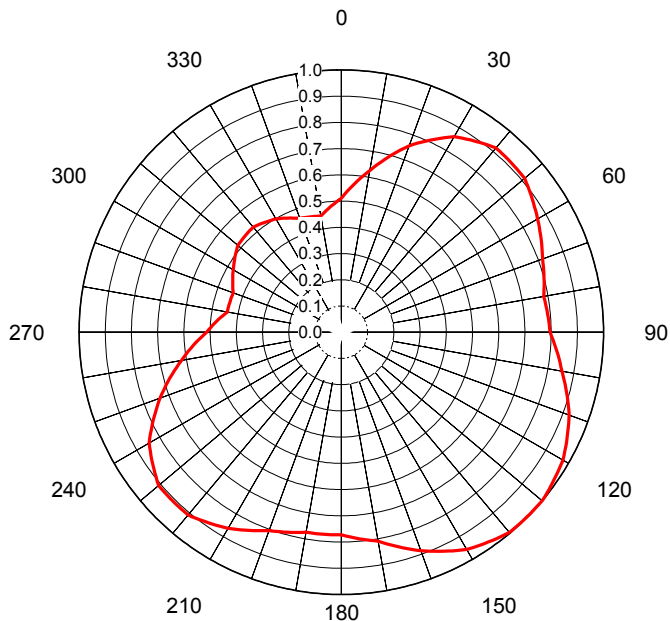
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC’s guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

List of Attachments

Figure 1, 1A	Antenna Azimuthal Pattern
Figure 2	Antenna Elevation Pattern
Figure 3	Proposed Coverage Contours
Figure 4	Coverage Contour Comparison
Table 1	OET Bulletin 69 Interference Study
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	July 19, 2018	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



AZIMUTH PATTERN Horizontal Polarization

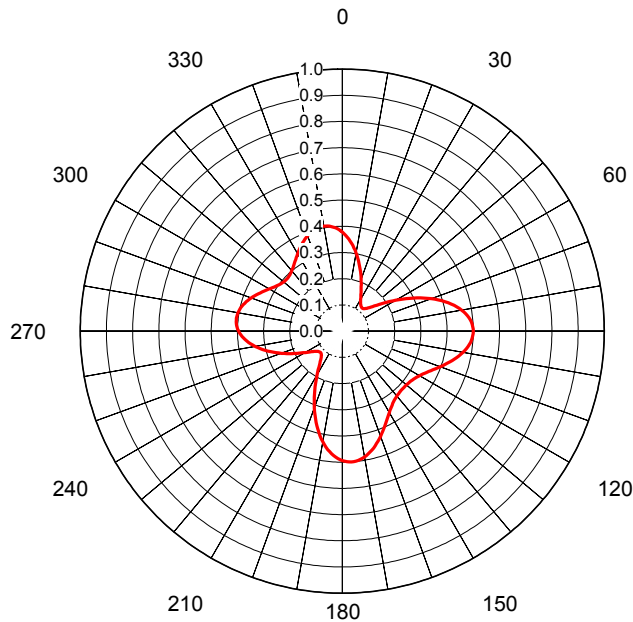
Proposal No. **C-70902**
 Date **20-Jun-17**
 Call Letters **WKBD**
 Channel **34**
 Frequency **593 MHz**
 Antenna Type **TFU-18GTH/VP-R 4C180**
 Gain **1.7 (2.31dB)**
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.510	36	0.895	72	0.810	108	0.910	144	0.981	180	0.773	216	0.891	252	0.712	288	0.439
1	0.522	37	0.901	73	0.807	109	0.918	145	0.977	181	0.773	217	0.896	253	0.700	289	0.439
2	0.533	38	0.906	74	0.804	110	0.925	146	0.973	182	0.773	218	0.900	254	0.689	290	0.439
3	0.545	39	0.912	75	0.800	111	0.930	147	0.969	183	0.773	219	0.905	255	0.677	291	0.442
4	0.556	40	0.918	76	0.797	112	0.935	148	0.965	184	0.773	220	0.909	256	0.665	292	0.446
5	0.568	41	0.917	77	0.794	113	0.940	149	0.961	185	0.774	221	0.909	257	0.654	293	0.450
6	0.579	42	0.916	78	0.790	114	0.945	150	0.957	186	0.774	222	0.909	258	0.642	294	0.454
7	0.591	43	0.916	79	0.787	115	0.950	151	0.950	187	0.774	223	0.909	259	0.630	295	0.457
8	0.603	44	0.915	80	0.784	116	0.955	152	0.943	188	0.774	224	0.909	260	0.619	296	0.461
9	0.614	45	0.915	81	0.785	117	0.960	153	0.936	189	0.774	225	0.909	261	0.608	297	0.465
10	0.626	46	0.914	82	0.786	118	0.966	154	0.929	190	0.775	226	0.909	262	0.598	298	0.468
11	0.639	47	0.914	83	0.787	119	0.971	155	0.922	191	0.778	227	0.909	263	0.587	299	0.472
12	0.652	48	0.913	84	0.789	120	0.976	156	0.914	192	0.781	228	0.909	264	0.576	300	0.476
13	0.665	49	0.913	85	0.790	121	0.978	157	0.907	193	0.784	229	0.909	265	0.566	301	0.480
14	0.678	50	0.912	86	0.791	122	0.981	158	0.900	194	0.787	230	0.909	266	0.555	302	0.484
15	0.691	51	0.908	87	0.792	123	0.983	159	0.893	195	0.790	231	0.903	267	0.545	303	0.488
16	0.704	52	0.903	88	0.793	124	0.986	160	0.886	196	0.793	232	0.897	268	0.534	304	0.492
17	0.717	53	0.898	89	0.795	125	0.988	161	0.879	197	0.796	233	0.890	269	0.524	305	0.495
18	0.730	54	0.893	90	0.796	126	0.990	162	0.871	198	0.799	234	0.884	270	0.513	306	0.499
19	0.743	55	0.888	91	0.802	127	0.993	163	0.863	199	0.802	235	0.878	271	0.506	307	0.503
20	0.757	56	0.884	92	0.807	128	0.995	164	0.855	200	0.805	236	0.871	272	0.499	308	0.507
21	0.767	57	0.879	93	0.813	129	0.998	165	0.848	201	0.811	237	0.865	273	0.492	309	0.511
22	0.777	58	0.874	94	0.819	130	1.000	166	0.840	202	0.816	238	0.859	274	0.485	310	0.515
23	0.788	59	0.869	95	0.825	131	1.000	167	0.832	203	0.822	239	0.852	275	0.477	311	0.516
24	0.798	60	0.864	96	0.831	132	0.999	168	0.824	204	0.828	240	0.846	276	0.470	312	0.517
25	0.809	61	0.859	97	0.837	133	0.999	169	0.817	205	0.834	241	0.835	277	0.463	313	0.518
26	0.819	62	0.855	98	0.842	134	0.999	170	0.809	206	0.840	242	0.824	278	0.456	314	0.518
27	0.830	63	0.850	99	0.848	135	0.998	171	0.805	207	0.846	243	0.813	279	0.449	315	0.519
28	0.840	64	0.845	100	0.854	136	0.998	172	0.802	208	0.852	244	0.802	280	0.442	316	0.520
29	0.851	65	0.841	101	0.861	137	0.998	173	0.798	209	0.857	245	0.791	281	0.441	317	0.521
30	0.861	66	0.836	102	0.868	138	0.998	174	0.794	210	0.863	246	0.780	282	0.441	318	0.522
31	0.867	67	0.831	103	0.875	139	0.997	175	0.791	211	0.868	247	0.769	283	0.441	319	0.522
32	0.872	68	0.826	104	0.882	140	0.997	176	0.787	212	0.872	248	0.758	284	0.440	320	0.523
33	0.878	69	0.822	105	0.889	141	0.993	177	0.784	213	0.877	249	0.746	285	0.440	321	0.521
34	0.884	70	0.817	106	0.896	142	0.989	178	0.780	214	0.882	250	0.735	286	0.440	322	0.518
35	0.889	71	0.814	107	0.903	143	0.985	179	0.776	215	0.886	251	0.724	287	0.440	323	0.516

Figure 1
Antenna Azimuthal Pattern
Horizontal Polarization
WKBD-TV Detroit, MI
Facility ID 51570
Ch. 34 285 kW 291 m

prepared for
Detroit Television Station WKBD Inc.

July, 2018



AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70902**
 Date **20-Jun-17**
 Call Letters **WKBD**
 Channel **34**
 Frequency **593 MHz**
 Antenna Type **TFU-18GTH/VP-R 4C180**
 Gain **2.15 (3.32dB)**
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.378	36	0.121	72	0.386	108	0.412	144	0.333	180	0.494	216	0.143	252	0.266	288	0.379	324	0.314
1	0.372	37	0.119	73	0.397	109	0.405	145	0.336	181	0.491	217	0.137	253	0.275	289	0.375	325	0.318
2	0.366	38	0.118	74	0.408	110	0.397	146	0.340	182	0.486	218	0.132	254	0.285	290	0.370	326	0.322
3	0.360	39	0.117	75	0.418	111	0.390	147	0.344	183	0.482	219	0.128	255	0.294	291	0.365	327	0.326
4	0.353	40	0.116	76	0.428	112	0.384	148	0.349	184	0.476	220	0.124	256	0.303	292	0.360	328	0.331
5	0.345	41	0.116	77	0.438	113	0.377	149	0.354	185	0.470	221	0.122	257	0.312	293	0.356	329	0.336
6	0.337	42	0.117	78	0.447	114	0.370	150	0.359	186	0.463	222	0.119	258	0.321	294	0.350	330	0.341
7	0.329	43	0.118	79	0.455	115	0.364	151	0.364	187	0.455	223	0.118	259	0.329	295	0.346	331	0.346
8	0.321	44	0.119	80	0.463	116	0.359	152	0.370	188	0.447	224	0.117	260	0.337	296	0.341	332	0.350
9	0.312	45	0.122	81	0.470	117	0.354	153	0.377	189	0.438	225	0.116	261	0.345	297	0.336	333	0.356
10	0.303	46	0.124	82	0.476	118	0.349	154	0.384	190	0.428	226	0.116	262	0.353	298	0.331	334	0.360
11	0.294	47	0.128	83	0.482	119	0.344	155	0.390	191	0.418	227	0.117	263	0.360	299	0.326	335	0.365
12	0.285	48	0.132	84	0.486	120	0.340	156	0.397	192	0.408	228	0.118	264	0.366	300	0.322	336	0.370
13	0.275	49	0.137	85	0.491	121	0.336	157	0.405	193	0.397	229	0.119	265	0.372	301	0.318	337	0.375
14	0.266	50	0.143	86	0.494	122	0.333	158	0.412	194	0.386	230	0.121	266	0.378	302	0.314	338	0.379
15	0.256	51	0.149	87	0.497	123	0.330	159	0.419	195	0.374	231	0.123	267	0.383	303	0.310	339	0.383
16	0.247	52	0.156	88	0.498	124	0.328	160	0.427	196	0.362	232	0.125	268	0.388	304	0.306	340	0.387
17	0.238	53	0.164	89	0.500	125	0.326	161	0.434	197	0.349	233	0.128	269	0.392	305	0.303	341	0.391
18	0.228	54	0.173	90	0.500	126	0.324	162	0.441	198	0.337	234	0.132	270	0.396	306	0.300	342	0.394
19	0.219	55	0.182	91	0.500	127	0.322	163	0.448	199	0.324	235	0.136	271	0.399	307	0.298	343	0.397
20	0.210	56	0.192	92	0.499	128	0.321	164	0.455	200	0.312	236	0.140	272	0.402	308	0.296	344	0.400
21	0.201	57	0.202	93	0.497	129	0.320	165	0.462	201	0.299	237	0.145	273	0.404	309	0.294	345	0.402
22	0.193	58	0.213	94	0.494	130	0.319	166	0.468	202	0.286	238	0.151	274	0.405	310	0.292	346	0.404
23	0.185	59	0.225	95	0.491	131	0.319	167	0.473	203	0.273	239	0.157	275	0.406	311	0.291	347	0.405
24	0.177	60	0.236	96	0.488	132	0.318	168	0.479	204	0.261	240	0.163	276	0.407	312	0.291	348	0.406
25	0.170	61	0.249	97	0.483	133	0.318	169	0.483	205	0.249	241	0.170	277	0.407	313	0.290	349	0.407
26	0.163	62	0.261	98	0.479	134	0.318	170	0.488	206	0.236	242	0.177	278	0.406	314	0.291	350	0.407
27	0.157	63	0.273	99	0.473	135	0.319	171	0.491	207	0.225	243	0.185	279	0.405	315	0.291	351	0.406
28	0.151	64	0.286	100	0.468	136	0.319	172	0.494	208	0.213	244	0.193	280	0.404	316	0.292	352	0.405
29	0.145	65	0.299	101	0.462	137	0.320	173	0.497	209	0.202	245	0.201	281	0.402	317	0.294	353	0.404
30	0.140	66	0.312	102	0.455	138	0.321	174	0.499	210	0.192	246	0.210	282	0.400	318	0.296	354	0.402
31	0.136	67	0.324	103	0.448	139	0.322	175	0.500	211	0.182	247	0.219	283	0.397	319	0.298	355	0.399
32	0.132	68	0.337	104	0.441	140	0.324	176	0.500	212	0.173	248	0.228	284	0.394	320	0.300	356	0.396
33	0.128	69	0.349	105	0.434	141	0.326	177	0.500	213	0.164	249	0.238	285	0.391	321	0.303	357	0.392
34	0.125	70	0.362	106	0.427	142	0.328	178	0.498	214	0.156	250	0.247	286	0.387	322	0.306	358	0.388
35	0.123	71	0.374	107	0.419	143	0.330	179	0.497	215	0.149	251	0.256	287	0.383	323	0.310	359	0.383

Figure 1A
Antenna Azimuthal Pattern
Vertical Polarization
WKBD-TV Detroit, MI
Facility ID 51570
Ch. 34 285 kW 291 m

prepared for
Detroit Television Station WKBD Inc.

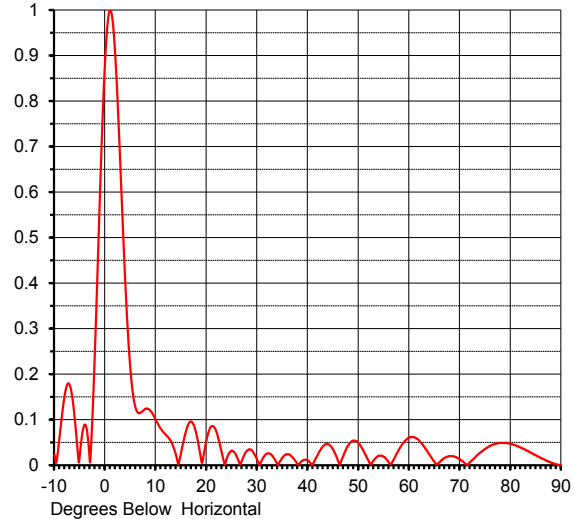
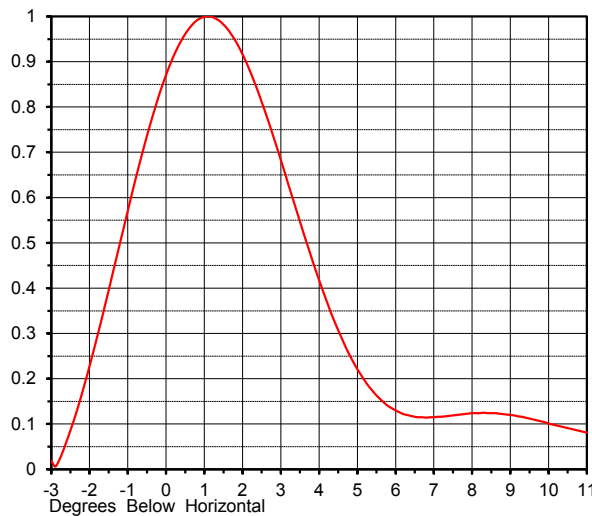
July, 2018

ELEVATION PATTERN

Proposal No. **C-70902**
 Date **20-Jun-17**
 Call Letters **WKBD**
 Channel **34**
 Frequency **593 MHz**
 Antenna Type **TFU-18GTH/VP-R 4C180**

RMS Directivity at Main Lobe **16.5 (12.17 dB)**
 RMS Directivity at Horizontal **13.2 (11.21 dB)**
 Calculated

Beam Tilt **1.00 deg**
 Pattern Number **18G165100**

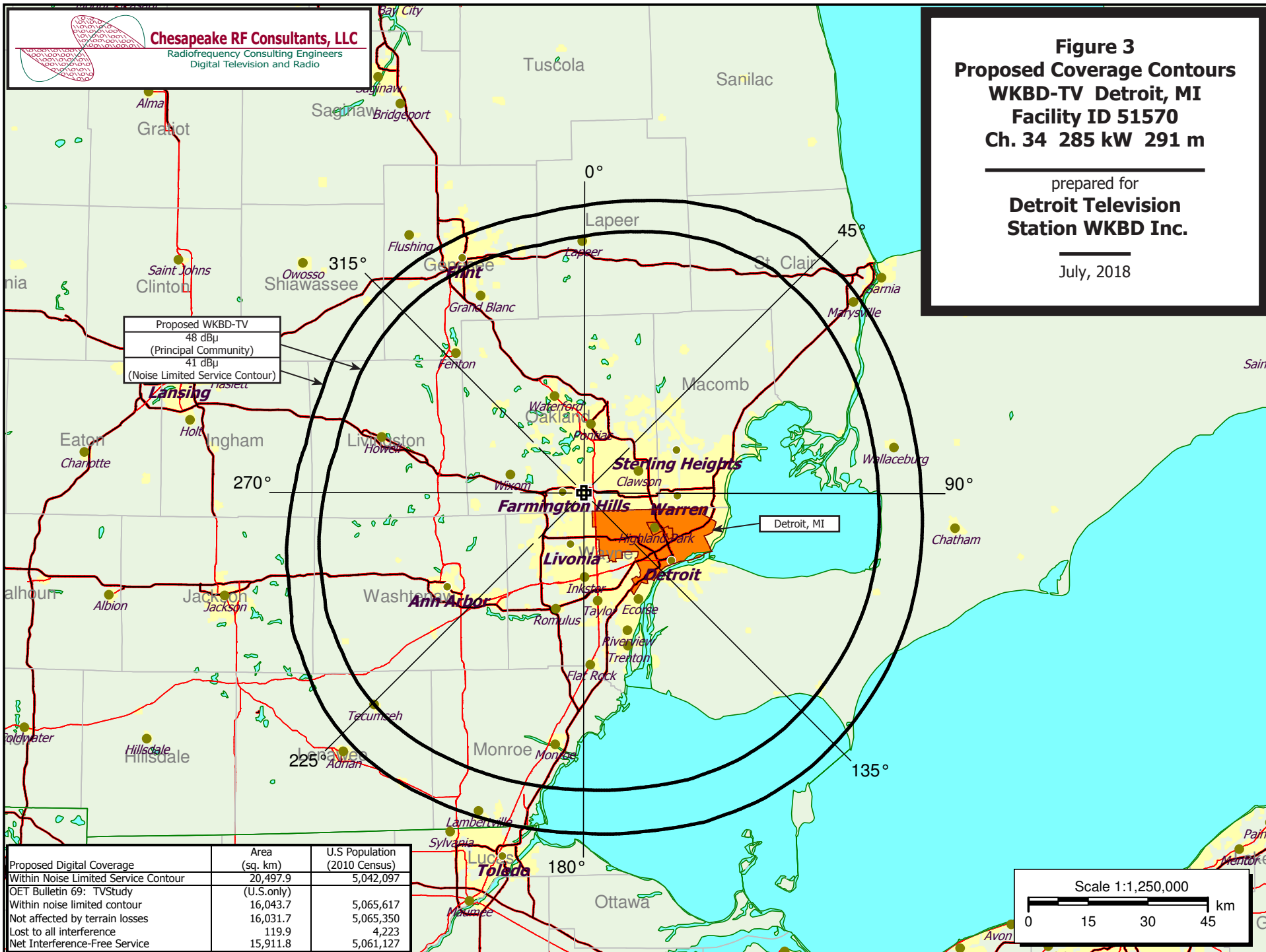


Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.023	10.0	0.099	30.0	0.012	50.0	0.048	70.0	0.013
-9.0	0.063	11.0	0.080	31.0	0.013	51.0	0.031	71.0	0.004
-8.0	0.153	12.0	0.067	32.0	0.026	52.0	0.009	72.0	0.007
-7.0	0.176	13.0	0.052	33.0	0.020	53.0	0.011	73.0	0.017
-6.0	0.101	14.0	0.021	34.0	0.002	54.0	0.021	74.0	0.028
-5.0	0.024	15.0	0.029	35.0	0.017	55.0	0.018	75.0	0.036
-4.0	0.089	16.0	0.077	36.0	0.024	56.0	0.006	76.0	0.043
-3.0	0.006	17.0	0.096	37.0	0.017	57.0	0.014	77.0	0.047
-2.0	0.260	18.0	0.068	38.0	0.002	58.0	0.035	78.0	0.049
-1.0	0.606	19.0	0.008	39.0	0.010	59.0	0.052	79.0	0.049
0.0	0.893	20.0	0.056	40.0	0.010	60.0	0.061	80.0	0.047
1.0	1.000	21.0	0.086	41.0	0.003	61.0	0.061	81.0	0.044
2.0	0.898	22.0	0.072	42.0	0.024	62.0	0.054	82.0	0.039
3.0	0.656	23.0	0.028	43.0	0.042	63.0	0.040	83.0	0.033
4.0	0.394	24.0	0.015	44.0	0.046	64.0	0.023	84.0	0.028
5.0	0.208	25.0	0.032	45.0	0.034	65.0	0.007	85.0	0.022
6.0	0.126	26.0	0.018	46.0	0.008	66.0	0.007	86.0	0.016
7.0	0.116	27.0	0.011	47.0	0.021	67.0	0.016	87.0	0.010
8.0	0.124	28.0	0.032	48.0	0.044	68.0	0.020	88.0	0.006
9.0	0.119	29.0	0.032	49.0	0.054	69.0	0.019	89.0	0.002
						90.0	0.000		

Figure 2
Antenna Elevation Pattern
WKBD-TV Detroit, MI
Facility ID 51570
Ch. 34 285 kW 291 m

prepared for
Detroit Television Station WKBD Inc.

July, 2018





prepared for
**Detroit Television
Station WKBD Inc.**

July, 2018

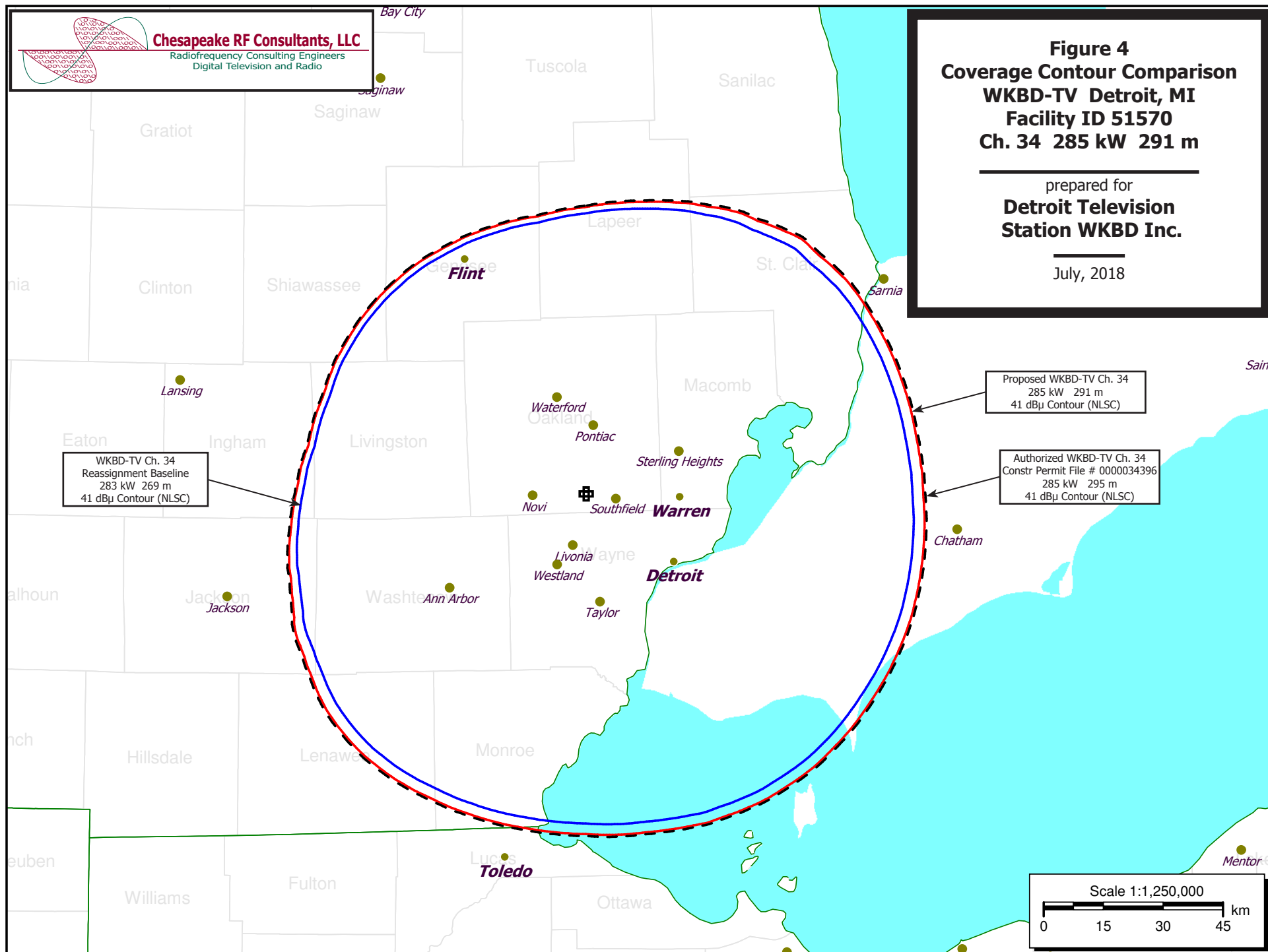
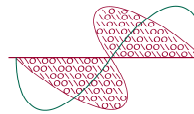


Table 1 WKBD-TV OET Bulletin 69 Interference Study
(page 1 of 4)



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: WKBD-TV 285kW MOD, Model: Longley-Rice
Start: 2018.07.19 13:20:43

Study created: 2018.07.19 13:20:43

Study build station data: LMS TV 2018-07-18

Proposal: WKBD-TV D34 DT APP DETROIT, MI
File number: WKBD-TV 285kW MOD
Facility ID: 51570
Station data: User record
Record ID: 2219
Country: U.S.
Zone: I

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WKAR-TV	D33	DT	LIC	EAST LANSING, MI	BLANK0000054990	93.3 km
No	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	BLANK0000033638	270.9
No	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	362.3
Yes	WISE-TV	D34	DT	CP	FORT WAYNE, IN	BLANK0000027665	218.3
Yes	WCMV	D34	DT	CP	CADILLAC, MI	BLANK0000029577	288.7
Yes	WKBW-TV	D34	DT	CP	BUFFALO, NY	BLANK0000034829	384.5
Yes	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000034522	316.7
No	WWRS-TV	D34	DT	CP	MAYVILLE, WI	BLANK0000026658	437.1
No	WNPB-TV	D34	DT	CP	MORGANTOWN, WV	BLANK0000034624	429.4
No	WOLP-CD	D35	DC	CP	GRAND RAPIDS, MI	BLANK0000027729	181.3
No	WVIZ	D35	DT	CP	CLEVELAND, OH	BLANK0000034584	181.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34
Latitude: 42 29 1.00 N (NAD83)
Longitude: 83 18 44.00 W
Height AMSL: 522.2 m
HAAT: 290.6 m
Peak ERP: 285 kW
Antenna: DIE-TFU-18GTH/VP-R 4C180 (ID 1002289) 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

40.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	74.1 kW	248.9 m	73.0 km
45.0	239	294.1	84.0
90.0	181	318.1	84.8
135.0	284	324.9	89.2
180.0	170	329.1	85.6
225.0	235	309.7	85.8
270.0	75.0	258.0	73.7
315.0	76.8	241.5	72.7

**Proposal is within coordination distance of Canadian border
Distance to Canadian border: 27.3 km

Distance to Mexican border: 2144.3 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 274.5 degrees Distance: 216.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 269.3 degrees Distance: 1842.3 km

Table 1 WKBD-TV OET Bulletin 69 Interference Study
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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 BLANK0000054990 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WKAR-TV	D33	DT	LIC	EAST LANSING, MI	BLANK0000054990			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	93.3 km		
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	93.3		
	WFQX-TV	D32	DT	LIC	CADILLAC, MI	BLCDT20091217ACU	176.2		
	WDIV-TV	D32	DT	CP	DETROIT, MI	BLANK0000027872	101.8		
	WMAQ-TV	D33	DT	CP	CHICAGO, IL	BLANK0000034535	280.3		
	WOHO-CD	D33	DC	LIC	HOLLAND, MI	BLDTA20120316ACT	126.5		
	WOKZ-CD	D33	DC	CP	KALAMAZOO, MI	BLANK0000027731	110.3		
	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	330.2		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
21128.8	1,693,373	21104.8	1,689,830	20848.3	1,651,207	20844.3	1,650,987	0.02	0.01
Undesired				Total IX	Unique IX, before		Unique IX, after		
WKBD-TV	D34	DT	BL	104.2	27,082	20.0	3,858		
WKBD-TV	D34	DT	APP	128.3	28,765		24.0	4,078	
WDIV-TV	D32	DT	CP	144.4	29,289	60.2	6,065	40.1	4,602
WMAQ-TV	D33	DT	CP	16.0	1,593	12.0	1,130	12.0	1,130
WOHO-CD	D33	DC	LIC	8.0	600	4.0	137	4.0	137
WOKZ-CD	D33	DC	CP	52.0	3,539	52.0	3,539	52.0	3,539
WHIO-TV	D33	DT	CP	24.0	3,466	20.0	207	20.0	207

Interference to BLANK0000027665 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WISE-TV	D34	DT	CP	FORT WAYNE, IN	BLANK0000027665			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	218.3 km		
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	218.3		
	WCIA	D34	DT	CP	CHAMPAIGN, IL	BLANK0000034728	296.9		
	WCPX-TV	D34	DT	CP	CHICAGO, IL	BLANK0000034347	221.6		
	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000034522	172.2		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
20465.5	1,089,665	20465.5	1,089,665	20108.3	1,072,363	20108.3	1,072,363	0.00	0.00
Undesired				Total IX	Unique IX, before		Unique IX, after		
WKBD-TV	D34	DT	BL	0.0	0	0.0	0		
WKBD-TV	D34	DT	APP	4.0	34		0.0	0	
WCIA	D34	DT	CP	12.0	161	0.0	0	0.0	0
WCPX-TV	D34	DT	CP	20.0	408	4.0	8	4.0	8
WKEF	D34	DT	CP	353.2	17,294	333.2	16,881	333.2	16,881

Interference to BLANK0000029577 CP scenario 1

Desired:	Call WCMV	Chan D34	Svc DT	Status CP	City, State CADILLAC, MI	File Number BLANK0000029577	Distance			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	288.7 km			
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	288.7			
	WWRS-TV	D34	DT	CP	MAYVILLE, WI	BLANK0000026658	312.1			
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX			
28445.9	425,499	27561.6	411,288		27285.8	405,819	27281.8	405,780	0.01	0.01
Undesired				Total IX		Unique IX, before		Unique IX, after		
WKBD-TV	D34	DT	BL	108.1	3,703	96.0	1,621			



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WKBD-TV	D34	DT	APP	112.1	3,742			100.0	1,660
WWRS-TV	D34	DT	CP	179.7	3,848	167.6	1,766	167.6	1,766

Interference to BLANK0000034829 CP scenario 1

Desired:	Call WKBW-TV	Chan D34	Svc DT	Status CP	City, State BUFFALO, NY	File Number BLANK0000034829	Distance			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	384.5 km			
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	384.5			
	WGRZ	D33	DT	APP	BUFFALO, NY	BLANK0000035664	10.1			
	WFXV	D34	DT	CP	UTICA, NY	BLANK0000029986	286.1			
	WSWB	D34	DT	CP	SCRANTON, PA	BLANK0000034421	273.5			
	WENY-TV	D35	DT	CP	ELMIRA, NY	BLANK0000034793	138.1			
	Service area				Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
	27904.9	2,247,191	26295.0	2,161,366	26203.1	2,113,083	26203.1	2,113,083	0.00	0.00
	5478.1	451,005	5466.1	443,359	5458.2	442,772	5458.2	442,772	0.00	0.00
	(in Canada)									

Undesired		Total IX	Unique IX, before	Unique IX, after	
WKBD-TV D34 DT BL	4.0	38	4.0	38	
WKBD-TV D34 DT APP	4.0	38		4.0	38
WGRZ D33 DT APP	16.0	707	16.0	707	
WGRZ D33 DT APP	8.0	587	8.0	587	8.0
WFXX D34 DT CP	27.9	47,121	19.9	35,834	19.9
WSWB D34 DT CP	36.0	11,548	24.0	237	24.0
WENY-TV D35 DT CP	20.1	180	16.1	156	16.1

(in Canada)

Interference to BLANK0000034829 CP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WKBW-TV	D34	DT	CP	BUFFALO, NY	BLANK0000034829			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	384.5 km		
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	384.5		
	WGRZ	D33	DT	LIC	BUFFALO, NY	BLCDT20050705AAG	10.1		
	WFXV	D34	DT	CP	UTICA, NY	BLANK0000029986	286.1		
	WSWB	D34	DT	CP	SCRANTON, PA	BLANK0000034421	273.5		
	WENY-TV	D35	DT	CP	ELMIRA, NY	BLANK0000034793	138.1		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
27904.9	2,247,191	26295.0	2,161,366	26203.1	2,113,083	26203.1	2,113,083	0.00	0.00
5478.1	451,005	5466.1	443,359	5462.2	442,772	5462.2	442,772	0.00	0.00
(in Canada)									

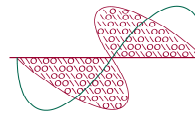
Undesired	Total	IX	Unique IX, before	Unique IX, after
WKBD-TV D34 DT BL	4.0	38	4.0	38
WKBD-TV D34 DT APP	4.0	38		
WGRZ D33 DT LIC	16.0	707	16.0	707
WGRZ D33 DT LIC	4.0	587	4.0	587
WFXX D34 DT CP	27.9	47,121	19.9	35,834
WSWB D34 DT CP	36.0	11,548	24.0	237
WENY-TV D35 DT CP	20.1	180	16.1	156

(in Canada)

Interference to BLANK0000034522 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000034522			
Undesireds:	WKBD-TV	D34	DT	BL	DETROIT, MI	DTVBL51570	316.7 km		
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	316.7		
	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	1.2		
	WISE-TV	D34	DT	CP	FORT WAYNE, IN	BLANK0000027665	172.2		
	WKMJ-TV	D34	DT	CP	LOUISVILLE, KY	BLANK0000034636	203.2		
	WNPB-TV	D34	DT	CP	MORGANTOWN, WV	BLANK0000034624	384.1		
	WPTD	D35	DT	CP	DAYTON, OH	BLANK0000026763	0.6		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
30932.3	3,730,595	30700.3	3,716,127	27524.9	3,573,528	27524.9	3,573,528	0.00	0.00

Table 1 WKBD-TV OET Bulletin 69 Interference Study
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Undesired		Total IX	Unique IX, before	Unique IX, after
WKBD-TV D34 DT BL	132.2	1,680	12.0	250
WKBD-TV D34 DT APP	140.3	1,877		12.0
WHIO-TV D33 DT CP	35.9	8,132	23.9	7,849
WISE-TV D34 DT CP	3091.6	119,174	2915.4	115,359
WKMJ-TV D34 DT CP	87.7	6,075	43.8	4,615
WNPB-TV D34 DT CP	4.0	880	0.0	0
WPTD D35 DT CP	8.0	10,743	4.0	10,711

Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKBD-TV	D34	DT	APP	DETROIT, MI	WKBD-TV 285kW MOD	
Undesireds:	WKAR-TV	D33	DT	LIC	EAST LANSING, MI	BLANK0000054990	93.3 km
	WISE-TV	D34	DT	CP	FORT WAYNE, IN	BLANK0000027665	218.3
	WCMV	D34	DT	CP	CADILLAC, MI	BLANK0000029577	288.7
	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000034522	316.7

Service area	Terrain-limited	IX-free	Percent IX
16043.7 5,065,617	16031.7 5,065,350	15911.8 5,061,127	0.75 0.08
4705.4 424,177	4705.4 424,177	4705.4 424,177	0.00 0.00 (in Canada)

Undesired	Total IX	Unique IX	Prcnt Unique IX
WKAR-TV D33 DT LIC	76.0 3,358	68.0 3,201	0.42 0.06
WISE-TV D34 DT CP	48.0 867	36.0 655	0.22 0.01
WCMV D34 DT CP	4.0 155	4.0 155	0.02 0.00
WKEF D34 DT CP	4.0 55	0.0 0	0.00 0.00

**Channel and
Facility
Information**

Section	Question	Response
Proposed Community of License	Facility ID	51570
	State	Michigan
	City	DETROIT
	DTV Channel	34
Facility Type	Facility Type	Commercial
	Station Type	Main
Zone	Zone	1

**Antenna Location
Data**

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1007996
Coordinates (NAD83)	Latitude	42° 29' 01.0" N+
	Longitude	083° 18' 44.0" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	320.9 meters
	Support Structure Height	304.3 meters
	Ground Elevation (AMSL)	212.5 meters
Antenna Data	Height of Radiation Center Above Ground Level	309.7 meters
	Height of Radiation Center Above Average Terrain	290.6 meters
	Height of Radiation Center Above Mean Sea Level	522.2 meters
	Effective Radiated Power	285 kW

Antenna Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	Yes
	Antenna ID	1002289
Antenna Manufacturer and Model	Manufacturer:	DIE
	Model	TFU-18GTH/VP-R 4C180
	Rotation	0 degrees
	Electrical Beam Tilt	1
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)
0	0.510	90	0.796	180	0.773	270	0.513
10	0.626	100	0.854	190	0.775	280	0.442
20	0.757	110	0.925	200	0.805	290	0.439
30	0.861	120	0.976	210	0.863	300	0.476
40	0.918	130	1.000	220	0.909	310	0.515
50	0.912	140	0.997	230	0.909	320	0.523
60	0.864	150	0.957	240	0.846	330	0.499
70	0.817	160	0.886	250	0.735	340	0.462
80	0.784	170	0.809	260	0.619	350	0.450

Additional Azimuths

Degree	V _A
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**Construction
Permit
Certifications**

Section	Question	Response
Post-Incentive Auction Expedited Processing	It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice.	Yes
	It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice.	No
	It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice.	Yes
	The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	Yes
Environmental Effect	Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.)	No
Broadcast Facility	The proposed facility complies with the applicable engineering standards and assignment requirements of 47 C. F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125.	Yes