

TECHNICAL EXHIBIT  
APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
FCC FILE NO. BMPTTL-20050203ACT  
LPTV STATION W53CC  
FACILITY ID 56213  
MILWAUKEE, WISCONSIN  
CH 38 35 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for modification of the construction permit of LPTV station W53CC at Milwaukee, Wisconsin (Facility ID: 56213; File No. BMPTTL-20050203ACT). Specifically, this modification application proposes to increase the ERP at any horizontal or vertical angle from 60 kW to 150 kW. No other changes are proposed, including no change in channel (38), frequency offset designation (+), antenna site, antenna radiation center height above mean sea level (RCMSL, 366 m), antenna system or community of license (Milwaukee). The instant application is considered a "minor change" in facilities pursuant to Section 73.3572.

It is proposed to operate on channel 38 (614-620 MHz) with a "plus" carrier frequency offset using an Antenna Concepts model ACS24BR Special directional antenna oriented at 270° true. The maximum ERP towards the radio horizon will be 35 kW and the maximum ERP at any horizontal or vertical angle will be 150 kW.<sup>1</sup> The Antenna Concepts directional antenna will be mounted at the 175 meter level on the existing tower (ASR 1057482) resulting in an antenna radiation center height above mean sea level of 366 meters.

Minor Change Application

The radio horizon ERP will not change. Therefore there will no change in the location of the authorized 74 dBu contour. Thus, the proposed modification is considered a "minor" change in facilities pursuant to Section 73.3572. Figure 1 depicts the authorized and herein proposed 74 dBu contours.

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<sup>1</sup> Appropriate electrical beam tilting will be used to achieve the proposed ERP levels.

Response to Paragraph 13

The proposed facility complies with all the following applicable rule Sections: Sections 74.705, 74.706, 74.707, 74.708, 74.709 and 74.710. Figure 2 provides the output of study based on OET-69 Bulletin which demonstrates that the proposed W53CC operation complies with the FCC's NTSC, DTV, LPTV/TV translator and Class A interference criteria.<sup>2</sup>

Response to Paragraph 14 - Environmental Protection Act

The proposed W53CC LPTV facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."<sup>3</sup> The calculated power density at towards the base of the tower (-60° to -90° elevation) was calculated using the appropriate equation of the Bulletin. Using a greater than expected vertical relative field value of 0.2 (see Figure 3), a maximum visual effective radiated power of 150.0 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground level at the base of the tower is 0.0033 milliwatt per square centimeter (mW/cm<sup>2</sup>), or 0.8 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas (0.41 mW/cm<sup>2</sup> for TV channel 38). Therefore, based on the responsibility threshold of 5%, the W53CC proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the

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<sup>2</sup> The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. A Sun computer system was employed. The results have been found to be in agreement with the results of the FCC implementation of OET Bulletin 69.

<sup>3</sup> See Report and Order in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also First Memorandum Opinion and Order, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and Second Memorandum Opinion and Order and Notice of Proposed Rulemaking, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

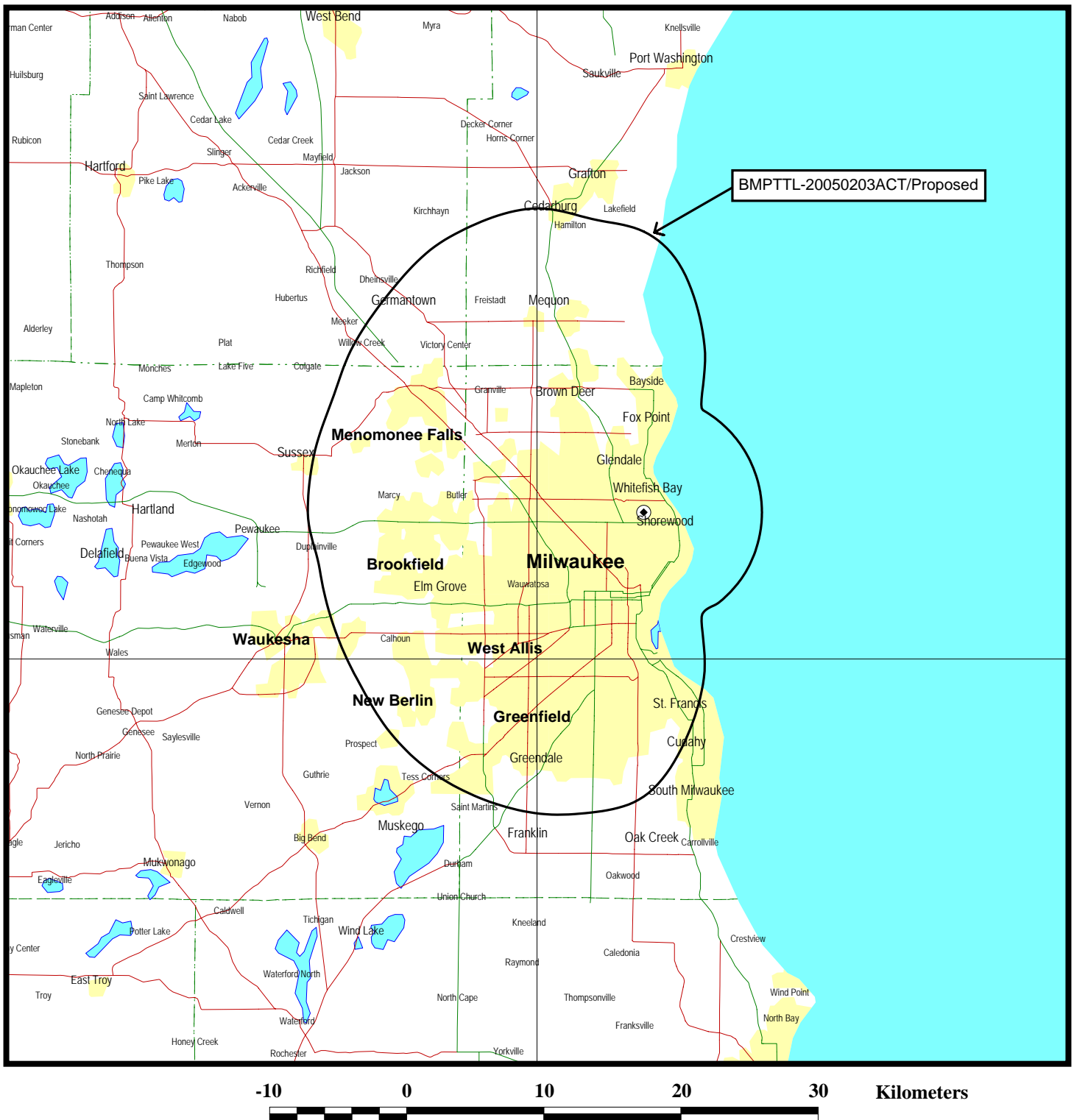


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March 23, 2006

Figure 1



## PREDICTED 74 DBU CONTOURS

LPTV STATION W53CC  
MILWAUKEE, WISCONSIN  
CH 38 35 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

OET-69 TV/DTV INTERFERENCE and SPACING ANALYSIS PROGRAM

1990 Census data selected

Record Selected for Analysis

W53CC USERRECORD-01 MILWAUKEE WI US  
 Channel 38 ERP 35. kW HAAT 189. m RCAMSL 00366 m  
 Latitude 043-05-46 Longitude 0087-54-15  
 Status APP Zone 2 Border Offset +  
 Dir Antenna Make CDB Model 00000000069870 Beam tilt N Ref Azimuth 270.  
 Last update Cutoff date Docket  
 Comments  
 Applicant

**Cell Size for Service Analysis 2.0 km/side**

Distance Increments for Longley-Rice Analysis 1.00 km

Not full service station

Facility meets maximum power limit

Azimuth (Deg)	ERP (kW)	HAAT (m)	74.0 dBu F(50,50) (km)
0.0	12.600	164.8	20.4
45.0	0.350	189.0	8.6
90.0	0.350	189.0	8.6
135.0	0.350	186.6	8.6
180.0	12.600	168.9	20.7
225.0	33.614	145.3	24.2
270.0	35.000	145.0	24.4
315.0	33.614	148.6	24.5

Contour Overlap Evaluation from LPTV Station to Full Service TV & DTV

Station inside contour of station

WCGV-TV 24 MILWAUKEE WI BLCT 19920902KF

Contour overlap to station

WCPX 38 CHICAGO IL BLCT 20050715ACC

Contour overlap to station

WQAD-TV 38 MOLINE IL BLCDT 20031014AEO

Contour overlap to station

WPNE 38 GREEN BAY WI BLET 20010914ABB

Contour Overlap Evaluation from LPTV to Full Service TV & DTV Complete

# Contour Overlap Evaluation from LPTV Station to LPTV Stations

Contour overlap to station

W38CT 38 MADISON WI BLTT 20021203ACA

Contour Overlap Evaluation from LPTV to LPTV Stations Complete

Contour Overlap to Proposed Station

Station  
W38CT 38 MADISON WI BLTT20021203ACA causes

Contour overlap to station

W53CC 38 MILWAUKEE WI USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

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## Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
38	W53CC	MILWAUKEE WI	USERRECORD01

## Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
24	WCGV-TV	MILWAUKEE WI	1.0	LIC	BLCT	-19920902KF
38	WCPX	CHICAGO IL	137.1	LIC	BLCT	-20050715ACC
38	WQAD-TV	MOLINE IL	284.3	LIC	BLCDT	-20031014AEO
38	WPNE	GREEN BAY WI	146.2	LIC	BLET	-20010914ABB
38	W38CT	MADISON WI	127.9	LIC	BLTT	-20021203ACA

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## Analysis of Interference to Affected Station 1

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
24	WCGVTV	MILWAUKEE WI	DTVPLN -NPLN1233

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
16	WTVO-DT	ROCKFORD IL	136.5	PLN	DTVPLN -DTVP0216
16	WTHXTV	MANITOWOC WI	117.5	PLN	DTVPLN -NPLN0975
17	WTVO	ROCKFORD IL	136.5	PLN	DTVPLN -NPLN0986
17	WXMI	GRAND RAPIDS MI	198.1	PLN	DTVPLN -NPLN0987
20	WHA-DT	MADISON WI	132.5	PLN	DTVPLN -DTVP0425
21	WYCC-DT	CHICAGO IL	134.1	PLN	DTVPLN -DTVP0435
21	WHATV	MADISON WI	132.5	PLN	DTVPLN -NPLN1131
22	WVCY-DT	MILWAUKEE WI	0.0	PLN	DTVPLN -DTVP0510
23	WIFR	FREEMPORT IL	135.8	PLN	DTVPLN -NPLN1173
23	WBAY-DT	GREEN BAY WI	147.2	PLN	DTVPLN -DTVP0549
24	KYIN	MASON CITY IA	400.4	PLN	DTVPLN -NPLN1206
24	WQPTTV	MOLINE IL	283.0	PLN	DTVPLN -NPLN1207
24	WPTA-DT	FORT WAYNE IN	314.6	PLN	DTVPLN -DTVP0566
24	WTLJ-DT	MUSKEGON MI	163.3	PLN	DTVPLN -DTVP0571
24	WNWOTV	TOLEDO OH	405.3	PLN	DTVPLN -NPLN1220
24	WHRM-DT	WAUSAU WI	248.9	PLN	DTVPLN -DTVP0590
25	WCGV-DT	MILWAUKEE WI	0.0	PLN	DTVPLN -DTVP0625
26	WCIUTV	CHICAGO IL	136.1	PLN	DTVPLN -NPLN1276
26	WGBA	GREEN BAY WI	141.4	PLN	DTVPLN -NPLN1295
26	WKOW-DT	MADISON WI	132.5	PLN	DTVPLN -DTVP0659
27	WCIU-DT	CHICAGO IL	136.1	PLN	DTVPLN -DTVP0672
27	WKOWTV	MADISON WI	132.5	PLN	DTVPLN -NPLN1323
28	WTMJ-DT	MILWAUKEE WI	0.5	PLN	DTVPLN -DTVP0733
31	WFLD-DT	CHICAGO IL	134.1	PLN	DTVPLN -DTVP0822
32	WFLD	CHICAGO IL	134.1	PLN	DTVPLN -NPLN1429
32	WACY	APPLETON WI	141.4	PLN	DTVPLN -NPLN1439
32	WJNW-DT	JANESVILLE WI	115.3	PLN	DTVPLN -DTVP0889
38	WCFCTV	CHICAGO IL	134.1	PLN	DTVPLN -NPLN1541
38	WPNE	GREEN BAY WI	147.2	PLN	DTVPLN -NPLN1554
39	WQRF-TV	ROCKFORD IL	135.8	PLN	DTVPLN -NPLN1562

Results for: 24N WI MILWAUKEE DTVPLN NPLN1233 PLN

	POPULATION	AREA (sq km)
within Noise Limited Contour	2101622	17237.4
not affected by terrain losses	2096685	17172.9
lost to NTSC IX	23510	124.9
lost to additional IX by ATV	4767	145.0
lost to all IX	28277	269.9

## Analysis of current record

Channel	Call	City/State	Application Ref. No.
24	WCGV-TV	MILWAUKEE WI	BLCT -19920902KF

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
16	WTVO	ROCKFORD IL	136.5	LIC	BLCDT -20021024AAS
16	WTVO-DT	ROCKFORD IL	136.5	PLN	DTVPLN -DTVP0216
17	WTVO	ROCKFORD IL	136.5	LIC	BMLCT -20021024AAY
17	WXMI	GRAND RAPIDS MI	198.1	LIC	BLCT -20030117AAW
20	WHA-TV	MADISON WI	132.5	LIC	BLEDT -20020503AAF
20	WHA-DT	MADISON WI	132.5	PLN	DTVPLN -DTVP0425
21	WYCC	CHICAGO IL	134.1	LIC	BLEDT -20030501ABC
21	WYCC-DT	CHICAGO IL	134.1	PLN	DTVPLN -DTVP0435
21	WHA-TV	MADISON WI	132.5	LIC	BLET -20020227ABP
21	WIWB	SURING WI	138.6	LIC	BLCDT -20040521ADD

22	WVCY-TV	MILWAUKEE WI	1.0	CP MOD	BMPCDT	-20050422AAZ
22	WVCY-DT	MILWAUKEE WI	0.0	PLN	DTVPLN	-DTVP0510
23	WIFR	FREEPORT IL	135.8	LIC	BMLCT	-20040615ABU
23	WBAY-TV	GREEN BAY WI	147.2	LIC	BMLCDT	-20040723ADS
23	WBAY-DT	GREEN BAY WI	147.2	PLN	DTVPLN	-DTVP0549
24	KYIN	MASON CITY IA	400.4	LIC	BLET	-19860923KJ
24	WQPT-TV	MOLINE IL	282.5	LIC	BLET	-19980729KE
24	WPTA	FORT WAYNE IN	314.6	LIC	BLCDT	-20031031AGU
24	WPTA-DT	FORT WAYNE IN	314.6	PLN	DTVPLN	-DTVP0566
24	WTLJ	MUSKEGON MI	163.3	LIC	BLCDT	-20051115ABP
24	WTLJ-DT	MUSKEGON MI	163.3	PLN	DTVPLN	-DTVP0571
24	WNWO-TV	TOLEDO OH	405.3	LIC	BLCT	-19830503KE
24	WHRM-TV	WAUSAU WI	248.9	CP MOD	BMPEDT	-20050912ABR
24	WHRM-DT	WAUSAU WI	248.9	PLN	DTVPLN	-DTVP0590
24	WHRM-TV	WAUSAU WI	248.9	LIC	BLEDT	-20030821ACV
25	WCGV-DT	MILWAUKEE WI	0.0	PLN	DTVPLN	-DTVP0625
25	WCGV-TV	MILWAUKEE WI	0.9	CP MOD	BMPCDT	-20010920AAK
26	WCIU-TV	CHICAGO IL	136.1	LIC	BLCT	-19990604KI
26	WGBA	GREEN BAY WI	141.4	LIC	BLCT	-19990602KG
26	WKOW-TV	MADISON WI	132.5	CP	BPCDT	-20000501AEY
26	WKOW-DT	MADISON WI	132.5	PLN	DTVPLN	-DTVP0659
27	WCIU-TV	CHICAGO IL	136.1	CP MOD	BMPCDT	-20021202ABR
27	WCIU-DT	CHICAGO IL	136.1	PLN	DTVPLN	-DTVP0672
27	WACY	APPLETON WI	141.4	CP MOD	BMPCDT	-20050428AAZ
27	WACY-TV	APPLETON WI	141.4	LIC	BPRM	-20020208ABN
27	WKOW-TV	MADISON WI	132.5	LIC	BLCT	-20000306AAW
28	WTMJ-DT	MILWAUKEE WI	0.5	PLN	DTVPLN	-DTVP0733
28	960722KR	SHEBOYGAN WI	51.5	APP	BPCT	-19960722KR
31	WFLD-DT	CHICAGO IL	134.1	PLN	DTVPLN	-DTVP0822
31	WFLD	CHICAGO IL	136.1	CP	BPCDT	-20010604AAX
31	WFLD	CHICAGO IL	136.1	LIC	BLCDT	-19990728LD
32	WFLD	CHICAGO IL	134.1	LIC	BLCT	-19830408KG
32	WACY	APPLETON WI	141.4	LIC	BMLCT	-19990831LF
32	WBUW	JANESVILLE WI	128.6	LIC	BLCDT	-20040930BHL
32	WJNW-DT	JANESVILLE WI	115.3	PLN	DTVPLN	-DTVP0889
38	WCPX	CHICAGO IL	136.1	LIC	BLCT	-20050715ACC
38	WPNE	GREEN BAY WI	147.2	LIC	BLET	-20010914ABB
39	WQRF-TV	ROCKFORD IL	135.8	LIC	BLCT	-19960402KE
39	WFRV-TV	GREEN BAY WI	138.6	CP MOD	BMPCDT	-20041129AEH
39	WFRV-DT	GREEN BAY WI	138.6	LIC	BPRM	-20010806ACL
38	W53CC	MILWAUKEE WI	1.0	APP	USERRECORD-01	

Proposal causes no interference

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## Analysis of Interference to Affected Station 2

### NTSC Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
38	WCFCTV	CHICAGO IL	DTVPLN	-NPLN1541

### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
30	WSBT-DT	SOUTH BEND IN	120.7	PLN	DTVPLN	-DTVP0786
30	WVCYTV	MILWAUKEE WI	134.1	PLN	DTVPLN	-NPLN1396
31	WFLD-DT	CHICAGO IL	0.0	PLN	DTVPLN	-DTVP0822
34	WISN-DT	MILWAUKEE WI	137.1	PLN	DTVPLN	-DTVP0960
35	WWTOTV	LASALLE IL	129.0	PLN	DTVPLN	-NPLN1495
35	WNIT-DT	SOUTH BEND IN	122.5	PLN	DTVPLN	-DTVP0976



35	WMVT-DT	MILWAUKEE WI	135.1	PLN	DTVPLN	-DTVP0999
36	WJYS-DT	HAMMOND IN	40.8	PLN	DTVPLN	-DTVP1013
36	WMVT	MILWAUKEE WI	135.1	PLN	DTVPLN	-NPLN1533
38	WQAD-DT	MOLINE IL	238.2	PLN	DTVPLN	-DTVP1045
38	WBAKTV	TERRE HAUTE IN	297.0	PLN	DTVPLN	-NPLN1542
38	WSYM-DT	LANSING MI	252.7	PLN	DTVPLN	-DTVP1050
38	WADL	MOUNT CLEMENS MI	396.5	PLN	DTVPLN	-NPLN1547
38	WPNE	GREEN BAY WI	280.8	PLN	DTVPLN	-NPLN1554
39	WAOE-DT	PEORIA IL	203.0	PLN	DTVPLN	-DTVP1088
39	WQRF-TV	ROCKFORD IL	134.4	PLN	DTVPLN	-NPLN1562
40	WHKE-DT	KENOSHA WI	99.8	PLN	DTVPLN	-DTVP1146
41	WIFR-DT	FREEDPORT IL	135.1	PLN	DTVPLN	-DTVP1160
42	WQRF-DT	ROCKFORD IL	134.4	PLN	DTVPLN	-DTVP1191
42	WNDU-DT	SOUTH BEND IN	121.4	PLN	DTVPLN	-DTVP1193
45	WSNS-DT	CHICAGO IL	0.0	PLN	DTVPLN	-DTVP1297
46	WHMETV	SOUTH BEND IN	125.9	PLN	DTVPLN	-NPLN1701
46	WDJT-DT	MILWAUKEE WI	137.1	PLN	DTVPLN	-DTVP1347
52	WLS-DT	CHICAGO IL	2.5	PLN	DTVPLN	-DTVP1507
52	WGVK	KALAMAZOO MI	168.3	PLN	DTVPLN	-NPLN1808
52	WWRS	MAYVILLE WI	186.1	PLN	DTVPLN	-NPLN1818
53	WGBO-DT	JOLIET IL	0.0	PLN	DTVPLN	-DTVP1527

Results for: 38N IL CHICAGO		DTVPLN	NPLN1541	PLN
		POPULATION	AREA (sq km)	
within Noise Limited Contour	8110749	21934.0		
not affected by terrain losses	8108464	21909.9		
lost to NTSC IX	9646	116.3		
lost to additional IX by ATV	55854	818.3		
lost to all IX	65500	934.6		

# Analysis of current record

Channel	Call	City/State	Application	Ref. No.
38	WCPX	CHICAGO IL	BLCT	-20050715ACC

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
30	WSBT-DT	SOUTH BEND IN	121.2	PLN	DTVPLN	-DTVP0786
30	WSBT-TV	SOUTH BEND IN	121.2	CP MOD	BMPCDT	-20000705ACV
30	WVCY-TV	MILWAUKEE WI	136.1	LIC	BLCT	-19830119KI
31	WFLD-DT	CHICAGO IL	2.5	PLN	DTVPLN	-DTVP0822
31	WFLD	CHICAGO IL	0.0	CP	BPCDT	-20010604AAX
31	WFLD	CHICAGO IL	0.0	LIC	BLCDT	-19990728LD
34	WISN-DT	MILWAUKEE WI	139.1	PLN	DTVPLN	-DTVP0960
35	WWTO-TV	LASALLE IL	127.0	LIC	BLCT	-19861212LH
35	WNIT	SOUTH BEND IN	123.5	LIC	BLEDT	-20040106ABJ
35	WNIT-DT	SOUTH BEND IN	122.9	PLN	DTVPLN	-DTVP0976
35	WMVT	MILWAUKEE WI	137.1	CP MOD	BMPEDT	-20040618AAN
35	WMVT-DT	MILWAUKEE WI	137.1	PLN	DTVPLN	-DTVP0999
36	WJYS	HAMMOND IN	0.0	LIC	BLCDT	-20020801ABI
36	WJYS-DT	HAMMOND IN	38.3	PLN	DTVPLN	-DTVP1013
36	WMVT	MILWAUKEE WI	137.1	LIC	BLET	-20050623ABQ
38	WQAD-TV	MOLINE IL	236.6	LIC	BLCDT	-20031014AEO
38	WQAD-DT	MOLINE IL	236.6	PLN	DTVPLN	-DTVP1045
38	WFXW	TERRE HAUTE IN	294.9	LIC	BLCT	-20031022AAD
38	WSYM-DT	LANSING MI	254.3	PLN	DTVPLN	-DTVP1050
38	WSYM-TV	LANSING MI	254.3	CP	BPCDT	-19991101AIA
38	WADL	MOUNT CLEMENS MI	397.9	LIC	BLCT	-19890531KG
38	WPNE	GREEN BAY WI	282.9	LIC	BLET	-20010914ABB
39	WAOE-DT	PEORIA IL	200.8	PLN	DTVPLN	-DTVP1088
39	WQRF-TV	ROCKFORD IL	134.1	LIC	BLCT	-19960402KE
40	WHKE-DT	KENOSHA WI	101.7	PLN	DTVPLN	-DTVP1146

40	WPXE	KENOSHA WI	137.0	LIC	BLCDT	-20040206AAT
41	WIFR	FREEPORT IL	134.9	LIC	BLCDT	-20041012AIQ
41	WIFR-DT	FREEPORT IL	134.9	PLN	DTVPLN	-DTVP1160
41	WIFR	FREEPORT IL	134.9	CP MOD	BMPCDT	-20050103AFQ
42	WQRF-DT	ROCKFORD IL	134.1	PLN	DTVPLN	-DTVP1191
42	WQRF-TV	ROCKFORD IL	134.1	CP	BPCDT	-19991029AIK
42	WNDU-DT	SOUTH BEND IN	121.9	PLN	DTVPLN	-DTVP1193
42	WNDU-TV	SOUTH BEND IN	121.9	CP MOD	BMPCDT	-20050622AAE
45	WSNS-TV	CHICAGO IL	0.0	LIC	BLCDT	-20010612AIB
45	WSNS-DT	CHICAGO IL	2.5	PLN	DTVPLN	-DTVP1297
46	WHME-TV	SOUTH BEND IN	126.3	LIC	BLCT	-2590
46	WDJT-TV	MILWAUKEE WI	139.1	CP MOD	BMPCDT	-20000419ABR
46	WDJT-DT	MILWAUKEE WI	139.1	PLN	DTVPLN	-DTVP1347
52	WLS-DT	CHICAGO IL	0.0	PLN	DTVPLN	-DTVP1507
52	WGVK	KALAMAZOO MI	170.0	LIC	BMLET	-20040304AFC
52	WWRS-TV	MAYVILLE WI	187.8	LIC	BLCT	-20011115ADW
53	WGBO-TV	JOLIET IL	2.5	LIC	BLCDT	-20040413AAE
53	WGBO-DT	JOLIET IL	2.5	PLN	DTVPLN	-DTVP1527
38	W53CC	MILWAUKEE WI	137.1	APP	USERRECORD-01	

Total scenarios = 4

Result key: 1  
Scenario 1 Affected station 2 WCPX  
Before Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	32395	433.8	
lost to additional IX by ATV	55076	634.6	
lost to all IX	87471	1068.4	

Potential Interfering Stations Included in above Scenario 1

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
42A IN SOUTH BEND	DTVPLN	DTVP1193	PLN

After Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	65886	855.5	
lost to additional IX by ATV	49562	570.4	
lost to all IX	115448	1425.9	

Potential Interfering Stations Included in above Scenario 1

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
42A IN SOUTH BEND	DTVPLN	DTVP1193	PLN
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 2  
Scenario 2 Affected station 2 WCPX

Before Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	32395	433.8	
lost to additional IX by ATV	55076	634.6	
lost to all IX	87471	1068.4	

Potential Interfering Stations Included in above Scenario 2

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
42A IN SOUTH BEND	BMPCDT	20050622AAE	CP

After Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	65886	855.5	
lost to additional IX by ATV	49562	570.4	
lost to all IX	115448	1425.9	

Potential Interfering Stations Included in above Scenario 2

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
42A IN SOUTH BEND	BMPCDT	20050622AAE	CP
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 3  
Scenario 3 Affected station 2 WCPX  
Before Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	32395	433.8	
lost to additional IX by ATV	39191	550.3	
lost to all IX	71586	984.1	

Potential Interfering Stations Included in above Scenario 3

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
42A IN SOUTH BEND	DTVPLN	DTVP1193	PLN

After Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	65886	855.5	
lost to additional IX by ATV	37415	502.1	

lost to all IX 103301 1357.6

Potential Interfering Stations Included in above Scenario 3

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
42A IN SOUTH BEND	DTVPLN	DTVP1193	PLN
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 4  
Scenario 4 Affected station 2 WCPX  
Before Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	32395	433.8	
lost to additional IX by ATV	39191	550.3	
lost to all IX	71586	984.1	

Potential Interfering Stations Included in above Scenario 4

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
42A IN SOUTH BEND	BMPCDT	20050622AAE	CP

After Analysis

Results for: 38N IL CHICAGO	BLCT	20050715ACC	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	8327647	24011.0	
not affected by terrain losses	8314851	23958.8	
lost to NTSC IX	65886	855.5	
lost to additional IX by ATV	37415	502.1	
lost to all IX	103301	1357.6	

Potential Interfering Stations Included in above Scenario 4

38N WI GREEN BAY	BLET	20010914ABB	LIC
39N IL ROCKFORD	BLCT	19960402KE	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
42A IN SOUTH BEND	BMPCDT	20050622AAE	CP
38N WI MILWAUKEE	USERRECORD01		APP

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Analysis of Interference to Affected Station 3

DTV Baseline Analysis

Channel	Call	City/State	Application Ref. No.
38	WQAD-DT	MOLINE IL	DTVPLN -DTVP1045

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
38	WCFTV	CHICAGO IL	238.2	PLN	DTVPLN -NPLN1541
38	WBAKT	TERRE HAUTE IN	342.6	PLN	DTVPLN -NPLN1542

38	WPNE	GREEN BAY WI	395.0	PLN	DTVPLN	-NPLN1554
39	WAOE-DT	PEORIA IL	99.6	PLN	DTVPLN	-DTVP1088
39	WQRF-TV	ROCKFORD IL	148.2	PLN	DTVPLN	-NPLN1562

Results for: 38A IL MOLINE DTVPLN DTVP1045 PLN  
HAAT 308.0 m, ATV ERP 837.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	981823	28795.9
not affected by terrain losses	969350	28627.8
lost to NTSC IX	5435	160.1
lost to additional IX by ATV	106842	168.1
lost to ATV IX only	110587	196.1
lost to all IX	112277	328.2

#### NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
08	WQADTV	MOLINE IL	DTVPLN -NPLN0533

#### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
07	KWWL	WATERLOO IA	171.4	PLN	DTVPLN -NPLN0469
07	KHQATV	HANNIBAL MO	169.1	PLN	DTVPLN -NPLN0481
08	KCCI	DES MOINES IA	275.2	PLN	DTVPLN -NPLN0530
08	WSIUTV	CARBONDALE IL	369.6	PLN	DTVPLN -NPLN0532
08	WISHTV	INDIANAPOLIS IN	386.0	PLN	DTVPLN -NPLN0534
08	KOMUTV	COLUMBIA MO	313.5	PLN	DTVPLN -NPLN0544
08	WKBT	LA CROSSE WI	318.6	PLN	DTVPLN -NPLN0573
08	WMVS-DT	MILWAUKEE WI	284.2	PLN	DTVPLN -DTVP0050
09	KCRGTV	CEDAR RAPIDS IA	165.7	PLN	DTVPLN -NPLN0592

Results for: 8N IL MOLINE DTVPLN NPLN0533 PLN  
POPULATION AREA (sq km)

within Noise Limited Contour	981800	28787.9
not affected by terrain losses	929024	27907.4
lost to NTSC IX	102475	3562.0
lost to additional IX by ATV	50	8.0
lost to all IX	102525	3570.0

#### Analysis of current record

Channel	Call	City/State	Application Ref. No.
38	WQAD-TV	MOLINE IL	BLCDT -20031014AEO

#### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
38	WCPX	CHICAGO IL	236.6	LIC	BLCT -20050715ACC
38	WFXW	TERRE HAUTE IN	342.8	LIC	BLCT -20031022AAD
38	WPNE	GREEN BAY WI	395.0	LIC	BLET -20010914ABB
39	WAOE-DT	PEORIA IL	99.5	PLN	DTVPLN -DTVP1088
39	WAOE	PEORIA IL	102.2	CP	BPCDT -19991101AED
39	WQRF-TV	ROCKFORD IL	148.2	LIC	BLCT -19960402KE
38	W53CC	MILWAUKEE WI	284.3	APP	USERRECORD-01

Total scenarios = 2

Result key: 5  
Scenario 1 Affected station 3 WQAD-TV  
Before Analysis

Results for: 38A IL MOLINE BLCDT 20031014AEO LIC

HAAT 334.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1069602	31453.1
not affected by terrain losses	1060569	31237.0
lost to NTSC IX	6984	152.1
lost to additional IX by ATV	108033	180.1
lost to ATV IX only	112573	216.1
lost to all IX	115017	332.2

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N IN TERRE HAUTE	BLCT	20031022AAD	LIC
39A IL PEORIA	DTVPLN	DTVP1088	PLN

After Analysis

Results for: 38A IL MOLINE BLCDT 20031014AEO LIC  
HAAT 334.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1069602	31453.1
not affected by terrain losses	1060569	31237.0
lost to NTSC IX	6984	152.1
lost to additional IX by ATV	108033	180.1
lost to ATV IX only	112573	216.1
lost to all IX	115017	332.2

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N IN TERRE HAUTE	BLCT	20031022AAD	LIC
39A IL PEORIA	DTVPLN	DTVP1088	PLN
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 6

Scenario 2 Affected station 3 WQAD-TV

Before Analysis

Results for: 38A IL MOLINE BLCDT 20031014AEO LIC  
HAAT 334.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1069602	31453.1
not affected by terrain losses	1060569	31237.0
lost to NTSC IX	6984	152.1
lost to additional IX by ATV	133113	396.2
lost to ATV IX only	139416	440.2
lost to all IX	140097	548.3

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N IN TERRE HAUTE	BLCT	20031022AAD	LIC
39A IL PEORIA	BPCDT	19991101AED	CP

After Analysis

Results for: 38A IL MOLINE BLCDT 20031014AEO LIC  
HAAT 334.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1069602	31453.1
not affected by terrain losses	1060569	31237.0
lost to NTSC IX	6984	152.1

lost to additional IX by ATV	133113	396.2
lost to ATV IX only	139416	440.2
lost to all IX	140097	548.3

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N IN TERRE HAUTE	BLCT	20031022AAD	LIC
39A IL PEORIA	BPCDT	19991101AED	CP
38N WI MILWAUKEE	USERRECORD01		APP

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Analysis of Interference to Affected Station 4

#### NTSC Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
38	WPNE	GREEN BAY WI	DTVPLN	-NPLN1554

#### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
38	WCFTV	CHICAGO IL	280.8	PLN	DTVPLN	-NPLN1541
38	WQAD-DT	MOLINE IL	395.0	PLN	DTVPLN	-DTVP1045
38	WSYM-DT	LANSING MI	345.9	PLN	DTVPLN	-DTVP1050
41	WGBA-DT	GREEN BAY WI	6.0	PLN	DTVPLN	-DTVP1180
42	WPNE-DT	GREEN BAY WI	0.0	PLN	DTVPLN	-DTVP1215
46	NEW	ANTIGO WI	120.1	PLN	DTVPLN	-NPLN1711
52	WWRS	MAYVILLE WI	116.1	PLN	DTVPLN	-NPLN1818

Results for: 38N WI GREEN BAY DTVPLN NPLN1554 PLN

	POPULATION	AREA (sq km)
within Noise Limited Contour	733994	17531.3
not affected by terrain losses	731978	17511.2
lost to NTSC IX	4101	144.9
lost to additional IX by ATV	0	0.0
lost to all IX	4101	144.9

#### Analysis of current record

Channel	Call	City/State	Application	Ref. No.
38	WPNE	GREEN BAY WI	BLET	-20010914ABB

#### Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
38	WCPX	CHICAGO IL	282.9	LIC	BLCT	-20050715ACC
38	WQAD-TV	MOLINE IL	395.0	LIC	BLCDT	-20031014AEO
38	WQAD-DT	MOLINE IL	395.0	PLN	DTVPLN	-DTVP1045
38	WSYM-DT	LANSING MI	345.9	PLN	DTVPLN	-DTVP1050
38	WSYM-TV	LANSING MI	345.9	CP	BPCDT	-19991101AIA
39	WFRV-TV	GREEN BAY WI	8.6	CP MOD	BMPCDT	-20041129AEH
39	WFRV-DT	GREEN BAY WI	8.6	LIC	BPRM	-20010806ACL
41	WGBA	GREEN BAY WI	6.0	CP	BPCDT	-19990902AAG
41	WGBA-DT	GREEN BAY WI	6.0	PLN	DTVPLN	-DTVP1180
42	WPNE-DT	GREEN BAY WI	0.0	PLN	DTVPLN	-DTVP1215
42	WPNE	GREEN BAY WI	0.0	LIC	BMLEDT	-20040818AAP
45	960722KN	RICHLAND CENTER WI	187.5	APP	BPCT	-19960722KN
46	WTPX	ANTIGO WI	136.1	LIC	BMLCDT	-20041015ADT
52	WWRS-TV	MAYVILLE WI	116.0	LIC	BLCT	-20011115ADW
38	W53CC	MILWAUKEE WI	146.2	APP	USERRECORD-01	

Total scenarios = 2

Result key: 7  
Scenario 1 Affected station 4 WPNE  
Before Analysis

Results for: 38N WI GREEN BAY	BLET	20010914ABB	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	739404	18091.3	
not affected by terrain losses	737364	18071.2	
lost to NTSC IX	1691	80.5	
lost to additional IX by ATV	6083	225.4	
lost to all IX	7774	306.0	

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
52N WI MAYVILLE	BLCT	20011115ADW	LIC
39A WI GREEN BAY	BMPCDT	20041129AEH	CP

After Analysis

Results for: 38N WI GREEN BAY	BLET	20010914ABB	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	739404	18091.3	
not affected by terrain losses	737364	18071.2	
lost to NTSC IX	4793	153.0	
lost to additional IX by ATV	3358	173.1	
lost to all IX	8151	326.1	

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
52N WI MAYVILLE	BLCT	20011115ADW	LIC
39A WI GREEN BAY	BMPCDT	20041129AEH	CP
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 8  
Scenario 2 Affected station 4 WPNE  
Before Analysis

Results for: 38N WI GREEN BAY	BLET	20010914ABB	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	739404	18091.3	
not affected by terrain losses	737364	18071.2	
lost to NTSC IX	1691	80.5	
lost to additional IX by ATV	6130	229.5	
lost to all IX	7821	310.0	

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
52N WI MAYVILLE	BLCT	20011115ADW	LIC
39A WI GREEN BAY	BPRM	20010806ACL	LIC

After Analysis

Results for: 38N WI GREEN BAY	BLET	20010914ABB	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	739404	18091.3	



not affected by terrain losses	737364	18071.2
lost to NTSC IX	4793	153.0
lost to additional IX by ATV	3405	177.1
lost to all IX	8198	330.1

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
52N WI MAYVILLE	BLCT	20011115ADW	LIC
39A WI GREEN BAY	BPRM	20010806ACL	LIC
38N WI MILWAUKEE	USERRECORD01		APP

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
38	W38CT	MADISON WI	BLTT	-20021203ACA

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
34	WISN-DT	MILWAUKEE WI	126.1	PLN	DTVPLN	-DTVP0960
35	WMVT	MILWAUKEE WI	127.9	CP MOD	BMPEDT	-20040618AAN
35	WMVT-DT	MILWAUKEE WI	127.8	PLN	DTVPLN	-DTVP0999
38	WCPX	CHICAGO IL	199.6	LIC	BLCT	-20050715ACC
38	WQAD-TV	MOLINE IL	207.2	LIC	BLCDT	-20031014AEO
38	WQAD-DT	MOLINE IL	207.2	PLN	DTVPLN	-DTVP1045
38	WPNE	GREEN BAY WI	191.9	LIC	BLET	-20010914ABB
38	W53CC	MILWAUKEE WI	127.9	CP MOD	BMPTTL	-20050203ACT
39	WQRF-TV	ROCKFORD IL	88.5	LIC	BLCT	-19960402KE
40	WHKE-DT	KENOSHA WI	127.4	PLN	DTVPLN	-DTVP1146
40	WPXE	KENOSHA WI	127.9	LIC	BLCDT	-20040206AAT
41	WIFR	FREEDPORT IL	87.7	LIC	BLCDT	-20041012AIQ
41	WIFR-DT	FREEDPORT IL	87.7	PLN	DTVPLN	-DTVP1160
41	WIFR	FREEDPORT IL	87.7	CP MOD	BMPCDT	-20050103AFQ
42	WQRF-DT	ROCKFORD IL	88.5	PLN	DTVPLN	-DTVP1191
42	WQRF-TV	ROCKFORD IL	88.5	CP	BPCDT	-19991029AIK
46	WDJT-TV	MILWAUKEE WI	125.8	CP MOD	BMPCDT	-20000419ABR
46	WDJT-DT	MILWAUKEE WI	125.8	PLN	DTVPLN	-DTVP1347
52	WWRS-TV	MAYVILLE WI	88.1	LIC	BLCT	-20011115ADW
38	W53CC	MILWAUKEE WI	127.9	APP	USERRECORD-01	

Total scenarios = 2

Result key: 9

Scenario 1 Affected station 5 W38CT  
Before Analysis

Results for: 38N WI MADISON	BLTT	20021203ACA	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	338917	1921.8	
not affected by terrain losses	338101	1885.6	
lost to NTSC IX	1082	64.5	
lost to additional IX by ATV	59	4.0	
lost to all IX	1141	68.5	

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N WI GREEN BAY	BLET	20010914ABB	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
38N WI MILWAUKEE	BMPTTL	20050203ACT	CP

After Analysis

Results for: 38N WI MADISON	BLTT	20021203ACA	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	338917	1921.8	
not affected by terrain losses	338101	1885.6	
lost to NTSC IX	2645	96.7	
lost to additional IX by ATV	59	4.0	
lost to all IX	2704	100.7	

Potential Interfering Stations Included in above Scenario 1

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N WI GREEN BAY	BLET	20010914ABB	LIC
38A IL MOLINE	BLCDT	20031014AEO	LIC
38N WI MILWAUKEE	USERRECORD01		APP

Result key: 10  
Scenario 2 Affected station 5 W38CT  
Before Analysis

Results for: 38N WI MADISON	BLTT	20021203ACA	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	338917	1921.8	
not affected by terrain losses	338101	1885.6	
lost to NTSC IX	1082	64.5	
lost to additional IX by ATV	0	0.0	
lost to all IX	1082	64.5	

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N WI GREEN BAY	BLET	20010914ABB	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
38N WI MILWAUKEE	BMPTTL	20050203ACT	CP

After Analysis

Results for: 38N WI MADISON	BLTT	20021203ACA	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	338917	1921.8	
not affected by terrain losses	338101	1885.6	
lost to NTSC IX	2645	96.7	
lost to additional IX by ATV	0	0.0	
lost to all IX	2645	96.7	

Potential Interfering Stations Included in above Scenario 2

38N IL CHICAGO	BLCT	20050715ACC	LIC
38N WI GREEN BAY	BLET	20010914ABB	LIC
38A IL MOLINE	DTVPLN	DTVP1045	PLN
38N WI MILWAUKEE	USERRECORD01		APP

Summary of Results

1	24	WCGV-TV	MILWAUKEE WI	LIC	BLCT	-19920902KF
2	38	WCPX	CHICAGO IL	LIC	BLCT	-20050715ACC
3	38	WQAD-TV	MOLINE IL	LIC	BLCDT	-20031014AEO
4	38	WPNE	GREEN BAY WI	LIC	BLET	-20010914ABB
5	38	W38CT	MADISON WI	LIC	BLTT	-20021203ACA

Result Key Scenario Affected Station Before After Baseline Net Change Percentage

There is no interference to station 1

3	3	2	71586	103301	8327647	31715	0.381
5	1	3	115017	115017	857073	0	0
7	1	4	7774	8151	739404	377	0.051
9	1	5	1141	2704	338917	1563	0.461

MAR 16 '93 02:02PM ANTENNA CONCEPTS

## ELEVATION PATTERN ANTENNA CONCEPTS

**DATE 3/16/93**

BEAM TILT 0

ANTENNA GAIN : 24 BAYNULL FILL 0 2

ELEVATION	FIELD	: .1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
+2.00	0.190	: ---+---*	+	---	+	---	+	---	+	---	+
+0.00	1.000	: ---+---+	+	---	+	---	+	---	+	---	+
-2.00	0.190	:		*							
-4.00	0.165	:		*							
-6.00	0.129	:		*							
-8.00	0.084	:	*								
-10.00	0.036	:	*								
-12.00	0.006	:	*								
-14.00	0.036	:	*								
-16.00	0.050	:	*								
-18.00	0.044	:	*								
-20.00	0.023	:	*								
-22.00	0.005	:	*								
-24.00	0.029	:	*								
-26.00	0.036	:	*								
-28.00	0.023	:	*								
-30.00	0.004	:	*								
-32.00	0.028	:	*								
-34.00	0.030	:	*								
-36.00	0.006	:	*								
-38.00	0.024	:	*								
-40.00	0.029	:	*								
-42.00	0.000	:	*								
-44.00	0.030	:	*								
-46.00	0.019	:	*								
-48.00	0.022	:	*								
-50.00	0.029	:	*								
-52.00	0.016	:	*								
-54.00	0.032	:	*								
-56.00	0.020	:	*								
-58.00	0.031	:	*								
-60.00	0.033	:	*								
-62.00	0.016	:	*								
-64.00	0.048	:	*								
-66.00	0.024	:	*								
-68.00	0.030	:	*								
-70.00	0.063	:	*								
-72.00	0.051	:	*								
-74.00	0.003	:	*								
-76.00	0.058	:	*								
-78.00	0.109	:		*							
-80.00	0.142	:		*							
-82.00	0.156	:		*							
-84.00	0.156	:		*							
-86.00	0.148	:		*							
-88.00	0.136	:		*							
-90.00	0.124	:		*							