

ENGINEERING STATEMENT

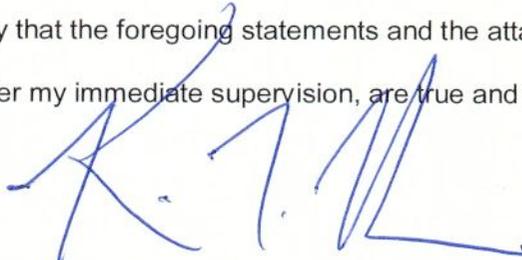
The engineering data contained herein have been prepared on behalf of TCT OF MICHIGAN, INC., licensee of WTLJ-DT, Channel 24 in Muskegon, Michigan, in support of this amendment to its Application for Construction Permit BPCDT-20080620ADX, which specifies operation with a maximized post-transition DTV facility. The purpose of this amendment is to specify a reduction in effective radiated power from 395 kw to 310 kw in order to satisfy an interference issue. No change in antenna model, antenna height or site location is proposed herein.

Exhibit B provides elevation and azimuth pattern data for the licensed antenna. Exhibit C is a map upon which the revised service contours are plotted. As shown, the city of license continues to be completely contained within the proposed 48 dBu service contour. A new interference study is included in Exhibit D, and it is important to note that the study utilized a cell size of 2.0 kilometers and an increment spacing of 1.0 kilometer. A power density calculation is provided in Exhibit E.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the WTLJ-DT site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1002079 to this tower.

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

A handwritten signature in blue ink, appearing to read 'K. T. Fisher', is written over the text of the declaration.

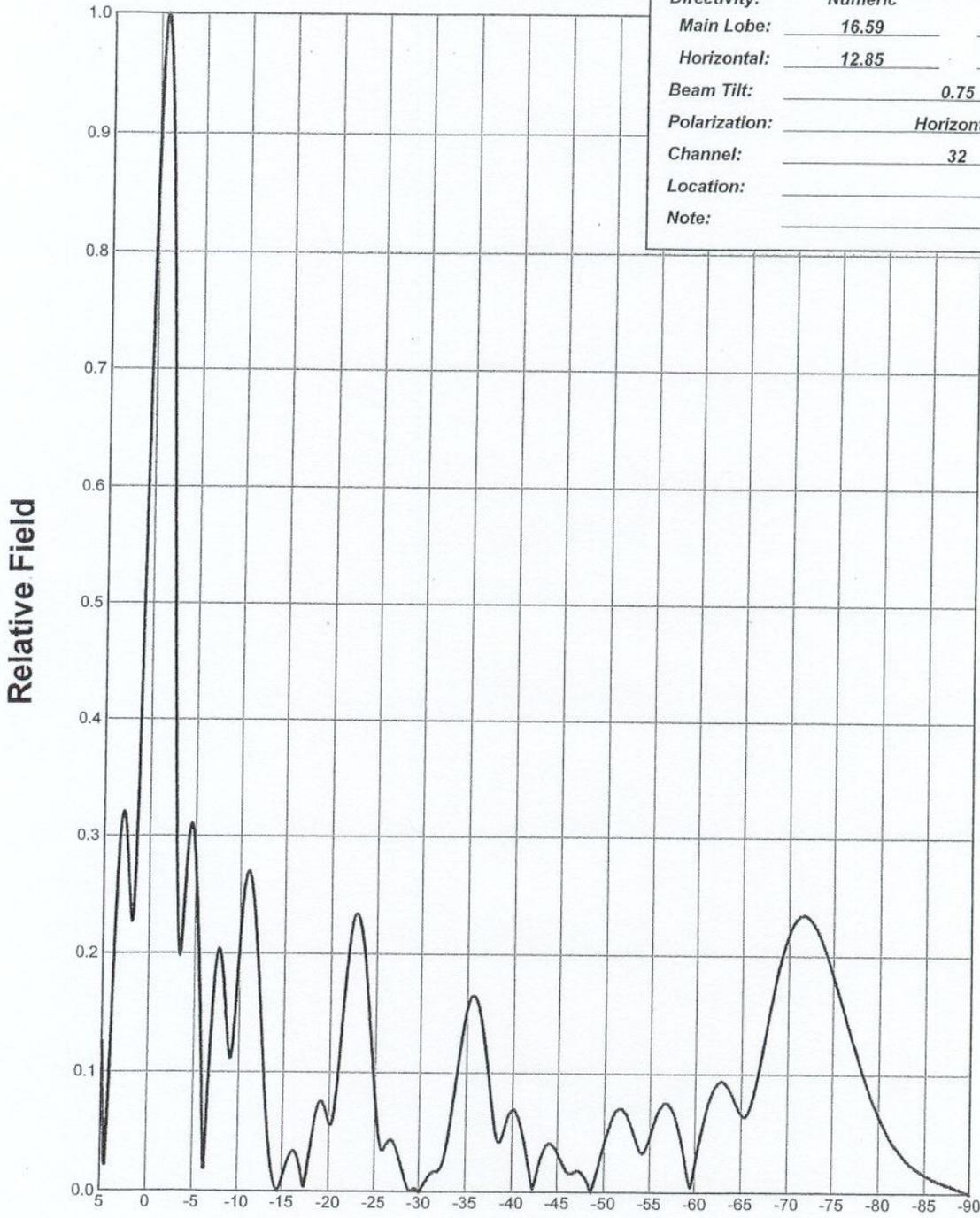
KEVIN T. FISHER

September 26, 2008



### ELEVATION PATTERN

Type:	ALP16M3	
Directivity:	Numeric	dBd
Main Lobe:	16.59	12.20
Horizontal:	12.85	11.09
Beam Tilt:	0.75	
Polarization:	Horizontal	
Channel:	32	
Location:		
Note:		



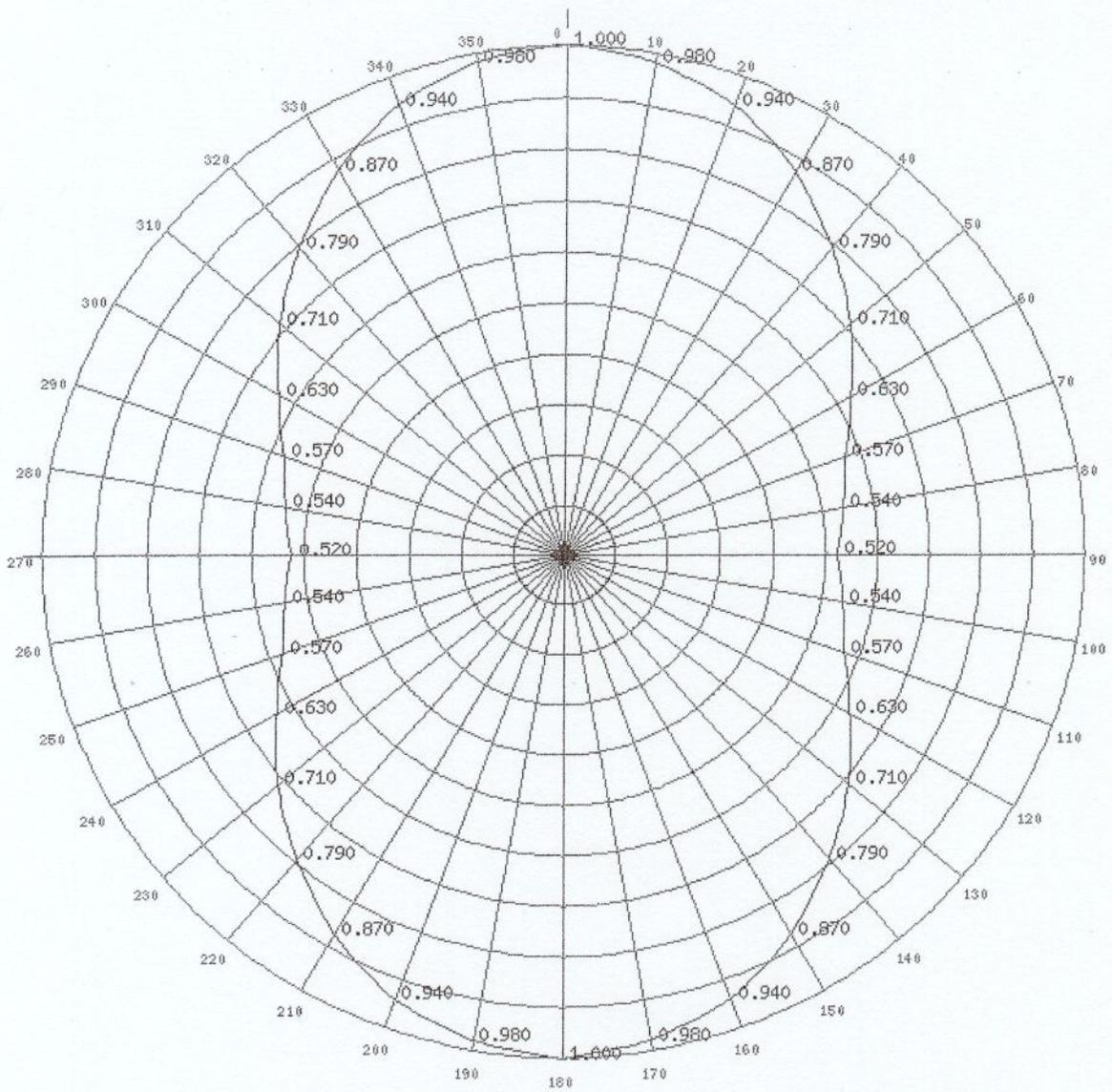
Electronics Research, Inc.  
7777 Gardner Road  
Chandler, Indiana U.S.A 47610

#### EXHIBIT B-1

#### ANTENNA ELEVATION PATTERN

PROPOSED WTLJ-DT  
CHANNEL 24 - MUSKEGON, MICHIGAN  
[AMENDMENT TO BPCDT-20080620ADX]

SMITH AND FISHER



**EXHIBIT B-2**  
**ANTENNA AZIMUTH PATTERN**  
**PROPOSED WTLJ-DT**  
**CHANNEL 24 – MUSKEGON, MICHIGAN**  
**[AMENDMENT TO BPCDT-20080620ADX]**  
**SMITH AND FISHER**

## ANTENNA AZIMUTH PATTERN DATA

PROPOSED WTLJ-DT  
CHANNEL 24 – MUSKEGON, MICHIGAN  
[AMENDMENT TO BPCDT-20080620ADX]

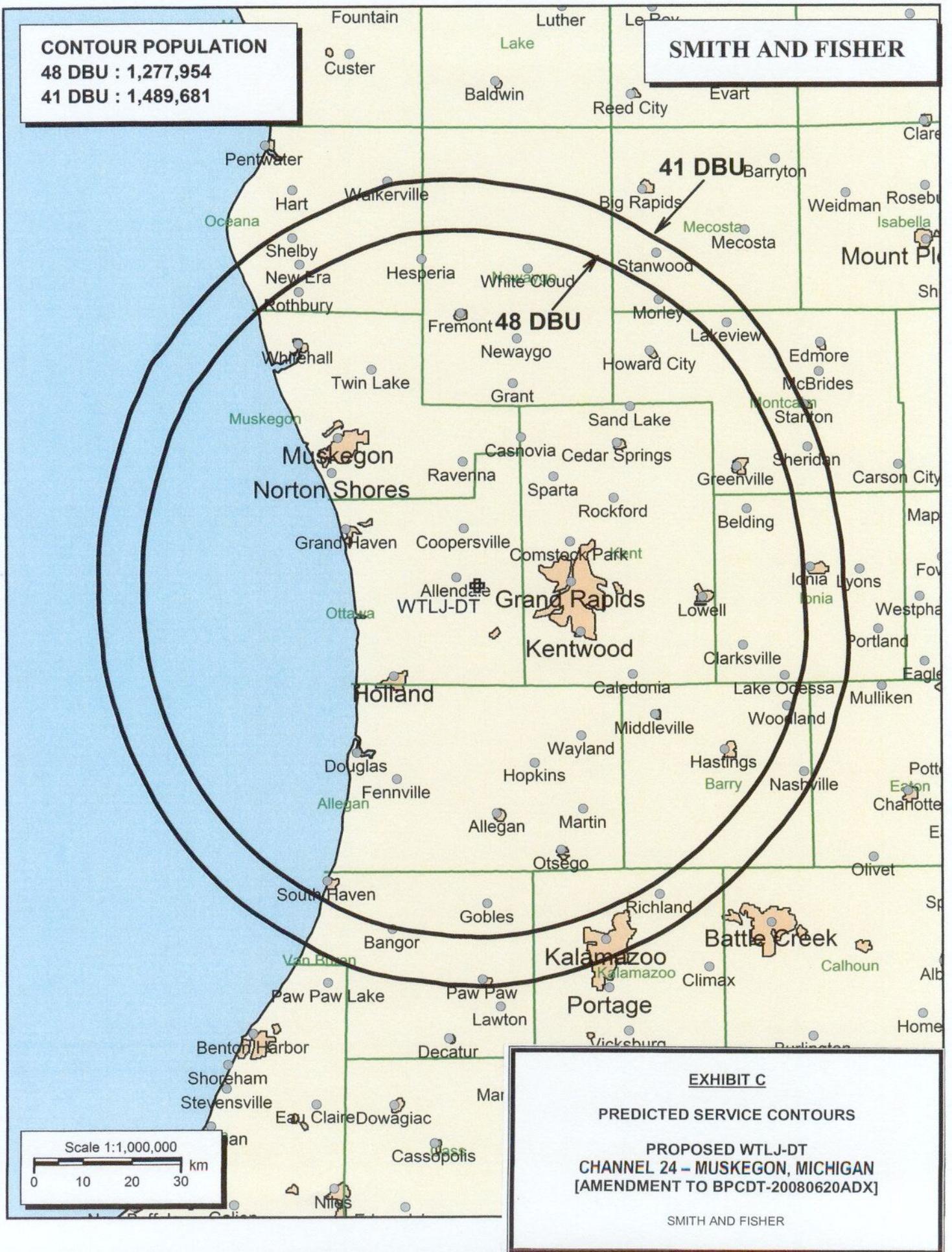
<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>	<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>
0	1.00	24.9	180	1.00	24.9
10	0.98	24.7	190	0.98	24.7
20	0.94	24.4	200	0.94	24.4
30	0.87	23.7	210	0.87	23.7
40	0.79	22.9	220	0.79	22.9
50	0.71	21.9	230	0.71	21.9
60	0.63	20.9	240	0.63	20.9
70	0.57	20.0	250	0.57	20.0
80	0.54	19.5	260	0.54	19.5
90	0.52	19.2	270	0.52	19.2
100	0.54	19.5	280	0.54	19.5
110	0.57	20.0	290	0.57	20.0
120	0.63	20.9	300	0.63	20.9
130	0.71	21.9	310	0.71	21.9
140	0.79	22.9	320	0.79	22.9
150	0.87	23.7	330	0.87	23.7
160	0.94	24.4	340	0.94	24.4
170	0.98	24.7	350	0.98	24.7

**CONTOUR POPULATION**

**48 DBU : 1,277,954**

**41 DBU : 1,489,681**

**SMITH AND FISHER**



INTERFERENCE STUDY  
PROPOSED WTLJ-DT  
CHANNEL 24 – MUSKEGON, MICHIGAN  
[AMENDMENT TO BPCDT-20080620ADX]

The instant application specifies an ERP of 310 kw (directional) at 283 meters above average terrain, which we have determined to be allowable under the FCC's recently approved interference standards with respect to various post-transition digital television facilities as they will exist on or before February 17, 2009, the date by which all stations must operate with the parameters recently adopted in the Commission's DTV Table of Allotments.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft SunDTV program, which utilizes methodology contained in the FCC's OET Bulletin No. 69 (Longley-Rice-based methodology). In conducting our studies, we employed a cell size of 2.0 kilometers and an increment spacing of 1.0 kilometer along each radial. In addition, we utilized the 2000 U. S. Census. A summary of the results of that analysis is provided in Exhibit D-2.

As shown, the proposed WTLJ-DT facility would not contribute more than 0.5% interference (beyond that which is caused by the allotted WTLJ-DT facility) to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WTLJ-DT facility does not cause significant (0.5%) interference within the protected service contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.

POWER DENSITY CALCULATION

PROPOSED WTLJ-DT  
CHANNEL 24 – MUSKEGON, MICHIGAN  
[AMENDMENT TO BPCDT-20080620ADX]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Muskegon facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 310 kw, an antenna radiation center 280 meters above ground, and the elevation pattern of the Andrew antenna, maximum power density two meters above ground of  $0.0067 \text{ mw/cm}^2$  is calculated to occur 90 meters north and south of the base of the tower. Since this is only 1.9 percent of the  $0.35 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 24 (530-536 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to nonionizing electromagnetic radiation.

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

Summary Study

Percent allowed new interference: 0.500  
Percent allowed new interference to Class A: 0.500  
Census data selected 2000  
Post Transition Data Base Selected ./data\_files/pt\_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 09-23-2008 Time: 08:08:57

Record Selected for Analysis

WTLJ-D35 USERRECORD-01 MUSKEGON MI US  
Channel 24 ERP 310. kW HAAT 284. m RCAMSL 00487 m  
Latitude 042-57-25 Longitude 0085-54-07  
Status APP Zone 1 Border  
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.  
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

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	310.000	284.2	84.1
45.0	174.375	273.2	79.1
90.0	83.824	273.7	75.1
135.0	174.375	280.2	79.8
180.0	310.000	277.5	83.1
225.0	174.375	288.3	80.6
270.0	83.824	296.6	77.1
315.0	174.375	294.5	81.3

Evaluation toward Class A Stations

Station inside contour of Class A station  
WOGC-CA 25 HOLLAND MI BLTTA 20020812ACT

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WTLJ-D35 24 MUSKEGON MI USERRECORD01

and station  
 24 WCML ALPENA MI 279.4 CP BPEDT -  
 24 WSPJ-TV NEWARK OH 416.5 LIC BLCDT -  
 SHORT TO: WXMI 17 GRAND RAPIDS MI BLCT 20030117AAW  
 042-41-15 0085-31-57  
 Req. separation => 24.1 <= 80.5 Actual separation 42.5 Short 38.0(  
 18.4) km

24 WIRM-TV WAUSAU WI 373.6 PLN DTVPLN -  
 SHORT TO: WTLJ 24 MUSKEGON MI DTVPLN DTVP0888  
 42 -57-25 85 -54-07  
 Req. separation 196.3 Actual separation 0.0 Short 196.3 km

25 WCGV-TV MILWAUKEE WI BLCT 19920902KF  
 043-05-15 0087-54-13  
 Req. separation 217.3 Actual separation 163.8 Short 53.5 km

25 WCGV-TV MILWAUKEE WI BLCT 19920902KF  
 DTVP0942 LANDMOBILE SPACING VIOLATIONS FOUND  
 27 WOLF-TV GRAND RAPIDS MI 20.1 LIC BLTTL -  
 19980625JE NONE

Study of this proposal found the following interference problem(s):  
 Proposed facility OK to FCC Monitoring Stations  
 Proposed facility OK toward West Virginia quiet zone  
 Proposed facility OK toward Table Mountain  
 Proposed facility is within the Canadian coordination distance  
 Distance to border = 240.6km  
 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
24	WTLJ-D35	MUSKEGON MI		USERRECORD01

Stations Potentially Affected by Proposed Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
24	W24AJ	AURORA IL	257.9	LIC	BLTTL	-
19990716JA						
24	WPTA	FORT WAYNE IN	214.5	LIC	BLCDT	-
20031031AGU						
24	WPTA	FORT WAYNE IN	214.5	PLN	DTVPLN	-
DTVP0883						
24	WCML	ALPENA MI	279.4	APP	BMPEDT	-
20080617ABT						
24	WCML	ALPENA MI	279.4	PLN	DTVPLN	-
DTVP0887						

24	WCML	ALPENA MI	279.4	CP	BPEDT	-
20080222ABH						
24	WSFJ-TV	NEWARK OH	416.5	LIC	BLCDT	-
20060620ABC						
24	WSFJ-TV	NEWARK OH	416.5	PLN	DTVPLN	-
DTVP0897						
24	WHRM-TV	WAUSAU WI	373.6	LIC	BLEDT	-
20051014AAW						
24	WHRM-TV	WAUSAU WI	373.6	PLN	DTVPLN	-
DTVP0912						
25	WOGC-CA	HOLLAND MI	16.2	LIC	BLTTA	-
20020812ACT						
25	WOGC-CA	HOLLAND MI	16.2	CP	BDFCDTA	-
20060330ALR						
25	WOGC-CA	HOLLAND MI	16.2	APP	BMPDTA	-
20080804ADU						
25	WCGV-TV	MILWAUKEE WI	163.5	CP MOD	BMPCDT	-
20010920AAK						
25	WCGV-TV	MILWAUKEE WI	163.5	PLN	DTVPLN	-
DTVP0942						
27	WOLP-CA	GRAND RAPIDS MI	20.1	LIC	BLTTL	-
19980626JE						

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Study of this proposal found the following interference problem(s):

NONE.