

ENGINEERING STATEMENT
IN SUPPORT OF AMENDMENT OF APPLICATION
BMPCDT-20080328ADZ
FOR THE PROPOSED DIGITAL TV OPERATION OF
WWUP-DT, SAULT STE. MARIE, MICHIGAN
CHANNEL 10 20.7 KW 370 METERS
AUGUST 2008

This engineering statement has been prepared on behalf of Heritage Broadcasting Company of Michigan, licensee of TV station WWUP-TV, Sault Ste. Marie, Michigan, in support of an amendment of its application (BMPCDT-20080328ADZ) for post-transition digital TV (DTV) operation on Channel 10.

At present WWUP-TV, Facility ID Number 26993, operates its analog TV facilities on Channel 10 (192-198 MHz) with 316 kW effective radiated power (ERP) and 370 meters antenna height above average terrain (HAAT) using a non-directional TV antenna. The Commission has allotted Channel 10 with 16.3 kW ERP and 370 meters HAAT for WWUP-DT's digital TV operation. WWUP-DT holds a construction permit (BMPCDT-2008080728ABV) for operation with 16.3 kW ERP and has also filed an application (BMPCDT-20080328ADZ) to maximize its service area with 25 kW ERP and 370 meters HAAT. The purpose of the instant application is to request a reduction in the ERP. It is now propose to operate WWUP-DT on Channel 10 with 20.7 kW ERP and 370 meters HAAT using a non-directional antenna.

The following information provides pertinent data for the proposed WWUP-DT operation.

Name of the Licensee:	Heritage Broadcasting Company of Michigan
Station Location:	MI-Sault Ste. Marie
Channel:	10
Hours of Operation:	Unlimited
Transmitter:	Type Accepted
Antenna Type:	RCA, TF-12AH

Beam Tilt: 0.75

Antenna Coordinates: North Latitude: 46 deg 03 min 36 sec
West Longitude: 84 deg 05 min 57 sec

Transmitter output power: As required to achieve authorized ERP

Maximum effective radiated power (Average): 20.7 kW
13.16 dBk

Elevation of site above mean sea level: 229.8 meters

Overall height of the tower above ground: 343.2 meters

Height of radiation center above ground (meters): 333 meters

Height of radiation center above mean sea level (meters): 563 meters

Height of radiation center above average terrain (meters): 370 meters

Antenna Structure Registration Number: 1002423

Response to questions listed on the FCC Form 301, Section III-D-DTV

Engineering

Question 1. (a)

WWUP-TV will operate its DTV operation on Channel 10 as established in 47 C.F.R. Section 73.622.

Question 1. (d)

WWUP-TV is proposing to modify its CP to operate with higher ERP. The proposed noise limited contour would extend beyond the facilities established in Appendix B of the Seventh Report and Order (MB Docket No. 87-268). However, an interference study conducted (see attached Table I) according to the FCC OET Bulletin 69, using

1 km/side cells and 1 km terrain intervals, indicates the proposed WWUP-DT operation would not cause any interference to other DTV stations exceeding the Commission's guidelines.

Question 1. (e)

The proposed DTV operation would serve 109,599 people within the noise limited service area as compared to 103,000 predicted population defined in the new DTV Table in Appendix B. As such, WWUP-DT proposed noise limited contour would serve 6,599 more people than the Appendix B population.

Question 2.

The attached environmental statement demonstrates that there will not be any significant environmental impact from the proposed DTV operation in accordance with 47 C.F.R. Section 73.1307.

Question 3.

The attached map shows the proposed WWUP-DT contour will encompass the allotted principal community of Sault Ste. Marie, Michigan (see Figure 1).

Question 4.

The proposed WWUP-DT facility complies with Section 73.1030 of the Commission's rules; therefore, notification to radio astronomy installations, radio receiving installations and FCC monitoring stations is not required.

Question 5.

The existing WWUP-DT tower is registered (ASR No. 1002423) by the Commission and no changes are proposed to require a change in the registration.

Table I

TW Census data selected 2000

Post Transition Data Base Selected /space/software/cdb/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 08-04-2008 Time: 10:47:40

Record Selected for Analysis

WWUP-TV USERRECORD-01 SAULT STE. MARIE MI US
 Channel 10 ERP 20.7 kW HAAT 370. m RCAMSL 00563 m
 Latitude 046-03-36 Longitude 0084-05-57
 Status APP Zone 2 Border
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	20.700	380.8	104.3
45.0	20.700	373.5	103.7
90.0	20.700	382.4	104.4
135.0	20.700	366.4	103.2
180.0	20.700	371.6	103.6
225.0	20.700	366.3	103.2
270.0	20.700	342.3	101.2
315.0	20.700	372.7	103.7

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WWUP-TV 10 SAULT STE. MARIE MI USERRECORD01

and station

SHORT TO: WWUP-TV 10 SAULT STE. MARIE MI DTVP LN DTVP0267
 46 -03-49 84 -06-08
 Req. separation 273.6 Actual separation 0.5 Short 273.1 km

SHORT TO: WWUP-TV 10 SAULT STE. MARIE MI BLCT 20050620AAU
 046-03-36 0084-05-57
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

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 = 10.1km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
10	WWUP-TV	SAULT STE. MARIE MI	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WBUP	ISHPEMING MI	290.6	PLN	DTVPLN	-DTVP0265
10	WBUP	ISHPEMING MI	290.6	CP	BPCDT	-20080402ABL
10	WILX-TV	ONONDAGA MI	403.8	APP	BMPCDT	-20080618AAZ
10	WILX-TV	ONONDAGA MI	403.8	PLN	DTVPLN	-DTVP0266
10	WILX-TV	ONONDAGA MI	403.8	CP	BPCDT	-20080403ADB
11	WBKB-TV	ALPENA MI	157.4	PLN	DTVPLN	-DTVP0323
11	WBKB-TV	ALPENA MI	157.4	CP MOD	BMPCDT	-20080521AAC

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WBUP	ISHPEMING MI	DTVPLN	-DTVP0265

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WAOW-TV	WAUSAU WI	213.9	PLN	DTVPLN	-DTVP0233
09	WAOW-TV	WAUSAU WI	213.8	CP	BPCDT	-20080314ADZ
10	WWUP-TV	SAULT STE. MARIE MI	290.4	PLN	DTVPLN	-DTVP0267
10	WDIO-TV	DULUTH MN	329.7	CP	BPCDT	-20080421ABG
10	WDIO-TV	DULUTH MN	329.6	PLN	DTVPLN	-DTVP0269
10	WDIO-TV	DULUTH MN	329.7	APP	BMPCDT	-20080620ABZ
11	WLUK-TV	GREEN BAY WI	216.4	PLN	DTVPLN	-DTVP0356
11	WLUK-TV	GREEN BAY WI	216.3	CP	BPCDT	-20080313AAM
10	WWUP-TV	SAULT STE. MARIE MI	290.6	APP	USERRECORD-01	

Total scenarios = 2

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 10A MI ISHPEMING	DTVPLN	DTVP0265	PLN
HAAT 105.0 m, ATV ERP 4.5 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	106896	12079.4	
not affected by terrain losses	88286	11353.3	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2596	209.0	

lost to ATV IX only	2596	209.0
lost to all IX	2596	209.0

Potential Interfering Stations Included in above Scenario 1

10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN
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After Analysis

Results for: 10A MI ISHPEMING	DTVPLN	DTVP0265	PLN
HAAT 105.0 m, ATV ERP 4.5 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	106896	12079.4	
not affected by terrain losses	88286	11353.3	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2691	281.3	
lost to ATV IX only	2691	281.3	
lost to all IX	2691	281.3	

Potential Interfering Stations Included in above Scenario 1

10A MI SAULT STE. MARIE	USERRECORD01	APP
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Percent new IX = 0.1109%

Result key: 2
 Scenario 2 Affected station 1
 Before Analysis

Results for: 10A MI ISHPEMING	DTVPLN	DTVP0265	PLN
HAAT 105.0 m, ATV ERP 4.5 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	106896	12079.4	
not affected by terrain losses	88286	11353.3	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2700	233.8	
lost to ATV IX only	2700	233.8	
lost to all IX	2700	233.8	

Potential Interfering Stations Included in above Scenario 2

10A MN DULUTH	BMPCDT	20080620ABZ	APP
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 10A MI ISHPEMING	DTVPLN	DTVP0265	PLN
HAAT 105.0 m, ATV ERP 4.5 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	106896	12079.4	
not affected by terrain losses	88286	11353.3	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2795	306.1	
lost to ATV IX only	2795	306.1	
lost to all IX	2795	306.1	

Potential Interfering Stations Included in above Scenario 2

10A MN DULUTH	BMPCDT	20080620ABZ	APP
10A MI SAULT STE. MARIE	USERRECORD01	APP	

Percent new IX = 0.1110%

Worst case new IX 0.1110% Scenario 2

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Analysis of Interference to Affected Station 2

KHANNA & GULL, Inc. – Consulting Engineers

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WBUP	ISHPEMING MI	BPCDT	-20080402ABL

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WAOW-TV	WAUSAU WI	213.9	PLN	DTVPLN	-DTVP0233
09	WAOW-TV	WAUSAU WI	213.8	CP	BPCDT	-20080314ADZ
10	WWUP-TV	SAULT STE. MARIE MI	290.4	PLN	DTVPLN	-DTVP0267
10	WDIO-TV	DULUTH MN	329.7	CP	BPCDT	-20080421ABG
10	WDIO-TV	DULUTH MN	329.6	PLN	DTVPLN	-DTVP0269
10	WDIO-TV	DULUTH MN	329.7	APP	BMPCDT	-20080620ABZ
11	WLUK-TV	GREEN BAY WI	216.4	PLN	DTVPLN	-DTVP0356
11	WLUK-TV	GREEN BAY WI	216.3	CP	BPCDT	-20080313AAM
10	WWUP-TV	SAULT STE. MARIE MI	290.6	APP	USERRECORD-01	

Total scenarios = 2

Result key: 3
 Scenario 1 Affected station 2
 Before Analysis

Results for: 10A MI ISHPEMING BPCDT 20080402ABL CP

HAAT 105.0 m, ATV ERP 4.8 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	108431	12772.7
not affected by terrain losses	89792	11972.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	3324	237.7
lost to ATV IX only	3324	237.7
lost to all IX	3324	237.7

Potential Interfering Stations Included in above Scenario 1

10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN
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After Analysis

Results for: 10A MI ISHPEMING BPCDT 20080402ABL CP

HAAT 105.0 m, ATV ERP 4.8 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	108431	12772.7
not affected by terrain losses	89792	11972.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	3431	312.0
lost to ATV IX only	3431	312.0
lost to all IX	3431	312.0

Potential Interfering Stations Included in above Scenario 1

10A MI SAULT STE. MARIE	USERRECORD01	APP
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Percent new IX = 0.1237%

Result key: 4
 Scenario 2 Affected station 2
 Before Analysis

Results for: 10A MI ISHPEMING BPCDT 20080402ABL CP

HAAT 105.0 m, ATV ERP 4.8 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	108431	12772.7
not affected by terrain losses	89792	11972.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	3414	285.3
lost to ATV IX only	3414	285.3
lost to all IX	3414	285.3

Potential Interfering Stations Included in above Scenario 2

KHANNA & GUILL, Inc. – Consulting Engineers

10A MN DULUTH BMPCDT 20080620ABZ APP
 10A MI SAULT STE. MARIE DTVPLN DTVP0267 PLN

After Analysis

Results for: 10A MI ISHPEMING BPCDT 20080402ABL CP
 HAAT 105.0 m, ATV ERP 4.8 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	108431	12772.7
not affected by terrain losses	89792	11972.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	3521	359.6
lost to ATV IX only	3521	359.6
lost to all IX	3521	359.6

Potential Interfering Stations Included in above Scenario 2

10A MN DULUTH BMPCDT 20080620ABZ APP
 10A MI SAULT STE. MARIE USERRECORD01 APP

Percent new IX = 0.1239%

Worst case new IX 0.1239% Scenario 2

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Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WILX-TV	ONONDAGA MI	BMPCDT -20080618AAZ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WWTW	CADILLAC MI	198.3	PLN	DTVPLN -DTVP0201
09	WWTW	CADILLAC MI	198.3	CP MOD	BMPCDT -20080616ABO
10	WWTW-TV	LA SALLE IL	383.6	APP	BPCDT -20080611ACK
10	WWTW-TV	LA SALLE IL	383.6	PLN	DTVPLN -DTVP0255
10	WWTW-TV	LA SALLE IL	383.6	LIC	BLCDT -20060630AEE
10	WWTW-TV	LA SALLE IL	383.6	CP	BPCDT -20080307AAT
10	WTHI-TV	TERRE HAUTE IN	427.0	PLN	DTVPLN -DTVP0257
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT -20080619AEM
10	WTHI-TV	TERRE HAUTE IN	427.0	CP	BPCDT -20080313AAR
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT -20080619AEM
10	WWUP-TV	SAULT STE. MARIE MI	404.2	PLN	DTVPLN -DTVP0267
10	WCPO-TV	CINCINNATI OH	368.8	LIC	BLCDT -20041230ACA
10	WCPO-TV	CINCINNATI OH	368.8	PLN	DTVPLN -DTVP0284
10	WCPO-TV	CINCINNATI OH	368.8	CP MOD	BMPCDT -20080618ABE
10	WOIO	SHAKER HEIGHTS OH	265.3	LIC	BLCDT -19991110AAR
10	WOIO	SHAKER HEIGHTS OH	265.3	PLN	DTVPLN -DTVP0285
10	WOIO	SHAKER HEIGHTS OH	265.3	APP	BPCDT -20080620AKW
11	WGVU-TV	GRAND RAPIDS MI	122.4	LIC	BLEDT -20060703ABP
11	WGVU-TV	GRAND RAPIDS MI	122.4	PLN	DTVPLN -DTVP0324
11	WTOL	TOLEDO OH	130.4	CP	BPCDT -20080403ACL
11	WTOL	TOLEDO OH	130.4	PLN	DTVPLN -DTVP0336
10	WWUP-TV	SAULT STE. MARIE MI	403.8	APP	USERRECORD-01

Proposed station is beyond the site to
 nearest cell evaluation distance

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Analysis of Interference to Affected Station 4

Analysis of current record

KHANNA & GULL, Inc. – Consulting Engineers

Channel	Call	City/State	Application Ref. No.
10	WILX-TV	ONONDAGA MI	DTVPLN -DTVP0266

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WWTV	CADILLAC MI	198.3	PLN	DTVPLN	-DTVP0201
09	WWTV	CADILLAC MI	198.3	CP MOD	BMPCDT	-20080616ABO
10	WWTO-TV	LA SALLE IL	383.6	APP	BPCDT	-20080611ACK
10	WWTO-TV	LA SALLE IL	383.6	PLN	DTVPLN	-DTVP0255
10	WWTO-TV	LA SALLE IL	383.6	LIC	BLCDT	-20060630AEE
10	WWTO-TV	LA SALLE IL	383.6	CP	BPCDT	-20080307AAT
10	WTHI-TV	TERRE HAUTE IN	427.0	PLN	DTVPLN	-DTVP0257
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT	-20080619AEM
10	WTHI-TV	TERRE HAUTE IN	427.0	CP	BPCDT	-20080313AAR
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT	-20080619AEM
10	WWUP-TV	SAULT STE. MARIE MI	404.2	PLN	DTVPLN	-DTVP0267
10	WCPO-TV	CINCINNATI OH	368.8	LIC	BLCDT	-20041230ACA
10	WCPO-TV	CINCINNATI OH	368.8	PLN	DTVPLN	-DTVP0284
10	WCPO-TV	CINCINNATI OH	368.8	CP MOD	BMPCDT	-20080618ABE
10	WOIO	SHAKER HEIGHTS OH	265.3	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	265.3	PLN	DTVPLN	-DTVP0285
10	WOIO	SHAKER HEIGHTS OH	265.3	APP	BPCDT	-20080620AKW
11	WGVU-TV	GRAND RAPIDS MI	122.4	LIC	BLEDT	-20060703ABP
11	WGVU-TV	GRAND RAPIDS MI	122.4	PLN	DTVPLN	-DTVP0324
11	WTOL	TOLEDO OH	130.4	CP	BPCDT	-20080403ACL
11	WTOL	TOLEDO OH	130.4	PLN	DTVPLN	-DTVP0336
10	WWUP-TV	SAULT STE. MARIE MI	403.8	APP	USERRECORD-01	

Proposed station is beyond the site to
nearest cell evaluation distance

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WILX-TV	ONONDAGA MI	BPCDT -20080403ADB

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WWTV	CADILLAC MI	198.3	PLN	DTVPLN	-DTVP0201
09	WWTV	CADILLAC MI	198.3	CP MOD	BMPCDT	-20080616ABO
10	WWTO-TV	LA SALLE IL	383.6	APP	BPCDT	-20080611ACK
10	WWTO-TV	LA SALLE IL	383.6	PLN	DTVPLN	-DTVP0255
10	WWTO-TV	LA SALLE IL	383.6	LIC	BLCDT	-20060630AEE
10	WWTO-TV	LA SALLE IL	383.6	CP	BPCDT	-20080307AAT
10	WTHI-TV	TERRE HAUTE IN	427.0	PLN	DTVPLN	-DTVP0257
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT	-20080619AEM
10	WTHI-TV	TERRE HAUTE IN	427.0	CP	BPCDT	-20080313AAR
10	WTHI-TV	TERRE HAUTE IN	427.0	APP	BMPCDT	-20080619AEM
10	WWUP-TV	SAULT STE. MARIE MI	404.2	PLN	DTVPLN	-DTVP0267
10	WCPO-TV	CINCINNATI OH	368.8	LIC	BLCDT	-20041230ACA
10	WCPO-TV	CINCINNATI OH	368.8	PLN	DTVPLN	-DTVP0284
10	WCPO-TV	CINCINNATI OH	368.8	CP MOD	BMPCDT	-20080618ABE
10	WOIO	SHAKER HEIGHTS OH	265.3	LIC	BLCDT	-19991110AAR
10	WOIO	SHAKER HEIGHTS OH	265.3	PLN	DTVPLN	-DTVP0285
10	WOIO	SHAKER HEIGHTS OH	265.3	APP	BPCDT	-20080620AKW
11	WGVU-TV	GRAND RAPIDS MI	122.4	LIC	BLEDT	-20060703ABP
11	WGVU-TV	GRAND RAPIDS MI	122.4	PLN	DTVPLN	-DTVP0324
11	WTOL	TOLEDO OH	130.4	CP	BPCDT	-20080403ACL
11	WTOL	TOLEDO OH	130.4	PLN	DTVPLN	-DTVP0336
10	WWUP-TV	SAULT STE. MARIE MI	403.8	APP	USERRECORD-01	

Proposed station is beyond the site to
nearest cell evaluation distance

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Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WBKB-TV	ALPENA MI	DTVPLN	-DTVP0323

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WWUP-TV	SAULT STE. MARIE MI	157.8	PLN	DTVPLN	-DTVP0267
11	WGVU-TV	GRAND RAPIDS MI	271.5	LIC	BLEDT	-20060703ABP
11	WGVU-TV	GRAND RAPIDS MI	271.5	PLN	DTVPLN	-DTVP0324
11	WTOL	TOLEDO OH	337.0	CP	BPCDT	-20080403ACL
11	WTOL	TOLEDO OH	337.0	PLN	DTVPLN	-DTVP0336
11	WLUK-TV	GREEN BAY WI	355.3	PLN	DTVPLN	-DTVP0356
11	WLUK-TV	GREEN BAY WI	355.3	CP	BPCDT	-20080313AAM
12	WJRT-TV	FLINT MI	169.2	CP	BPCDT	-20080610AAJ
12	WJRT-TV	FLINT MI	169.2	PLN	DTVPLN	-DTVP0380
10	WWUP-TV	SAULT STE. MARIE MI	157.4	APP	USERRECORD-01	

Total scenarios = 4

Result key: 5
 Scenario 1 Affected station 6
 Before Analysis

Results for: 11A MI ALPENA DTVPLN DTVP0323 PLN
 HAAT 202.0 m, ATV ERP 19.8 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21613.6
not affected by terrain losses	135564	20968.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2554	282.3
lost to ATV IX only	2554	282.3
lost to all IX	2554	282.3

Potential Interfering Stations Included in above Scenario 1

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA DTVPLN DTVP0323 PLN
 HAAT 202.0 m, ATV ERP 19.8 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21613.6
not affected by terrain losses	135564	20968.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2971	295.2
lost to ATV IX only	2971	295.2
lost to all IX	2971	295.2

Potential Interfering Stations Included in above Scenario 1

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

Result key: 6
 Scenario 2 Affected station 6
 Before Analysis

KHANNA & GUILL, Inc. – Consulting Engineers

Results for: 11A MI ALPENA	DTVPLN	DTVP0323	PLN
HAAT 202.0 m, ATV ERP 19.8 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	142575	21613.6	
not affected by terrain losses	135564	20968.2	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2566	285.3	
lost to ATV IX only	2566	285.3	
lost to all IX	2566	285.3	

Potential Interfering Stations Included in above Scenario 2

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA	DTVPLN	DTVP0323	PLN
HAAT 202.0 m, ATV ERP 19.8 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	142575	21613.6	
not affected by terrain losses	135564	20968.2	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2983	298.2	
lost to ATV IX only	2983	298.2	
lost to all IX	2983	298.2	

Potential Interfering Stations Included in above Scenario 2

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

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Result key:      7
Scenario        3 Affected station      6
Before Analysis
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Results for: 11A MI ALPENA		DTVPLN	DTVP0323	PLN
HAAT	202.0 m, ATV ERP	19.8 kW		
		POPULATION	AREA (sq km)	
within Noise Limited Contour		142575	21613.6	
not affected by terrain losses		135564	20968.2	
lost to NTSC IX		0	0.0	
lost to additional IX by ATV		2554	282.3	
lost to ATV IX only		2554	282.3	
lost to all IX		2554	282.3	

Potential Interfering Stations Included in above Scenario 3

11A MI GRAND RAPIDS	DTVPLN	DTVP0324	PLN
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA	DTVPLN	DTVP0323	PLN
HAAT 202.0 m, ATV ERP 19.8 kW			
	POPULATION	AREA (sq km)	
within Noise Limited Contour	142575	21613.6	
not affected by terrain losses	135564	20968.2	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	2971	295.2	
lost to ATV IX only	2971	295.2	
lost to all IX	2971	295.2	

Potential Interfering Stations Included in above Scenario 3

11A MI GRAND RAPIDS DTVPLN DTVP0324 PLN

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11A WI GREEN BAY DTVPLN DTVP0356 PLN
10A MI SAULT STE. MARIE USERRECORD01 APP

Percent new IX = 0.3135%

Result key: 8
Scenario 4 Affected station 6
Before Analysis

Results for: 11A MI ALPENA DTVPLN DTVP0323 PLN
HAAT 202.0 m, ATV ERP 19.8 kW
POPULATION AREA (sq km)
within Noise Limited Contour 142575 21613.6
not affected by terrain losses 135564 20968.2
lost to NTSC IX 0 0.0
lost to additional IX by ATV 2566 285.3
lost to ATV IX only 2566 285.3
lost to all IX 2566 285.3

Potential Interfering Stations Included in above Scenario 4

11A MI GRAND RAPIDS DTVPLN DTVP0324 PLN
11A WI GREEN BAY BPCDT 20080313AAM CP
10A MI SAULT STE. MARIE DTVPLN DTVP0267 PLN

After Analysis

Results for: 11A MI ALPENA DTVPLN DTVP0323 PLN
HAAT 202.0 m, ATV ERP 19.8 kW
POPULATION AREA (sq km)
within Noise Limited Contour 142575 21613.6
not affected by terrain losses 135564 20968.2
lost to NTSC IX 0 0.0
lost to additional IX by ATV 2983 298.2
lost to ATV IX only 2983 298.2
lost to all IX 2983 298.2

Potential Interfering Stations Included in above Scenario 4

11A MI GRAND RAPIDS DTVPLN DTVP0324 PLN
11A WI GREEN BAY BPCDT 20080313AAM CP
10A MI SAULT STE. MARIE USERRECORD01 APP

Percent new IX = 0.3135%

Worst case new IX 0.3135% Scenario 2

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Analysis of Interference to Affected Station 7

Analysis of current record
Channel Call City/State Application Ref. No.
11 WBKB-TV ALPENA MI BMPCDT -20080521AAC

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	WWUP-TV	SAULT STE. MARIE MI	157.8	PLN	DTVPLN -DTVP0267
11	WGVU-TV	GRAND RAPIDS MI	271.5	LIC	BLEDT -20060703ABP
11	WGVU-TV	GRAND RAPIDS MI	271.5	PLN	DTVPLN -DTVP0324
11	WTOL	TOLEDO OH	337.0	CP	BPCDT -20080403ACL
11	WTOL	TOLEDO OH	337.0	PLN	DTVPLN -DTVP0336
11	WLUK-TV	GREEN BAY WI	355.3	PLN	DTVPLN -DTVP0356
11	WLUK-TV	GREEN BAY WI	355.3	CP	BPCDT -20080313AAM
12	WJRT-TV	FLINT MI	169.2	CP	BPCDT -20080610AAJ
12	WJRT-TV	FLINT MI	169.2	PLN	DTVPLN -DTVP0380
10	WWUP-TV	SAULT STE. MARIE MI	157.4	APP	USERRECORD-01

Total scenarios = 4

Result key: 9
 Scenario 1 Affected station 7
 Before Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP
 HAAT 202.0 m, ATV ERP 20.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2554	280.3
lost to ATV IX only	2554	280.3
lost to all IX	2554	280.3

Potential Interfering Stations Included in above Scenario 1

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP
 HAAT 202.0 m, ATV ERP 20.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2971	293.2
lost to ATV IX only	2971	293.2
lost to all IX	2971	293.2

Potential Interfering Stations Included in above Scenario 1

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

Result key: 10
 Scenario 2 Affected station 7
 Before Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP
 HAAT 202.0 m, ATV ERP 20.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2566	283.3
lost to ATV IX only	2566	283.3
lost to all IX	2566	283.3

Potential Interfering Stations Included in above Scenario 2

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP
 HAAT 202.0 m, ATV ERP 20.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0

lost to additional IX by ATV	2983	296.2
lost to ATV IX only	2983	296.2
lost to all IX	2983	296.2

Potential Interfering Stations Included in above Scenario 2

11A MI GRAND RAPIDS	BLEDT	20060703ABP	LIC
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

Result key: 11
 Scenario 3 Affected station 7
 Before Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP

HAAT 202.0 m, ATV ERP 20.0 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2554	280.3
lost to ATV IX only	2554	280.3
lost to all IX	2554	280.3

Potential Interfering Stations Included in above Scenario 3

11A MI GRAND RAPIDS	DTVPLN	DTVP0324	PLN
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP

HAAT 202.0 m, ATV ERP 20.0 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2971	293.2
lost to ATV IX only	2971	293.2
lost to all IX	2971	293.2

Potential Interfering Stations Included in above Scenario 3

11A MI GRAND RAPIDS	DTVPLN	DTVP0324	PLN
11A WI GREEN BAY	DTVPLN	DTVP0356	PLN
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

Result key: 12
 Scenario 4 Affected station 7
 Before Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP

HAAT 202.0 m, ATV ERP 20.0 kW		
	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2566	283.3
lost to ATV IX only	2566	283.3
lost to all IX	2566	283.3

Potential Interfering Stations Included in above Scenario 4

11A MI GRAND RAPIDS	DTVPLN	DTVP0324	PLN
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	DTVPLN	DTVP0267	PLN

After Analysis

Results for: 11A MI ALPENA BMPCDT 20080521AAC CP
 HAAT 202.0 m, ATV ERP 20.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	142575	21614.6
not affected by terrain losses	135564	20969.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	2983	296.2
lost to ATV IX only	2983	296.2
lost to all IX	2983	296.2

Potential Interfering Stations Included in above Scenario 4

11A MI GRAND RAPIDS	DTVPLN	DTVP0324	PLN
11A WI GREEN BAY	BPCDT	20080313AAM	CP
10A MI SAULT STE. MARIE	USERRECORD01		APP

Percent new IX = 0.3135%

Worst case new IX 0.3135% Scenario 2

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Analysis of Interference to Affected Station 8

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WWUP-TV	SAULT STE. MARIE MI	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	WBUP	ISHPEMING MI	290.6	PLN	DTVPLN -DTVP0265
10	WBUP	ISHPEMING MI	290.6	CP	BPCDT -20080402ABL
10	WILX-TV	ONONDAGA MI	403.8	APP	BMPCDT -20080618AAZ
10	WILX-TV	ONONDAGA MI	403.8	PLN	DTVPLN -DTVP0266
10	WILX-TV	ONONDAGA MI	403.8	CP	BPCDT -20080403ADB
11	WBKB-TV	ALPENA MI	157.4	PLN	DTVPLN -DTVP0323
11	WBKB-TV	ALPENA MI	157.4	CP MOD	BMPCDT -20080521AAC

Total scenarios = 2

Result key: 13
 Scenario 1 Affected station 8
 Before Analysis

Results for: 10A MI SAULT STE. MARIE USERRECORD01 APP
 HAAT 370.0 m, ATV ERP 20.7 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	115973	33601.5
not affected by terrain losses	111244	32129.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1645	58.7
lost to ATV IX only	1645	58.7
lost to all IX	1645	58.7

Potential Interfering Stations Included in above Scenario 1

10A MI ISHPEMING	DTVPLN	DTVP0265	PLN
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Result key: 14
 Scenario 2 Affected station 8
 Before Analysis

Results for: 10A MI SAULT STE. MARIE USERRECORD01 APP
 HAAT 370.0 m, ATV ERP 20.7 kW

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	POPULATION	AREA (sq km)
within Noise Limited Contour	115973	33601.5
not affected by terrain losses	111244	32129.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1645	61.7
lost to ATV IX only	1645	61.7
lost to all IX	1645	61.7

Potential Interfering Stations Included in above Scenario 2

10A MI ISHPERING BPCDT 20080402ABL CP

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FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

ENVIRONMENTAL PROTECTION ACT

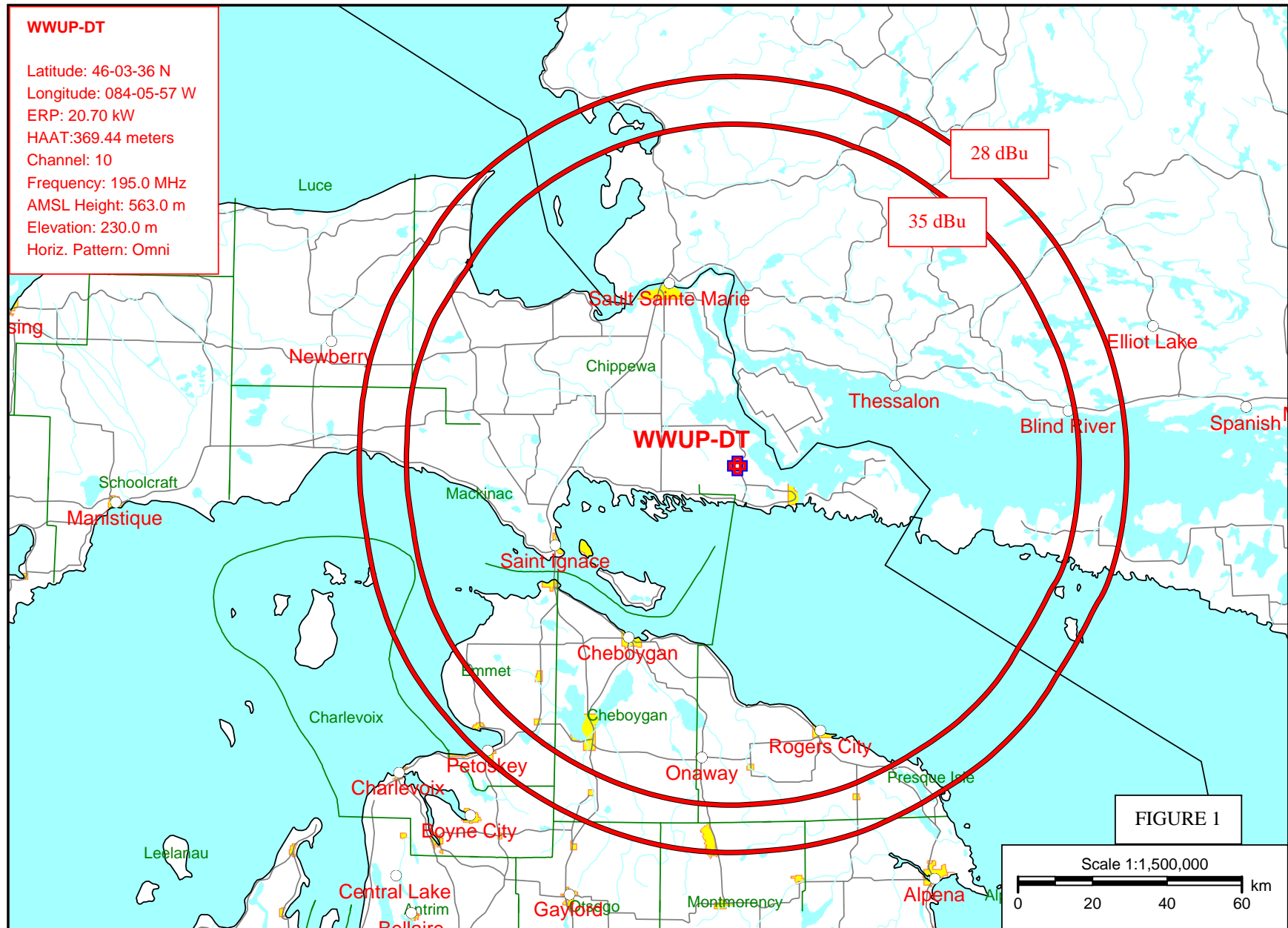
Since WWUP-DT will be using a licensed tower (ASR No. 1002423), for the DTV operation the environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No. 65 dated August 1997. For a maximum effective radiated power of 20.7 kW and a radiation center of 333 meters above ground level, the proposed Channel 10 DTV operation would have a maximum of 1.6 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower assuming an antenna field factor of 0.5 in the downward direction.

The Commission's guidelines for TV Channel 10 are 1,000 $\mu\text{W}/\text{cm}^2$ for the occupational/controlled, and 200 $\mu\text{W}/\text{cm}^2$ for the general population/uncontrolled environment.

The above analysis indicates that members of the public and personnel working around the WWUP-DT tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, WWUP-DT will establish procedures to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate.

For the reasons stated above, it is believed this proposal complies with Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.



COMPUTED CONTOURS FOR THE PROPOSED DTV OPERATION OF WWUP-DT, SAULT STE. MARIE, MICHIGAN