



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
POST REPACK CONSTRUCTION PERMIT  
WMSN-TV - MADISON, WISCONSIN  
DTV - CH. 18 - 164 kW - 450 m HAAT**

Prepared for: WMSN LICENSEE, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

**GENERAL**

This office has been authorized by WMSN LICENSEE, LLC, licensee of WMSN-TV, channel 49, facility ID number 10221, licensed to Madison, Wisconsin, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for construction permit, in accordance with the Incentive Auction Closing and Channel Reassignment Public Notice, DA 17-314, and the technical information provided in the confidential reassignment letter from the FCC announcing the substitution for DTV channel 49 with new DTV channel 18 to be used by WMSN-TV for its post-reassignment broadcasting.

## **OMNI-DIRECTIONAL ANTENNA**

The applicant proposes to install a new Dielectric model TFU-23JBH/VP-R O8 elliptically polarized non-directional transmitting antenna with its center of radiation located at a height above ground of 407 meters, and a height above average terrain of 450 meters. The antenna manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 2.

## **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (39.15 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Madison, Wisconsin.

## **ALLOCATION CONSIDERATIONS**

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

A study was performed, using the FCC's software, tv\_study, v. 2.2.2, to determine if the instant application for construction permit is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. The study also shows that WMSN-TV's proposed service area is within the baseline plus 1%. (See Appendix B)

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

The WMSN-TV site is located more than 500 kilometers from the nearest point on the US-Canadian border and more than 1,800 kilometers from the nearest point on the US-Mexican border. Therefore, no international coordination is required.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WMSN-TV site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

## **RADIO\_FREQUENCY IMPACT**

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National

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Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or “controlled” situations, and for “uncontrolled” environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology’s technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC’s policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 200 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for an “uncontrolled” environment, and is 1000 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for a “controlled” environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF TV stations, is determined for an “uncontrolled” environment by dividing the operating frequency in MHz by 1.5, and is similarly determined for a “controlled” environment by dividing the operating frequency in MHz by 0.3.

The predicted emissions of WMSN-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WMSN-TV, which

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will operate on television Channel 18 (494-500 MHz), the MPE is 331.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,656.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed WMSN-TV facility will operate with a maximum ERP of 164 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 407 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WMSN-TV facility is predicted to produce a power density at two meters above ground level of 6.01  $\mu\text{W}/\text{cm}^2$ , which is 1.81% of the FCC guideline value for an “uncontrolled” environment, and 0.363% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV facilities, two FM translators and two FM stations that are located at the WMSN-TV site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 18.41% of the limit applicable to “uncontrolled” environments, and 3.682% of the limit for “controlled” environments. (See Appendix A)

**OCCUPATIONAL SAFETY**

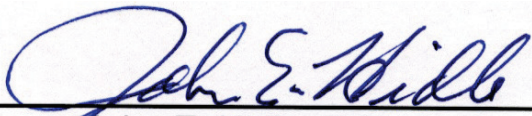
The licensee of WMSN-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WMSN-TV antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.


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**SUMMARY**

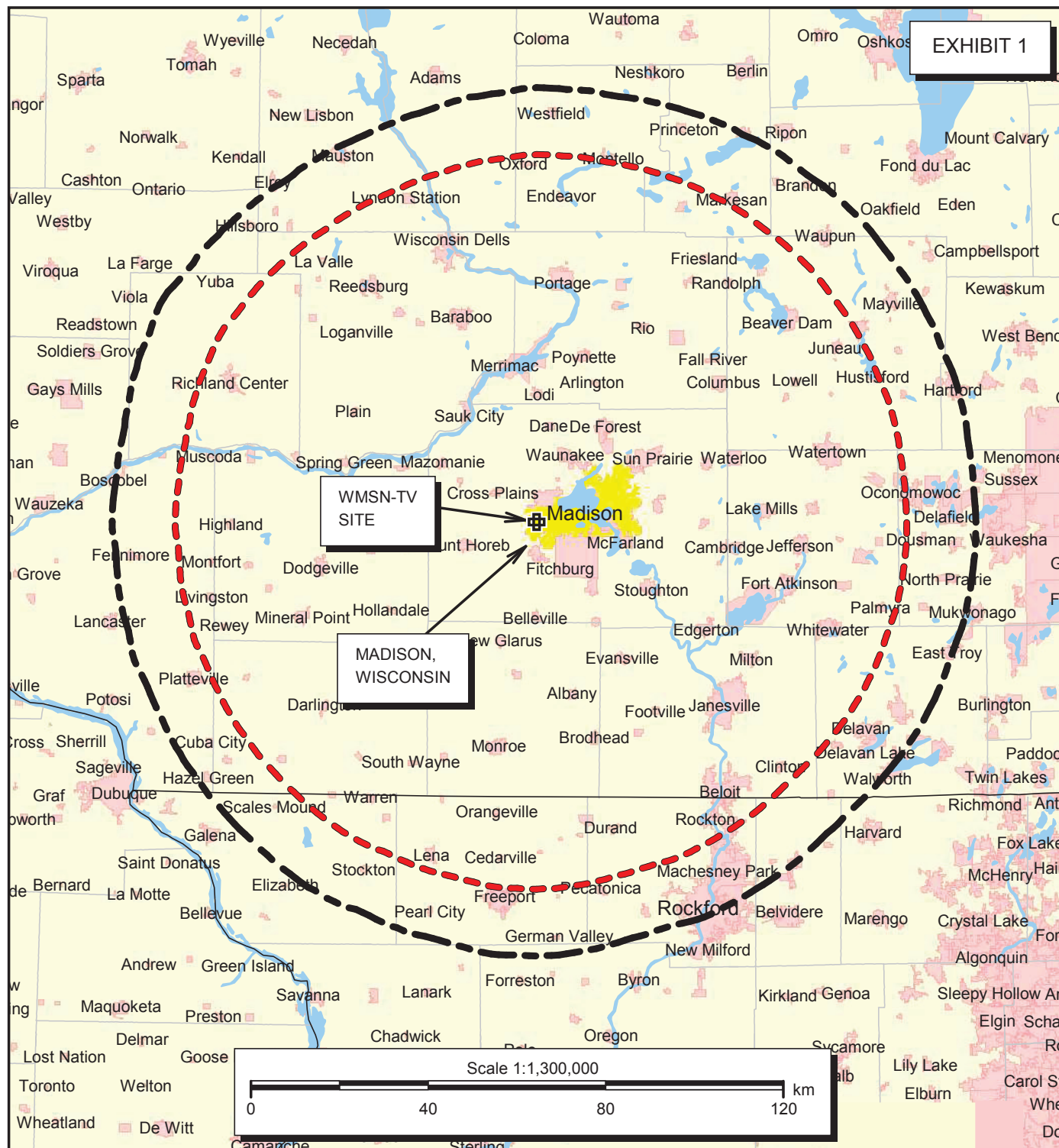
It is submitted that the instant application for construction permit to change WMSN-TV from channel 49 to channel 18, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: June 12, 2017

  
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John E. Hidle, P.E.







## PREDICTED COVERAGE CONTOURS

**WMSN-TV - MADISON, WISCONSIN**  
**DTV Channel 18 - 164 kW ERP - 450 M HAAT**  
**JUNE, 2017**

Predicted Noise Limited 39.15 dBu  
 F(50,90) Coverage Contour



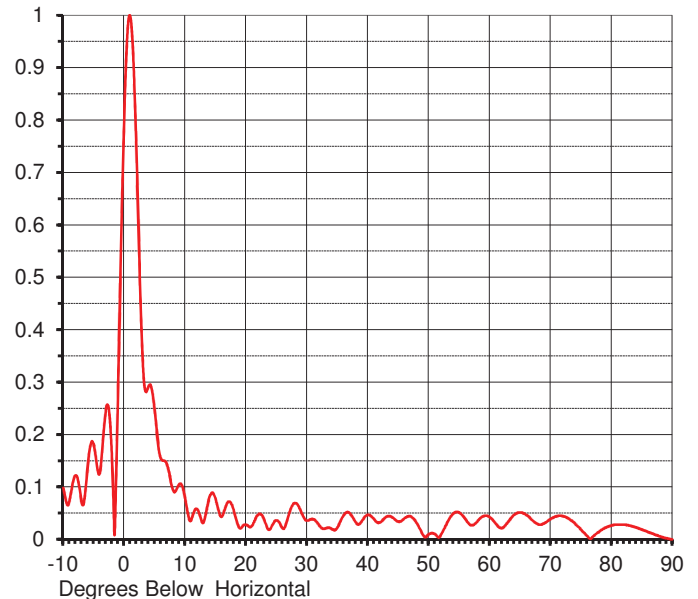
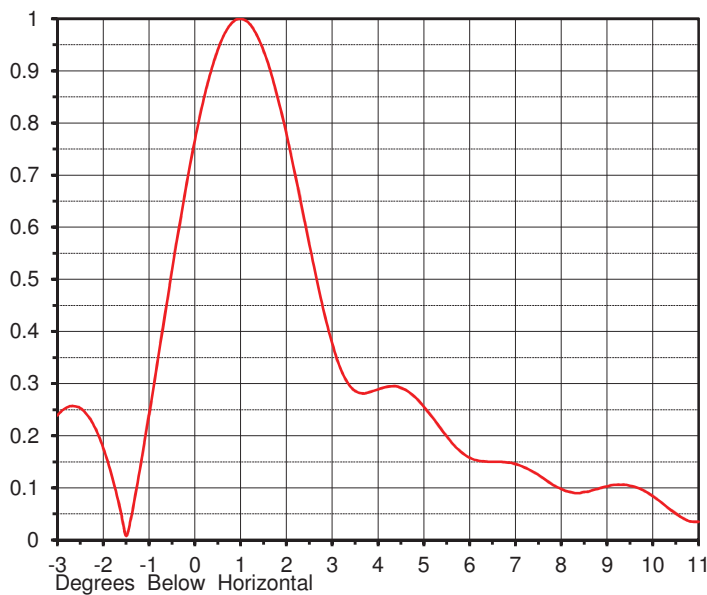
Predicted Principal Community 48 dBu  
 F(50,90) Coverage Contour

## ELEVATION PATTERN

Proposal No. **C-70050-1**  
 Date **8-Mar-17**  
 Call Letters **WMSN**  
 Channel **18**  
 Frequency **497 MHz**  
 Antenna Type **TFU-23JBH/VP-R 08**

RMS Directivity at Main Lobe **22.0 ( 13.42 dB )**  
 RMS Directivity at Horizontal **12.9 ( 11.11 dB )**  
**Calculated**

Beam Tilt **0.90 deg**  
 Drawing Number **23J220090**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.098	10.0	0.078	30.0	0.036	50.0	0.010	70.0	0.039
-9.0	0.072	11.0	0.037	31.0	0.038	51.0	0.010	71.0	0.044
-8.0	0.122	12.0	0.057	32.0	0.026	52.0	0.009	72.0	0.044
-7.0	0.071	13.0	0.032	33.0	0.021	53.0	0.032	73.0	0.039
-6.0	0.139	14.0	0.081	34.0	0.020	54.0	0.049	74.0	0.030
-5.0	0.180	15.0	0.077	35.0	0.023	55.0	0.051	75.0	0.018
-4.0	0.127	16.0	0.043	36.0	0.046	56.0	0.038	76.0	0.006
-3.0	0.248	17.0	0.071	37.0	0.050	57.0	0.027	77.0	0.006
-2.0	0.150	18.0	0.054	38.0	0.032	58.0	0.035	78.0	0.015
-1.0	0.294	19.0	0.021	39.0	0.035	59.0	0.044	79.0	0.022
0.0	0.809	20.0	0.028	40.0	0.047	60.0	0.042	80.0	0.026
1.0	0.997	21.0	0.026	41.0	0.038	61.0	0.029	81.0	0.028
2.0	0.739	22.0	0.047	42.0	0.032	62.0	0.021	82.0	0.028
3.0	0.348	23.0	0.036	43.0	0.043	63.0	0.033	83.0	0.026
4.0	0.292	24.0	0.020	44.0	0.042	64.0	0.047	84.0	0.023
5.0	0.245	25.0	0.036	45.0	0.034	65.0	0.051	85.0	0.018
6.0	0.154	26.0	0.021	46.0	0.040	66.0	0.046	86.0	0.014
7.0	0.143	27.0	0.047	47.0	0.044	67.0	0.036	87.0	0.009
8.0	0.094	28.0	0.069	48.0	0.031	68.0	0.028	88.0	0.005
9.0	0.105	29.0	0.053	49.0	0.009	69.0	0.031	89.0	0.002
								90.0	0.000

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**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
WMSN-TV, Madison, Wisconsin  
CHANNEL 18, 164 kW ERP, 450 m HAAT  
MAY, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>		<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WERN	FM	204	88.7	H & V	341	20.500	1.000	1.000	0.01178	0.200	5.89%
W215AQ	FM	215	90.9	H & V	123	0.026	1.000	1.000	0.00011	0.200	0.06%
W265CV	FM	265	100.9	H & V	198	0.250	1.000	1.000	0.00043	0.200	0.21%
WIBA-FM	FM	268	101.5	H & V	264	12.000	1.000	1.000	0.01150	0.200	5.75%
WMSN-TV	DT	18	497	H & V	405	164.000	0.300	0.300	0.00601	0.331	1.81%
WHA-TV	DT	20	509	H	409	140.000	0.300	0.300	0.00252	0.339	0.74%
WKOW	DT	26	545	H	410	800.000	0.300	0.300	0.01431	0.363	3.94%
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>											<b>18.41%</b>

\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.



## WMSN-TV - MADISON, WISCONSIN Longley-Rice Interference Analysis

tvstudy v2.2.2

Database: localhost, Study: WMSN\_18\_450H\_164K, Model: Longley-Rice  
Start: 2017.06.09 12:57:55

Study created: 2017.06.09 12:57:47

Study build station data: LMS TV 2017-06-07 (14)

Proposal: WMSN-TV D18 DT APP MADISON, WI  
File number: WMSN\_18\_450H\_164K  
Facility ID: 10221  
Station data: User record  
Record ID: 580  
Country: U.S.  
Zone: I

Non-U.S. records included

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
KWQC-TV	D17	DT	BL	DAVENPORT, IA	DTVBL6885	205.9 km
WYIN	D17	DT	LIC	GARY, IN	BLEDT20040206AAA	258.6
WEAU	D17	DT	BL	EAU CLAIRE, WI	DTVBL7893	212.1
WBME-CD	D17	DC	BL	MILWAUKEE, WI	DTVBL71422	130.4
KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	261.0
WBXC-CD	D18	DC	BL	CHAMPAIGN/URBANA, IL	DTVBL70428	344.5
WMEU-CD	D18	DC	BL	CHICAGO, IL	DTVBL168662	203.3
WSEC	D18	DT	BL	JACKSONVILLE, IL	DTVBL70536	386.2
WFWA	D18	DT	BL	FORT WAYNE, IN	DTVBL22108	418.8
WAWV-TV	D18	DT	BL	TERRE HAUTE, IN	DTVBL65247	460.2
KQDS-TV	D18	DT	BL	DULUTH, MN	DTVBL35525	462.4
WGN-TV	D19	DT	LIC	CHICAGO, IL	BMLCDT20080201APP	203.3
WTPX-TV	D19	DT	BL	ANTIGO, WI	DTVBL86496	222.8
WMTV	D19	DT	LIC	MADISON, WI	BLCDDT20100413AAW	3.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D18  
Latitude: 43 3 21.00 N (NAD83)  
Longitude: 89 32 6.00 W  
Height AMSL: 750.2 m  
HAAT: 450.0 m  
Peak ERP: 164 kW  
Antenna: Omnidirectional

39.1 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	164 kW	457.2 m	97.8 km
45.0	164	482.0	99.8

**Appendix B - Interference Analysis**  
**WMSN-TV - Madison, Wisconsin**  
**Channel 18 - 164 kW - Page 2**

90.0	164	472.1	99.0
135.0	164	435.2	96.2
180.0	164	457.2	97.8
225.0	164	436.6	96.3
270.0	164	427.7	95.7
315.0	164	437.6	96.3

Database HAAT does not agree with computed HAAT  
 Database HAAT: 450 m    Computed HAAT: 451 m

Proposal service area is within baseline plus 1.0%  
 Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 531.5 km

Distance to Mexican border: 1814.4 km

Conditions at FCC monitoring station: Allegan MI  
 Bearing: 98.5 degrees    Distance: 296.0 km  
 ERP: 164 kW    Field strength: 13.5 dBu, 0.0 mV/m

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
 Bearing: 261.4 degrees    Distance: 1341.2 km

No land mobile station failures found

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%

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 Interference to DTVBL6885 BL, scenario 1  
 Proposal causes no interference.

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 Interference to BLEDT20040206AAA LIC, scenario 1  
 Proposal causes no interference.

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 Interference to DTVBL7893 BL, scenario 1  
 Proposal causes no interference.

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 Interference to DTVBL71422 BL, scenario 1  
 Proposal causes no interference.

-----  
 Interference to BLEDT20090612AHJ LIC, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	
Undesireds:	WMSN-TV	D18	DT	BL	MADISON, WI	DTVBL10221	261.0 km
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	261.0
	KDAO-CD	D17	DC	BL	MARSHALLTOWN, IA	DTVBL46753	157.0
	KQDS-TV	D18	DT	BL	DULUTH, MN	DTVBL35525	371.7
	KDMI	D19	DT	LIC	DES MOINES, IA	BLCDT20120627AAE	197.4

**Appendix B - Interference Analysis**  
**WMSN-TV - Madison, Wisconsin**  
**Channel 18 - 164 kW - Page 3**

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
29717.0 581,748	29649.2 574,691	29537.5 572,179	29545.6 572,227	-0.03 -0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
WMSN-TV D18 DT BL 87.7	767	83.7 510	
WMSN-TV D18 DT APP 79.7	719		75.7 462
KQDS-TV D18 DT BL 28.0	2,002	24.0 1,745	24.0 1,745

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Interference to BLEDT20090612AHJ LIC, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	
Undesireds:	WMSN-TV	D18	DT	BL	MADISON, WI	DTVBL10221	261.0 km
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	261.0
	KDAO-CD	D17	DC	BL	MARSHALLTOWN, IA	DTVBL46753	157.0
	KQDS-TV	D18	DT	BL	DULUTH, MN	DTVBL35525	371.7
	KDMI	D19	DT	APP	DES MOINES, IA	BPCDT20130205AAM	197.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
29717.0 581,748	29649.2 574,691	29537.5 572,179	29545.6 572,227	-0.03 -0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
WMSN-TV D18 DT BL 87.7	767	83.7 510	
WMSN-TV D18 DT APP 79.7	719		75.7 462
KQDS-TV D18 DT BL 28.0	2,002	24.0 1,745	24.0 1,745

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Interference to DTVBL70428 BL, scenario 1  
Proposal causes no interference.

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Interference to DTVBL168662 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WMEU-CD	D18	DC	BL	CHICAGO, IL	DTVBL168662	
Undesireds:	WMSN-TV	D18	DT	BL	MADISON, WI	DTVBL10221	203.3 km
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	203.3
	WYIN	D17	DT	LIC	GARY, IN	BLEDT20040206AAA	62.1
	WBME-CD	D17	DC	BL	MILWAUKEE, WI	DTVBL71422	139.1
	WBXC-CD	D18	DC	BL	CHAMPAIGN/URBANA, IL	DTVBL70428	203.0
	WSEC	D18	DT	BL	JACKSONVILLE, IL	DTVBL70536	324.3
	WFWA	D18	DT	BL	FORT WAYNE, IN	DTVBL22108	221.0
	WAWV-TV	D18	DT	BL	TERRE HAUTE, IN	DTVBL65247	293.8
	WGN-TV	D19	DT	LIC	CHICAGO, IL	BMLCDT20080201APP	0.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
10672.6 8,245,205	10672.6 8,245,205	10292.1 8,243,736	10292.1 8,243,736	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WMSN-TV D18 DT BL 4.0	1,469	4.0 1,469	
WMSN-TV D18 DT APP 4.0	1,469		4.0 1,469
WGN-TV D19 DT LIC 376.5	0	376.5 0	376.5 0

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Interference to DTVBL70536 BL, scenario 1  
Proposal causes no interference.

**Appendix B - Interference Analysis**  
**WMSN-TV - Madison, Wisconsin**  
**Channel 18 - 164 kW - Page 4**

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Interference to DTVBL22108 BL, scenario 1  
Proposal causes no interference.

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Interference to DTVBL65247 BL, scenario 1  
Proposal causes no interference.

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Interference to DTVBL35525 BL, scenario 1  
Proposal causes no interference.

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Interference to BMLCDT20080201APP LIC, scenario 1  
Proposal causes no interference.

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Interference to DTVBL86496 BL, scenario 1  
Proposal causes no interference.

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Interference to BLCDT20100413AAW LIC, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMTV	D19	DT	LIC	MADISON, WI	BLCDT20100413AAW	
Undesireds:	WMSN-TV	D18	DT	BL	MADISON, WI	DTVBL10221	4.0 km
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	3.9
	KDMI	D19	DT	LIC	DES MOINES, IA	BLCDT20120627AAE	364.7
	WGN-TV	D19	DT	LIC	CHICAGO, IL	BMLCDT20080201APP	200.0
	WXMI	D19	DT	LIC	GRAND RAPIDS, MI	BLCDT20030117ABD	324.6
	WTPX-TV	D19	DT	BL	ANTIGO, WI	DTVBL86496	223.3
	WLWK-CD	D19	DC	BL	STURGEON BAY, WI	DTVBL2711	266.7
	WHA-TV	D20	DT	LIC	MADISON, WI	BLEDT20091229ACK	3.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28015.4 1,548,616	27663.8 1,545,459	26255.6 1,486,435	26259.6 1,486,437	-0.02 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WMSN-TV D18 DT BL	191.6 2,483	4.0 2	
WMSN-TV D18 DT APP	195.6 2,591		0.0 0
KDMI D19 DT LIC	80.1 5,247	44.1 1,467	44.1 1,467
WGN-TV D19 DT LIC	1084.8 54,437	904.6 46,244	904.6 46,244
WXMI D19 DT LIC	35.8 2,748	8.0 165	8.0 165
WTPX-TV D19 DT BL	56.3 622	0.0 0	0.0 0
WHA-TV D20 DT LIC	331.4 4,187	131.8 1,598	127.8 1,515

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Interference to BLCDT20100413AAW LIC, scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMTV	D19	DT	LIC	MADISON, WI	BLCDT20100413AAW	
Undesireds:	WMSN-TV	D18	DT	BL	MADISON, WI	DTVBL10221	4.0 km
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	3.9
	KDMI	D19	DT	APP	DES MOINES, IA	BPCDT20130205AAM	364.7
	WGN-TV	D19	DT	LIC	CHICAGO, IL	BMLCDT20080201APP	200.0
	WXMI	D19	DT	LIC	GRAND RAPIDS, MI	BLCDT20030117ABD	324.6
	WTPX-TV	D19	DT	BL	ANTIGO, WI	DTVBL86496	223.3
	WLWK-CD	D19	DC	BL	STURGEON BAY, WI	DTVBL2711	266.7
	WHA-TV	D20	DT	LIC	MADISON, WI	BLEDT20091229ACK	3.9

**Appendix B - Interference Analysis**  
**WMSN-TV - Madison, Wisconsin**  
**Channel 18 - 164 kW - Page 5**

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28015.4 1,548,616	27663.8 1,545,459	26247.6 1,486,403	26251.6 1,486,405	-0.02 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WMSN-TV D18 DT BL	191.6 2,483	4.0 2	
WMSN-TV D18 DT APP	195.6 2,591		0.0 0
KDMI D19 DT APP	88.1 5,279	52.1 1,499	52.1 1,499
WGN-TV D19 DT LIC	1084.8 54,437	904.6 46,244	904.6 46,244
WXMI D19 DT LIC	35.8 2,748	8.0 165	8.0 165
WTPX-TV D19 DT BL	56.3 622	0.0 0	0.0 0
WHA-TV D20 DT LIC	331.4 4,187	131.8 1,598	127.8 1,515

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Interference to proposal, scenario 1  
1.35% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WMSN-TV	D18	DT	APP	MADISON, WI	WMSN_18_450H_164K	
Undesireds:	WBME-CD	D17	DC	BL	MILWAUKEE, WI	DTVBL71422	130.4 km
	KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	261.0
	WBXC-CD	D18	DC	BL	CHAMPAIGN/URBANA, IL	DTVBL70428	344.5
	WMEU-CD	D18	DC	BL	CHICAGO, IL	DTVBL168662	203.3
	WSEC	D18	DT	BL	JACKSONVILLE, IL	DTVBL70536	386.2
	WMTV	D19	DT	LIC	MADISON, WI	BLCDT20100413AAW	3.9

Service area	Terrain-limited	IX-free	Percent IX
29793.7 1,579,847	29510.2 1,575,121	29254.9 1,553,932	0.87 1.35

Undesired	Total IX	Unique IX	Prcnt Unique IX
WBME-CD D17 DC BL	103.7 11,195	87.7 10,537	0.30 0.67
KYIN D18 DT LIC	40.0 6,999	36.0 6,994	0.12 0.44
WMEU-CD D18 DC BL	39.9 1,969	23.9 1,348	0.08 0.09
WMTV D19 DT LIC	91.6 1,689	87.6 1,647	0.30 0.10