



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
A MINOR MODIFICATION OF A  
POST REPACK CONSTRUCTION PERMIT  
FILE # 0000025697  
KPTM - OMAHA, NEBRASKA  
DTV - CH. 26 - 1000 kW - 475 m HAAT**

Prepared for: KPTM 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 KPTM LICENSEE, LLC, licensee of KPTM channel 43, facility ID number 51491, licensed to Omaha, Nebraska, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor modification of its post-reassignment construction permit, File # 0000025697, that authorizes KPTM to use channel 26 for its post-reassignment broadcasting. The instant application for modification proposes only to increase KPTM's ERP to 1000 kW.

## **OMNI-DIRECTIONAL ANTENNA**

The applicant will utilize its existing ERI model ETU-P4H16 (15-51) horizontally polarized omni-directional transmitting antenna with its center of radiation located at a height above ground of 452.3 meters, and a height above average terrain of 475 meters. The licensed antenna ID Number is: 69597. The 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 (39.95 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Omaha, Nebraska.

## **ALLOCATION CONSIDERATIONS**

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

A study was performed, using the FCC's software, tv\_study, v. 2.2.3, to determine if the instant application for modification of 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. (See Appendix B)

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

The KPTM site is located beyond the coordination distances from the nearest points on both the US-Canadian border and US/Mexican borders.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed KPTM 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 Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86

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(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 KPTM must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For KPTM, which will

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operate on television Channel 26 (542-548 MHz), the MPE is 363.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an "uncontrolled" environment and 1,816.7  $\mu\text{W}/\text{cm}^2$  in a "controlled" environment. The proposed KPTM facility will operate with a maximum ERP of 1000 kW from a horizontally polarized omni-directional transmitting antenna with a centerline height of 452.3 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the KPTM facility is predicted to produce a power density at two meters above ground level of 14.82  $\mu\text{W}/\text{cm}^2$ , which is 4.08% of the FCC guideline value for an "uncontrolled" environment, and 0.816% of the FCC's guideline value for "controlled" environments. There is one other full-power DTV facility, three LPTV DTV facilities and one FM radio station that are located at the KPTM 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 20.04% of the limit applicable to "uncontrolled" environments, and 4.01% of the limit for "controlled" environments. (See Appendix A)

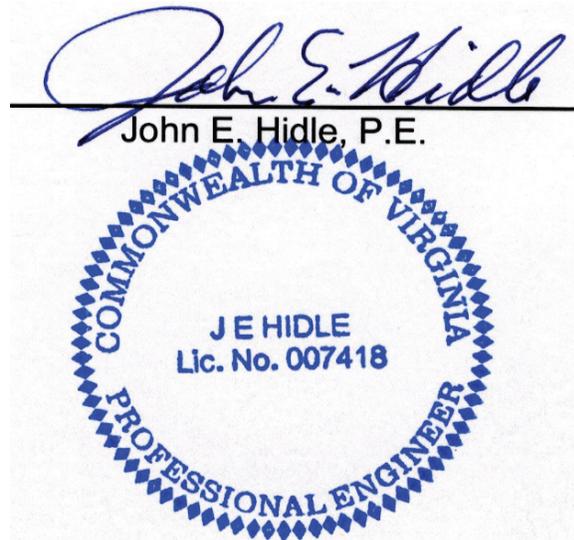
**OCCUPATIONAL SAFETY**

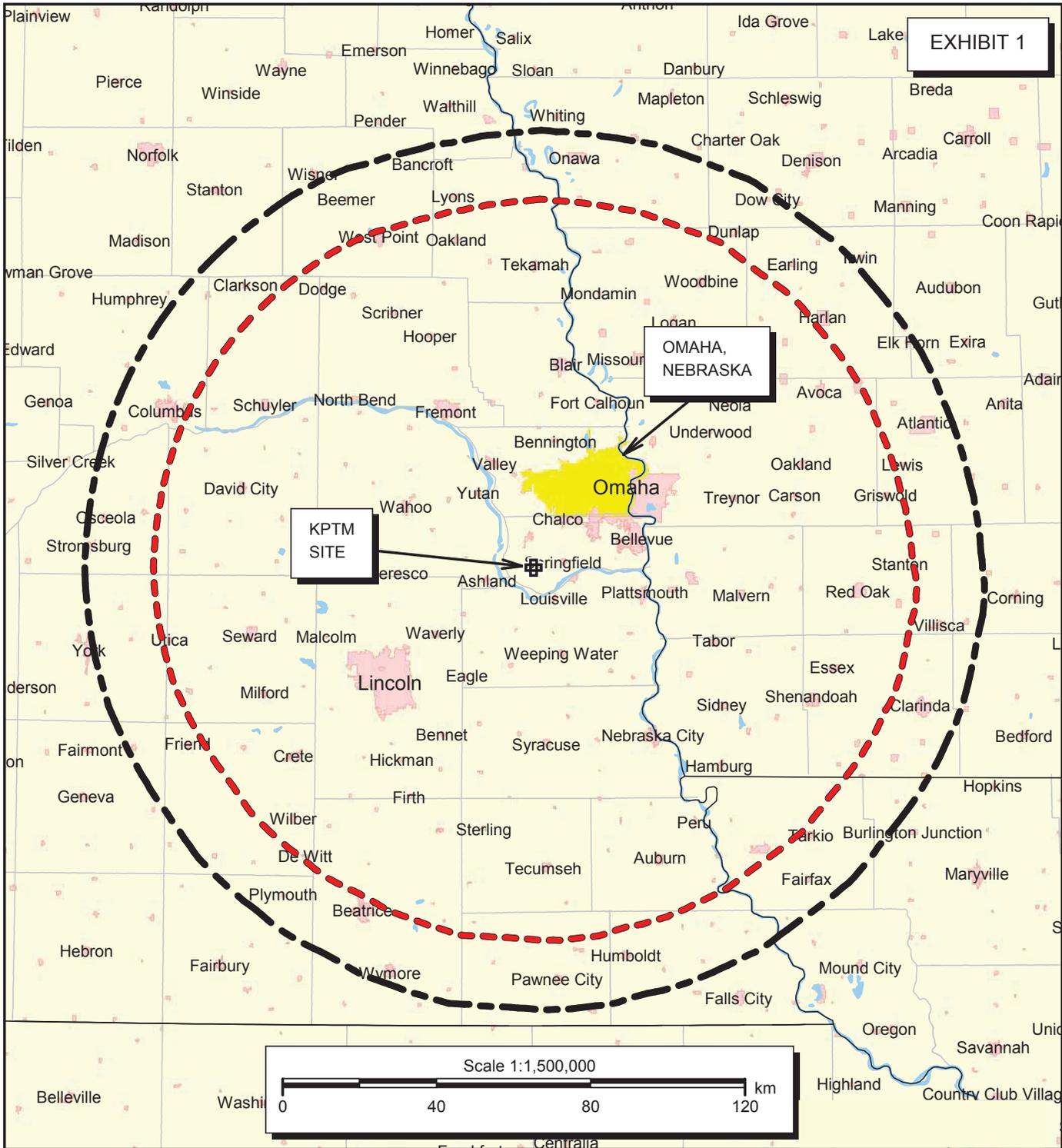
The licensee of KPTM is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KPTM antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

**SUMMARY**

It is submitted that the instant application for minor modification of its post-reassignment channel 26 construction permit to increase KPTM's ERP to 1000 kW, 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: October 10, 2017





# PREDICTED COVERAGE CONTOURS

**KPTM(DT) - OMAHA, NEBRASKA**  
**DTV Channel 26 - 1000 kW ERP - 475 M HAAT**  
**OCTOBER, 2017**

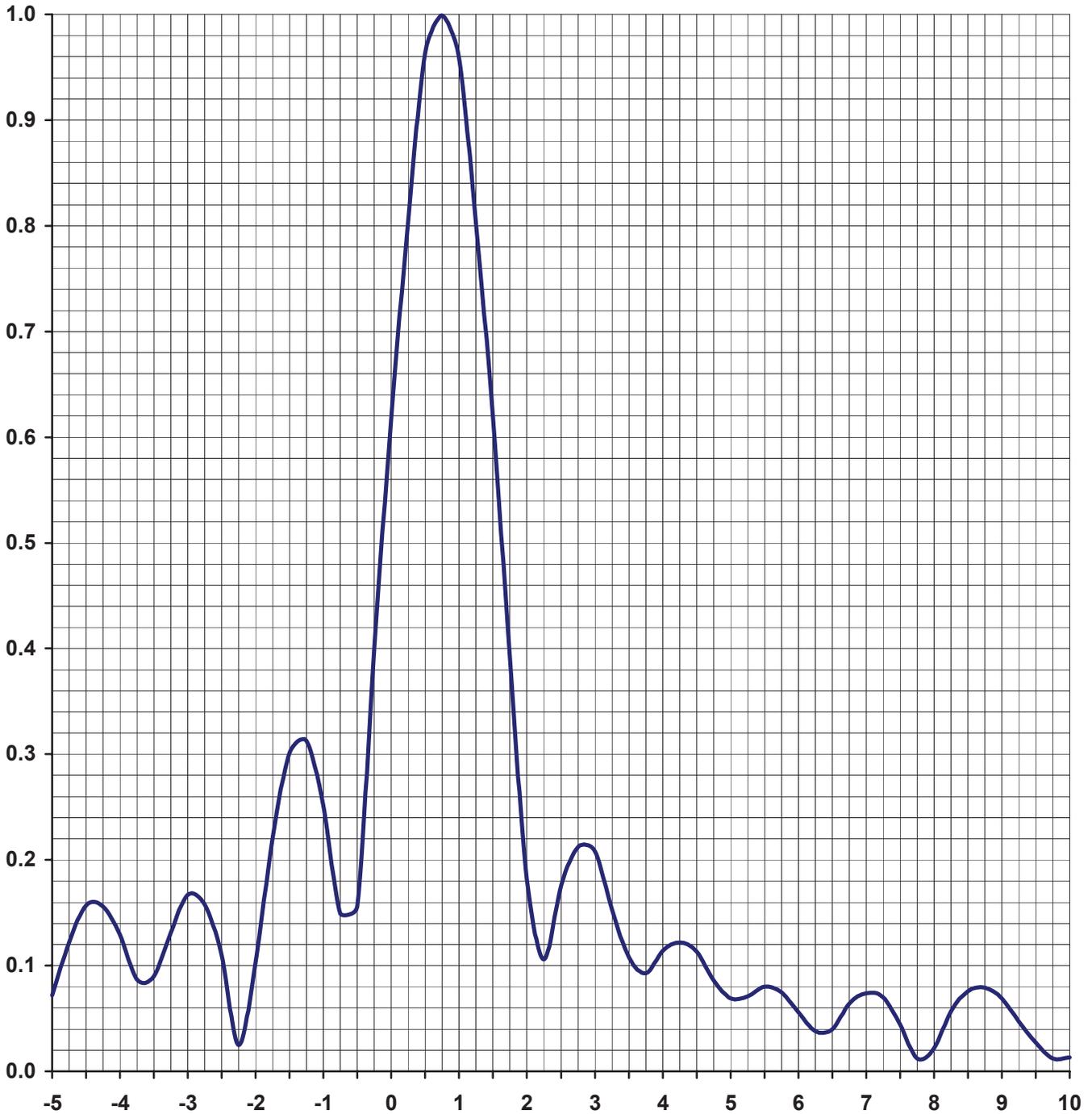
— — — — —  
 Predicted Noise Limited 39.95 dBu  
 F(50,90) Coverage Contour



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

### ELEVATION PATTERN

<b>TYPE:</b>	<b>ETU16H3H-CH15</b>	
<b>Directivity:</b>	<b>Numeric</b>	<b>dBd</b>
<b>Main Lobe:</b>	<b>29.24</b>	<b>14.66</b>
<b>Horizontal:</b>	<b>11.13</b>	<b>10.47</b>
<b>Beam Tilt:</b>	<b>0.75</b>	
<b>Polarization:</b>	<b>Horizontal</b>	
<b>Frequency:</b>	<b>15 (DTV)</b>	
<b>Location:</b>	<b>Omaha, NE</b>	



**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
KPTM, Omaha, Nebraska  
CHANNEL 26, 1000 kW ERP, 475 m HAAT  
October, 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>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KVSS	FM	274	102.7	H & V	385.1	46.100	1.000	0.02077	0.200	10.39%
KBLI-LD	DT	31	575	H & V	148	2.000	0.300	0.00055	0.383	0.14%
KAJS-LD	DT	32	581	H & V	148	15.000	0.300	0.00412	0.387	1.06%
KQLD-LD	DT	34	593	H & V	148	6.000	0.300	0.00165	0.395	0.42%
KXVO	DT	29	563	H	450.3	1000.000	0.300	0.01482	0.375	3.95%
KPTM	DT	26	545	H	450.3	1000.000	0.300	0.01482	0.363	4.08%
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>										<b>20.04%</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.*



## KPTM - OMAHA, NEBRASKA Longley-Rice Interference Analysis

tvstudy v2.2.3 (Dxtpx3)  
 Database: localhost, Study: KPTM-26 OMNI 1MW 171005, Model: Longley-Rice  
 Start: 2017.10.05 09:22:47

Study created: 2017.10.05 09:22:20

Study build station data: LMS TV 2017-10-01 (38)

Proposal: KPTM D26 DT APP OMAHA, NE  
 File number: KPTM-26 OMNI 1MW 171005  
 Facility ID: 51491  
 Station data: User record  
 Record ID: 1841  
 Country: U.S.  
 Zone: II

Search options:  
 Non-U.S. records included  
 Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLEDT20070625ABT	282.8 km
KDLV-TV	D26	DT	LIC	MITCHELL, SD	BLCDT20081016ADD	348.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D26  
 Latitude: 41 4 15.90 N (NAD83)  
 Longitude: 96 13 32.30 W  
 Height AMSL: 822.1 m  
 HAAT: 475.0 m  
 Peak ERP: 1000 kW  
 Antenna: Omnidirectional  
 Elev Pattn: Generic  
 Elec Tilt: 0.8

40.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1000 kW	450.9 m	113.2 km
45.0	1000	473.4	115.0
90.0	1000	494.3	116.5
135.0	1000	481.7	115.6
180.0	1000	467.3	114.5
225.0	1000	471.3	114.8
270.0	1000	492.5	116.3
315.0	1000	481.3	115.5

Database HAAT does not agree with computed HAAT  
 Database HAAT: 475 m Computed HAAT: 477 m

ERP exceeds maximum  
 ERP: 1000 kW ERP maximum: 580 kW

\*\*Proposal service area extends beyond baseline plus 1.0%  
 Proposal service area population is more than 95.0% of baseline

**Appendix B - Interference Analysis**  
**KPTM - Omaha, Nebraska**  
**Channel 26 - 1000 kW - Page 2**

Distance to Canadian border: 849.4 km

Distance to Mexican border: 1339.8 km

Conditions at FCC monitoring station: Grand Island NE  
 Bearing: 265.6 degrees Distance: 185.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
 Bearing: 265.3 degrees Distance: 765.8 km

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 BLEDT20070625ABT LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance	
	KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLEDT20070625ABT		
Undesireds:	KPTM	D26	DT	BL	OMAHA, NE	DTVBL51491	282.7 km	
	KPTM	D26	DT	APP	OMAHA, NE	KPTM-26 OMNI 1MW 17100	282.8	
	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	335.0	
	KHGI-CD	D27	DC	APP	NORTH PLATTE, NE	BPDTA20130329ABS	139.2	
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX	
	24324.3	120,338	24260.2	120,277	24216.0	120,251	24135.9 120,179	0.33 0.06
Undesired			Total IX		Unique IX, before		Unique IX, after	
KPTM D26 DT BL		44.2	26	36.1	17			
KPTM D26 DT APP		124.3	98			116.3	89	
KSAS-TV D26 DT LIC		8.1	9	0.0	0	0.0	0	

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 Interference to BLEDT20070625ABT LIC, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance	
	KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLEDT20070625ABT		
Undesireds:	KPTM	D26	DT	BL	OMAHA, NE	DTVBL51491	282.7 km	
	KPTM	D26	DT	APP	OMAHA, NE	KPTM-26 OMNI 1MW 17100	282.8	
	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	335.0	
	KHGI-CD	D27	DC	LIC	NORTH PLATTE, NE	BLDTL20100120AAQ	139.2	
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX	
	24324.3	120,338	24260.2	120,277	24208.0	120,251	24127.9 120,179	0.33 0.06
Undesired			Total IX		Unique IX, before		Unique IX, after	
KPTM D26 DT BL		44.2	26	36.1	17			
KPTM D26 DT APP		124.3	98			116.3	89	
KSAS-TV D26 DT LIC		8.1	9	0.0	0	0.0	0	
KHGI-CD D27 DC LIC		8.0	0	8.0	0	8.0	0	

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 Interference to BLCDT20081016ADD LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDLV-TV	D26	DT	LIC	MITCHELL, SD	BLCDT20081016ADD	
Undesireds:	KPTM	D26	DT	BL	OMAHA, NE	DTVBL51491	348.5 km
	KPTM	D26	DT	APP	OMAHA, NE	KPTM-26 OMNI 1MW 17100	348.5
	KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLEDT20070625ABT	384.9
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX

**Appendix B - Interference Analysis**  
**KPTM - Omaha, Nebraska**  
**Channel 26 - 1000 kW - Page 3**

31687.4	96,873	31180.8	96,620	31128.9	96,555	31057.1	96,454	0.23	0.10
Undesired			Total IX	Unique IX, before		Unique IX, after			
KPTM D26 DT BL		51.9	65	35.9	56				
KPTM D26 DT APP		123.7	166			107.7	157		
KLNE-TV D26 DT LIC		16.0	9	0.0	0	0.0	0		

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Interference to proposal, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPTM	D26	DT	APP	OMAHA, NE	KPTM-26 OMNI 1MW 17100	
Undesireds:	KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLEDT20070625ABT	282.8 km
	KDLV-TV	D26	DT	LIC	MITCHELL, SD	BLCDT20081016ADD	348.5
	Service area		Terrain-limited		IX-free	Percent IX	
41665.0	1,414,998	41235.4	1,414,014	41038.0	1,413,685	0.48 0.02	
Undesired			Total IX		Unique IX	Prcnt Unique IX	
KLNE-TV D26 DT LIC		129.3	211	88.8	125	0.22 0.01	
KDLV-TV D26 DT LIC		108.7	204	68.2	118	0.17 0.01	