

ENGINEERING STATEMENT
IN SUPPORT OF AN APPLICATION
FOR CONSTRUCTION PERMIT
FOR THE PROPOSED DIGITAL TV OPERATION OF
KWNB-DT, HAYES CENTER, NEBRASKA
FEBRUARY 2008

This engineering statement has been prepared on behalf of Pappas Telecasting of Central Nebraska, L.P., (“Pappas”), licensee of television station KWNB-TV, Hayes Center, Nebraska in support of an application for construction permit for the station’s proposed digital television (DTV) operation on Channel 6.

At present KWNB-TV, Facility ID Number 21162, is authorized to operate its analog TV facilities on Channel 6 (82-88 MHz) with 100 kW effective radiated power (ERP) and 221 meters antenna height above average terrain (HAAT) using a non-directional TV antenna. In MB Docket 08-193, RM-11489, the Commission has substituted TV Channel 6 for its assigned Channel 18 at Hayes Center, Nebraska. The allotted Channel 6 DTV operation is with 3 kW ERP and 221 meters HAAT from the station’s licensed site. Pappas is proposing to operate on Channel 6 with 11.9 kW ERP and 221 meters HAAT.

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

Name of the Licensee:	Pappas Telecasting of Central Nebraska, L.P.
Station Location:	NE-Hayes Center
Channel:	6
Hours of Operation:	Unlimited
Transmitter:	Type Accepted
Antenna Type:	GE, TY-60-F
Beam Tilt:	None

Antenna Coordinates:	North Latitude:	40 deg	37 min	32 sec
	West Longitude:	101 deg	01 min	45 sec

Transmitter output power: As required to achieve authorized ERP

Maximum effective radiated power (Average):	11.9 kW
	10.76 dBk

Elevation of site above mean sea level:	995.0 meters
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Overall height of the tower above ground:	178.8 meters
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Height of radiation center above ground (meters):	165 meters
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Height of radiation center above mean sea level (meters):	1160 meters
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Height of radiation center above average terrain (meters):	221 meters
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Antenna Structure Registration No.:	1026527
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Response to questions listed on the FCC Form 301, Section III-D-DTV

Engineering

Question 1. (a)

KWNB-TV is proposing to operate its post-transition facilities which are slightly different than allotted in MB Docket No. 08-193, RM-11496. The minor difference is an operation with higher ERP of 11.9 kW which would result in extension of noise limited contour (28 dBu) beyond that established by Report and Order, MB Docket No. 08-193, RM-11496.

Question 1. (d)

An interference study conducted (see attached Table I) according to the FCC OET Bulletin 69 indicates the proposed KWNB-DT operation on Channel 6 would not cause any interference to other DTV stations exceeding the Commission's guidelines.

Question 1. (e)

The proposed DTV operation on Channel 6 would serve 91,421 people within the noise limited service area as compared to 77,000 listed in MB Docket No. 08-193, RM-11496. As such, the proposed DTV Channel 6 operation would 14,421 serve more people than listed in MB Docket No. 08-193, RM-11496.

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 KWNB-DT 35 dBu contour will encompass the allotted principal community of Hayes Center, Nebraska (see Figure 1).

Question 4.

The proposed KWNB-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.

KWNB-DT would be operating from the existing tower which is registered (ASR No. 1026527) 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/cdbb/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 02-02-2009 Time: 14:42:39

Record Selected for Analysis

KWNB-TV USERRECORD-01 HAYES CENTER NE US
 Channel 06 ERP 11.9 kW HAAT 221. m RCAMSL 01160 m
 Latitude 040-37-32 Longitude 0101-01-45
 Status APP Zone 2 Border
 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)	28.0 dBu F(50,90) (km)
0.0	11.900	220.6	101.6
45.0	11.900	231.8	102.7
90.0	11.900	242.0	103.8
135.0	11.900	251.7	104.7
180.0	11.900	237.6	103.3
225.0	11.900	214.9	101.0
270.0	11.900	190.8	98.5
315.0	11.900	180.7	97.4

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KWNB-TV 06 HAYES CENTER NE USERRECORD01

and station

SHORT TO: KWNB-DR 06 HAYES CENTER NE BPRM 20080801BDB
 040-37-32 0101-01-45
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

SHORT TO: KWNB-TV 06 HAYES CENTER NE DTVPLN DTVP0039
 40 -37-32 101 -01-45
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

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SHORT TO: KWNB-TV 06 HAYES CENTER NE BLCT 20000828AHT
 040-37-32 0101-01-45
 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 beyond the Canadian coordination distance
 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
06	KWNB-TV	HAYES CENTER NE	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	KHAS-TV	HASTINGS NE	223.1	PLN	DTVPLN	-DTVP0024
05	KHAS-TV	HASTINGS NE	223.1	CP	BPCDT	-20080603ABR
06	KBSD-TV	ENSIGN KS	336.9	PLN	DTVPLN	-DTVP0037
06	KBSD-TV	ENSIGN KS	336.9	CP MOD	BMPCDT	-20080313ABP

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Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	KHAS-TV	HASTINGS NE	DTVPLN	-DTVP0024

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WOI-TV	AMES IA	419.5	PLN	DTVPLN	-DTVP0018
05	WOI-TV	AMES IA	418.9	CP	BPCDT	-20080620ABC
06	KWNB-DR	HAYES CENTER NE	223.1	APP	BPRM	-20080801BDB
06	KWNB-TV	HAYES CENTER NE	223.1	PLN	DTVPLN	-DTVP0039
06	KWNB-TV	HAYES CENTER NE	223.1	APP	USERRECORD-01	

Proposed station is beyond the site to
 nearest cell evaluation distance

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	KHAS-TV	HASTINGS NE	BPCDT	-20080603ABR

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WOI-TV	AMES IA	419.5	PLN	DTVPLN	-DTVP0018

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05	WOI-TV	AMES IA	418.9	CP	BPCDT	-20080620ABC
06	KWNB-DR	HAYES CENTER NE	223.1	APP	BPRM	-20080801BDB
06	KWNB-TV	HAYES CENTER NE	223.1	PLN	DTVPLN	-DTVP0039
06	KWNB-TV	HAYES CENTER NE	223.1	APP	USERRECORD-01	

Proposed station is beyond the site to
nearest cell evaluation distance

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Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
06	KBSD-TV	ENSIGN KS	DTVPLN	-DTVP0037

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
06	KWNB-DR	HAYES CENTER NE	336.9	APP	BPRM	-20080801BDB
06	KWNB-TV	HAYES CENTER NE	336.9	PLN	DTVPLN	-DTVP0039
06	KWNB-TV	HAYES CENTER NE	336.9	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 3
Before Analysis

Results for:	6A KS ENSIGN	DTVPLN	DTVP0037	PLN
HAAT	198.0 m, ATV ERP	20.0 kW		
		POPULATION	AREA (sq km)	
within Noise Limited Contour		155619	35515.1	
not affected by terrain losses		155603	35374.3	
lost to NTSC IX		0	0.0	
lost to additional IX by ATV		0	0.0	
lost to ATV IX only		0	0.0	
lost to all IX		0	0.0	

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for:	6A KS ENSIGN	DTVPLN	DTVP0037	PLN
HAAT	198.0 m, ATV ERP	20.0 kW		
		POPULATION	AREA (sq km)	
within Noise Limited Contour		155619	35515.1	
not affected by terrain losses		155603	35374.3	
lost to NTSC IX		0	0.0	
lost to additional IX by ATV		70	132.8	
lost to ATV IX only		70	132.8	
lost to all IX		70	132.8	

Potential Interfering Stations Included in above Scenario 1

6A NE HAYES CENTER	USERRECORD01	APP
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Percent new IX = 0.0450%

Worst case new IX 0.0450% Scenario 1

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Analysis of Interference to Affected Station 4

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Analysis of current record

Channel	Call	City/State	Application Ref. No.
06	KBSD-TV	ENSIGN KS	BMPCDT -20080313ABP

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
06	KWNB-DR	HAYES CENTER NE	336.9	APP	BPRM -20080801BDB
06	KWNB-TV	HAYES CENTER NE	336.9	PLN	DTVPLN -DTVP0039
06	KWNB-TV	HAYES CENTER NE	336.9	APP	USERRECORD-01

Total scenarios = 1

Result key: 2
 Scenario 1 Affected station 4
 Before Analysis

Results for: 6A KS ENSIGN BMPCDT 20080313ABP CP

HAAT 217.0 m, ATV ERP 20.0 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	155619	35515.1
not affected by terrain losses	155603	35374.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 6A KS ENSIGN BMPCDT 20080313ABP CP

HAAT 217.0 m, ATV ERP 20.0 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	155619	35515.1
not affected by terrain losses	155603	35374.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	70	132.8
lost to ATV IX only	70	132.8
lost to all IX	70	132.8

Potential Interfering Stations Included in above Scenario 1

6A NE HAYES CENTER USERRECORD01 APP

Percent new IX = 0.0450%

Worst case new IX 0.0450% Scenario 1

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
06	KWNB-TV	HAYES CENTER NE	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
05	KHAS-TV	HASTINGS NE	223.1	PLN	DTVPLN -DTVP0024
05	KHAS-TV	HASTINGS NE	223.1	CP	BPCDT -20080603ABR
06	KBSD-TV	ENSIGN KS	336.9	PLN	DTVPLN -DTVP0037
06	KBSD-TV	ENSIGN KS	336.9	CP MOD	BMPCDT -20080313ABP

Total scenarios = 2

Result key: 3
 Scenario 1 Affected station 5
 Before Analysis

Results for: 6A NE HAYES CENTER USERRECORD01 APP

HAAT 221.0 m, ATV ERP 11.9 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	92971	32482.7
not affected by terrain losses	92885	32402.7
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1464	247.9
lost to ATV IX only	1464	247.9
lost to all IX	1464	247.9

Potential Interfering Stations Included in above Scenario 1

6A KS ENSIGN DTVPLN DTVP0037 PLN

Result key: 4
 Scenario 2 Affected station 5
 Before Analysis

Results for: 6A NE HAYES CENTER USERRECORD01 APP

HAAT 221.0 m, ATV ERP 11.9 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	92971	32482.7
not affected by terrain losses	92885	32402.7
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1464	247.9
lost to ATV IX only	1464	247.9
lost to all IX	1464	247.9

Potential Interfering Stations Included in above Scenario 2

6A KS ENSIGN BMPCDT 20080313ABP CP

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ENVIRONMENTAL PROTECTION ACT

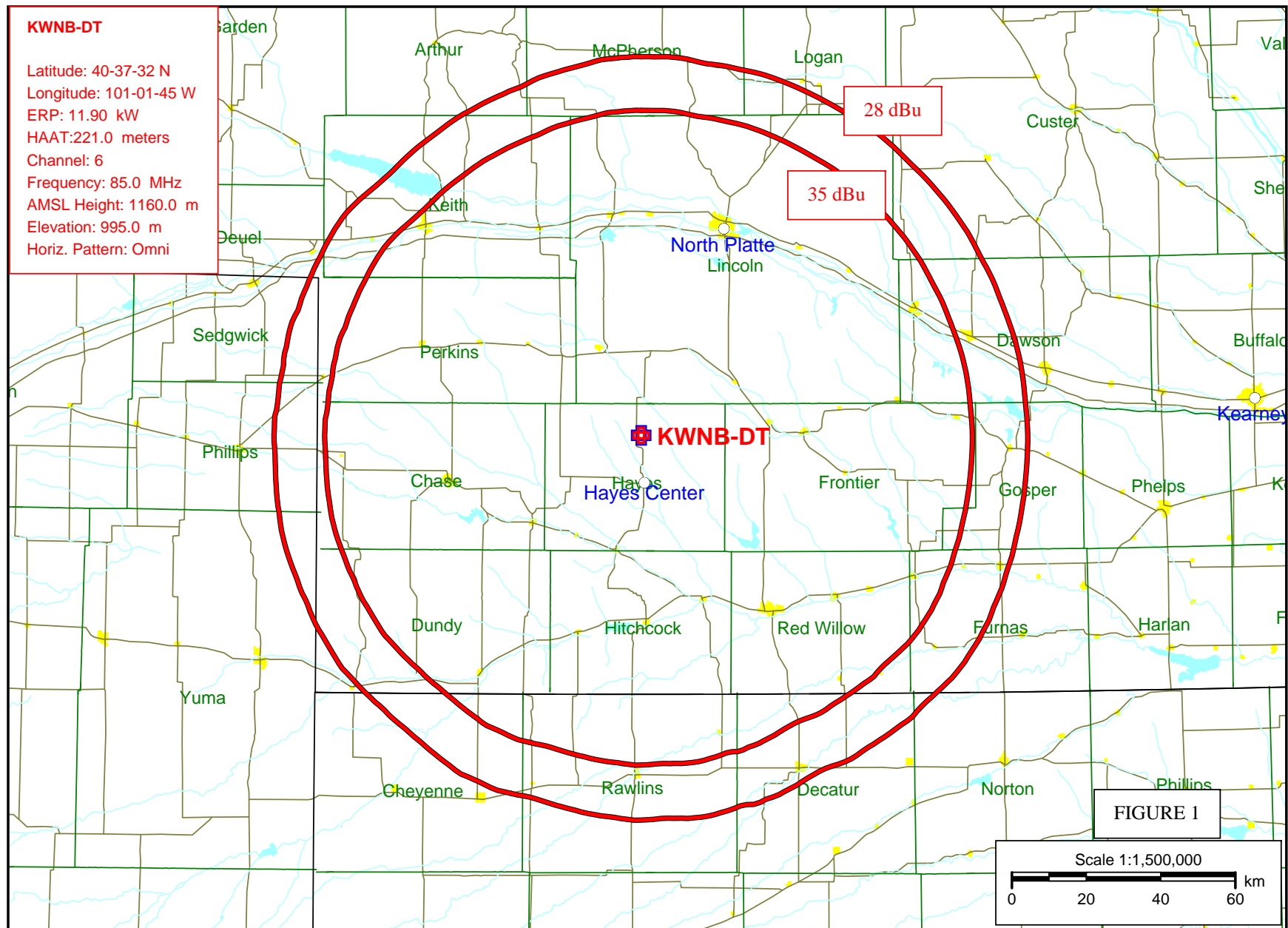
Since KWNB-DT will be using its currently licensed tower (ASR No. 1026527), for the DTV operation the environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

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 11.9 kW and a radiation center of 165 meters above ground level, the proposed Channel 6 DTV operation would have less than 4 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 Channel 6 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 KWNB-DT tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, KWNB-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 CH. 6 DTV OPERATION OF KWNB-DT, HAYES CENTER, NEBRASKA