

ENGINEERING STATEMENT
IN SUPPORT OF A
SPECIAL TEMPORARY AUTHORIZATION (STA)
FOR THE DIGITAL TV OPERATION OF
KSNB-DT, SUPERIOR, NEBRASKA
JANUARY 2009

This engineering statement has been prepared on behalf of Colins Broadcasting Corporation (“Colins”), licensee of television station KSNB-TV, Superior, Nebraska in support of an application for a Special Temporary Authorization (STA) for the station’s digital TV (DTV) operation on Channel 4.

At present KSNB-TV, Facility ID Number 21161, is authorized to operate its analog TV facilities on Channel 4 (66-72 MHz) with 100 kW effective radiated power (ERP) and 338 meters antenna height above average terrain (HAAT) using a non-directional TV antenna. In MB Docket No. 08-209, RM-11496, the Commission has substituted KSNB-TV’s analog TV Channel 4 for its assigned DTV Channel 34 at Superior, Nebraska. The proposed DTV Channel 4 allotment is for an operation with 4.4 kW ERP and 338 meters HAAT from the licensed antenna site. Colins is requesting a Special Temporary Authorization (STA) to operate KSNB-DT on Channel 4 with 4.4 kW ERP and 338 meters HAAT using a non-directional TV antenna.

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

Name of the Licensee:	Colins Broadcasting Corporation
Station Location:	NE-Superior
Channel:	4
Hours of Operation:	Unlimited
Transmitter:	Type Accepted
Antenna Type:	GE, TY-60-F
Beam Tilt:	None

Antenna Coordinates:	North Latitude:	40 deg	05 min	15 sec
	West Longitude:	97 deg	55 min	12 sec

Transmitter output power: As required to achieve authorized ERP

Maximum effective radiated power (Average):	4.4 kW
	6.43 dBk

Elevation of site above mean sea level:	528.3 meters
---	--------------

Overall height of the tower above ground:	331.0 meters
---	--------------

Height of radiation center above ground (meters):	317.7 meters
---	--------------

Height of radiation center above mean sea level (meters):	846 meters
---	------------

Height of radiation center above average terrain (meters):	338 meters
--	------------

Antenna Structure Registration No.:	1026525
-------------------------------------	---------

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

Engineering

Question 1. (a)

KSNB-DT is seeking a Special Temporary Authorization (STA) to operate its DTV facilities as allotted in MB Docket No. 08-209, RM-11496. The noise limited contour (28 dBu) will not extend beyond that established by Report and Order, MB Docket 08-209, RM-11496.

Question 1. (d)

An interference study conducted (see attached Table I) according to the FCC OET Bulletin 69 indicates the proposed KSNB-DT operation on Channel 4 would not cause any interference to other DTV stations exceeding the Commission's guidelines.

Question 1. (e)

The proposed DTV operation on Channel 4 would serve at least 184,000 people within the noise limited service area as listed Report and Order, MB Docket 08-209, 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 KSNB-DT 35 dBu contour will encompass the allotted principal community of Superior, Nebraska (see Figure 1).

Question 4.

The proposed KSNB-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.

KSNB-DT would be operating from the existing tower which is registered (ASR No. 1026525) 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: 01-28-2009 Time: 14:29:40

Record Selected for Analysis

KSNB-TV USERRECORD-01 SUPERIOR NE US
 Channel 04 ERP 4.4 kW HAAT 338. m RCAMSL 00846 m
 Latitude 040-05-15 Longitude 0097-55-12
 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	4.400	334.6	101.1
45.0	4.400	338.7	101.2
90.0	4.400	348.0	101.5
135.0	4.400	340.8	101.3
180.0	4.400	361.2	102.0
225.0	4.400	354.8	101.7
270.0	4.400	315.4	100.2
315.0	4.400	313.1	100.1

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KSNB-TV 04 SUPERIOR NE USERRECORD01

and station

SHORT TO: KSNB-TV 04 SUPERIOR NE BLCT 20000914AAZ
 040-05-15 0097-55-12
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

SHORT TO: KSNB-DR 04 SUPERIOR NE BPRM 20080801BCW
 040-05-15 0097-55-12
 Req. separation 273.6 Actual separation 0.0 Short 273.6 km

KHANNA & GUILL, Inc. – Consulting Engineers

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
04	KSNB-TV	SUPERIOR NE	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
------	------	------------	----------	--------	----------------------

%%%

Analysis of Interference to Affected Station 1

Channel	Call	City/State	Application Ref. No.
04	KSNB-TV	SUPERIOR NE	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
------	------	------------	----------	--------	----------------------

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 1
Before Analysis

Results for:	4A NE SUPERIOR	USERRECORD01	APP
HAAT	338.0 m, ATV ERP	4.4 kW	
	POPULATION	AREA (sq km)	
within Noise Limited Contour	191976	32132.5	
not affected by terrain losses	190241	31979.4	
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

#####

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

ENVIRONMENTAL PROTECTION ACT

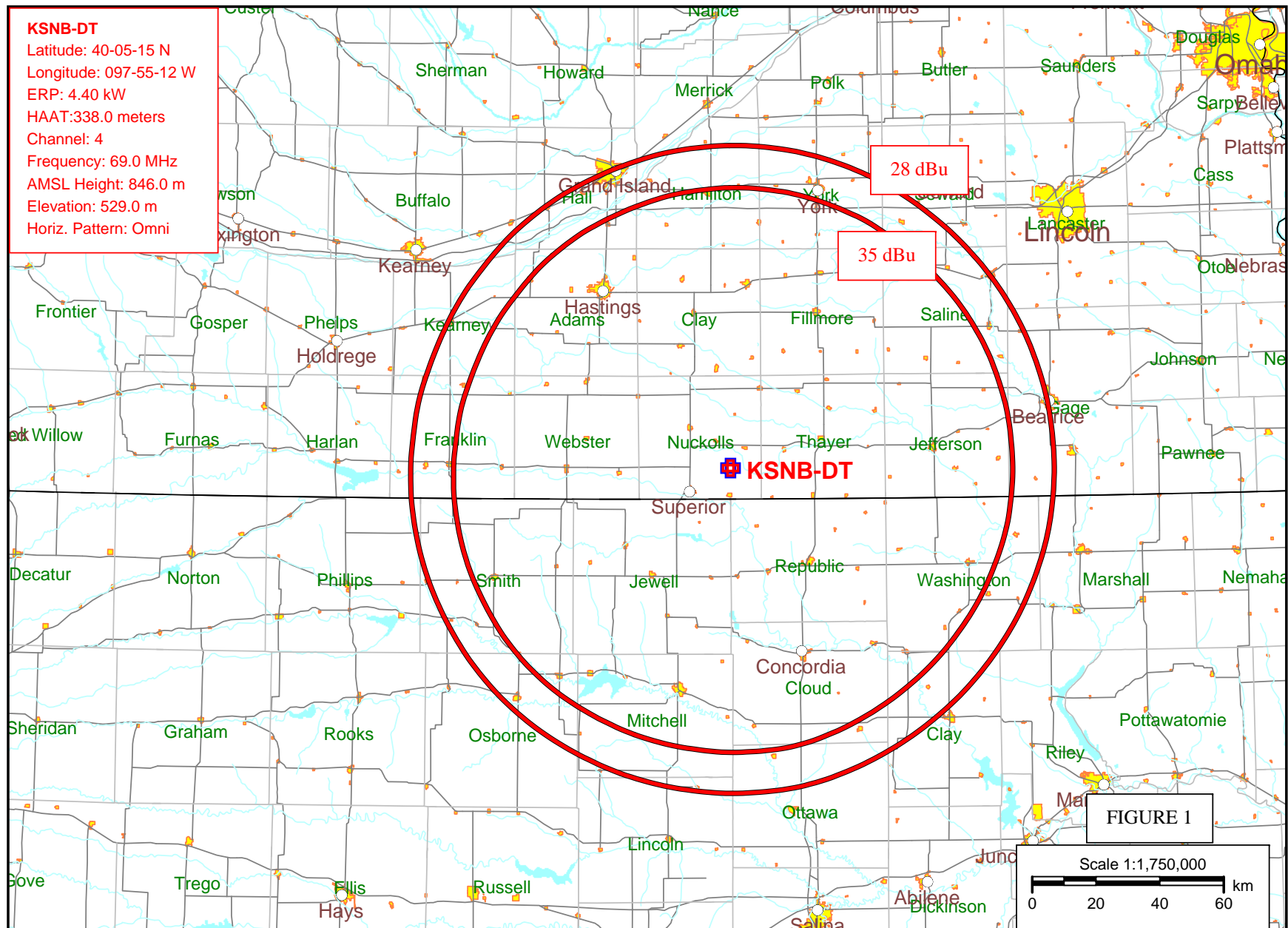
Since KSNB-DT will be using its currently licensed tower (ASR No. 1026525), for its STA operation the environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

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 4.4 kW and a radiation center of 317.7 meters above ground level, the proposed Channel 4 DTV operation would have less than 1 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 4 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 KSNB-DT tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, KSNB-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. 4 DTV OPERATION OF KSNB-DT, SUPERIOR, NEBRASKA