EXHIBIT E

ENGINEERING STATEMENT
APPLICATION FOR DISPLACEMENT
OF AN EXISTING LPTV TELEVISION TRANSLATOR
FOR STATION K45JD-D LICENSED TO
INTERNATIONAL FALLS, MINNESOTA
FROM CHANNEL 45 TO CHANNEL 20
CHANNEL 20 .027 KW 465 METERS RC/AMSL

APRIL 2018

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Introduction

This engineering statement supports the displacement application for a construction permit filed on behalf of KQDS Acquisition Corp., licensee of television translator station K45JD, licensed to International Falls, Minnesota (Facility ID: 129439). K45JD is displaced from its currently licensed Channel 45 to the proposed Channel 20 due to the 600MHz Incentive Auction and the recent notification by T-Mobile. T-Mobile has advised that it requires the station to terminate its operation by September 10, 2018. This displacement application has a companion special temporary authority ("STA") application that accompanies this request.

K45JD's displacement application due to the Incentive Auction requests a construction permit for digital translator television facilities for Channel 20 with an effective radiated power ("ERP") of .027 kW directional at a radiation center above mean sea level ("RCAMSL") of 465 meters. The K45JD channel modification is located at the same transmitter site and specifying the same radiation center. No other changes are proposed.

Tower Location

The geographic coordinates of the proposed transmitter site are as follows:

North Latitude: 48° 34' 23"

West Longitude: 93° 19' 21"

NAD-27

The antenna registration number is 1023497. The application will specify the ASRN NAD-83 coordinates which are:

North Latitude: 48° 34' 22.8"

West Longitude: 93° 19' 21.5"

NAD-83

Elevation Data

Antenna Location Site Elevation Above Mean Sea Level	373.4 meters (1225 feet)
Height of Radiation Center Above Ground Level	91.6 meters (300.5 feet)
Height of Radiation Center Above Mean Sea Level	465 meters (1525.6 feet)
Overall Tower Height Above Ground Level	95.1 meters (312 feet)

Equipment Data

Transmitter:	Type-approved
Transmission Line:	91.4 meters (300 feet) of Andrew, Type HJ7-50A, 1-5/8", 50 ohm or equivalent with 72.41% efficiency, 0.481 dB/100 feet loss
Antenna:	Scala, 4x4 K723147 with maximum gain of 11.12 dB and no electrical beam tilt

Power Data

Transmitter output:	0.0029 kW	-25.375 dBk
Transmission line efficiency/loss:	72.41%	1.443 dB
Input power to the antenna:	0.0021 kW	-26.777 dBk
Antenna gain:	12.95	11.12 dB
Effective Radiated Power:	.027 kW	-15.685 dBk
Emission Mask:	Simple	

Note: Conversion to dB may result in slight difference.

As indicated above, the transmitter with a typical output power (simple emission mask) of 2.9 Watts will deliver 2.1 Watts to the input of the antenna. The antenna having a maximum gain of 11.12 dBd and no electrical beam tilt will produce a maximum ERP of 27 Watts. A coverage map (Exhibit E-2) provides the normally protected contour of the proposed Channel 20 facility. A coverage map (Exhibit E-3) provides the normally protected contour of the proposed and licensed operations.

Other Broadcast Facilities

A brief analysis was completed to determine the presence of stations in the vicinity of the K45JD tower using the April 5th, 2018, data contained within the Commission's Consolidated Database System ("CDBS"). Within 500 meters of the proposed site, there are no authorized FM radio stations, no authorized DTV and NTSC television stations, and no other low-power analog television and three digital television translator stations aside from K45JD. There are no AM facilities within 3.2 km of the existing tower. Although no adverse technical affects are expected due to the proposed changes, the licensee will take measures to resolve any problems proven to be related to the changes proposed in this application.

Interference Analysis

A study of predicted interference caused by the proposed K45JD operation on Channel 20 digital operation has been performed using the TVStudy 2.2.4 evaluation program for which the source data has been posted by the Commission on its website at http://www.fcc.gov/oet/tvstudy. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using one-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 2010 census centroids, all studies are based upon data in the current LMS database update of the FCC's engineering database. A Longley-Rice study was performed with the proposed K45JD operating

on Channel 20 low-power digital facilities and all relevant stations listed in the FCC database as of April 5th, 2018. The study results and the included stations are listed in Table I.

Other Licensed and Broadcast Facilities

No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility. If required, the licensee will install filters or take other measures as necessary to resolve the problem.

FCC Rule, Section 1.1307

Pursuant to OET Bulletin No. 65 dated August 1997, these non-broadcast stations are all exempt from RFF evaluations for the following reason:

Station	Licensed Under Part No.	Reason for Exemption
	Part 74, Subpart F	Subpart F Exempt
	Part 90	Antenna Height > 10 meters
	Part 90	ERP < 1000 watts
	Part 74, Subpart F	Subpart F Exempt

The RFF contribution of each station will be calculated using the following formula:

$$S = \frac{33.4(F^2)\ \text{Total ERP}}{R^2}$$

where:

S = power density in µW/cm²
F = relative field factor
Total ERP = ERP Horizontal Polarization + ERP Vertical Polarization
R = RCAGL - 2 meters

ERP = RMS ERP in watts for DTV Stations

The proposed 27 Watt directional operation will utilize a Scala, Type 4x4 K723147 with maximum gain of 12.95 antenna described above with a center of radiation aboveground of 91.6 meters. The proposed antenna will be side-mounted on an existing tower with an overall height of 95.1 meters above ground.

The proposed operation of K45JD is less than 100 watts maximum ERP; therefore, based upon the current OET Bulletin No. 65, Edition 97-01 dated August 1997 and Supplement A, this proposal is exempt from demonstrating compliance with the FCC radiofrequency field ("RFF") guidelines under Part 74, Subpart G, and the RFF element of Section 1.1307 of the FCC Rules.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on or near the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Environmental Assessment

An environmental assessment (“EA”) is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the licensee indicates:

(a)(1) The existing tower is not located in an officially designated wilderness area.

(a)(2) The existing tower is not located in an officially designated wildlife preserve.

(a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.

(a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.

(a)(4) The proposed facilities located on a tower which was built prior to the

adoption of WT Docket No. 03-128 and is grandfathered and has not affected any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.

(a)(5) The existing tower is not located near any known Indian religious sites.

(a)(6) The existing tower is not located in a flood plain.

(a)(7) The installation of the DTV facilities on an existing tower will not involve a significant change in surface features of the ground in the vicinity of the tower.

(a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.

(b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

EXHIBIT E – 1

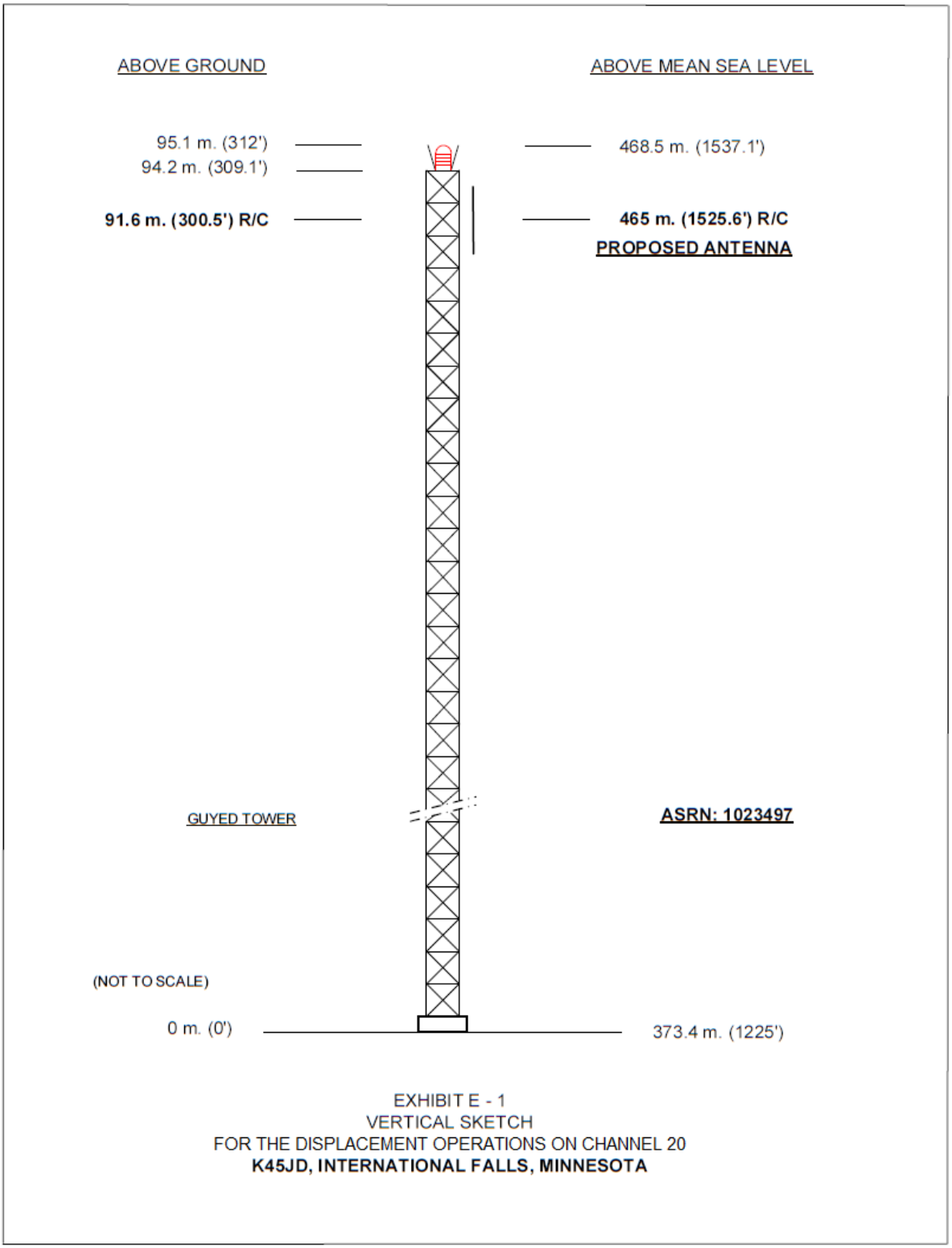
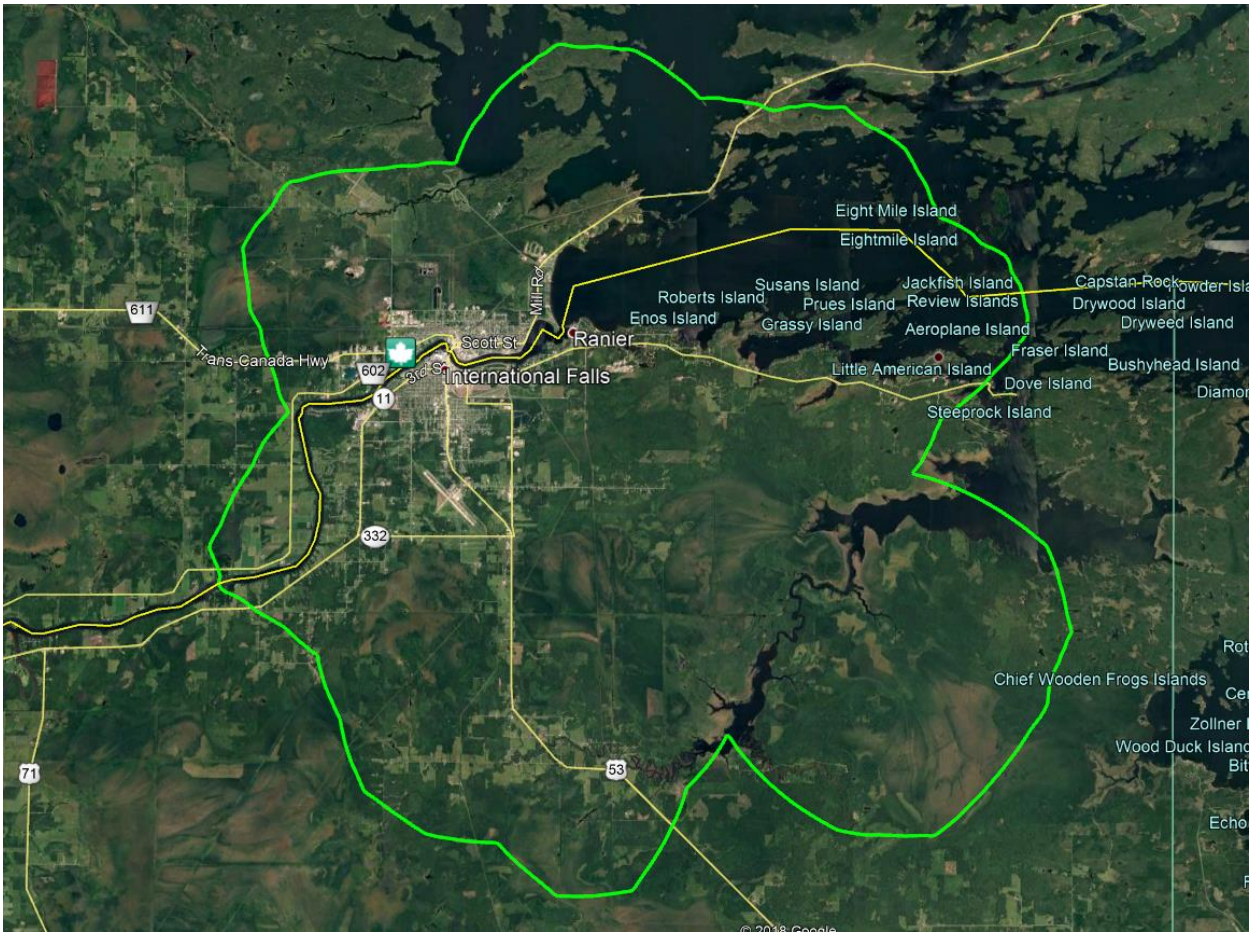


EXHIBIT E - 1
VERTICAL SKETCH
FOR THE DISPLACEMENT OPERATIONS ON CHANNEL 20
K45JD, INTERNATIONAL FALLS, MINNESOTA

EXHIBIT E2 – MAP SHOWING THE NOMALLY PROTECTED CONTOUR OF THE PROPOSED CHANNEL 20 FACILITY



CREATED USING TV STUDY .KML OUTPUT FILE

Map Scale |← 3.5mi. →|

APRIL 2018

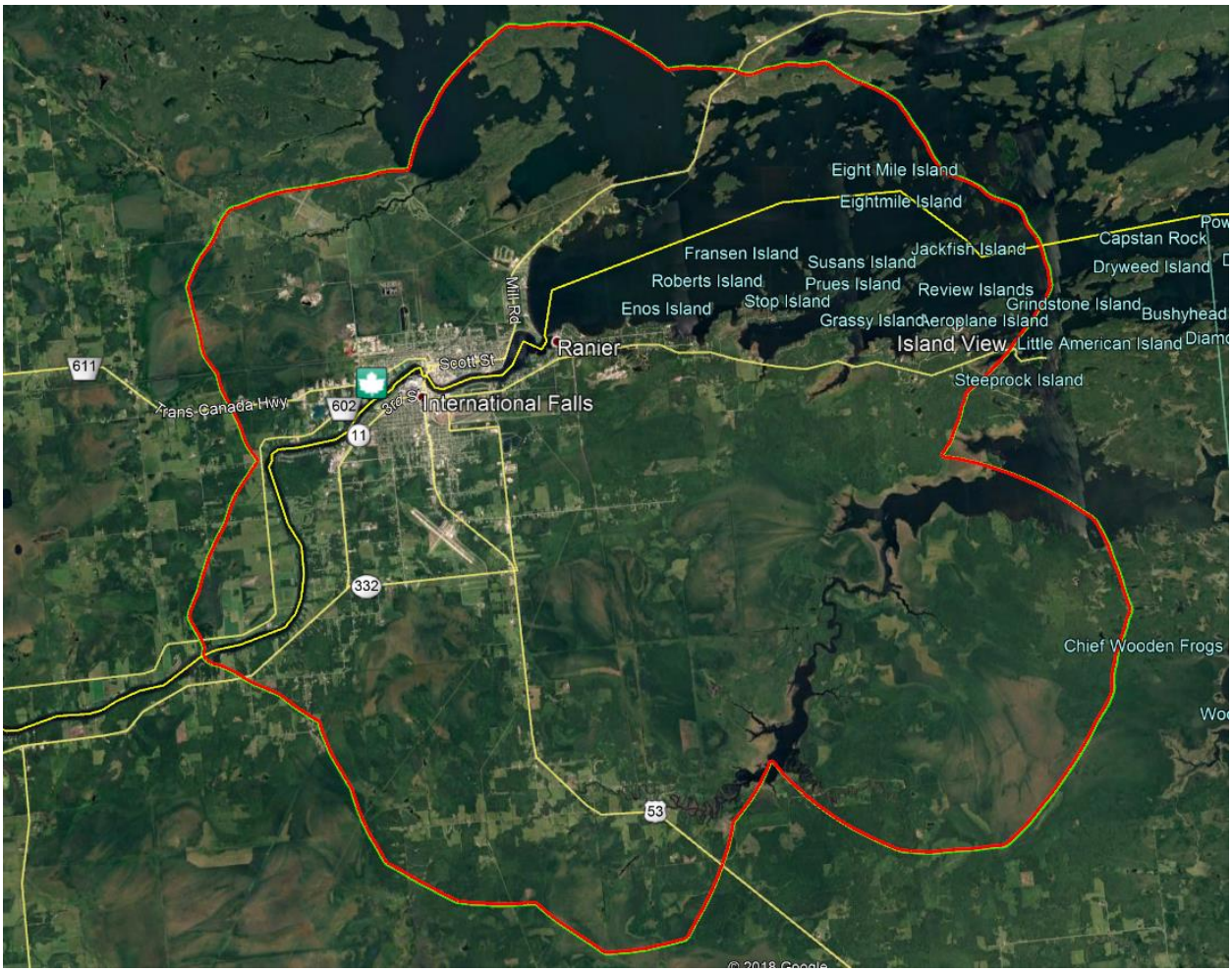
FOR THE PROPOSED DISPLACEMENT OPERATION OF

K45JD-D, INTERNATIONAL FALLS, MINNESOTA

CHANNEL 20 - .054 kW ERP 465 METERS RC/AMSL

49.4 dBu F(50,90)

EXHIBIT E3 - COMPARISON OF PROPOSED CH20 49.4 dBu F(50,90) AND LICENSED CHANNEL 45 51 dBu F(50,90) NOISE-LIMITED CONTOUR



Green Contour = Proposed Channel 20 49.4 dBu F(50, 90)

Map Scale |← 3.5mi. →|

Red Contour = Current License Channel 45 51 dBu F(50, 90)

CREATED USING TV STUDY .KML OUTPUT FILE

APRIL 2018

FOR THE PROPOSED DISPLACEMENT OPERATION OF

K45JD-D, INTERNATIONAL FALLS, MINNESOTA

CHANNEL 20 .027 kW ERP 465 METERS RC/AMSL

49.4 dBu F(50,90)

TABLE I

tvstudy v2.2.4 (Z2Qqz3)

Database: localhost, Study: BLANK0000016142 (K45JD-D on 20), Model: Longley-Rice

Start: 2018.04.05 11:06:27

Study created: 2018.04.05 11:06:27

Study build station data: LMS TV 2018-04-05 (12)

Proposal: K45JD-D D20 (D45-) LD LIC INTERNATIONAL FALLS, MN

File number: BLANK0000016142

Facility ID: 129439

Station data: LMS TV 2018-04-05 (12)

Record ID: 25076f91571f5d140157b8bad9b638c0

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Protect baseline records from LPTV

Search options:

Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc Status	City, State	File Number	Distance
No	KBJR-TV	D19	DT LIC	SUPERIOR, WI	BLANK0000006392	217.9 km
No	K51LN-D	D20	LD APP	RED LAKE, MN	BLANK0000049609	150.8
No	K20KW-D	D20	LD CP	SAINT CLOUD, MN	BLANK0000013930	340.9

No	NEW	D20	LD APP	CASSELTON, ND	BNPDTL20100505ALC	349.2
No	K20LE-D	D20	LD CP	GRAND FORKS, ND	BNPDTL20100505AJT	290.2
No	K21KY-D	D21	LD LIC	BIGFORK/MARCELL, MN	BLDTT20111107ALH	105.7
No	CH3075	D20	DC LIC	SPRUCE SANDS, MB	BLANKCANLP326	360.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20-

Mask: Simple

Latitude: 48 34 22.80 N (NAD83)

Longitude: 93 19 21.50 W

Height AMSL: 465.0 m

HAAT: 0.0 m

Peak ERP: 0.027 kW

Antenna: (replication) 0.0 deg

Elev Pattrn: Generic

49.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.017 kW	126.1 m	13.5 km
45.0	0.015	126.1	13.1
90.0	0.003	124.1	8.9
135.0	0.027	121.4	14.9
180.0	0.017	119.9	13.1
225.0	0.015	117.3	12.6
270.0	0.014	112.5	12.2
315.0	0.019	120.9	13.6

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 121 m

**Proposal 24.36 dBu contour crosses Canadian border, coordination required

Distance to Canadian border: 4.9 km

Distance to Mexican border: 2168.6 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 136.5 degrees Distance: 875.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 229.6 degrees Distance: 1327.7 km

No land mobile station failures found

Study cell size: 1.00 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%

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K45JD-D	D20-	LD	LIC	INTERNATIONAL FALLS, MN	BLANK0000016142	

Service area		Terrain-limited		IX-free		Percent IX		
370.8	9,615	370.8	9,615	370.8	9,615	0.00	0.00	
142.9	8,841	142.9	8,841	142.9	8,841	0.00	0.00	(in Canada)