

# T Z SAWYER TECHNICAL CONSULTANTS

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DIGITAL LPTV FACILITY  
MINOR CHANGE APPLICATION  
K16NY (WAS K44KV)  
FCC FACILITY ID: 185943  
ELK POINT, SD

## ENGINEERING NARRATIVE

### Minor Change Application:

K16NY, seeks to modify its existing construction permit to specific a new tower site and antenna system as well as its maximum effective radiated power (ERP). The proposed antenna is a ATC-BCE-48M-VO-16, a sightly directional antenna. A full-service filter mask is to be employed. The facility requested is not contingent upon a grant or channel move of any other known facility at the time of filing.

### Modification Compliance:

Pursuant to 47 CFR §74.787(b) the instant application is considered a “minor” change because;

- There is no change in transmitting antenna location such that the protected service contour resulting from the change does not overlap some portion of the protected service contour of the authorized facilities of the existing station as illustrated in Figure 1, Present & Proposed Service Contours.
- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station’s antenna location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING	42-46-55.40 N	096-46-01.60 W	44.52	27.66
PROPOSED	42-28-21.00 N	096-25-21.00 W		

### FCC Tower Registration (ASR) - FAA Notification:

The proposed mounting structure is a 151.2 meter AGL guyed existing communications tower and has been issued an FCC ASR number of 1052723. No changes in the supporting structure is required that would require notification to the FAA or ASR modification.

### Antenna Elevations:

The center of radiation of the proposed antenna is 140.2 meters AGL, 471.5 meters AMSL. The ground elevation at the site is 331.3 meters.

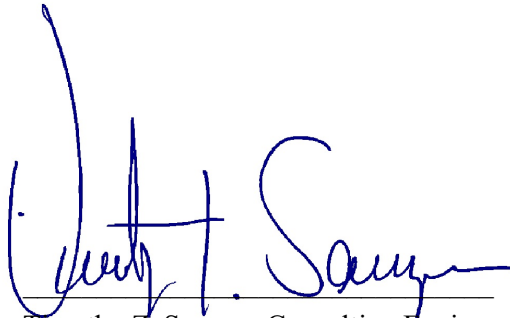
FCC TVStudy Results:

The results of a interference study of the proposal using the FCC TVStudy program (Version 2.2.5), shows that no prohibitive interference will occur from the proposal. A copy of the summary report has been included in this application. The applicant accepts any incoming interference that is predicted to exist to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted.

Environmental Evaluation Statement:

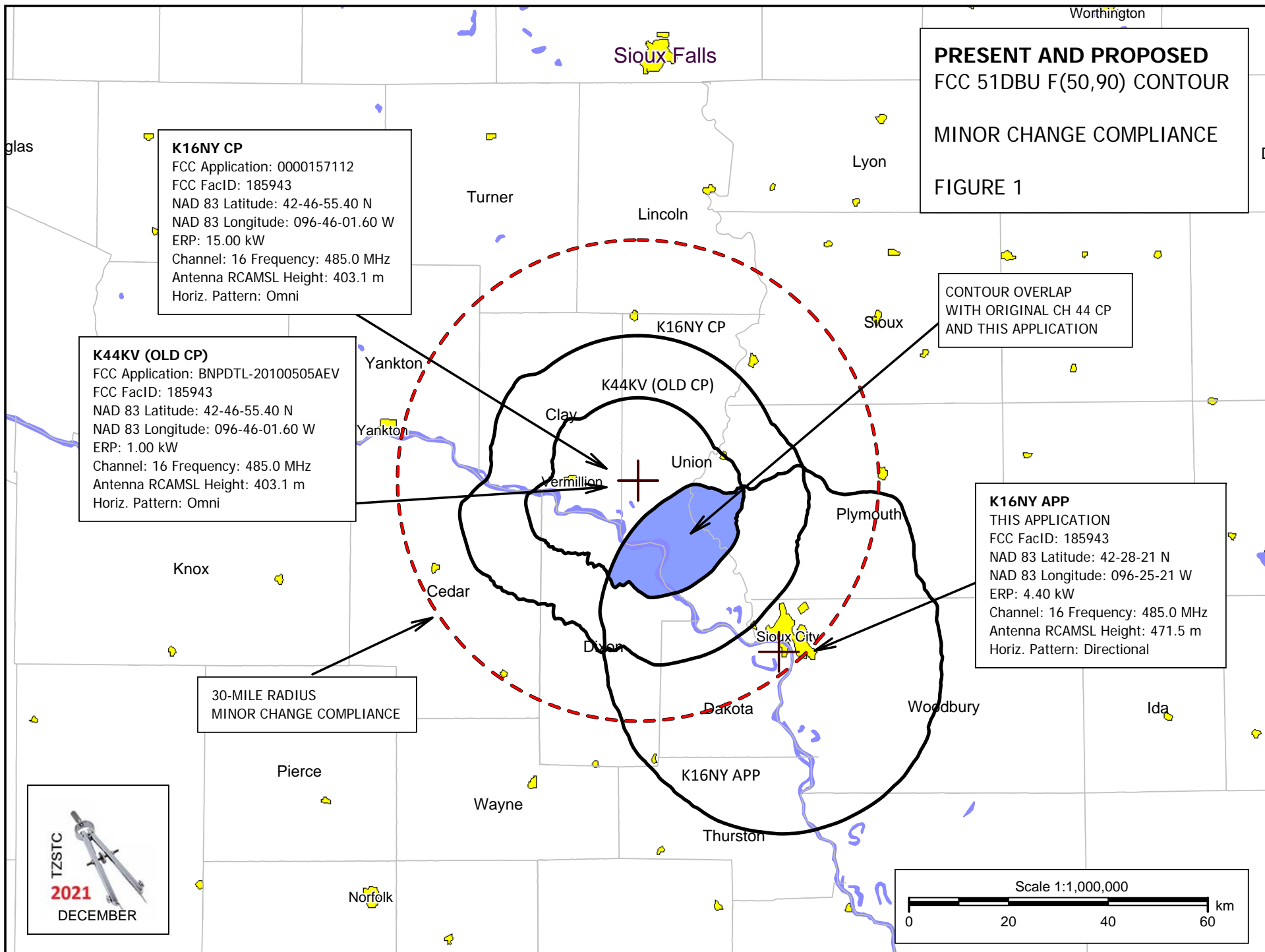
The environmental evaluation statement concerning this proposal has been included in this application and can be found as a separate file upload within the application. A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in the environmental evaluation statement.

December 21, 2021

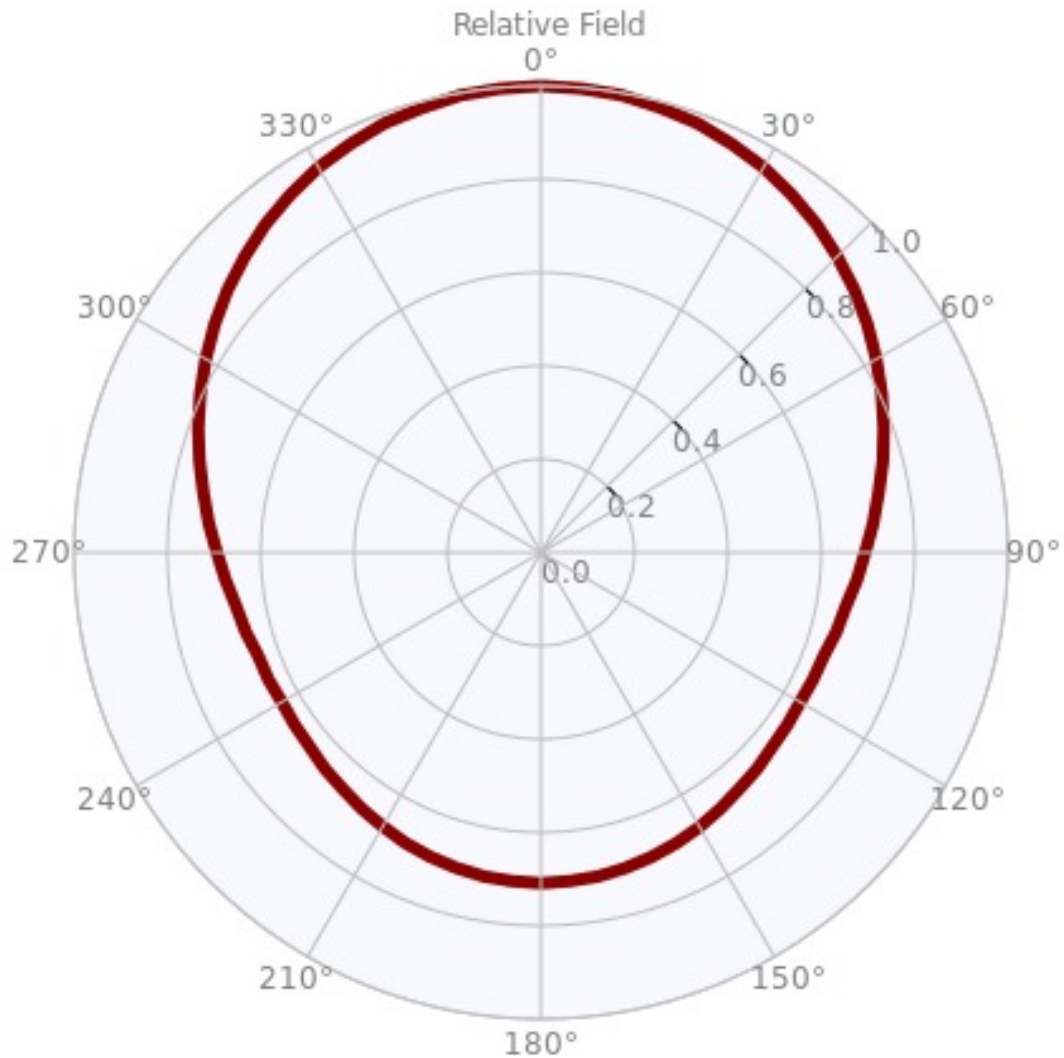


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## Horizontal Azimuth Pattern





# ANTENNA SPECIFICATIONS



ALIVETELE.COM  
SPEC GENERATOR

model no.: ATC-BCE48M-V0-16

call sign: K16NY

city of license:

state:

## Elevation pattern -5 to 90





Azimuth Pattern Tabulation, FCC

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0°	1.000	0.00	90°	0.694	-3.17	180°	0.709	-2.99	270°	0.694	-3.17
10°	0.995	-0.04	100°	0.663	-3.57	190°	0.705	-3.04	280°	0.734	-2.69
20°	0.979	-0.18	110°	0.645	-3.81	200°	0.694	-3.17	290°	0.781	-2.15
30°	0.953	-0.42	120°	0.641	-3.86	210°	0.678	-3.38	300°	0.829	-1.63
40°	0.918	-0.74	130°	0.647	-3.78	220°	0.661	-3.60	310°	0.876	-1.15
50°	0.876	-1.15	140°	0.661	-3.60	230°	0.647	-3.78	320°	0.918	-0.74
60°	0.829	-1.63	150°	0.679	-3.36	240°	0.641	-3.86	330°	0.953	-0.42
70°	0.781	-2.15	160°	0.694	-3.17	250°	0.645	-3.81	340°	0.979	-0.18
80°	0.734	-2.69	170°	0.705	-3.04	260°	0.663	-3.57	350°	0.995	-0.04

FCC TVSTUDY SUMMARY OUTPUT - K16NY MOD OF CP

Proposal: K16NY-D D16 LD APP ELK POINT, SD  
File number: K16NY-MOD CP  
Facility ID: 185943  
Station data: User record  
Record ID: 584  
Country: U.S.

Build options:  
Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KSMN	D15	DT	LIC	WORTHINGTON, MN	BLEDT20051219AGX	163.0 km
No	KFXL-TV	D15	DT	LIC	LINCOLN, NE	BLANK0000105938	194.6
No	KIUA-LD	D15	LD	CP	LINCOLN, NE	BLANK0000161040	225.2
No	KDSM-TV	D16	DT	LIC	DES MOINES, IA	BLCDT20110609ABE	242.1
No	KOOD	D16	DT	LIC	HAYS, KS	BLEDT20030423ABE	455.4
No	KTKA-TV	D16	DT	LIC	TOPEKA, KS	BLANK0000122453	385.4
No	K16MA-D	D16	LD	LIC	FROST, MN	BLANK0000062831	237.3
No	K46FY-D	D16	LD	LIC	REDWOOD FALLS, MN	BLANK0000063425	259.0
No	KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	400.2
No	K16CG-D	D16	LD	LIC	ST. JAMES, MN	BLDTL20120625AAQ	234.1
No	K16NO-D	D16	LD	CP	BEATRICE / FAIRBURY, NE	BLANK0000071827	258.4
No	KMJF-LD	D16	LD	LIC	COLUMBUS, NE	BLANK0000055199	132.5
No	K17MY-D	D17	LD	LIC	JACKSON, MN	BLANK0000064443	171.1
No	KYNE-TV	D17	DT	LIC	OMAHA, NE	BLANK0000123806	133.4
No	K17PB-D	D17	LD	CP	BRERESFORD, SD	BLANK0000157103	74.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D16  
Mask: Full Service  
Latitude: 42 28 21.00 N (NAD83)  
Longitude: 96 25 21.00 W  
Height AMSL: 471.5 m  
HAAT: 0.0 m  
Peak ERP: 4.40 kW  
Antenna: ATC-BCE48M-V0-16 0.0 deg  
Elev Pattern: Generic  
Elec Tilt: 1.00

48.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	4.40 kW	90.0 m	37.8 km
45.0	3.54	110.7	39.0
90.0	2.12	94.2	34.7
135.0	1.88	137.2	37.7
180.0	2.21	140.9	38.8
225.0	1.88	125.6	36.9
270.0	2.12	124.5	37.5
315.0	3.54	129.7	40.4

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 119 m

Distance to Canadian border: 702.2 km

Distance to Mexican border: 1479.6 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 224.7 degrees Distance: 239.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 253.6 degrees Distance: 778.4 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

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%

---- Below is IX received by proposal K16NY-MOD CP ----

Proposal receives 0.11% interference from scenario 1

No IX check failures found.



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K16NY (WAS K44KV)  
PROPOSED LPTV CHANNEL 16 OPERATION  
FACILITY ID: 185943  
ELK POINT, SD  
DECEMBER 2021

## ENVIRONMENTAL EVALUATION STATEMENT

A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in this environmental evaluation statement. Any changes in equipment, or construction, if necessary will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA).

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

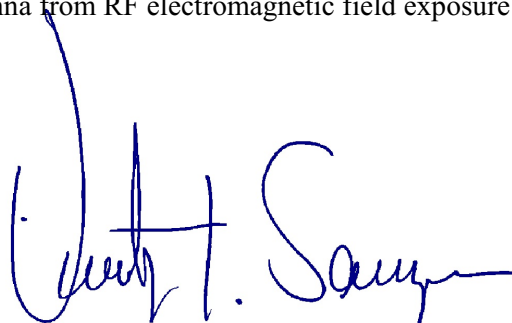
CALCULATED POWER DENSITY AT 2 METERS AGL (0.3 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H+V)

CR AGL 140.2 M ERP MAX 5.72 KW	MPE ( $\mu\text{W}/\text{CM}^2$ )	CALCULATED VALUE ( $\mu\text{W}/\text{CM}^2$ )	% OF MPE	PASS/FAIL
CONTROLLED AREA	1616.7	0.900262	0.06%	PASS
PUBLIC AREA	323.3		0.28%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

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