

**ENGINEERING STATEMENT IN SUPPORT OF APPLICATION FOR CONSTRUCTION
PERMIT TO MODIFY COORDINATES
PREPARED ON BEHALF OF INDEPENDENT COMMUNICATIONS, INC.
KTTW(TV) CH 7 SIOUX FALLS, SOUTH DAKOTA March 2020**

This application is submitted to reflect a change in tower coordinates as reflected in FCC ASR 1206712. No other changes to the licensed facility are required or proposed.

FCC TVStudy software was to evaluate the updated CH 7 facility and determine that there is no impermissible caused interference.

The existing antenna system consists of a Jampro model JAM JSL6/D7-V-SHP, directional, custom, horizontally polarized, antenna. The maximum relative field in the elevation pattern across the depression angle range of 10 to 90 degrees is less than 0.25 with a radiation center 233.8 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.25 has been used to calculate the power density 2 meters above ground. The maximum power density is 0.29 uw/cm squared calculated for an ERP OF 7,500 watts H. polarization. This value is 0.15 % of the Public Exposure MPE per section 1.1310. Based on this analysis it is believed that the proposed facility is in compliance with OET-65 Guidelines.

The applicant will reduce power or cease transmission as required to meet FCC OET-65 Guidelines.

The proposed tower is at an existing site with, building, access road and power.

Below is a copy of the TVStudy interference analysis for CH 7 based on the licensed 7.5 kW ERP with DA antenna.

Report

Study created: 2020.03.13 09:34:51

Study build station data: LMS TV 2020-03-12

Proposal: KTTW D7 DT LIC SIOUX FALLS, SD
File number: BLCDT20081104AGG
Facility ID: 28521
Station data: User record

Record ID: 381
Country: U.S.
Zone: II

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	403.7 km
No	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	440.4
No	KJRR	D7	DT	LIC	JAMESTOWN, ND	BLCDT20090622AEP	417.3
Yes	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894	270.3
Yes	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN	270.3
Yes	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV	106.6

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
KSOO 1000 L DA2 D SIOUX FALLS, SD BL20030127AEI
KSOO 1000 L DA2 N SIOUX FALLS, SD BL20030127AEI

Record parameters as studied:

Channel: D7
Latitude: 43 30 14.00 N (NAD83)
Longitude: 96 34 18.80 W
Height AMSL: 645.9 m
HAAT: 217.6 m
Peak ERP: 7.50 kW
Antenna: JAM-JSL6/D7-V-SHP (ID 84679) 280.0 deg
Elev Pattnr: Generic
Elec Tilt: 0.75

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.91 kW	235.1 m	86.3 km
45.0	1.45	218.6	73.0
90.0	0.397	195.8	61.5
135.0	0.363	215.8	62.0
180.0	4.80	231.8	83.3
225.0	7.20	222.4	85.8
270.0	4.22	206.0	80.5
315.0	5.74	215.5	83.6

Distance to Canadian border: 596.9 km

Distance to Mexican border: 1565.1 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 208.7 degrees Distance: 325.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 245.5 degrees Distance: 807.1 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%

---- Below is IX received by proposal BLCDT20081104AGG ----

Proposal receives 2.17% interference from scenario 1
Proposal receives 1.70% interference from scenario 2
No IX check failures found.

ISIX

tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1, Study: BLCDT20081104AGG #500, Model: Longley-Rice
Start: 2020.03.13 09:34:51

Study created: 2020.03.13 09:34:51

Study build station data: LMS TV 2020-03-12

Proposal: KTTW D7 DT LIC SIOUX FALLS, SD
File number: BLCDT20081104AGG
Facility ID: 28521
Station data: User record
Record ID: 381
Country: U.S.
Zone: II

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No	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	403.7 km
No	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	440.4
No	KJRR	D7	DT	LIC	JAMESTOWN, ND	BLCDT20090622AEP	417.3
Yes	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894	270.3
Yes	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN	270.3
Yes	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV	106.6

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
KSOO 1000 L DA2 D SIOUX FALLS, SD BL20030127AEI
KSOO 1000 L DA2 N SIOUX FALLS, SD BL20030127AEI

Record parameters as studied:

Channel: D7
Latitude: 43 30 14.00 N (NAD83)
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Height AMSL: 645.9 m
HAAT: 217.6 m
Peak ERP: 7.50 kW
Antenna: JAM-JSL6/D7-V-SHP (ID 84679) 280.0 deg
Elev Pattn: Generic
Elec Tilt: 0.75

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.91 kW	235.1 m	86.3 km
45.0	1.45	218.6	73.0
90.0	0.397	195.8	61.5
135.0	0.363	215.8	62.0
180.0	4.80	231.8	83.3
225.0	7.20	222.4	85.8
270.0	4.22	206.0	80.5
315.0	5.74	215.5	83.6

Distance to Canadian border: 596.9 km

Distance to Mexican border: 1565.1 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 208.7 degrees Distance: 325.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 245.5 degrees Distance: 807.1 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%

Interference to BLANK0000035894 CP scenario 1

Distance	Call	Chan	Svc	Status	City, State	File Number	
Desired:	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894	
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521	270.4
km	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG	270.3
	KBSH-DT	D7	DT	LIC	HAYS, KS	BLCDT20090715AHL	383.8
	KNEP	D7	DT	CP	SIDNEY, NE	BLANK0000006506	301.2
	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE	360.8
New IX	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent
43590.1	51,053	41537.3	48,721	41032.1	48,528	41040.1	48,525
0.01							-0.02
Undesired			Total IX	Unique IX, before		Unique IX, after	
KTTW D7 DT BL	116.0		83	116.0		83	
KTTW D7 DT LIC	108.0		86			108.0	86
KBSH-DT D7 DT LIC	40.4		38	32.3	36	32.3	36
KNEP D7 DT CP	293.1		41	224.9	25	224.9	25
KOTA-TV D7 DT LIC	123.9		47	63.8	33	63.8	33

Interference to BLANK0000035894 CP scenario 2

Distance	Call	Chan	Svc	Status	City, State	File Number	
Desired:	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894	
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521	270.4
km	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG	270.3
	KBSH-DT	D7	DT	LIC	HAYS, KS	BLCDT20090715AHL	383.8
	KNEP	D7	DT	LIC	SIDNEY, NE	BLCDT20050914AAH	301.2
	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE	360.8
New IX	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent
43590.1	51,053	41537.3	48,721	41032.1	48,528	41040.1	48,525
0.01							-0.02
Undesired			Total IX	Unique IX, before		Unique IX, after	
KTTW D7 DT BL	116.0		83	116.0		83	
KTTW D7 DT LIC	108.0		86			108.0	86
KBSH-DT D7 DT LIC	40.4		38	32.3	36	32.3	36
KNEP D7 DT LIC	293.1		41	224.9	25	224.9	25
KOTA-TV D7 DT LIC	123.9		47	63.8	33	63.8	33

Interference to BLEDT20090225ABN LIC scenario 1

Distance	Call	Chan	Svc	Status	City, State	File Number	
Desired:	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN	
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521	270.4
km	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG	270.3
	KBSH-DT	D7	DT	LIC	HAYS, KS	BLCDT20090715AHL	383.8
	KNEP	D7	DT	CP	SIDNEY, NE	BLANK0000006506	301.2

	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE	360.8	
	Service area			Terrain-limited	IX-free, before	IX-free, after	Percent	
New IX	40068.4	47,232	38431.3	44,189	38038.4	43,774	38034.3	43,769
0.01								0.01
Undesired				Total IX	Unique IX, before	Unique IX, after		
KTTW D7 DT BL		80.2		67	80.2	67		
KTTW D7 DT LIC		84.2		72			84.2	72
KBSH-DT D7 DT LIC		36.4		320	28.3	320	28.3	320
KNEP D7 DT CP		240.6		24	172.5	22	172.5	22
KOTA-TV D7 DT LIC		103.9		6	43.8	4	43.8	4

Interference to BLEDT20090225ABN LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number		
Distance								
Desired:	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN		
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521		270.4
km								
	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG		270.3
	KBSH-DT	D7	DT	LIC	HAYS, KS	BLCDT20090715AHL		383.8
	KNEP	D7	DT	LIC	SIDNEY, NE	BLCDT20050914AAH		301.2
	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE		360.8
	Service area			Terrain-limited	IX-free, before	IX-free, after	Percent	
New IX	40068.4	47,232	38431.3	44,189	38038.4	43,774	38034.3	43,769
0.01								0.01
Undesired				Total IX	Unique IX, before	Unique IX, after		
KTTW D7 DT BL		80.2		67	80.2	67		
KTTW D7 DT LIC		84.2		72			84.2	72
KBSH-DT D7 DT LIC		36.4		320	28.3	320	28.3	320
KNEP D7 DT LIC		240.6		24	172.5	22	172.5	22
KOTA-TV D7 DT LIC		103.9		6	43.8	4	43.8	4

Interference to BLEDT20090527AGV LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number		
Distance								
Desired:	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV		
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521		106.4
km								
	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG		106.6
	KLKN	D8	DT	APP	LINCOLN, NE	BLANK0000035726		384.0
	KZSD-TV	D8	DT	LIC	MARTIN, SD	BLEDT20090527AGU		360.8
	DKABY-TV	D9	DT	BL	ABERDEEN, SD	DTVBL48659		100.5
	Service area			Terrain-limited	IX-free, before	IX-free, after	Percent	
New IX	26568.4	166,018	25042.4	159,195	23212.3	150,570	23220.1	150,586
-0.01								-0.03
Undesired				Total IX	Unique IX, before	Unique IX, after		
KTTW D7 DT BL		291.8		6,770	279.9	6,668		
KTTW D7 DT LIC		284.0		6,754			272.1	6,652
KLKN D8 DT APP		90.9		426	79.0	324	79.0	324
KZSD-TV D8 DT LIC		11.9		2	0.0	0	0.0	0
DKABY-TV D9 DT BL		1459.2		1,531	1447.3	1,529	1447.3	1,529

Interference to BLEDT20090527AGV LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number
Distance						

Desired:	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV	
Undesireds:	KTTW	D7	DT	BL	SIOUX FALLS, SD	DTVBL28521	106.4
km							
	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG	106.6
	KLKN	D8	DT	LIC	LINCOLN, NE	BLCDT20090618ACT	384.0
	KZSD-TV	D8	DT	LIC	MARTIN, SD	BLEDT20090527AGU	360.8
	DKABY-TV	D9	DT	BL	ABERDEEN, SD	DTVBL48659	100.5

	Service area		Terrain-limited		IX-free, before		IX-free, after	Percent
New IX								
26568.4	166,018	25042.4	159,195	23243.9	150,660	23251.7	150,676	-0.03
-0.01								

Undesired		Total IX	Unique IX, before	Unique IX, after
KTTW D7 DT BL	291.8	6,770	287.8	6,744
KTTW D7 DT LIC	284.0	6,754		280.0
KLKN D8 DT LIC	51.4	260	47.4	234
KZSD-TV D8 DT LIC	11.9	2	0.0	0
DKABY-TV D9 DT BL	1459.2	1,531	1447.3	1,529

Interference to proposal scenario 1
2.17% interference received

Distance	Call	Chan	Svc	Status	City, State	File Number
Desired:	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG
Undesireds:	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894
km						
	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV

	Service area		Terrain-limited		IX-free	Percent IX
18896.2	329,633	17682.3	326,405	16172.9	319,317	8.54
						2.17

Undesired		Total IX	Unique IX	Prcnt Unique IX
KMNE-TV D7 DT CP	1097.3	5,268	1057.3	5.98
KESD-TV D8 DT LIC	452.2	1,915	412.1	2.33

Interference to proposal scenario 2
1.70% interference received

Distance	Call	Chan	Svc	Status	City, State	File Number
Desired:	KTTW	D7	DT	LIC	SIOUX FALLS, SD	BLCDT20081104AGG
Undesireds:	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN
km						
	KESD-TV	D8	DT	LIC	BROOKINGS, SD	BLEDT20090527AGV

	Service area		Terrain-limited		IX-free	Percent IX
18896.2	329,633	17682.3	326,405	16412.5	320,862	7.18
						1.70

Undesired		Total IX	Unique IX	Prcnt Unique IX
KMNE-TV D7 DT LIC	837.7	3,673	817.6	4.62
KESD-TV D8 DT LIC	452.2	1,915	432.1	2.44

CONCLUSION

The proposed KTTW(TV) CH 7 facilities are believed to comply with applicable FCC Rule Sections.

The foregoing was prepared on behalf of Independent Communications, Inc. by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements she believes them to be true and correct.



Clarence M. Beverage
for Communications Technologies, Inc.
Marlton, New Jersey
March 16, 2020