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***B. W. St. Clair***

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**Engineering Statement**

**K34NJ-D – FI 131115**

**Environmental Statement:**

Antenna will be installed on an existing tower and the equipment installed in an existing building. No construction is involved.

Non-ionizing radiation at ground level head height is less than the allowable public exposure limit. No special precautions required.

Minor Modification to change location, antenna make & model and orientation.

KXNW has been reassigned to Ch 25, Phase 2 and acknowledges that operation on Ch 34 cannot commence until KXNW transitions to Ch 25.

Applicant accepts the predicted incoming interference as projected by TVStudy.

Respectfully submitted,

Susan Hansen  
Consultant  
July 31, 2018

tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: Ch 34 newsite 13kW SL8@0, Model: Longley-Rice  
Start: 2018.07.31 12:06:59

Study created: 2018.07.31 12:06:59

Study build station data: LMS TV 2018-07-27

Proposal: K41KX-D D34 LD CP JOPLIN, MO  
File number: Ch 34 newsite 13kW SL8@0  
Facility ID: 131115  
Station data: User record  
Record ID: 940  
Country: U.S.

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

Search options:  
Baseline record excluded if station has CP

Individual records excluded:  
20140610AAT KXNW D34 DT LIC EUREKA SPRINGS, AR BMLCDT20140610AAT

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KCLJ-LP	N30z	TX	LIC	JOPLIN/CARTHAGE, MO	BLTTA20050506ACG	0.0 km
No	KHMF-LP	D33+	LD	LIC	FORT SMITH, AR	BLANK0000036888	202.5
Yes	KNWA-TV	D33	DT	CP	ROGERS, AR	BLANK0000027617	80.9
No	KGKC-LD	D33	LD	CP	LAWRENCE, KS	BLANK0000053962	219.2
No	K32KV-D	D33	LD	APP	JEFFERSON CITY, MO	BLANK0000052930	200.9
Yes	KDSI-LD	D33	LD	CP	JOPLIN, MO	BDCCDTL20110215AAK	13.5
No	K33NG-D	D33	LD	CP	SPRINGFIELD, MO	BDCCDTT20121214ADU	128.9
No	KWFT-LP	N34z	TX	LIC	FORT SMITH, AR	BLTTL20021115AAI	169.7
No	KWMO-LD	D34	LD	LIC	HOT SPRINGS, AR	BLDTL20141201BAO	312.6
No	KASN	D34	DT	CP	PINE BLUFF, AR	BLANK0000034796	350.0
No	WQEC	D34	DT	APP	QUINCY, IL	BLANK0000035763	421.3
No	WQEC	D34	DT	LIC	QUINCY, IL	BLEDT20040715ADL	421.3
No	K34LZ-D	D34	LD	CP	FORT RILEY, KS	BNPDTL20100510AFL	300.2
No	K34MU-D	D34	LD	CP	SOLOMON, KS	BNPDTL20100514AHV	334.5
Yes	WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLCDT20091008AAW	225.3
No	K34KX-D	D34	LD	LIC	ROLLA, MO	BLDTL20130222ADC	250.1
Yes	KSPR-LD	D34	LD	APP	SPRINGFIELD, MO	BLANK0000052519	129.1
No	W42EM-D	D34	LD	APP	St. Louis, MO	BLANK0000051636	409.7
No	KCYH-LD	D34	LD	CP	ARDMORE, OK	BLANK0000029288	407.4
No	K34ML-D	D34	LD	CP	MC ALESTER, OK	BNPDTL20100511ABJ	281.8
Yes	KSJF-CD	D34	DC	CP	POTEAU, OK	BLANK0000032952	169.7
Yes	KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	162.1
No	K34LT-D	D34	LD	CP	VIAN, OK	BNPDTL20100504AMA	183.6
No	KFLU-LD	D35	LD	CP	FORT SMITH, AR	BLANK0000052862	102.2
No	K35KX-D	D35	LD	CP	TOPEKA, KS	BLANK0000010975	227.0
No	K0ZJ	D35	DT	CP	JOPLIN, MO	BLANK0000026239	13.5
No	KJPX-LP	D35	LD	CP	JOPLIN, MO	BDFCDTL20141126ALY	0.0
No	KJPX-LP	N35+	TX	LIC	JOPLIN, MO	BLTTL20090304ADT	0.0
No	KEGG-LD	D35	LD	APP	TULSA, OK	BLANK0000054185	205.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34  
Mask: Full Service  
Latitude: 37 3 8.00 N (NAD83)  
Longitude: 94 23 21.00 W  
Height AMSL: 437.0 m  
HAAT: 0.0 m  
Peak ERP: 13.0 kW  
Antenna: PSI-PSILP80I (ID 20499) 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.00

50.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	13.0 kW	134.6 m	45.3 km
45.0	10.3	121.5	43.2
90.0	5.66	99.6	38.2
135.0	4.84	88.1	36.0
180.0	5.84	117.6	40.1
225.0	4.84	106.4	38.2
270.0	5.66	120.0	40.1
315.0	10.3	126.5	43.6

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 114 m

Distance to Canadian border: 1107.6 km

Distance to Mexican border: 1037.7 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 322.2 degrees Distance: 553.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 293.2 degrees Distance: 1000.4 km

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 BLANK0000027617 CP scenario 1

Desired:	Call KNWA-TV	Chan D33	Svc DT	Status CP	City, State ROGERS, AR	File Number BLANK0000027617	Distance			
Undesireds:	K41KX-D KPBI-CD KOCB KSJF-CD KMYT-TV	D34 D32 D33 D34 D34	LD DC DT DC DT	CP LIC LIC CP CP	JOPLIN, MO BENTONVILLE, AR OKLAHOMA CITY, OK POTEAU, OK TULSA, OK	Ch 34 newsite 13kW SL8 BLANK0000055355 BLCDT20060615AAL BLANK0000032952 BLANK0000027114	80.9 km 36.2 332.0 105.7 160.5			
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX			
25439.3	825,965	23888.9	807,468		23773.5	804,977	23689.7	801,186	0.35	0.47
Undesired				Total IX	Unique IX, before	Unique IX, after				
K41KX-D	D34	LD	CP	83.8	3,791	83.8	3,791			
KPBI-CD	D32	DC	LIC	11.1	363	10.1	363			
KOCB	D33	DT	LIC	65.5	1,889	55.4	1,667			
KSJF-CD	D34	DC	CP	38.7	208	34.7	125			
KMYT-TV	D34	DT	CP	10.1	253	5.0	114			

Interference to BDCCDTL20110215AAK CP scenario 1

Desired:	Call KDSI-LD	Chan D33	Svc LD	Status CP	City, State JOPLIN, MO	File Number BDCCDTL20110215AAK	Distance
Undesireds:	K41KX-D KCLG-LD KHMF-LP KNWA-TV K32KV-D	D34 D32 N33+ D33 D33	LD LD TX DT LD	CP LIC LIC CP APP	JOPLIN, MO NEOSHO, MO FORT SMITH, AR ROGERS, AR JEFFERSON CITY, MO	Ch 34 newsite 13kW SL8 BLDTL20120522ADN BLTTL20051208ACS BLANK0000027617 BLANK0000052930	13.5 km 25.1 209.2 90.2 203.0
	Service area 5759.7	Terrain-limited 5754.7		IX-free, before 236,835		IX-free, after 4877.5	Percent New IX 0.02
					4878.5	203,654	0.01
Undesired				Total IX	Unique IX, before	Unique IX, after	
K41KX-D	D34 LD CP		4.0	19		1.0	19
KCLG-LD	D32 LD LIC		56.0	11,554	12.0	3,545	
KNWA-TV	D33 DT CP		864.1	29,636	820.1	818.1	21,627

Interference to BLCDT20091008AAW LIC scenario 1

Desired:	Call WDAF-TV	Chan D34	Svc DT	Status LIC	City, State KANSAS CITY, MO	File Number BLCDT20091008AAW	Distance
Undesireds:	K41KX-D WQEC KMYT-TV	D34 D34 D34	LD DT DT	CP APP CP	JOPLIN, MO QUINCY, IL TULSA, OK	Ch 34 newsite 13kW SL8 BLANK0000035763 BLANK0000027114	225.3 km 299.2 351.7
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
32843.2	2,538,643	32439.7	2,535,413	32311.6	2,535,089	32310.6	2,535,089 0.00 0.00
Undesired				Total IX	Unique IX, before	Unique IX, after	
K41KX-D	D34	LD	CP	14.1	26	1.0	0
WQEC	D34	DT	APP	81.8	217	81.8	217
KMYT-TV	D34	DT	CP	46.3	107	33.2	81

Interference to BLCDT20091008AAW LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLCDT20091008AAW	
Undesireds:	K41KX-D	D34	LD	CP	JOPLIN, MO	Ch 34 newsite 13kW SL8	225.3 km
	WQEC	D34	DT	LIC	QUINCY, IL	BLEDT20040715ADL	299.2
	KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	351.7
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
32843.2		2,538,643		2,535,413		32386.4	0.00 0.00
				2,535,279		2,535,279	

Undesired			Total IX	Unique IX, before	Unique IX, after
K41KX-D D34 LD CP	14.1		26		1.0 0
WQEC D34 DT LIC	6.0		27	6.0 27	6.0 27
KMYT-TV D34 DT CP	46.3		107	46.3 107	33.2 81

Interference to BLANK0000052519 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPR-LD	D34	LD	APP	SPRINGFIELD, MO	BLANK0000052519	
Undesireds:	K41KX-D	D34	LD	CP	JOPLIN, MO	Ch 34 newsite 13kW SL8	129.1 km
	KNWA-TV	D33	DT	CP	ROGERS, AR	BLANK0000027617	123.6
	K33NG-D	D33	LD	CP	SPRINGFIELD, MO	BDCCDTT20121214ADU	5.1
	KASN	D34	DT	CP	PINE BLUFF, AR	BLANK0000034796	310.6
	WQEC	D34	DT	APP	QUINCY, IL	BLANK0000035763	342.4
	WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLCDT20091008AAW	255.9
	K34KX-D	D34	LD	LIC	ROLLA, MO	BLDTL20130222ADC	133.0
	KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	275.6
	KJPX-LP	D35	LD	CP	JOPLIN, MO	BDFCDTL20141126ALY	129.1
Service area	538,180	Terrain-limited	13101.4	534,967	IX-free, before	IX-free, after	Percent New IX
13347.0					13022.9	534,310	0.01 0.00
					13021.9	534,310	

Undesired			Total IX	Unique IX, before	Unique IX, after
K41KX-D D34 LD CP	2.0		57		1.0 0
KNWA-TV D33 DT CP	1.0		102	1.0 102	1.0 102
K33NG-D D33 LD CP	62.3		466	60.3 466	60.3 466
KASN D34 DT CP	5.0		4	5.0 4	5.0 4
WDAF-TV D34 DT LIC	6.0		28	6.0 28	6.0 28
K34KX-D D34 LD LIC	1.0		0	1.0 0	1.0 0
KMYT-TV D34 DT CP	5.0		57	3.0 57	2.0 0

Interference to BLANK0000032952 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSJF-CD	D34	DC	CP	POTEAU, OK	BLANK0000032952	
Undesireds:	K41KX-D	D34	LD	CP	JOPLIN, MO	Ch 34 newsite 13kW SL8	169.7 km
	KNWA-TV	D33	DT	CP	ROGERS, AR	BLANK0000027617	105.7
	KASN	D34	DT	CP	PINE BLUFF, AR	BLANK0000034796	230.4
	KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	130.2
	KRAH-CD	D35	DC	CP	PARIS, AR	BLANK0000035644	106.6
Service area	5598.7	Terrain-limited	4886.0	222,121	IX-free, before	IX-free, after	Percent New IX
					4554.1	217,085	0.00 0.00
					4554.1	217,085	

Undesired			Total IX	Unique IX, before	Unique IX, after
K41KX-D D34 LD CP	1.0		0		0.0 0
KNWA-TV D33 DT CP	1.0		0	0.0 0	0.0 0
KASN D34 DT CP	47.7		849	18.9 359	18.9 359
KMYT-TV D34 DT CP	313.0		4,677	283.2 4,187	283.2 4,187

Interference to BLANK0000027114 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	
Undesireds:	K41KX-D	D34	LD	CP	JOPLIN, MO	Ch 34 newsite 13kW SL8	162.1 km
	KNWA-TV	D33	DT	CP	ROGERS, AR	BLANK0000027617	160.5
	KOCB	D33	DT	LIC	OKLAHOMA CITY, OK	BLCDT20060615AAL	171.5
	KASN	D34	DT	CP	PINE BLUFF, AR	BLANK0000034796	360.2
	WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLCDT20091008AAW	351.7
	KSJF-CD	D34	DC	CP	POTEAU, OK	BLANK0000032952	130.2
	KOZJ	D35	DT	CP	JOPLIN, MO	BLANK0000026239	154.9
Service area	33020.9	Terrain-limited	32291.8	1,301,240	IX-free, before	IX-free, after	Percent New IX
					31850.4	1,293,433	0.51 0.28
					31686.8	1,289,827	

Undesired			Total IX	Unique IX, before	Unique IX, after
K41KX-D D34 LD CP	183.7		4,614		163.6 3,606
KNWA-TV D33 DT CP	9.1		137	7.1 107	7.1 107
KOCB D33 DT LIC	63.9		556	63.9 556	63.9 556
KASN D34 DT CP	72.6		2,485	8.9 92	8.9 92
WDAF-TV D34 DT LIC	29.1		1,009	26.1 977	12.0 31
KSJF-CD D34 DC CP	332.4		6,043	266.7 3,620	266.7 3,620
KOZJ D35 DT CP	3.0		32	0.0 0	0.0 0

Interference to proposal scenario 1  
 \*\*MX: 7.96% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K41KX-D	D34	LD	CP	JOPLIN, MO	Ch 34 newsite 13kW SL8	
Undesireds:	KNWA-TV	D33	DT	CP	ROGERS, AR	BLANK0000027617	80.9 km
	KDSI-LD	D33	LD	CP	JOPLIN, MO	BDCCDTL20110215AAK	13.5

WDAF-TV	D34	DT	LIC	KANSAS CITY, MO	BLCDT20091008AAW	225.3
KSPR-LD	D34	LD	APP	SPRINGFIELD, MO	BLANK0000052519	129.1
KMYT-TV	D34	DT	CP	TULSA, OK	BLANK0000027114	162.1
KOZJ	D35	DT	CP	JOPLIN, MO	BLANK0000026239	13.5
KJPX-LP	D35	LD	CP	JOPLIN, MO	BDFCDTL20141126ALY	0.0

Service area		Terrain-limited		IX-free		Percent IX	
5217.5	202,870	5169.4	202,590	4281.5	186,471	17.18	7.96
Undesired		Total IX		Unique IX		Prcnt Unique IX	
KNWA-TV D33 DT CP	5.0	33	1.0	15	0.02	0.01	
KDSI-LD D33 LD CP	436.0	6,466	313.9	1,909	6.07	0.94	
WDAF-TV D34 DT LIC	31.1	327	10.0	147	0.19	0.07	
KSPR-LD D34 LD APP	24.9	174	16.0	136	0.31	0.07	
KMYT-TV D34 DT CP	171.1	2,333	41.0	482	0.79	0.24	
KOZJ D35 DT CP	488.0	13,271	263.8	7,196	5.10	3.55	