

# T Z SAWYER TECHNICAL CONSULTANTS

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## DIGITAL LPTV FACILITY MINOR CHANGE APPLICATION KTPE-LD TELEVISION CHANNEL 23

### APPLICATION ENGINEERING STATEMENT

FCC FACILITY ID: 191060  
KANSAS CITY, MISSOURI

### ENGINEERING NARRATIVE

#### Minor Change Application

KTPE-LD, seeks to MODIFY its station license to specify a new antenna type, antenna height, effective radiated power (ERP) and site location. All of the changes proposed herein are classified as “minor changes” in accordance with the Commission’s application processing rules.

The maximum effective radiated power (ERP) will be 15.0 kilowatts using horizontal polarization only.

The proposed antenna is a DIELECTRIC “DLP-12C,” a directional UHF slot antenna, employing 0-degrees of electrical beam tilt. 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.

A graphical plot and tabulation of the relative field values from the proposed directional antenna have been provided in the application.

#### 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 (48 km) from the reference coordinates of the existing station’s licensed location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSED AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING LIC	39-05-57.0 N	95-35-38.2 W	11.38	7.07
PROPOSED (CP MOD)	39-06-46.3 N	95-27-48.6 W		

FCC Tower Registration (ASR) - FAA Notification

The proposed site is the existing communications tower site. This is a leased tower site in which an FCC tower/structure antenna structure registration (ASR#1037527) has been issued to the tower owner.

The overall height of the guyed communications tower is 89.0 meters (~292') above ground level. No changes in the supporting structure are required that would require notification to the FAA. The antenna is side-mounted upon the structure.

Proposed Antenna Elevations:

The center of radiation of the proposed antenna is 69.0 meters AGL, 386.9 meters AMSL. The ground elevation at the site is 317.9 meters.

Antenna/Structure Elevations	
Site Elevation (m)	317.9
Overall Height of Structure (m)	89.0
Antenna Radiation Center AGL (m)	69.0
Antenna Radiation Center AMSL (m)	386.9

FCC TVStudy Results - FCC TVStudy Cell Size 1.0 km, Profile Spacing 0.1 km:

**Please note that a terrain profile interval of 0.1 km is requested to be used when this proposal is analyzed using the FCC TVStudy software due to the irregular terrain features between this proposal and other possible affected facilities.**

The results of an 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.

Nearby AM Radio Station of Concern	None
Land Mobile Stations of Concern	None
International Border Considerations	None
FCC Monitoring Stations of Concern	None
National Radio or Observatory Quiet Zones of Concern	None

Incoming Interference:

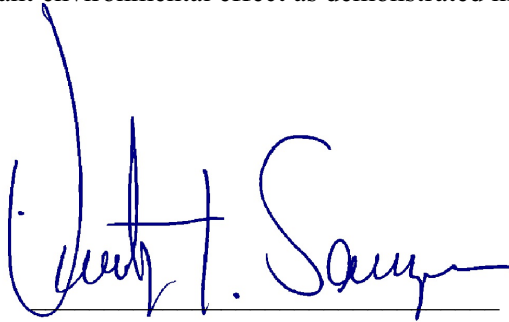
The applicant accepts any incoming interference that is predicted to occur to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted.

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.

Respectfully submitted,

August 30, 2022

A handwritten signature in blue ink, appearing to read "Timothy Z. Sawyer", is written over a horizontal line.

Timothy Z. Sawyer, Consulting Engineer

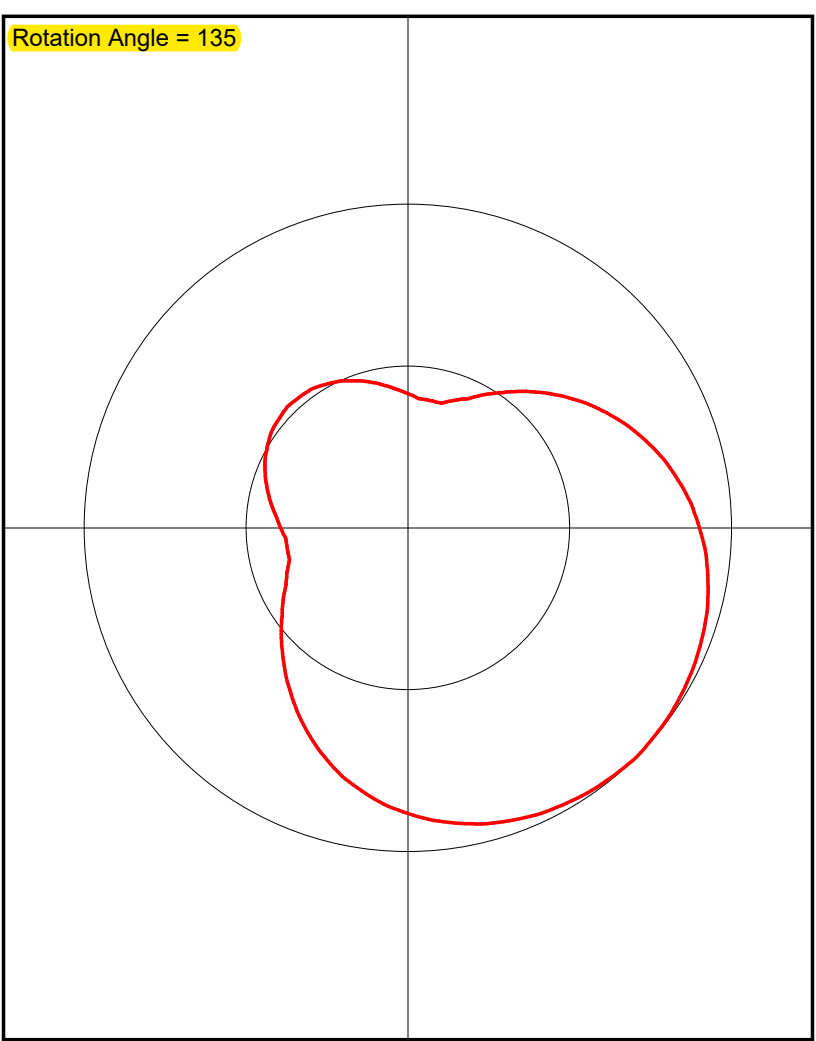
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KTPE-LD DIE DLP-12C DIRECTIONAL ANTENNA

Pre-Rotation Antenna Pattern....	
Azimuth (deg)	Relative Field
0.0	1.0
10.0	0.99
20.0	0.973
30.0	0.946
40.0	0.907
50.0	0.857
60.0	0.792
70.0	0.713
80.0	0.628
90.0	0.547
100.0	0.474
110.0	0.415
120.0	0.378
130.0	0.378
140.0	0.408
150.0	0.449
160.0	0.487
170.0	0.515
180.0	0.527
190.0	0.522
200.0	0.5
210.0	0.467
220.0	0.43
230.0	0.4
240.0	0.398
250.0	0.44
260.0	0.51
270.0	0.59
280.0	0.671
290.0	0.748
300.0	0.818
310.0	0.877
320.0	0.924
330.0	0.958
340.0	0.98
350.0	0.994

Rotation Angle = 135



PATTERN AS SHOWN ABOVE INCLUDES ANTENNA ROTATION  
HORIZONTAL RELATIVE FIELD PATTERN AND TABULATIONS

KTPE MINOR MOD OF LICENSE - FCC TVSTUDY SUMMARY REPORT

PLEASE NOTE THAT TERRAIN PROFILE SPACING IS SET TO 0.1 KM  
CELL SIZE REMAINS AT DEFAULT SIZE OF 1.0 SQ KM.

Proposal: KTPE-LD D23 LD APP Kansas city, MO  
File number: KTPE-LD MINOR CHANGE APP  
Facility ID: 191060  
Station data: User record  
Record ID: 630  
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	KMJC-LD	D22	LD	LIC	Kansas City, KS	BLANK0000016622	93.6 km
Yes	K40IJ-D	D22	LD	CP	TOPEKA, KS	BLANK00000197508	26.5
No	WOWT	D22	DT	LIC	OMAHA, NE	BLANK00000188796	249.0
No	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	340.0
No	KCWI-TV	D23	DT	LIC	AMES, IA	BLCDT20090612AIO	340.0
No	KSNL-LD	D23	LD	LIC	SALINA, KS	BLANK0000059950	192.8
No	KCTU-LD	D23	LD	CP	WICHITA, KS	BLANK0000031023	227.7
No	KCTU-LD	D23	LD	LIC	WICHITA, KS	BLANK00000190411	227.7
Yes	KODE-TV	D23	DT	LIC	JOPLIN, MO	BLANK0000071606	240.0
Yes	KCDN-LD	D23	LD	LIC	KANSAS CITY, MO	BLANK00000112964	82.6
No	K23PC-D	D23	LD	CP	ROLLA, MO	BLANK00000194347	346.0
No	K23PC-D	D23	LD	LIC	ROLLA, MO	BLANK00000198107	346.0
No	K23LE-D	D23	LD	CP	SEDALIA, MO	BLANK00000194351	194.3
No	K23LE-D	D23	LD	LIC	SEDALIA, MO	BLANK00000198106	194.3
No	KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	444.3
No	K23AA-D	D23	LD	LIC	BEATRICE, NE	BLDTT20081114ACW	174.8
No	K30BP-D	D23	LD	APP	NORFOLK, NE	BLANK00000198220	361.4
No	KSBI	D23	DT	LIC	OKLAHOMA CITY, OK	BLANK0000055374	429.7
No	KSBI	D23	DT	LIC	OKLAHOMA CITY, OK	BLCDT20140530AFS	429.7
No	KTUO-LD	D23	LD	LIC	TULSA, OK	BLANK00000191002	337.4
No	KRLJ-LD	D24	LD	LIC	JOPLIN, MO	BLANK0000079995	224.0
Yes	KCTV	D24	DT	LIC	KANSAS CITY, MO	BLANK00000153301	76.1
No	KSNB-TV	D24	DT	LIC	YORK, NE	BLANK00000186767	238.1
No	DK31BW	N31	TX	APP	MANHATTAN, KS	BLTTL19890119II	100.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23  
Mask: Full Service  
Latitude: 39 6 46.30 N (NAD83)  
Longitude: 95 27 48.60 W  
Height AMSL: 386.9 m  
HAAT: 0.0 m  
Peak ERP: 15.0 kW  
Antenna: Dielectric-DLP-12C (ID 1007984) 135.0 deg  
Elev Pattn: Generic

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	2.58 kW	107.5 m	36.3 km
45.0	5.22	78.1	36.2
90.0	12.2	91.0	42.1
135.0	15.0	119.6	46.2
180.0	11.7	86.9	41.4
225.0	4.49	108.6	39.2
270.0	2.32	96.2	34.5
315.0	4.17	83.5	35.8

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 96 m

Distance to Canadian border: 1040.7 km  
Distance to Mexican border: 1171.6 km

Conditions at FCC monitoring station: Grand Island NE

Bearing: 309.5 degrees Distance: 322.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 280.7 degrees Distance: 842.8 km

Study cell size: 1.00 km

Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Proposal causes 0.03% interference to BLANK0000197508 CP scenario 1

Proposal causes no interference to BLANK0000071606 LIC

Proposal causes 0.00% interference to BLANK0000112964 LIC scenario 1

Proposal causes 0.42% interference to BLANK0000153301 LIC scenario 1

---- Below is IX received by proposal KTPE-LD MINOR CHANGE A ----

Proposal receives 4.85% interference from scenario 1

No IX check failures found.

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## 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.)

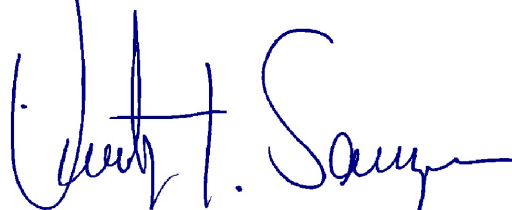
CALCULATED POWER DENSITY AT 2 METERS AGL (0.3 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H)

CR AGL 69.0 M ERP MAX 15.0 KW (H)	MPE ( $\mu\text{W}/\text{CM}^2$ )	CALCULATED VALUE ( $\mu\text{W}/\text{CM}^2$ )	% OF MPE	PASS/FAIL
CONTROLLED AREA	1756.7	10.0446	0.57%	PASS
PUBLIC AREA	351.3		2.86%	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.

August 30, 2022

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