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DIGITAL LPTV FACILITY
MINOR CHANGE APPLICATION - CP AMENDMENT
KSFZ-LD
TELEVISION CHANNEL 29

APPLICATION ENGINEERING STATEMENT
FCC FACILITY ID: 68046
SPRINGFIELD, MISSOURI

ENGINEERING NARRATIVE

Minor Change Application

KSFZ, seeks to MODIFY its current construction permit to specify a new antenna site, a new antenna system, and increase its effective radiated power (ERP).

The maximum effective radiated power (ERP) will be 15.0 kilowatts using horizontal polarization only. The proposed antenna is a PSI "PSILP8EC", a directional UHF slot antenna, employing 0.75 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.

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	36-55-19.8 N	92-41-50.3 W	47.75	29.67
PROPOSED (CP APP)	37-00-22.9 N	93-13-23.1 W		

FCC Tower Registration (ASR) - FAA Notification:

The proposed mounting structure is a 96.6 meter AGL existing communications tower and has been issued an FCC ASR number of 1216168. 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 81.7 meters AGL, 469.7 meters AMSL. The ground elevation at the site is 388.0 meters.

FCC TVStudy Results:

FCC TVStudy Cell Size 1.0 km, Profile Spacing 1.0 km

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.

May 5, 2022

Timothy Z. Sawyer, Consulting Engineer

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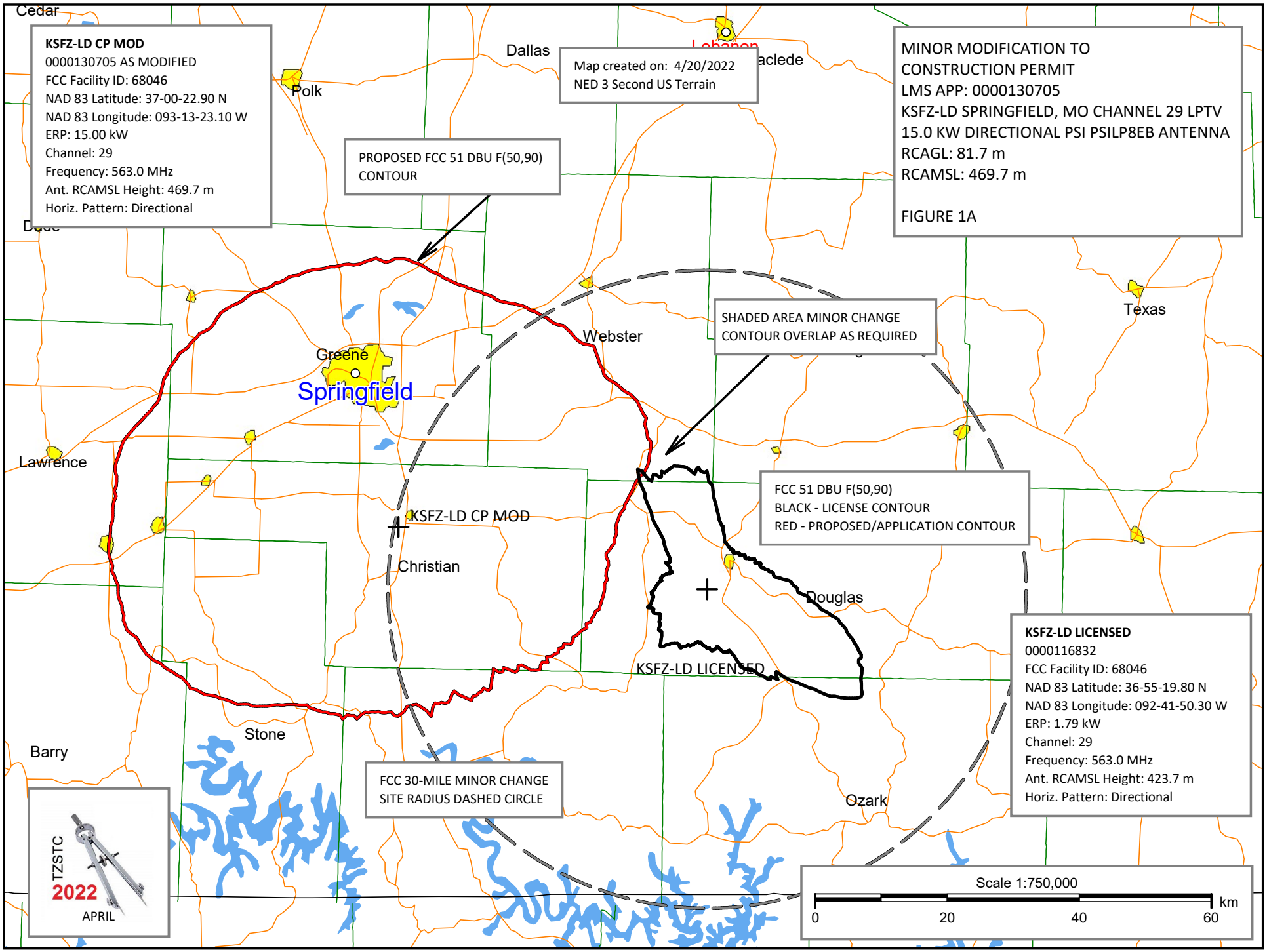
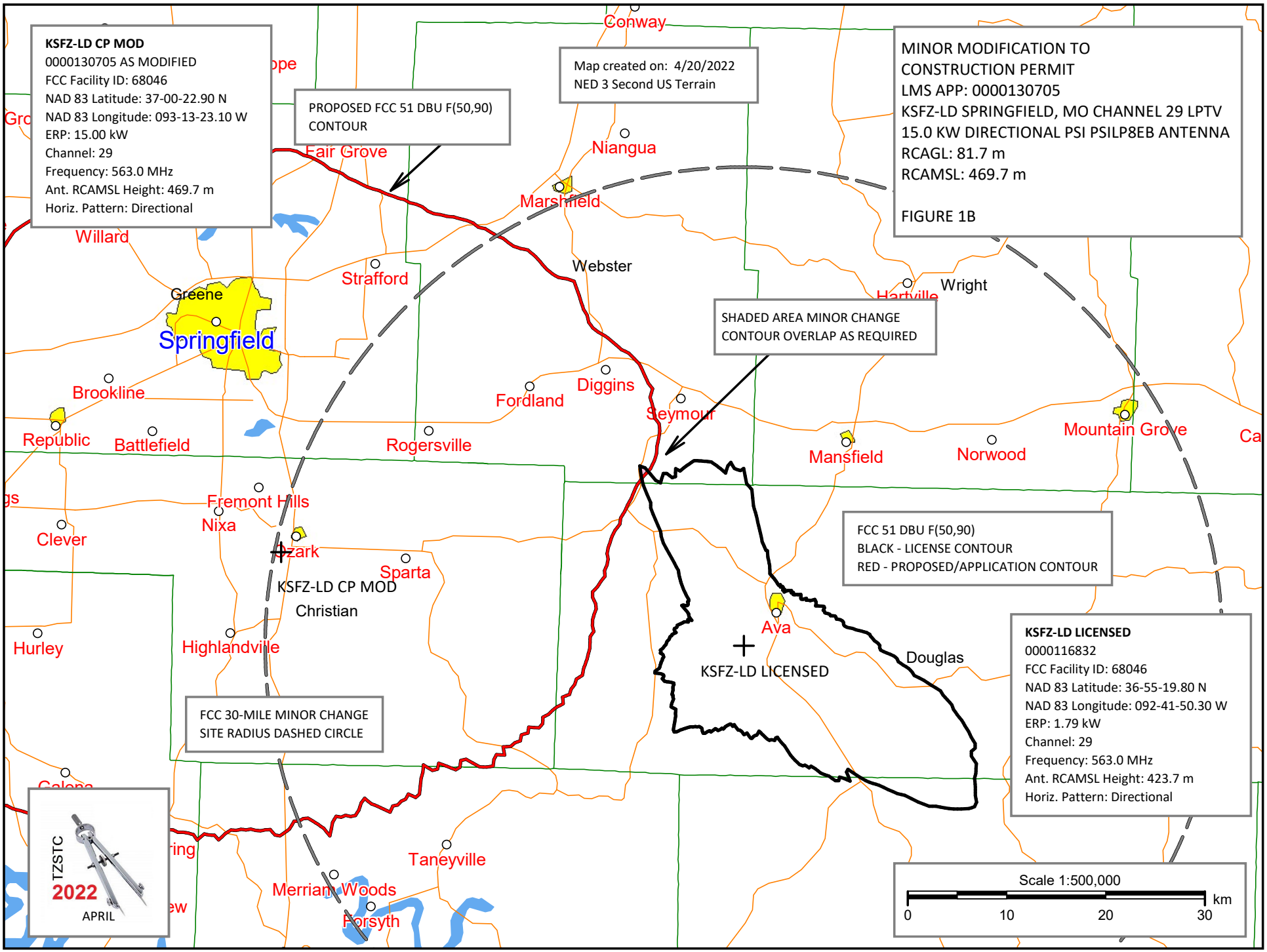

KSFZ-LD CP MOD
0000130705 AS MODIFIED
FCC Facility ID: 68046
NAD 83 Latitude: 37-00-22.90 N
NAD 83 Longitude: 093-13-23.10 W
ERP: 15.00 kW
Channel: 29
Frequency: 563.0 MHz
Ant. RCAMSL Height: 469.7 m
Horiz. Pattern: Directional
Map created on: 4/20/2022
NED 3 Second US Terrain
MINOR MODIFICATION TO
CONSTRUCTION PERMIT
LMS APP: 0000130705
KSFZ-LD SPRINGFIELD, MO CHANNEL 29 LPTV
15.0 KW DIRECTIONAL PSI PSILP8EB ANTENNA
RCAGL: 81.7 m
RCAMSL: 469.7 m
FIGURE 1A
PROPOSED FCC 51 DBU F(50,90)
CONTOUR
SHADED AREA MINOR CHANGE
CONTOUR OVERLAP AS REQUIRED
FCC 51 DBU F(50,90)
BLACK - LICENSE CONTOUR
RED - PROPOSED/APPLICATION CONTOUR
KSFZ-LD LICENSED
0000116832
FCC Facility ID: 68046
NAD 83 Latitude: 36-55-19.80 N
NAD 83 Longitude: 092-41-50.30 W
ERP: 1.79 kW
Channel: 29
Frequency: 563.0 MHz
Ant. RCAMSL Height: 423.7 m
Horiz. Pattern: Directional
FCC 30-MILE MINOR CHANGE
SITE RADIUS DASHED CIRCLE
TZSTC
2022
APRIL
Scale 1:750,000
0
20
40
60
km
Cedar
Polk
Dallas
Webster
Greene
Springfield
Texas
Lawrence
Christian
Douglas
Stone
Barry
Ozark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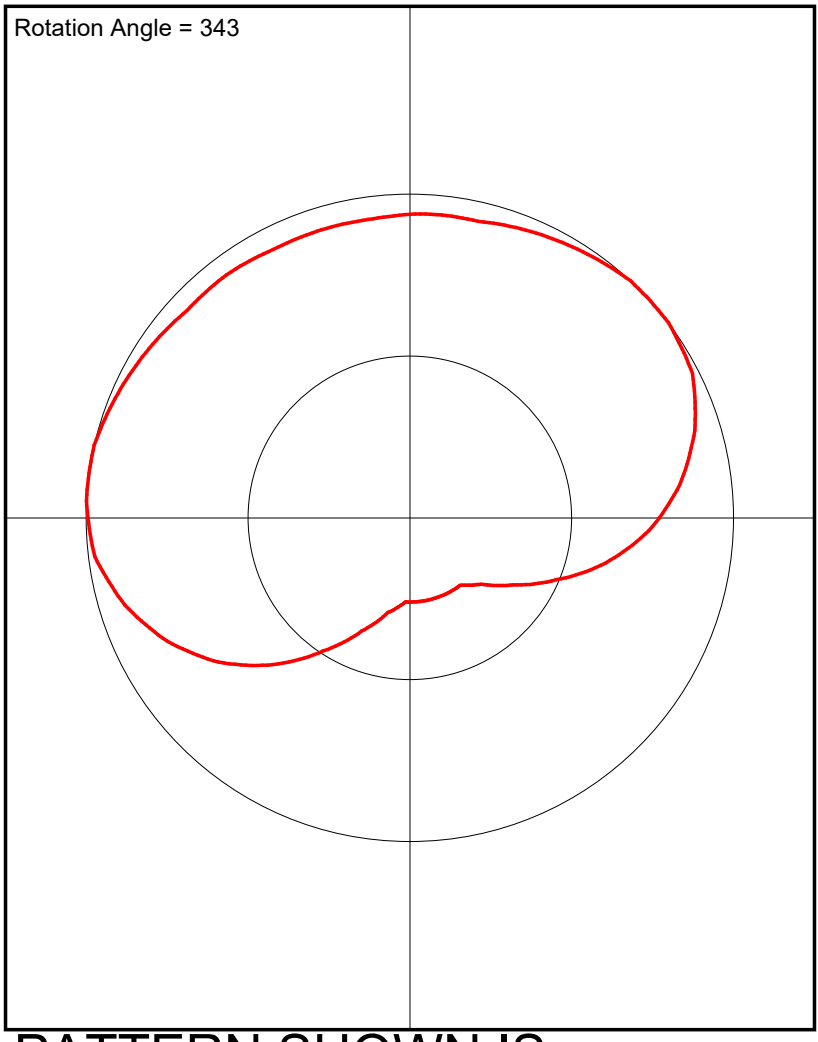
ERP: 15.00 kW
Channel: 29
Frequency: 563.0 MHz
Ant. RCAMSL Height: 469.7 m
Horiz. Pattern: Directional
PROPOSED FCC 51 DBU F(50,90) CONTOUR
Map created on: 4/20/2022
NED 3 Second US Terrain
MINOR MODIFICATION TO CONSTRUCTION PERMIT
LMS APP: 0000130705
KSFZ-LD SPRINGFIELD, MO CHANNEL 29 LPTV
15.0 KW DIRECTIONAL PSI PSILP8EB ANTENNA
RCAGL: 81.7 m
RCAMSL: 469.7 m
FIGURE 1B
SHADED AREA MINOR CHANGE CONTOUR OVERLAP AS REQUIRED
FCC 51 DBU F(50,90)
BLACK - LICENSE CONTOUR
RED - PROPOSED/APPLICATION CONTOUR
KSFZ-LD LICENSED
0000116832
FCC Facility ID: 68046
NAD 83 Latitude: 36-55-19.80 N
NAD 83 Longitude: 092-41-50.30 W
ERP: 1.79 kW
Channel: 29
Frequency: 563.0 MHz
Ant. RCAMSL Height: 423.7 m
Horiz. Pattern: Directional
FCC 30-MILE MINOR CHANGE SITE RADIUS DASHED CIRCLE
KSFZ-LD CP MOD
KSFZ-LD LICENSED
Conway
Fair Grove
Niangua
Marshfield
Willard
Webster
Strafford
Greene
Springfield
Wright
Brookline
Republic
Battlefield
Rogersville
Fordland
Diggins
Seymour
Mansfield
Norwood
Mountain Grove
Fremont Hills
Nixa
Clever
Ozark
Sparta
Christian
Hurley
Highlandville
Ava
Douglas
Taneyville
Merriam Woods
Forsyth
TZSTC
2022
APRIL
Scale 1:500,000
0
10
20
30
km

KSFZ-LD PSI PSILP8EC DIRECTIONAL ANTENNA

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.93
10.0	0.93
20.0	0.94
30.0	0.94
40.0	0.96
50.0	0.98
60.0	1.0
70.0	1.0
80.0	0.98
90.0	0.92
100.0	0.84
110.0	0.74
120.0	0.62
130.0	0.49
140.0	0.38
150.0	0.3
160.0	0.26
170.0	0.26
180.0	0.26
190.0	0.26
200.0	0.26
210.0	0.3
220.0	0.38
230.0	0.49
240.0	0.62
250.0	0.74
260.0	0.84
270.0	0.92
280.0	0.98
290.0	1.0
300.0	1.0
310.0	0.98
320.0	0.96
330.0	0.94
340.0	0.94
350.0	0.93



PATTERN SHOWN IS ROATATED 343.0 DEGREES

FIGURE 3 - FCC TVSTUDY SUMMARY REPORT
KSFZ-LD, SPRINGFIELD MO - CP MOD

Study build station data: LMS TV 2022-05-02

```
    Proposal: KSFZ-LD D29 LD APP Springfield, MO
 File number: KSFZ-LD CP MOD FINAL
 Facility ID: 68046
Station data: User record
   Record ID: 612
     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	K21JS	N21	TX	LIC	HARRISON, AR	BLTTL20111121DXG	84.8 km
No	K28NT-D	D28z	LD	LIC	BENTONVILLE & ROGERS, AR	BLANK0000059138	122.8
No	KARZ-TV	D28	DT	LIC	LITTLE ROCK, AR	BLANK0000160006	254.0
No	DKJPX-LP	D28+	LD	APP	JOPLIN, MO	BLANK0000054317	103.6
No	KOZL-TV	D28	DT	LIC	SPRINGFIELD, MO	BLANK0000171213	33.9
No	K29NT-D	D29	LD	CP	FORT SMITH, AR	BLANK0000071941	190.1
No	KZTE-LD	D29	LD	CP	FULTON, AR	BLANK0000054183	406.1
No	KZTE-LD	D29	LD	LIC	FULTON, AR	BLANK0000179373	406.1
No	KWMO-LD	D29	LD	LIC	HOT SPRINGS, AR	BLANK0000080611	254.1
Yes	KWOG	D29	DT	LIC	SPRINGDALE, AR	BLANK0000049027	132.4
No	DDK30NF-D	D29	LD	APP	KEOKUK, IA	BLANK0000072001	407.6
No	W29ES-D	D29	LD	LIC	JACKSONVILLE, IL	BLANK0000150934	400.0
No	W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	409.3
No	WLEH-LD	D29	LD	LIC	ST. LOUIS, IL	BLANK0000080775	329.8
No	K29NL-D	D29	LD	LIC	WICHITA, KS	BLANK0000160616	388.4
Yes	KRCG	D29	DT	CP	JEFFERSON CITY, MO	BLANK0000145041	211.8
No	KJLN-LD	D29	LD	CP	Joplin, MO	BLANK0000143697	114.0
No	KJLN-LD	D29	LD	LIC	Joplin, MO	BLANK0000143105	126.0
Yes	KMBC-TV	D29	DT	LIC	KANSAS CITY, MO	BLANK0000153380	257.2
No	KTUZ-TV	D29	DT	LIC	SHAWNEE, OK	BLCDT20081105ACO	414.3
No	KTZT-CD	D29	DC	CP	TULSA, OK	BLANK0000170367	263.2
No	KTZT-CD	D29	DC	LIC	TULSA, OK	BLANK0000189757	263.2
No	KTZT-CD	D29	DC	LIC	TULSA, OK	BLDTA20120430AEA	264.5
No	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	368.3
No	KKAF-LD	D30	LD	LIC	FAYETTEVILLE, AR	BLANK0000062918	128.5
No	KLRT-TV	D30	DT	LIC	LITTLE ROCK, AR	BLANK0000149904	254.0
No	KQFX-LD	D30	LD	LIC	COLUMBIA, MO	BLANK0000096860	205.1
No	KPXE-TV	D30	DT	LIC	KANSAS CITY, MO	BLANK0000001701	250.9

No non-directional AM stations found within 0.8 km
No directional AM stations found within 3.2 km

Record parameters as studied:

```
    Channel: D29
       Mask: Full Service
   Latitude:  37  0 22.90 N (NAD83)
  Longitude:  93 13 23.10 W
Height AMSL: 469.7 m
       HAAT: 0.0 m
   Peak ERP: 15.0 kW
    Antenna: PSI-PSILP8EC (ID 20495) 343.0 deg
Elev Pattrn: Generic
  Elec Tilt: 0.75
```

50.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	13.2 kW	86.5 m	41.3 km
45.0	15.0	73.3	40.0
90.0	8.89	52.1	33.7
135.0	1.28	102.7	31.5

180.0	1.01	97.4	29.7
225.0	6.22	87.7	37.7
270.0	14.8	106.9	44.3
315.0	13.3	95.1	42.4

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 88 m

Distance to Canadian border: 1024.3 km

Distance to Mexican border: 1104.9 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 315.7 degrees Distance: 625.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 292.0 degrees Distance: 1097.9 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%

Proposal causes 0.27% interference to BLANK0000049027 LIC scenario 4
Proposal causes 0.00% interference to BLANK0000145041 CP scenario 1
Proposal causes no interference to BLANK0000153380 LIC

---- Below is IX received by proposal KSFZ-LD CP MOD FINAL ----

Proposal receives 7.56% interference from scenario 1
Proposal receives 7.56% interference from scenario 2

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 81.7 M ERP MAX 15.0 KW (H)	MPE (μW/CM^2)	CALCULATED VALUE (μW/CM^2)	% OF MPE	PASS/FAIL
CONTROLLED AREA	1866.7	19.7179	1.06%	PASS
PUBLIC AREA	373.3		5.28%	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.

May 5, 2022

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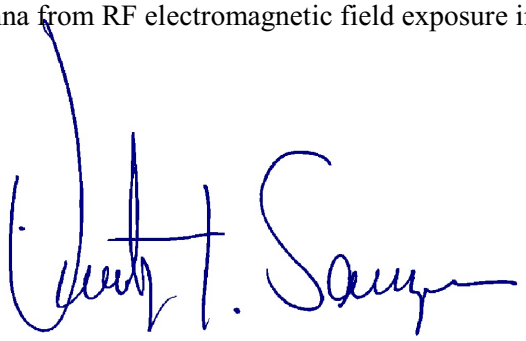

Timothy Z. Sawyer, Consulting Engineer