K36LJ-D MINOR MODIFICATION OF CONSTRUCTION PERMIT CH 36 15 kW DIRECTIONAL
JEFFERSON CITY, KANSAS
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
DECEMBER 2021

Proposed Change in Facilities

K36LJ-D is an LPTV DTV facility authorized in file number 0000001283. The facility proposed is believed to qualify as a minor change. The applicant proposes to remain at FCC Tower registration ASR 1007050 but increase the antenna elevation on the tower. No change in channel is proposed.

The proposed antenna system consists of an ATC model ATC-BCE412M-V2-36 slot antenna, elliptically polarized, with 1 degree beam tilt. The antenna radiation center is 146.3 meters AGL. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.1 has been used to calculate the power density 2 meters above ground across the depression angle range of 25 to 90 degrees. The maximum power density is 0.32 uw/cm squared calculated for an ERP of 15,000 watts H. polarization and 4,500 watts V. polarization. This value is 0.078% 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 existing along with the transmitter building, access road and power.

Below is a copy of the TVStudy interference analysis for CH 36 based on the facilities described above with the antenna pattern lobe centered 165 degrees True. As can be seen at the conclusion of the report there is no impermissible caused interference or received interference above 2%. It is believed that the proposed facility provides full protection to other television facilities.

TVStudy Report

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Study created: 2021.12.22 12:41:47

Study build station data: LMS TV 2021-12-21

    Proposal: K36LJ-D D36 LD CP JEFFERSON CITY, MO
 File number: BLANK0000001283
 Facility ID: 184505
Station data: User record
   Record ID: 1070
     Country: U.S.
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Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KLMC-LP	N28+	TX	LIC	JEFFERSON CITY, MO	BLTTL20050613AFP	25.2 km
Yes	K35OY-D	D35	LD	CP	COLUMBIA, MO	BLANK0000162977	1.0
No	KOZJ	D35	DT	LIC	JOPLIN, MO	BLANK0000059543	273.8
No	KQML-LD	D35	LD	LIC	Kansas city, MO	BLANK0000124480	192.9
No	KSDK	D35	DT	LIC	ST. LOUIS, MO	BLANK0000158259	172.2
No	KFFS-CD	D36	DC	LIC	FAYETTEVILLE, AR	BLANK0000055356	337.9
No	KKAP	D36	DT	LIC	LITTLE ROCK, AR	BLEDT20090522AFW	444.1
No	KJTB-LD	D36	LD	LIC	PARAGOULD, AR	BLANK0000166715	345.6
No	KFPX-TV	D36	DT	LIC	NEWTON, IA	BLANK0000063434	353.8
No	W36EX-D	D36	DC	LIC	ALTON, IL	BLANK0000132189	190.1
Yes	WMEC	D36	DT	LIC	MACOMB, IL	BLANK0000113434	223.3
No	WQRF-TV	D36	DT	LIC	ROCKFORD, IL	BLANK0000107925	469.7
No	DW08DP	D36	LD	APP	SPRINGFIELD, IL	BDISDTA20060630AHG	259.3
No	WCCU	D36	DT	LIC	URBANA, IL	BLANK0000099910	402.1
No	WEIN-LD	D36	LD	LIC	EVANSVILLE, IN	BLANK0000164457	423.0
No	K36IO-D	D36	LD	LIC	MANHATTAN, KS	BLDTL20090908ADI	376.3
No	KBNS-CD	D36	DC	LIC	BRANSON, MO	BLDTL20100315ADB	241.4

No	KBSI	D36	DT	LIC	CAPE GIRARDEAU, MO	BLANK0000115700	284.3
No	K36II-D	D36	LD	LIC	JOPLIN, MO	BLDTL20101022ACG	277.6
Yes	KSHB-TV	D36	DT	LIC	KANSAS CITY, MO	BLANK0000153577	194.8
No	K36NJ-D	D36	LD	LIC	MONETT, MO	BLANK0000058924	250.8
No	K36NN-D	D36	LD	LIC	WEST PLAINS, MO	BLANK0000059299	229.9
No	KDOR-TV	D36	DT	LIC	BARTLESVILLE, OK	BLANK0000067842	396.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

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    Channel: D36
       Mask: Full Service
   Latitude:  38 47 28.00 N (NAD83)
  Longitude:  92 17 44.00 W
Height AMSL: 414.4 m
       HAAT: 0.0 m
   Peak ERP: 15.0 kW
    Antenna: ATC-BCE412M-V2-36 165.0 deg
   Elev Pattrn: ATC-BCE412M-V2-36
   Elec Tilt: 1.00
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50.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	13.6 kW	182.8 m	48.5 km
45.0	8.62	157.6	44.6
90.0	6.21	168.7	43.6
135.0	7.35	186.6	45.5
180.0	6.91	211.6	46.7
225.0	6.44	210.4	46.2
270.0	10.3	218.8	49.1
315.0	14.6	206.9	50.2

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 193 m

Distance to Canadian border: 852.6 km

Distance to Mexican border: 1304.1 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 296.3 degrees Distance: 574.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 281.7 degrees Distance: 1118.4 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%

No IX check failures found.

The foregoing was prepared on behalf of SagamoreHill of Kansas City Licenses, LLC by Clarence M. Beverage of *Communications Technologies, Inc.*, Medford, 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 he believes them to be true and correct.

Clarence M. Beverage
for Communications Technologies, Inc.
Medford, New Jersey
December 22, 2021