



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

# MINOR MODIFICATION APPLICATION TO A CONSTRUCTION PERMITTED DIGITAL TRANSLATOR FACILITY

CALL SIGN: K29OC-D  
FACILITY ID: 186919  
LOCATION: Chapman, KS

## **Prepared For:**

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## **1.0 EXECUTIVE SUMMARY**

Roseland Broadcasting, Inc. is the licensee of a digital low power television broadcast station having call sign K29OC-D, and facility ID 186919. K29OC-D has a construction permit<sup>1</sup> to operate on channel 29 using a directional antenna with an ERP of 1.7 kW at a height of 474.5m AMSL on antenna structure number 1033059. It is herein proposed to

- decrease the antenna height AGL by 224 ft (68.3 m),
- change the antenna rotation from 215 to 230 degrees from true north,
- Increase the ERP from 1.7kW to 2.6kW

No other changes are proposed.

## **2.0 MINOR MODIFICATION**

The proposed facility modification described in section 1.0 is considered “minor” pursuant to 47 CFR 74.787 since

- there is no change in output frequency,
- the protected contour of the proposed facility overlaps some portion of the licensed facility as illustrated in Appendix B,
- and the change in transmitting antenna location is less than 30 miles (48km) from the reference coordinates of the licensed station’s antenna location.

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<sup>1</sup> FCC File No.: 0000243730

### **3.0 TRANSMITTER LOCATION AND TOWER REGISTRATION**

It is proposed to reduce the K29OC-D antenna height relative to the construction permitted facility. Modifying the antenna height will not require FAA or FCC registration modifications.

### **4.0 ALLOCATION ANALYSIS**

Appendix A are the summarized results from TVStudy V2.2.5 which illustrate that there are no interference failures to other facilities.

### **5.0 RADIO FREQUENCY RADIATION (RFR) COMPLIANCE.**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001-mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001-mile increment, the value is then converted into a percentage of the maximum allowable general

population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix C demonstrates that the peak exposure is 4.26% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

## **6.0 CERTIFICATION**

The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed May 8, 2024.

Kessler and Gehman Associates, Inc.



Ryan Wilhour  
Consulting Engineer

## K29OC-D – Construction Permit Minor Modification

Chapman, KS

### APPENDIX A – TVStudy V2.2.5 Allocation Analysis

Study created: 2024.05.08 11:47:15

Study build station data: LMS TV 2024-05-07 #149

Proposal: K29OC-D D29 LD CP CHAPMAN, KS  
File number: K29OC-D Proposed  
Facility ID: 186919  
Station data: User record  
Record ID: 1727  
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	K26PI-D	N15z	TX	LIC	Kansas City, KS	BLTTL19880714IH	95.9 km
No	KSCW-DT	D28	DT	CP	WICHITA, KS	BLANK0000193197	163.4
No	KCMN-LD	D28	LD	LIC	Kansas city, MO	BLANK0000124482	183.4
No	KCJO-LD	D28	LD	LIC	SAINT JOSEPH, MO	BLANK0000064321	163.2
No	KHNE-TV	D28	DT	LIC	HASTINGS, NE	BLANK0000074810	212.7
No	KWOG	D29	DT	LIC	SPRINGDALE, AR	BLANK0000243260	410.5
No	KBWF-LD	D29	LD	LIC	SIOUX CITY, IA	BLANK0000063408	361.2
No	KSAS-LP	D29	LD	LIC	DODGE CITY, KS	BLDTL20140106DOA	340.0
No	K29JU-D	D29	LD	APP	GARDEN CITY, KS	BLANK0000212503	392.6
Yes	KHDS-LD	D29	LD	LIC	SALINA, KS	BLANK0000059140	100.4
No	K29NL-D	D29	LD	LIC	WICHITA, KS	BLANK0000160616	179.3
No	KRCG	D29	DT	LIC	JEFFERSON CITY, MO	BLANK0000194198	395.2
No	KJLN-LD	D29	LD	CP	Joplin, MO	BLANK0000143697	301.9
No	KJLN-LD	D29	LD	LIC	Joplin, MO	BLANK0000223149	301.9
No	KJLN-LD	D29	LD	LIC	Joplin, MO	BLANK0000143105	294.9
No	KMBC-TV	D29	DT	LIC	KANSAS CITY, MO	BLANK0000153380	181.8
No	KSFZ-LD	D29+	LD	CP	Springfield, MO	BLANK0000190129	385.9
No	KSFZ-LD	D29+	LD	LIC	Springfield, MO	BLANK0000219305	385.9
No	KWNB-LD	D29	LD	LIC	MCCOOK, NE	BLDTL20070619AAU	363.0
No	KXVO	D29	DT	LIC	OMAHA, NE	BLANK0000189938	207.7
No	KXVO	D29	DT	LIC	OMAHA, NE	BLANK0000243386	207.7
No	KTUZ-TV	D29	DT	LIC	SHAWNEE, OK	BLCDT20081105ACO	414.6
No	KTZT-CD	D29	DC	LIC	TULSA, OK	BLANK0000189757	345.1
No	K29HZ-D	D29	LD	LIC	WOODWARD, ETC., OK	BLDDT20101007ABM	376.7
No	KGBD-LD	D30	LD	LIC	GREAT BEND, KS	BLDTL20121217ACU	203.8
No	K30LK-D	D30	LD	CP	SALINA, KS	BLANK0000195846	99.2
No	K30LK-D	D30	LD	LIC	SALINA, KS	BLANK0000198100	99.2
No	KSMI-LD	D30	LD	LIC	WICHITA, KS	BLANK0000011260	177.1
No	KPXE-TV	D30	DT	LIC	KANSAS CITY, MO	BLANK0000001701	182.8
No	KOHA-LD	D30	LD	CP	OMAHA, NE	BLANK0000221058	229.2
No	DK31BW	N31	TX	APP	MANHATTAN, KS	BLTTL19890119II	0.0
No	KQKC-LD	N32z	TX	LIC	TOPEKA, KS	BLTTL20100128AAE	42.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D29  
Mask: Full Service  
Latitude: 39 13 34.00 N (NAD83)  
Longitude: 96 37 1.00 W  
Height AMSL: 406.3 m  
HAAT: 47.5 m  
Peak ERP: 2.60 kW  
Antenna: KAT-75010210 (ID 1010776) 230.0 deg  
Elev Pattnr: Generic

50.2 dBu contour:

## K290C-D – Construction Permit Minor Modification

Chapman, KS

Azimuth	ERP	HAAT	Distance
0.0 deg	0.008 kW	49.0 m	6.7 km
45.0	0.023	42.6	8.1
90.0	0.001	64.6	4.9
135.0	0.008	55.8	7.3
180.0	0.541	66.9	22.5
225.0	2.52	43.0	25.4
270.0	0.927	34.1	18.2
315.0	0.021	24.0	6.7

Distance to Canadian border: 1055.9 km

Distance to Mexican border: 1138.1 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 321.3 degrees Distance: 243.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 280.4 degrees Distance: 742.8 km

Study cell size: 1.00 km  
Profile point spacing: 1.00 km

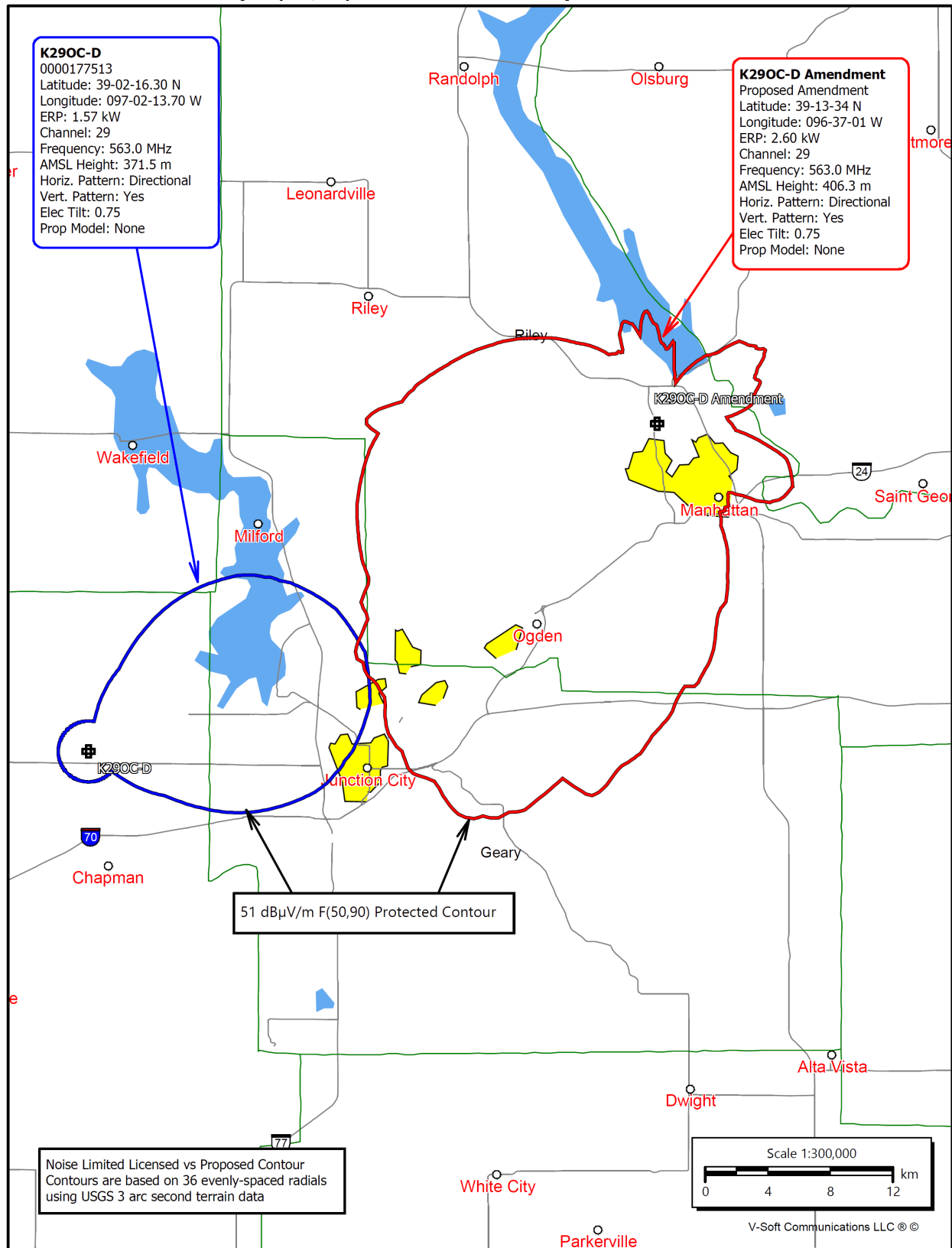
Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

Proposal causes no interference to BLANK0000059140 LIC

---- Below is IX received by proposal K290C-D Proposed ----

Proposal receives 0.68% interference from scenario 1  
No IX check failures found.

APPENDIX B – 51dBμ F(50,90) Licensed and Proposed Contour





## APPENDIX C – Far Field Exposure to RF Emissions

