

ENGINEERING STATEMENT**In support of a request for****Minor Modification to License****K26NK-D CH26****Wichita Falls, TX****Facility ID: 72353****PURPOSE**

MARSAND, INC. has been retained by North Texas Public Broadcasting, Inc., the “applicant”, to prepare this engineering statement in support of a request for a Minor Modification to a Licensed Facility. The applicant proposes to relocate their broadcast facility to another tower because the tower they were on fell and will not be rebuilt:

Current License

Effective Radiated Power (ERP)	15 kW
Height of Radiation Center Above Ground Level:	115.8 meters
Height of Radiation Center Above Mean Sea Level:	419.1 meters
Latitude:	33-53-00.0 N
Longitude:	98-36-11.0 W
(NAD83)	
Antenna Structure Registration (ASR)	1052222

Proposed Changes

Effective Radiated Power (ERP)	15 kW
Height of Radiation Center Above Ground Level:	115.8 meters
Height of Radiation Center Above Mean Sea Level:	421.8 meters
Latitude:	33-53-23.0 N
Longitude:	98-33-31.0 W
(NAD83)	
Antenna Structure Registration (ASR)	1044169

DISCUSSION

The applicant has a licensed, main facility on channel 26, LMS File Number 0000055164.

Earlier this year, the tower hosting this facility fell, and it was later determined the tower will not be rebuilt. The applicant has entered into an agreement with KFDX, a local full power television station, to relocate to the KFDX tower, ASR 1044169.

FCC OET Bulletin No. 65 "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules as shown in **Exhibit 1**. The total exposure as defined by the ANSI standard computations for occupational/controlled area is 0.81 % of the maximum. The total exposure as defined by the ANSI standard computations for general population/uncontrolled area is 0.16 % of the maximum.

Proposed coverage contour shown in **Exhibit 2**

Proposed antenna technical information is shown in **Exhibit 3**.

The proposed facility was modeled for interference analysis using the FCC TVStudy program. The results were found to comply with 47 C.F.R. Sections 74.793(e), 74.793(f), 74.793(g), 74.793(h). The summary report is shown in **Exhibit 4**.

CONCLUSION

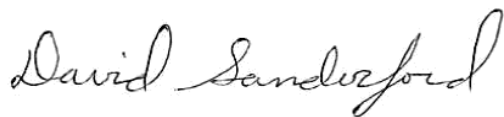
It is respectfully requested that the Commission grant this request for minor modification as specified herein.

DECLARATION

David Sanderford, EIT, declares and states that he is a graduate Electrical Engineer with a Bachelor of Science Degree in Electrical Engineering from the Georgia Institute of Technology, and his qualifications are known to the Federal Communications Commission, and that he is Vice-President of MARSAND, INC., a Registered Professional Engineering firm in the State of Texas, and that firm has been retained by North Texas Public Broadcasting, Inc., to perform the engineering support as contained in this report.

All facts contained herein are true of his own knowledge except where stated to be on information or belief provided by others, and as to those facts, he believes them to be true.

I declare under penalty of perjury that the foregoing is true and correct.



David Sanderford, EIT
Vice-President - MARSAND, INC.

Executed this 4th day of May, 2021
State of Texas

EXHIBIT 1**RADIO FREQUENCY RADIATION COMPLIANCE STATEMENT**

The Licensed facility, K26NK-D, has been studied in accordance with the procedures set forth in the FCC OET Bulletin No. 65 "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules. The total exposure due to radiation from the licensed facility as defined by the ANSI standard computations for general population/uncontrolled area is **0.16 %** of the maximum. Since this is less than 5% of the Commission's power density limit, the Licensee is categorically excluded from having to take action to correct for emissions exceeding the guidelines in a site with multiple fixed transmitters. The total radiated power from all TV & FM, full and low power, co-located broadcast emitters were also considered. A summary of the results is tabulated below, and the individual calculations can be found in the following pages.

Multiple Use FM/TV Tower						
Location:		K26NK-D Wichita Falls, TX				4/22/21
Channel Frequency Type	Call Letters	Service	ERP (W) H+V	Ant Center of Radiation AG (m)	% of ANSI/FCC Limit (6min)	% of ANSI/FCC Limit (30 min)
28	KFDX	TV UHF#1	1,000,000	266.10	0.25	1.28
26	K26NK-D	ULPTV #1	15,000	115.80	0.16	0.81
20	K20LC-D	ULPTV #2	5,000	152.00	0.03	0.17
24	K24HH-D	ULPTV #3	5,000	152.00	0.00	0.02
89.5	KMOC	FM #1	6,000	197.00	0.05	0.23
Total %					0.50	2.52
IN COMPLIANCE						

The Licensee agrees to maintain full compliance with the safety precautions to workers on the tower (controlled) and the general public (uncontrolled) by reducing or removing radiated power during the time of construction or maintenance on or near the antenna. The Licensee also certifies that it, in coordination with other users of the site, will continue to post RF exposure warning signs and reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from Radiofrequency Electromagnetic exposure in excess of FCC guidelines.

The Licensee is believed to be in full compliance with the Environmental Impact and Commission Rules.



David Sanderford

MARSAND, INC. – VP

EXHIBIT 2

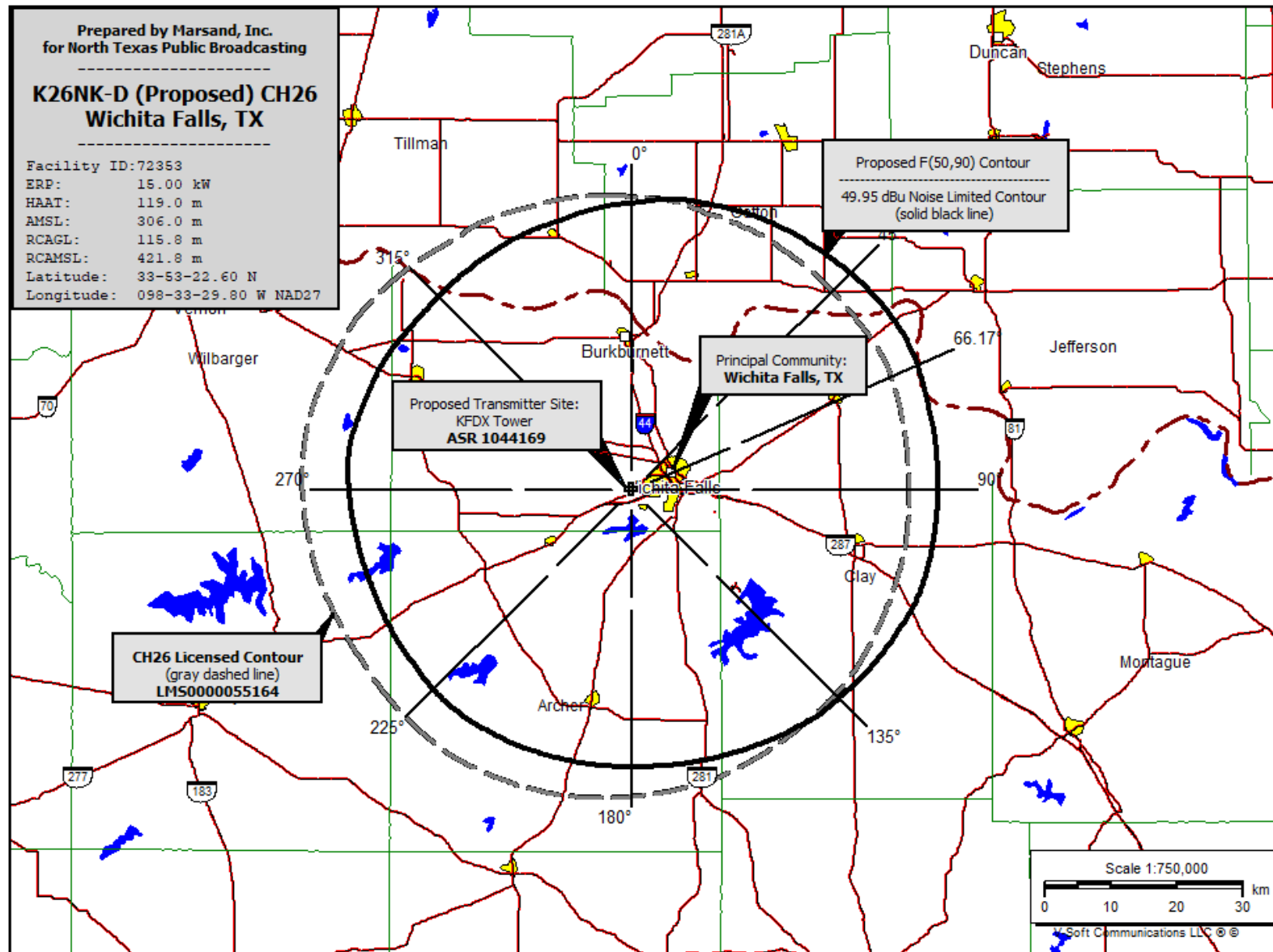


EXHIBIT 3

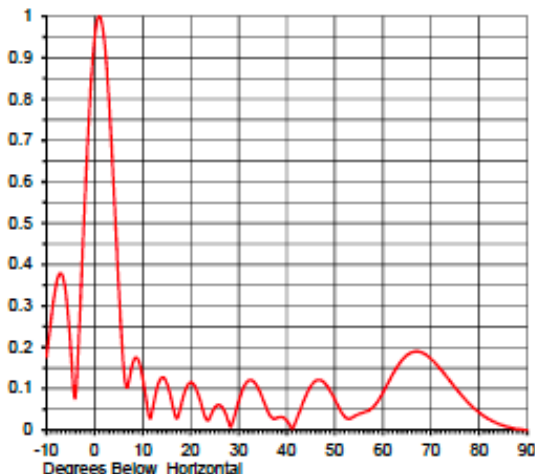
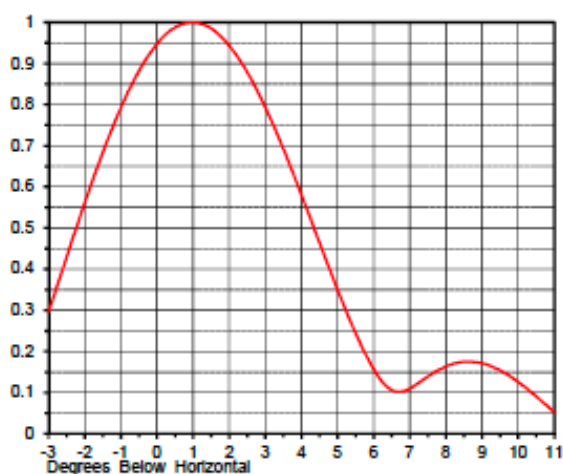


ELEVATION PATTERN

Proposal No.
Date **16-Mar-21**
Call Letters **K26NK-D**
Channel **26**
Frequency **545 MHz**
Antenna Type **DLP-10B**

RMS Directivity at Main Lobe **10.3 (10.13 dB)**
RMS Directivity at Horizontal **9.2 (9.64 dB)**
Calculated

Beam Tilt **1.00 deg**
Pattern Number **10L103100-26**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.177	10.0	0.126	30.0	0.070	50.0	0.073	70.0	0.172
-9.0	0.273	11.0	0.053	31.0	0.102	51.0	0.051	71.0	0.160
-8.0	0.351	12.0	0.046	32.0	0.119	52.0	0.033	72.0	0.147
-7.0	0.379	13.0	0.102	33.0	0.118	53.0	0.027	73.0	0.133
-6.0	0.331	14.0	0.127	34.0	0.102	54.0	0.033	74.0	0.118
-5.0	0.201	15.0	0.114	35.0	0.075	55.0	0.039	75.0	0.103
-4.0	0.080	16.0	0.072	36.0	0.046	56.0	0.042	76.0	0.089
-3.0	0.297	17.0	0.028	37.0	0.029	57.0	0.047	77.0	0.076
-2.0	0.561	18.0	0.060	38.0	0.029	58.0	0.056	78.0	0.063
-1.0	0.792	19.0	0.100	39.0	0.031	59.0	0.071	79.0	0.052
0.0	0.947	20.0	0.115	40.0	0.023	60.0	0.090	80.0	0.042
1.0	1.000	21.0	0.103	41.0	0.005	61.0	0.112	81.0	0.034
2.0	0.943	22.0	0.070	42.0	0.025	62.0	0.134	82.0	0.027
3.0	0.793	23.0	0.031	43.0	0.055	63.0	0.153	83.0	0.020
4.0	0.580	24.0	0.031	44.0	0.084	64.0	0.169	84.0	0.015
5.0	0.350	25.0	0.054	45.0	0.106	65.0	0.181	85.0	0.011
6.0	0.157	26.0	0.060	46.0	0.119	66.0	0.188	86.0	0.007
7.0	0.110	27.0	0.046	47.0	0.121	67.0	0.190	87.0	0.005
8.0	0.163	28.0	0.015	48.0	0.112	68.0	0.188	88.0	0.002
9.0	0.171	29.0	0.030	49.0	0.095	69.0	0.181	89.0	0.001
								90.0	0.000

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Matthew A. Sanderford, Jr., P.E.

EXHIBIT 4

Study created: 2021.05.04 07:19:24

Study build station data: LMS TV 2021-05-04

Proposal: K26NK-D D26- LD LIC WICHITA FALLS, TX
 File number: K26NK_CP_KFDX_04
 Facility ID: 72353
 Station data: User record
 Record ID: 403
 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	K25JO-D	D25	LD	LIC	ALTUS, OK	BLDTT20100709AKD	110.9 km
No	K25IC	N25+	TX	LIC	LAWTON, OK	BLTTL20070212ACG	76.7
No	K25IC	D25	LD	CP	LAWTON, OK	BDFCDTL20100202ABP	76.3
No	KWTV-DT	D25	DT	LIC	OKLAHOMA CITY, OK	BLANK0000067689	213.5
No	KPXD-TV	D25	DT	LIC	ARLINGTON, TX	BLANK0000073172	206.3
No	K25CQ-D	D25	LD	LIC	CHILDRESS, TX	BLDTT20100708TPX	166.2
No	K25FW-D	D25	LD	LIC	CORSICANA, TX	BLDTL20110113ABK	206.8
No	KXUN-LD	D26	LD	LIC	FORT SMITH, AR	BLANK0000064232	420.6
No	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	442.3
No	K19II-D	D26	LD	CP	ARDMORE, OK	BLANK0000072054	162.9
Yes	DKSWX-LD	D26-	LD	APP	DUNCAN, OK	BLANK0000074560	81.2
No	K26NC-D	D26	LD	LIC	ELK CITY, OK	BLANK0000058431	175.6
Yes	K44IW-D	D26	LD	LIC	HOLLIS, OK	BLANK0000058436	148.8
No	KLHO-LD	D26	LD	CP	OKLAHOMA CITY, OK	BLANK0000054306	192.7
No	K26PE-D	D26	LD	CP	PONCA CITY, OK	BLANK0000071808	313.6
No	KOTV-DT	D26	DT	LIC	TULSA, OK	BLANK0000116553	353.6
No	K26IS-D	D26	LD	LIC	WOODWARD, ETC., OK	BLDTT20101007ABL	304.5
No	KTES-LD	D26	LD	LIC	ABILENE, TX	BLANK0000143282	218.4
No	KVAD-LD	D26	LD	CP	AMARILLO, TX	BDISDTL20140416AAG	340.2
No	K26KP-D	D26	LD	CP	CISCO, TX	BNPDTL20100304AAU	176.3
No	K26KC-D	D26	LD	LIC	DALLAS, TX	BLDTL20141017ACV	207.5
No	NEW	D26	LD	CP	LUBBOCK, TX	BNPDTL20090825ARG	307.1
No	K26KN-D	D26	LD	CP	MCCLEAN, TX	BNPDTL20100406ACQ	241.9
No	KMID	D26	DT	LIC	MIDLAND, TX	BLCDT20110218AAS	400.8
Yes	KNMW-LD	D26	LD	LIC	MINERAL WELLS, TX	BLANK0000062727	122.7
No	KJBA-LD	D26	LD	CP	SAN ANGELO, TX	BDISDTL20101007ABJ	320.9
No	KTAL-TV	D26	DT	LIC	TEXARKANA, TX	BLANK0000073076	436.4
No	K26JR-D	D26	LD	LIC	TURKEY, TX	BLDTT20101115FOD	242.4
No	KPXL-TV	D26	DT	LIC	UVALDE, TX	BLCDT20090612AHU	476.8
No	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	306.7
No	K27MY-D	D27	LD	LIC	ALTUS, OK	BLANK0000045306	110.9
No	K46AI-D	D27	LD	LIC	DURANT, OK	BLANK0000063814	199.7
No	KFOR-TV	D27	DT	LIC	OKLAHOMA CITY, OK	BLANK0000121786	210.6
No	KFOR-TV	D27	DT	CP	OKLAHOMA CITY, OK	BLANK0000127588	210.6
No	KDFI	D27	DT	LIC	DALLAS, TX	BLANK0000074883	206.4
No	K27HM-D	D27	LD	LIC	QUANAH, TX	BLDTT20110118AAM	114.1
No	K27BZ-D	D27	LD	LIC	WELLINGTON, TX	BLDTT20100813BHF	179.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Matthew A. Sanderford, Jr., P.E.

Channel: D26-
Mask: Full Service
Latitude: 33 53 23.00 N (NAD83)
Longitude: 98 33 31.00 W
Height AMSL: 421.8 m
HAAT: 119.0 m
Peak ERP: 15.0 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 1.00

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	15.0 kW	109.3 m	44.9 km
45.0	15.0	127.6	46.4
90.0	15.0	122.3	46.0
135.0	15.0	124.7	46.2
180.0	15.0	116.7	45.6
225.0	15.0	114.5	45.4
270.0	15.0	121.3	46.0
315.0	15.0	113.4	45.3

Distance to Canadian border: 1618.5 km

Distance to Mexican border: 530.6 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 174.7 degrees Distance: 719.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 321.4 degrees Distance: 910.1 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.