

THOMAS M. ECKELS, PE
STEPHEN S. LOCKWOOD, PE
DAVID J. PINION, PE
ERIK C. SWANSON, PE

THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
CONSULTANTS

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151
FACSIMILE (206) 789-9834
E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
(1942-2009)
PAUL W. LEONARD, PE
(1925-2011)

**Engineering Statement
Engineering STA for KVTX-LD
Channel 34 at Victoria, TX
October 2018**

This Engineering Statement has been prepared on behalf of QueenB Television of Texas, LLC (“QueenB”), licensee of digital LPTV station KVTX-LD at Victoria, Texas. This material has been prepared in connection with an application for an engineering STA to operate on a new channel.

I. Background

The station currently operates on a channel above Channel 36, which will be the highest channel remaining for terrestrial television broadcasting per the results of the 2017 spectrum auction. QueenB did file a displacement application during the Special Displacement Window, but that application on Channel 23 is mutually-exclusive with another application filed during the window. The Commission has not yet scheduled a window to resolve these MX applications, and so QueenB is hereby seeking an engineering STA on an alternate channel.

II. Interference Study

Study has been made of all cochannel and adjacent-channel facilities in the vicinity of the proposed operation, including a detailed Longley-Rice interference study to demonstrate that the proposed operation will not cause interference to any authorized or pending proposed facilities. This study was performed using the Commission’s TVStudy software, and uses a 0.5 km study grid and 0.5 km terrain increment.

Hatfield & Dawson Consulting Engineers

The results of this study indicate that the proposed facility is predicted to cause zero additional interference to any of the listed stations. Based on the foregoing interference study, it is believed that the proposed facility can operate without risk of interference to other stations.

Study created: 2018.10.17 09:44:34

Study build station data: LMS TV 2018-10-14 (154)

Proposal: KVTX-LP D34 LD APP VICTORIA, TX
 File number: KVTX34-10.6KW
 Facility ID: 5842
 Station data: User record
 Record ID: 750
 Country: U.S.

Build options:
 Protect pre-transition records not on baseline channel

Search options:
 Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KRTX-LP	N20-	TX	LIC	SAN ANTONIO, TX	BLTT19981014JC	159.0 km
No	KVHM-LP	N31	TX	LIC	VICTORIA, TX	BLTTL19980616JF	16.1
No	KVUE	D33	DT	LIC	AUSTIN, TX	BLCDT20050624AAI	176.7
No	KTBU	D33	DT	CP	CONROE, TX	BLANK0000034102	175.9
No	NEW	D33	LD	APP	CORPUS CHRISTI, TX	BNPDTL20090825ALB	121.4
No	KSSJ-LD	D33	LD	CP	SAN ANTONIO, TX	BLANK0000051645	149.5
No	KQZY-LP	D33	LD	LIC	VICTORIA, TX	BLANK0000001557	0.0
Yes	K34FM-D	D34	LD	LIC	AUSTIN, TX	BLANK0000005051	176.7
Yes	KEYE-TV	D34	DT	CP	AUSTIN, TX	BLANK0000034391	176.7
No	K34FM-D	N34-	TX	LIC	AUSTIN, TX	BLTT20061002BGB	176.7
No	K34LK-D	D34	LD	CP	BEAUMONT, TX	BNPDTL20090826ACT	336.7
No	NEW	D34	LD	APP	BEAUMONT, TX	BNPDTL20090825AYC	344.8
No	KZCZ-LD	D34	LD	LIC	COLLEGE STATION, TX	BLANK0000011233	274.5
Yes	KYDF-LP	D34+	LD	CP	CORPUS CHRISTI, TX	BLANK0000053806	119.1
No	KYDF-LP	N34+	TX	LIC	CORPUS CHRISTI, TX	BLTTL20071003AAH	119.1
No	KTWC-LD	D34	LD	LIC	CROCKETT, TX	BLDTL20120628ABT	314.7
No	KJJM-LD	D34	LD	LIC	DALLAS & MESQUITE, TX	BLDTL20090319ABX	416.4
No	KLUJ-TV	D34	DT	LIC	HARLINGEN, TX	BL EDT20070402KPK	299.2
Yes	KIAH	D34	DT	CP	HOUSTON, TX	BLANK0000035711	177.1
No	KSTR-DT	D34	DT	CP	IRVING, TX	BLANK0000034260	411.3
No	KVHP-LD	D34	LD	CP	JASPER, TX	BLANK0000054529	383.8
No	NEW	D34	LD	APP	JUNCTION, TX	BNPDTL20100406ABR	309.7
No	K34HW	N34-	TX	LIC	MASON, TX	BLTTL20070507AEV	301.2
No	KSOY-LD	D34	LD	APP	MCALLEN, TX	BLANK0000054868	313.1
No	KUVM-CD	D34	DC	LIC	MISSOURI CITY, TX	BLDTA20121017ABA	175.9
Yes	KNIC-CD	D34	DC	LIC	SAN ANTONIO, TX	BLANK0000001656	147.6
No	KVAT-LD	D35	LD	LIC	AUSTIN, TX	BLANK0000033777	176.7
No	KHCC-LP	D35z	LD	CP	CORPUS CHRISTI, TX	BLANK0000001199	123.7
No	KHCC-LP	N35z	TX	LIC	CORPUS CHRISTI, TX	BLTTL19990503JG	125.6
No	KPRC-TV	D35	DT	LIC	HOUSTON, TX	BLCDT19991022ABJ	177.1
No	KAXX-LD	D35	LD	LIC	SAN ANTONIO, TX	BLANK0000029253	158.7
Yes	K35ME-D	D35	LD	CP	VICTORIA, TX	BNPDTL20090825APJ	19.2
No	KVCV-LP	N42z	TX	LIC	VICTORIA, TX	BLTTL20070511ABY	19.2
No	XHAMC	D34	DT	LIC	CIUDAD ACUNA, CI	BLANKBPFS20160304AAX	370.1
No	XHSBC	D34	DT	LIC	SABINAS-NUEVO ROSITA, CI	BLANKBPFS20160226ABT	407.3
No	LICITACIOND34		DT	LIC	NUEVO LAREDO, TA	BLANKBPFS20090331AHG	280.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Hatfield & Dawson Consulting Engineers

Channel: D34
Mask: Full Service
Latitude: 28 50 43.40 N (NAD83)
Longitude: 97 7 34.00 W
Height AMSL: 351.3 m
HAAT: 0.0 m
Peak ERP: 10.6 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.50

50.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	10.6 kW	306.2 m	54.3 km
45.0	10.6	313.9	54.7
90.0	10.6	322.7	55.2
135.0	10.6	325.3	55.3
180.0	10.6	317.3	54.9
225.0	10.6	312.4	54.6
270.0	10.6	304.0	54.2
315.0	10.6	293.7	53.6

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 312 m

Distance to Canadian border: 1922.8 km

**Proposal is within coordination distance of Mexican border
Distance to Mexican border: 273.5 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 205.6 degrees Distance: 172.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 331.6 degrees Distance: 1454.6 km

Study cell size: 0.50 km

Profile point spacing: 0.50 km

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

No IX check failures found.

III. RF Exposure Study

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Power density levels produced by the proposed facility were calculated for an elevation of 2 meters above ground (306 meters below the antenna radiation center). The worst case power density levels occur at depression angles between 45 and 90 degrees below the horizontal. The calculations in this report assume a worst-case relative field value of 0.150 at these angles, based on the manufacturer's vertical plane pattern for the horizontally-polarized Dielectric model TUA-O4SP-14/55H-1-T-R antenna proposed in this application. This relative field value yields a worst-case adjusted average effective radiated power of 238.5 watts at depression angles between 45 and 90 degrees below the horizontal. Assuming this power and the shortest distance between the antenna radiation center and 2 meters above ground level (i.e. straight down), the highest calculated power density from the proposed antenna alone occurs at the base of the antenna support structure. At this point the power density from the proposed facility is calculated to be $0.09 \mu W/cm^2$, which is <0.1% of $393.3 \mu W/cm^2$ (the FCC maximum for uncontrolled environments at the Channel 34 frequency).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of KVTX-LD alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to

be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken. The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

October 17, 2018

Erik C. Swanson, P.E.