

Engineering Statement
Construction Permit Modification Application for Auxiliary Facility
KTXH Houston, TX Channel 19
February 11, 2024

The purpose of this application is to modify the auxiliary facility Construction Permit File No. 0000218551. The proposed modification is to replace the narrow cardioid antenna pattern with a broader pattern that provides better coverage of the market. The proposed new antenna has less gain than the previously proposed antenna; therefore, there will also be a reduction (approximately 2.3 dB) in the effective radiated power (ERP).

A TVStudy analysis using the default settings indicates the proposal will not cause any new interference above the de minimis limit (A copy of the analysis results are provided in Appendix A below). It is further noted and is also shown in Appendix B that the City Grade service contour of the proposed facility will fully encompass the city of license.

Although the 583.5 kW effective radiated power (ERP) is above that allowed for the height, it should be considered permissible in that it is less than the currently authorized power (1,000 kW) and it does not exceed that of the licensed main facility and the overall coverage area is smaller than that provided by the main facility.

In view of the above and the supporting information provided in the appendices, it is believed KTXH's proposal is justified and it would be in the public interest to grant this application.

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Appendix A

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: 02377_02112024_KTXH_51569, Model: Longley-Rice
Start: 2024.02.11 13:30:15

Study created: 2024.02.11 13:30:15

Study build station data: LMS TV 2024-01-30

Proposal: KTXH D19 DX APP HOUSTON, TX
File number: 02377_02112024_KTXH_51569
Facility ID: 51569
Station data: User record
Record ID: 1989
Country: U.S.
Zone: III

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

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KVHP	D18	DT	LIC	LAKE CHARLES, LA	BLANK0000064019	203.1 km
No	KAJN-CD	D19	DC	LIC	LAFAYETTE, LA	BLANK0000063952	343.1
No	KARD	D19	DT	LIC	WEST MONROE, LA	BLANK0000063972	424.8
Yes	KGBS-CD	D19	DC	LIC	AUSTIN, TX	BLANK0000219792	236.2
No	KSCC	D19	DT	LIC	CORPUS CHRISTI, TX	BLANK0000108393	286.4
Yes	KTVT	D19	DT	LIC	FORT WORTH, TX	BLANK0000203476	358.9
No	KLDO-TV	D19	DT	LIC	LAREDO, TX	BLCDT20110421ABF	452.1
No	KLTL-TV	D20	DT	LIC	LAKE CHARLES, LA	BL EDT20100216ABR	258.7
Yes	KUVM-CD	D20	DC	LIC	MISSOURI CITY, TX	BLANK0000071589	0.0
No	KAVU-TV	D20	DT	LIC	VICTORIA, TX	BLANK0000112500	175.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D19

Latitude: 29 33 45.20 N (NAD83)
Longitude: 95 30 35.90 W
Height AMSL: 554.8 m
HAAT: 536.0 m
Peak ERP: 584 kW
Antenna: DIE TFU_24WB_VP_R_C160_CH19_V9_HPOL_FCC_ 67.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

39.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	577 kW	534.9 m	115.4 km
45.0	480	537.2	113.9
90.0	571	536.2	115.4
135.0	487	535.9	113.9
180.0	189	537.0	105.4
225.0	266	535.9	108.3
270.0	122	534.7	101.3
315.0	427	530.6	112.4

Database HAAT does not agree with computed HAAT
Database HAAT: 536 m Computed HAAT: 535 m

ERP exceeds maximum
ERP: 584 kW ERP maximum: 429 kW

Distance to Canadian border: 1765.2 km

Distance to Mexican border: 422.3 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 225.1 degrees Distance: 330.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 325.6 degrees Distance: 1468.3 km

No land mobile station failures found

Study cell size: 2.00 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%

Interference to BLANK0000219792 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance							
Desired:	KGBS-CD	D19	DC	LIC	AUSTIN, TX	BLANK0000219792								
Undesireds:	KTXH	D19	DT	BL	HOUSTON, TX	DTVBL51569	236.2 km							
	KTXH	D19	DX	APP	HOUSTON, TX	02377_02112024_KTXH_51	236.2							
	KNIC-DT	D18	DT	LIC	BLANCO, TX	BLCDT20091019ADG	97.8							
	KTVT	D19	DT	LIC	FORT WORTH, TX	BLANK0000203476	259.3							
	KHPM-CD	D20	DC	LIC	SAN MARCOS, TX	BLANK0000074893	50.1							
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX							
10267.3	1,703,194	10114.7	1,688,992	10034.3	1,670,685	10062.4	1,671,426	-0.28	-0.04					
Undesired	Total IX		Unique IX, before		Unique IX, after									
KTXH D19 DT BL	52.2	1,321	36.1	964										
KTXH D19 DX APP	24.1	580	8.0	223										
KNIC-DT D18 DT LIC	8.0	144	8.0	144										
KTVT D19 DT LIC	20.1	357	4.0	0										
KHPM-CD D20 DC LIC	16.1	16,842	16.1	16,842										

Interference to BLANK0000203476 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance							
Desired:	KTVT	D19	DT	LIC	FORT WORTH, TX	BLANK0000203476								
Undesireds:	KTXH	D19	DT	BL	HOUSTON, TX	DTVBL51569	358.9 km							
	KTXH	D19	DX	APP	HOUSTON, TX	02377_02112024_KTXH_51	358.9							
	KAUT-TV	D19	DT	LIC	OKLAHOMA CITY, OK	BLANK0000121785	339.8							
	KGBS-CD	D19	DC	LIC	AUSTIN, TX	BLANK0000219792	259.3							
	KFXK-TV	D20	DT	LIC	LONGVIEW, TX	BLANK0000071623	191.1							
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX							
45710.0	6,913,126	45344.1	6,909,845	45164.0	6,907,928	45176.0	6,907,936	-0.03	-0.00					
Undesired	Total IX		Unique IX, before		Unique IX, after									
KTXH D19 DT BL	24.0	30	24.0	30										
KTXH D19 DX APP	12.1	22	12.1	22										
KAUT-TV D19 DT LIC	127.9	1,362	127.9	1,362										
KGBS-CD D19 DC LIC	4.1	8	4.1	8										

KFXK-TV D20 DT LIC 24.2 517 24.2 517 24.2 517

Interference to BLANK0000203476 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KTVT	D19	DT	LIC	FORT WORTH, TX	BLANK0000203476	
Undesireds:	KTXH	D19	DT	BL	HOUSTON, TX	DTVBL51569	358.9 km
	KTXH	D19	DX	APP	HOUSTON, TX	02377_02112024_KTXH_51	358.9
	KAUT-TV	D19	DT	CP	OKLAHOMA CITY, OK	BLANK0000127590	339.8
	KGBS-CD	D19	DC	LIC	AUSTIN, TX	BLANK0000219792	259.3
	KFXK-TV	D20	DT	LIC	LONGVIEW, TX	BLANK0000071623	191.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
45710.0 6,913,126	45344.1 6,909,845	45152.1 6,907,849	45164.0 6,907,857	-0.03 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KTXH D19 DT BL 24.0	30	24.0 30	
KTXH D19 DX APP 12.1	22	12.1 22	
KAUT-TV D19 DT CP 139.8	1,441	139.8 1,441	139.8 1,441
KGBS-CD D19 DC LIC 4.1	8	4.1 8	4.1 8
KFXK-TV D20 DT LIC 24.2	517	24.2 517	24.2 517

Interference to BLANK0000071589 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KUVM-CD	D20	DC	LIC	MISSOURI CITY, TX	BLANK0000071589	
Undesireds:	KTXH	D19	DT	BL	HOUSTON, TX	DTVBL51569	0.0 km
	KTXH	D19	DX	APP	HOUSTON, TX	02377_02112024_KTXH_51	0.0
	KZJL	D21	DT	LIC	HOUSTON, TX	BLANK0000072328	0.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
5809.1 4,646,177	5809.1 4,646,177	4857.4 4,449,142	4877.3 4,466,702	-0.41 -0.39

Undesired	Total IX	Unique IX, before	Unique IX, after
KTXH D19 DT BL 599.5	134,354	83.8 26,794	
KTXH D19 DX APP 431.4	90,274	63.9 9,234	
KZJL D21 DT LIC 867.9	170,241	352.1 62,681	500.3 89,201

Interference to proposal scenario 1

Desired:	Call KTXH	Chan D19	Svc DX	Status APP	City, State HOUSTON, TX	File Number 02377_02112024_KTXH_51	Distance
Undesireds:	KGBS-CD	D19	DC	LIC	AUSTIN, TX	BLANK0000219792	236.2 km
	KTVT	D19	DT	LIC	FORT WORTH, TX	BLANK0000203476	358.9

Service area	Terrain-limited	IX-free	Percent IX
38668.3 6,065,530	38644.3 6,064,931	38488.0 6,064,059	0.40 0.01

Undesired	Total IX	Unique IX	Prcnt Unique IX
KGBS-CD D19 DC LIC	28.1 182 16.1	154	0.04 0.00
KTVT D19 DT LIC	140.2 718 128.2	690	0.33 0.01

