

**Engineering Statement  
Request for Special Temporary Authority  
KTXH Houston, TX  
Channel 19  
November 22, 2021**

The purpose of this application is to request Special Temporary Authority (STA) to utilize an antenna other than that currently licensed (File # 0000166189) for station KTXH channel 19 Houston, TX

KTXH is in the process of transitioning from ATSC 1.0 to ATSC 3.0 at its licensed location and also has a construction permit to move to a nearby tower where it will eventually share a broadband antenna with commonly owned station KRIV channel 26 Houston, TX. An application was filed has been granted to transition the licensed KTXH facility to ATSC 3.0 and provide continuing ATSC 1.0 service utilizing the facilities of KRIV.

In that the ATSC 3.0 standard offers numerous new transmission capabilities, KTXH desires to explore these various new features as well as the differences between using an antenna that has only horizontal polarization (the currently licensed KTXH antenna) versus an elliptically polarized antenna. The proposed elliptically polarized antenna (STA antenna) is a broadband antenna already installed on the same tower as the current KTXH main antenna, at the same elevation, and was recently authorized as an auxiliary antenna for KTXH (File # 0000167565) (STA facility). This facility will operate at the authorized effective radiated power (ERP), 1,000 kW, the same as the currently licensed facility and as previously noted at the same height.

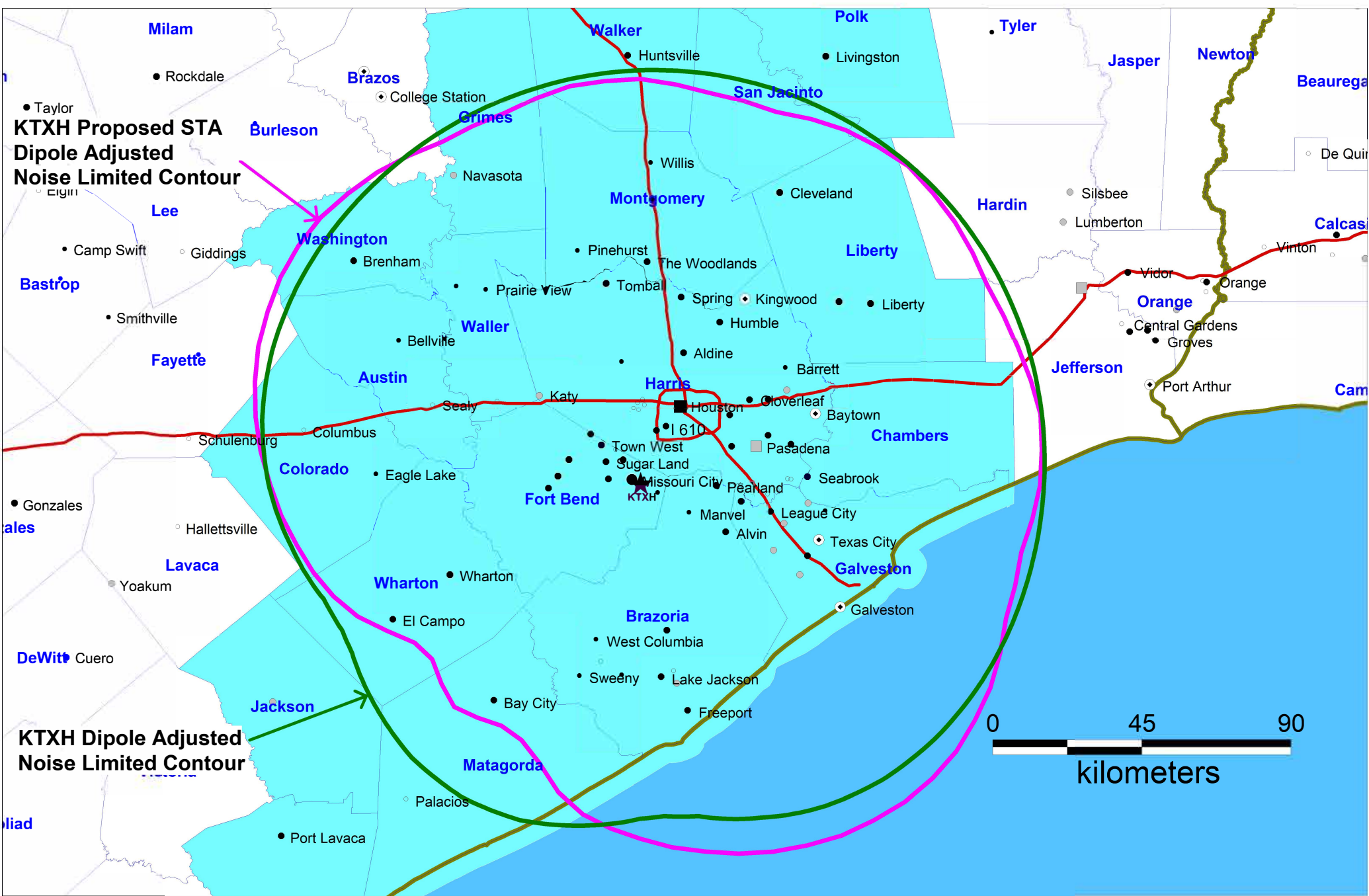
Although the directional antenna patterns of the licensed facility and the STA antenna are not the same, a predicted service analysis indicates they are similar enough to provide service to essentially the same population. There are also some areas within the licensed noise limited contour (NLC) that are beyond that of the proposed STA facility (Figure 1); however, the apparent loss area will receive service as discussed below.

A comparison of the TVStudy analysis results for the licensed facility to that of the proposed STA facility predicted inside the licensed facility NLC shows only a population loss of 69 (0.001%) see Figures 2 & 3.

As detailed above, there is an insignificant difference between the predicted service provided by the current KTXH licensed facility and that which would be provided by the proposed STA facility. Therefore, it appears the requested STA should be granted in that service will be essentially the same regardless of whether it is provided by the

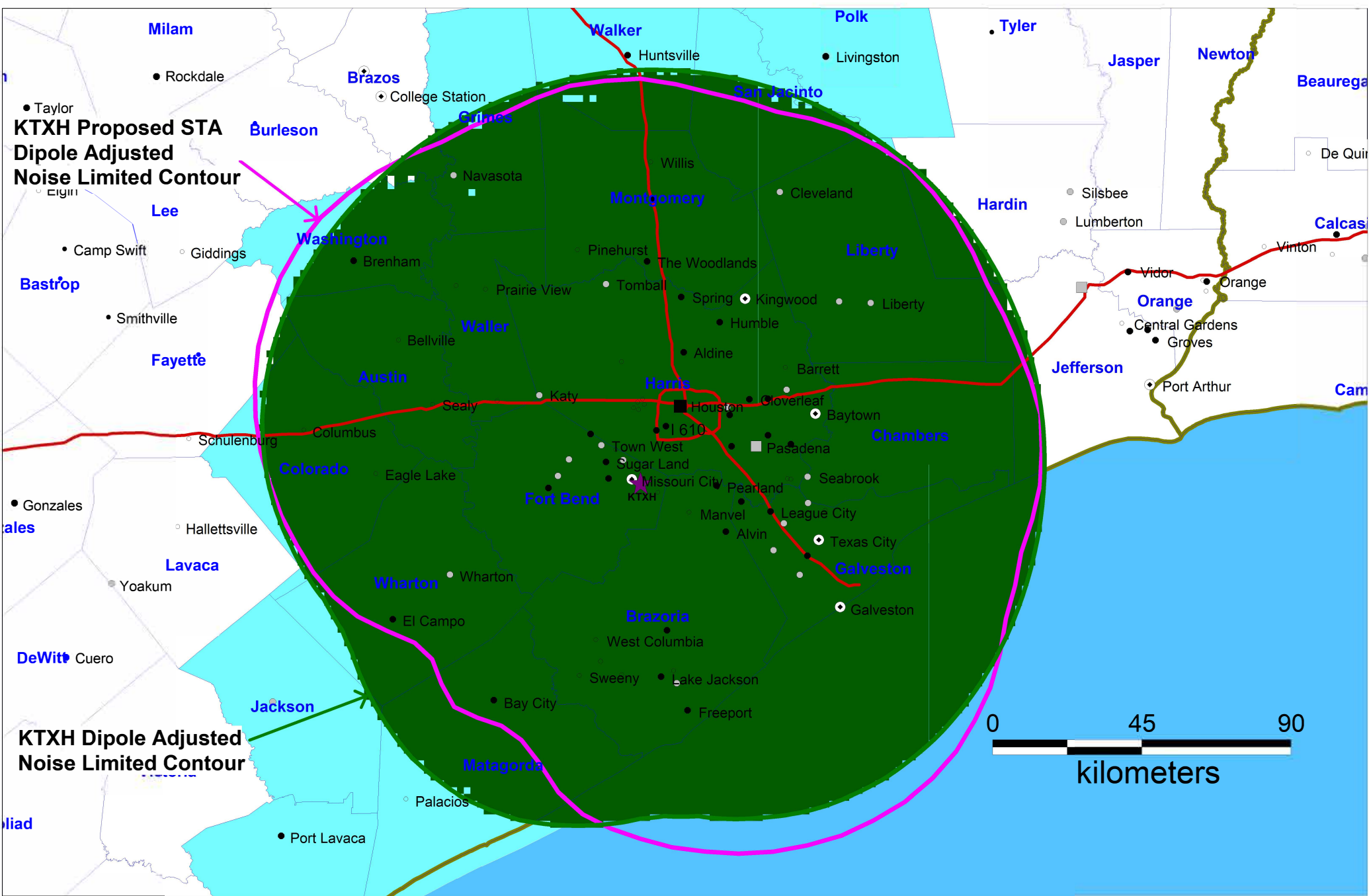
licensed facility or the proposed STA facility. It is further noted, the service provided by the STA facility may actually be better than from the licensed facility due to the additional vertical component.

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**KTXH Ch 19 Houston, TX - Coverage Contour Comparison Licensed Facility ERP 1,000 kW HAAT 595 m Directional Antenna Proposed STA ERP 1,000 kW HAAT 595 m Directional Antenna**

**Figure 1**



KTXH Ch 19 Houston, TX  
Predicted STA Noise Limited Service Inside the KTXH Licensed NLC  
Proposed STA ERP 1,000 kW HAAT 595 m Directional Antenna

Predicted Service Area  Houston, TX DMA

Figure 2

**Figure 3**

**Noise Limited Predicted Service Comparison  
KTXH Channel 19 Houston, TX  
Licensed Facility vs. Proposed STA Predicted Service Inside Licensed Noise Limited Contour**

State	County	KTXH Licensed ERP 1,000 kW DA HAAT 595 m		KTXH Prop. STA ERP 1,000 kW DA HAAT 595 m		Gain / Loss	
		Population	Households	Population	Households	Population	Households
TX	AUSTIN	28,393	10,827	28,393	10,827	0	0
TX	BRAZORIA	313,166	106,589	313,166	106,589	0	0
TX	BRAZOS	863	300	863	300	0	0
TX	CHAMBERS	35,096	11,952	35,096	11,952	0	0
TX	COLORADO	16,121	6,271	16,121	6,271	0	0
TX	FAYETTE	360	146	360	146	0	0
TX	FORT BEND	585,375	187,384	585,375	187,384	0	0
TX	GALVESTON	291,309	108,969	291,309	108,969	0	0
TX	GRIMES	20,244	6,548	20,236	6,545	-8	-3
TX	HARDIN	2,456	947	2,456	947	0	0
TX	HARRIS	4,092,459	1,435,155	4,092,459	1,435,155	0	0
TX	JACKSON	4	2	4	2	0	0
TX	JEFFERSON	3,492	1,275	3,492	1,275	0	0
TX	LIBERTY	74,923	24,782	74,923	24,782	0	0
TX	MATAGORDA	30,679	11,790	30,679	11,790	0	0
TX	MONTGOMERY	455,746	162,530	455,746	162,530	0	0
TX	POLK	381	169	381	169	0	0
TX	SAN JACINTO	19,533	6,985	19,472	6,957	-61	-28
TX	WALKER	9,069	3,647	9,069	3,647	0	0
TX	WALLER	43,205	14,040	43,205	14,040	0	0
TX	WASHINGTON	29,440	11,228	29,440	11,228	0	0
TX	WHARTON	40,211	14,763	40,211	14,763	0	0
<b>TOTALS</b>		<b>6,092,525</b>	<b>2,126,299</b>	<b>6,092,456</b>	<b>2,126,268</b>	<b>-69</b>	<b>-31</b>