

Engineering Statement
Television Station KTXH Houston, TX
File Number 166189
Application to Amend ATSC 1.0 Host
February 8, 2023

This statement supports an application by KTXH to amend its ATSC 1.0 (1.0) simulcast Host. The previously specified 1.0 Host, KRIV, remains unchanged; however, KRIV has recently completed construction of a new facility that replaced the previously licensed facility. The newly licensed KRIV facility, File Number 210061 will become the new 1.0 Host for KTXH.

The new KRIV facility is on the same tower as its previously licensed facility and therefore remains in the Houston DMA. The ERP has increased from 800 kW to 1,000 kW while the height of the radiation center has decreased from 617 m AMSL to 597.2 m AMSL. In addition, the cardioid antenna has been replaced with a more circular pattern.

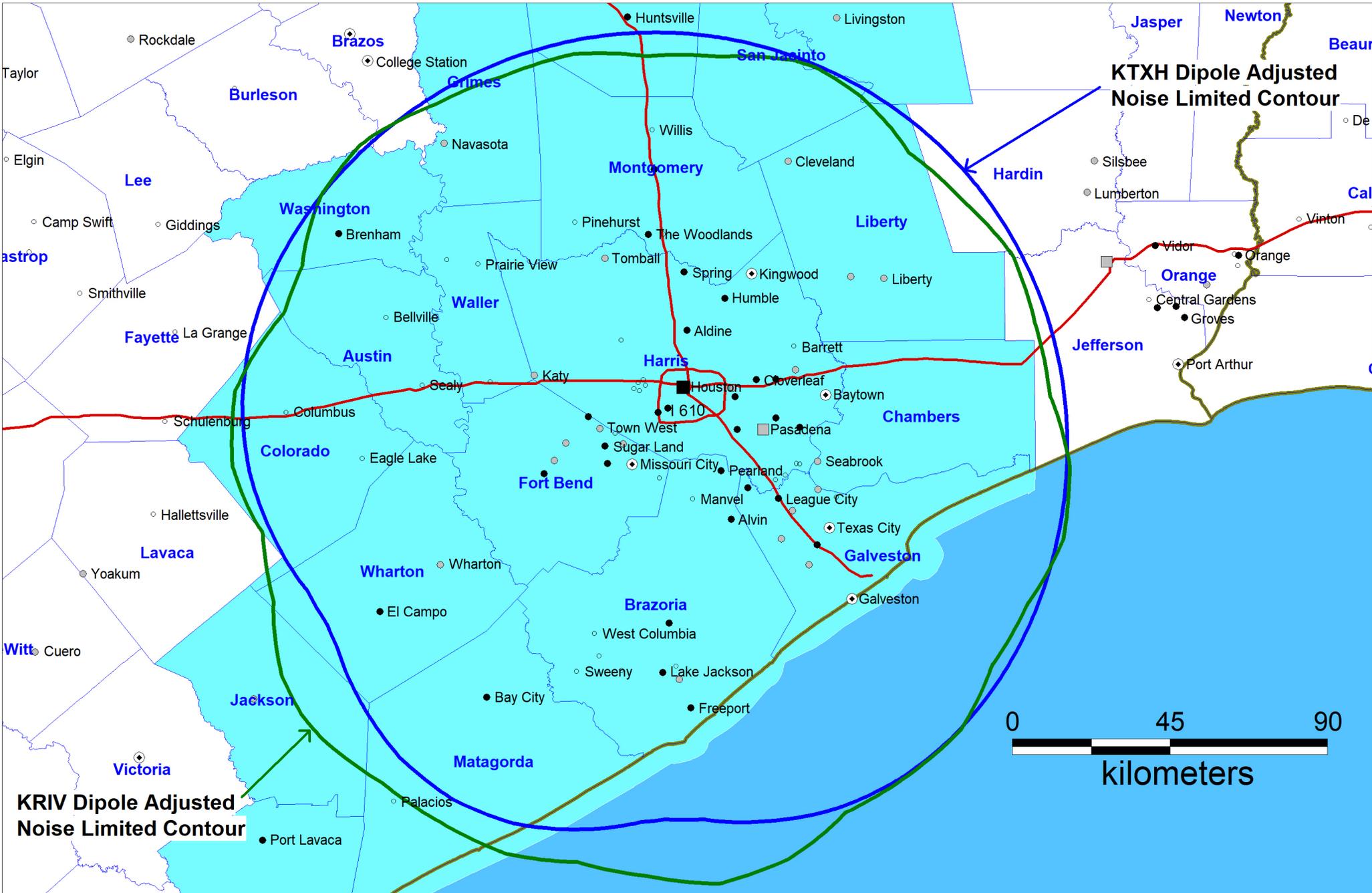
Referring to the attached coverage map (Figure 1), it is shown that the coverage contour of the host simulcast 1.0 station, KRIV, continues to encompass a significant portion and in some directions exceeds that of the current 3.0 coverage contour of KTXH. It is also noted that the city of license, Houston, continues to be fully served. In addition, a comparison of the predicted service population, based on analyses performed using the FCC's TVStudy software, indicates the service loss in moving the KTXH 1.0 service to the new KRIV facility is only 0.0032% (See Figure 2) when the analysis is performed using the parameters of KRIV to predict the service inside the KTXH noise limited contour. Based on the small service loss, this application should be eligible for expedited processing.¹

It is also noted, KTXH will continue to transmit both its 1.0 and 3.0 signals in compliance with the FCC Rules.²

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¹ 47 CFR §73.3801(f)(5)

² 47 CFR §73.682(f) and 47 CFR §73.682(f)(2)



Coverage Contour Comparison

KTXH Licensed ATSC 3.0 Ch 19 Houston, TX ERP 1,000 kW HAAT 595 m Directional Antenna
ATSC 1.0 Host KRIV Licensed Ch 26 Houston, TX ERP 1000 kW HAAT 578 m Directional Antenna

 **Houston, TX DMA**

Figure 1

Figure 2

**Predicted Service Comparison
KTXH CH 19 Houston, TX vs. ATSC 1.0 Host KRIV CH 26 Houston, TX
(KRIV Predicted Service for Inside the KTXH Noise Limited Contour)**

State	County	KTXH Licensed ERP 1,000 kW DA HAAT 595 m		KRIV Licensed ERP 1,000 kW DA HAAT 578 m		Gain / Loss	
		Population	Households	Population	Households	Population	Households
TX	AUSTIN	28,381	10,819	28,393	10,827	12	8
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	344	138	-16	-8
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	20,245	6,546	1	-2
TX	HARDIN	2,385	920	2,456	947	71	27
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	455,744	162,529	-2	-1
TX	POLK	381	169	381	169	0	0
TX	SAN JACINTO	19,533	6,985	19,420	6,938	-113	-47
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	29,292	11,179	-148	-49
TX	WHARTON	40,211	14,763	40,211	14,763	0	0
TOTALS		6,092,442	2,126,264	6,092,247	2,126,192	-195	-72