

Engineering Statement
Auxiliary Facility Construction Permit Application
KDFW Channel 35 Dallas, TX
September 15, 2023

The purpose of this application is to increase the effective radiated power (ERP) from the authorized 109 kW to 248.6 kW. The licensee is replacing its aging auxiliary transmitter and is taking the opportunity to increase power and improve service. No other changes are proposed.

An interference study performed using the FCC's TVStudy software, with the default settings, indicated no new interference would be caused to other stations (See Appendix 1 below). Since this application is for a power increase with no other changes, the predicted city grade contour will continue to fully cover the city of license. In addition, an analysis of the facility indicates the predicted noise limited contour (NLC) will not exceed the main facility NLC (See Appendix 2 - contour compare map below).

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Senior Partner
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Appendix 1

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: 02192_09142023_KDFW_33770, Model: Longley-Rice

Start: 2023.09.14 15:44:52

Study created: 2023.09.14 15:44:52

Study build station data: LMS TV 2023-09-05

Proposal: KDFW D35 DX APP DALLAS, TX

File number: 02192_09142023_KDFW_33770

Facility ID: 33770

Station data: User record

Record ID: 1877

Country: U.S.

Zone: II

Search options:

Non-U.S. records included

Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KEYE-TV	D34	DT	LIC	AUSTIN, TX	BLANK00000121387	263.8 km
Yes	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK00000093868	5.2
Yes	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK00000106487	5.2
No	KLFI-CD	D35	DC	LIC	TEXARKANA, AR	BLANK00000008204	285.2
No	KALB-TV	D35	DT	LIC	ALEXANDRIA, LA	BLCDT20090924AAC	456.9
No	KHPF-CD	D35	DC	LIC	FREDERICKSBURG, TX	BLANK00000091218	310.6
Yes	KPRC-TV	D35	DT	LIC	HOUSTON, TX	BLANK00000168802	363.9
No	KJTV-TV	D35	DT	LIC	LUBBOCK, TX	BLANK00000074582	467.3
Yes	KXTX-TV	D36	DT	LIC	DALLAS, TX	BLANK00000074968	0.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D35

Latitude: 32 35 17.00 N (NAD83)

Longitude: 96 58 35.00 W

Height AMSL: 582.0 m

HAAT: 390.0 m
Peak ERP: 249 kW
Antenna: DIE-TFU-10DSC/VP-R 4C150 DC (ID 114140) 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

40.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	249 kW	431.2 m	96.3 km
45.0	182	372.2	90.1
90.0	242	375.0	92.5
135.0	103	375.2	86.3
180.0	53.8	346.8	79.3
225.0	103	403.8	88.2
270.0	242	409.2	94.7
315.0	182	413.7	92.8

Database HAAT does not agree with computed HAAT
Database HAAT: 390 m Computed HAAT: 391 m

Distance to Canadian border: 1601.9 km

Distance to Mexican border: 519.9 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 188.9 degrees Distance: 578.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 321.0 degrees Distance: 1115.1 km

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 BLANK0000093868 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK0000093868	

Undesireds:	KDFW	D35	DT	BL	DALLAS, TX	DTVBL33770	5.0 km
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	5.2
	KUVN-DT	D33	DT	LIC	GARLAND, TX	BLANK0000186958	5.2
	KMSS-TV	D34	DT	LIC	SHREVEPORT, LA	BLANK0000192923	283.6
	KEYE-TV	D34	DT	LIC	AUSTIN, TX	BLANK0000121387	259.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
36376.5 6,632,577	36175.6 6,629,296	35604.2 6,616,352	35720.7 6,617,989	-0.33 -0.02

Undesired	Total IX	Unique IX, before	Unique IX, after
KDFW D35 DT BL 172.8	4,695	116.6	1,637
KDFW D35 DX APP 4.0	37		0.0 0
KUVN-DT D33 DT LIC 136.3	7,863	88.2	4,946 132.2 7,826
KMSS-TV D34 DT LIC 48.3	554	48.3	554 48.3 554
KEYE-TV D34 DT LIC 270.3	2,890	262.2	2,749 270.3 2,890

Interference to BLANK0000106487 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK0000106487	
Undesireds:	KDFW	D35	DT	BL	DALLAS, TX	DTVBL33770	5.0 km
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	5.2
	KUVN-DT	D33	DT	LIC	GARLAND, TX	BLANK0000186958	5.2
	KMSS-TV	D34	DT	LIC	SHREVEPORT, LA	BLANK0000192923	283.6
	KEYE-TV	D34	DT	LIC	AUSTIN, TX	BLANK0000121387	259.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
36376.5 6,632,577	36175.6 6,629,296	35604.2 6,616,352	35720.7 6,617,989	-0.33 -0.02

Undesired	Total IX	Unique IX, before	Unique IX, after
KDFW D35 DT BL 172.8	4,695	116.6	1,637
KDFW D35 DX APP 4.0	37		0.0 0
KUVN-DT D33 DT LIC 136.3	7,863	88.2	4,946 132.2 7,826
KMSS-TV D34 DT LIC 48.3	554	48.3	554 48.3 554
KEYE-TV D34 DT LIC 270.3	2,890	262.2	2,749 270.3 2,890

Interference to BLANK0000168802 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPRC-TV	D35	DT	LIC	HOUSTON, TX	BLANK0000168802	

Undesireds:	KDFW	D35	DT	BL	DALLAS, TX	DTVBL33770	363.6 km
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	363.9
	KALB-TV	D35	DT	LIC	ALEXANDRIA, LA	BLCDT20090924AAC	331.3
	KFTH-DT	D36	DT	LIC	ALVIN, TX	BLANK0000166957	1.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
45425.1 6,099,422	45361.0 6,099,076	45252.7 6,097,890	45288.8 6,097,995	-0.08 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KDFW D35 DT BL 48.1	399	36.1 105	
KDFW D35 DX APP 0.0	0	0.0 0	
KALB-TV D35 DT LIC 28.0	404	16.0 110	28.0 404
KFTH-DT D36 DT LIC 44.2	677	44.2 677	44.2 677

Interference to BLANK0000074968 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXTX-TV	D36	DT	LIC	DALLAS, TX	BLANK0000074968	
Undesireds:	KDFW	D35	DT	BL	DALLAS, TX	DTVBL33770	0.9 km
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	0.8
	KUOK-CD	D36	DC	CP	OKLAHOMA CITY, OK	BLANK0000140504	318.5
	KFTH-DT	D36	DT	LIC	ALVIN, TX	BLANK0000166957	362.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
40548.9 6,721,578	40155.0 6,718,616	40086.9 6,717,423	40143.1 6,718,547	-0.14 -0.02

Undesired	Total IX	Unique IX, before	Unique IX, after
KDFW D35 DT BL 60.2	1,124	60.2 1,124	
KDFW D35 DX APP 4.0	0	4.0 0	
KFTH-DT D36 DT LIC 7.9	69	7.9 69	7.9 69

Interference to proposal scenario 1
1.90% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	
Undesireds:	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK0000093868	5.2 km
	KXTX-TV	D36	DT	LIC	DALLAS, TX	BLANK0000074968	0.8

Service area	Terrain-limited	IX-free	Percent IX
25076.2 6,419,066	24987.8 6,418,023	22037.1 6,295,881	11.81 1.90

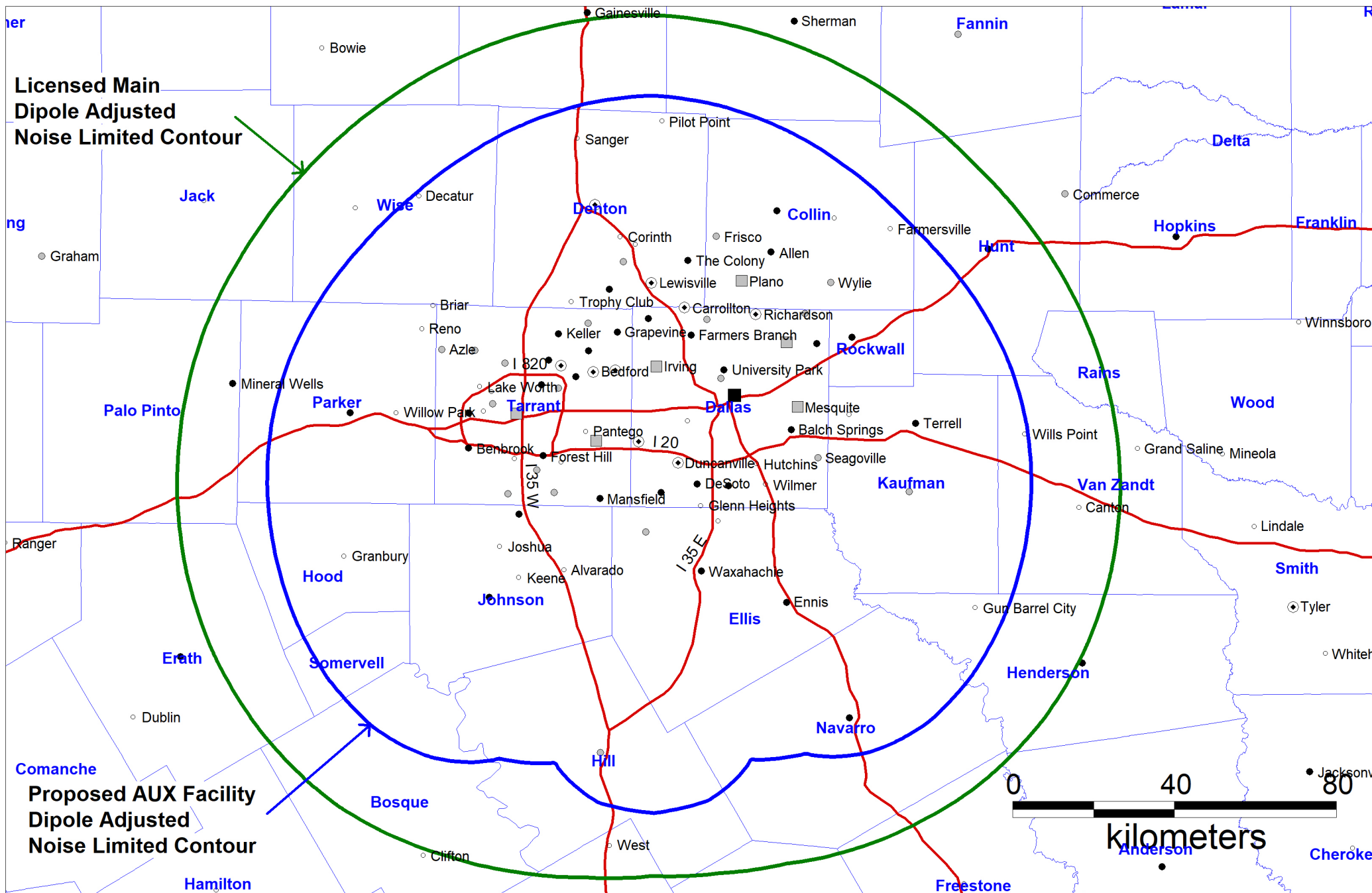
Undesired				Total IX	Unique IX	Prcnt Unique IX
KSTR-DT D34 DT LIC	1318.4	71,248	317.3	13,917	1.27	0.22
KXTX-TV D36 DT LIC	2633.4	108,225	1632.3	50,894	6.53	0.79

Interference to proposal scenario 2
1.90% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KDFW	D35	DX	APP	DALLAS, TX	02192_09142023_KDFW_33	
Undesireds:	KSTR-DT	D34	DT	LIC	IRVING, TX	BLANK0000106487	5.2 km
	KXTX-TV	D36	DT	LIC	DALLAS, TX	BLANK0000074968	0.8

Service area	Terrain-limited	IX-free	Percent IX
25076.2 6,419,066	24987.8 6,418,023	22037.1 6,295,881	11.81 1.90

Undesired				Total IX	Unique IX	Prcnt Unique IX
KSTR-DT D34 DT LIC	1318.4	71,248	317.3	13,917	1.27	0.22
KXTX-TV D36 DT LIC	2633.4	108,225	1632.3	50,894	6.53	0.79



**KDFW Channel 35 Dallas, TX - Noise Limited Contour Compare
Licensed Main (1,000 kW) vs Proposed AUX (248.6 kW)**