

## **ENGINEERING EXHIBIT**

### **Digital Low Power Television Station Application for Minor Modification of Licensed Facility**

prepared for

#### **Gray Television Licensee, LLC**

KLNL-LD College Station, TX

Facility ID 182053

Ch. 14 15 kW Directional

*Gray Television Licensee, LLC* (“Gray”) is the licensee of digital Low Power Television station KLNL-LD, Channel 14, Facility ID 182053, College Station TX. KLNL-LD is licensed to operate at 0.1 kW effective radiated power (“ERP”) with a directional antenna (file# 0000214076). *Gray* herein seeks a minor modification Construction Permit to relocate KLNL-LD and to utilize a different directional antenna at increased ERP and antenna height.

The proposed facility will employ a new side-mounted antenna on the tower structure associated with FCC Antenna Structure Registration number 1062868, located 30.4 km (18.9 miles) from the licensed site. No change to the overall structure height is proposed. The antenna supporting structure is owned by *Gray* and is utilized by *Gray*’s full-power television station KBTX-TV (Facility ID 6669, Bryan TX).

The proposed antenna is an ERI model ALP-12L4-ESOC-14 having elliptical polarization. The proposed ERP is 15 kW horizontally polarized and 4.5 kW vertically polarized using a “full service” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1.

Figure 2 depicts the coverage contour of the proposed facility as well as that of the licensed facility, demonstrating compliance with §73.3572 for a minor change. Since the proposed 51 dB $\mu$  contour encompasses that of the licensed facility, no service loss area will be created. The population within the 51 dB $\mu$  contour increases to 436,791 persons (2010 census), which is a



6.5-fold increase beyond the 67,473 persons within the licensed KLNL-LD facility's 51 dBμ contour.

Interference study per OET Bulletin 69<sup>1</sup> shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed facility was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10) and 20 percent antenna relative field in downward elevations (pattern data shows 20 percent or less relative field at angles 25 to 90 degrees below the antenna), the calculated power density attributable to the proposed facility at locations near the transmitter site at a height of two meters above ground level is  $0.2 \mu\text{W}/\text{cm}^2$ , which is 0.06 percent of the general population / uncontrolled maximum permissible exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This

---

<sup>1</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 0.1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.



exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections of FCC Form at Time of Upload

**Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.	June 27, 2023	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



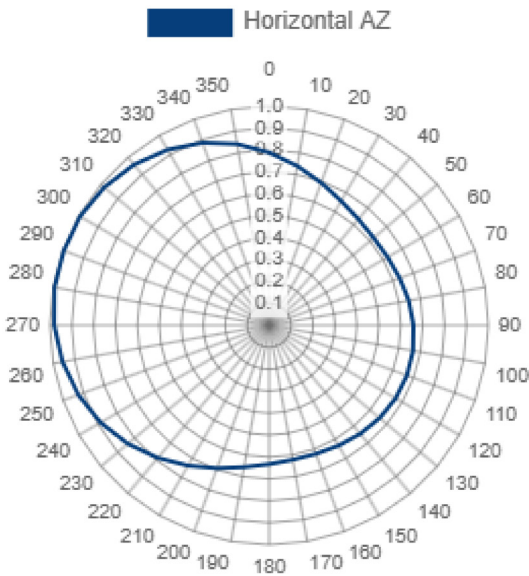


Spec Number: 20230614jmd

Model Number: ALP12L4-ESOC-14

**Azimuth Pattern**

Type:	ALP-OC	Polarization:	Horizontal
Directivity:	1.65 numeric (2.17 dB)	Frequency:	14 (ATSC)
Peak(s) at:		Location:	College Station TX
		Note: Pattern shape and directivity may vary with channel and mounting configuration.	



**Figure 1**  
**Antenna Azimuthal Pattern**  
**KLNL-LD College Station, TX**  
**Facility ID 182053**  
**Ch. 14 15 kW Directional**

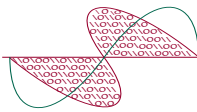
---

prepared for  
**Gray Television Licensee, LLC**

---

June, 2023



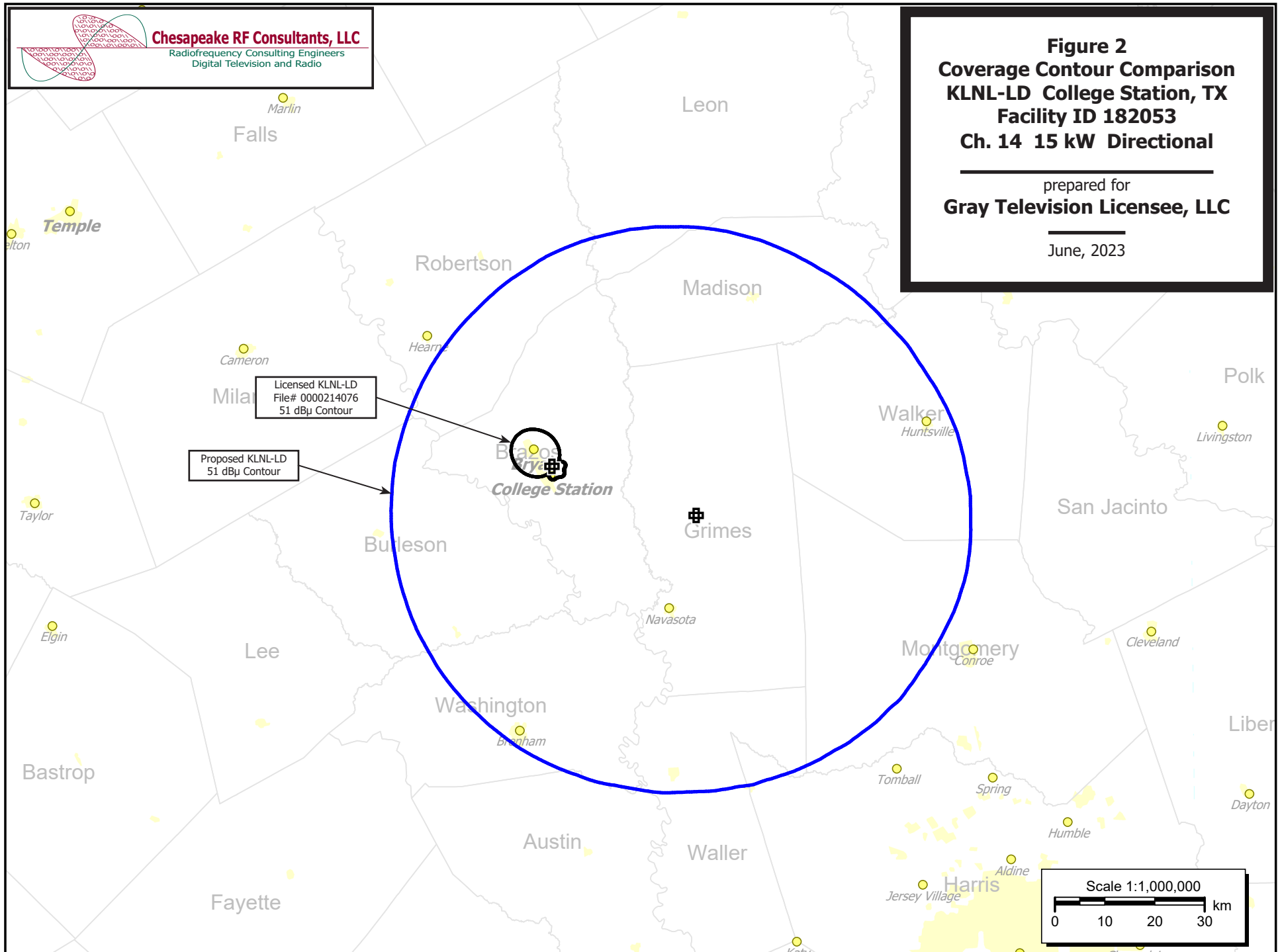


**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 2**  
**Coverage Contour Comparison**  
**KLNL-LD College Station, TX**  
**Facility ID 182053**  
**Ch. 14 15 kW Directional**

prepared for  
**Gray Television Licensee, LLC**

June, 2023





# **Table 1 KLNL-LD TVStudy Analysis of Proposal** (page 1 of 5)



tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: KLNL-LD\_1062868\_1250-ft, Model: Longley-Rice  
Start: 2023.06.27 15:11:16

Study created: 2023.06.27 15:11:16

Study build station data: LMS TV 2023-06-26

Proposal: KLNL-LD D14 LD APP COLLEGE STATION, TX  
File number: KLNL-LD 1062868\_1250-ft  
Facility ID: 182053  
Station data: User record  
Record ID: 15  
Country: U.S.

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	DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	297.7 km
No	DKYHT-LD	D14	LD	LIC	LAKE CHARLES, LA	BLANK00000164378	297.7
Yes	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK00000116332	171.4
Yes	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK00000123233	171.4
No	K14TL-D	D14	LD	CP	BEAUMONT, TX	BNPDTL20090825AYS	198.4
Yes	KERA-TV	D14	DT	LIC	DALLAS, TX	BLEDT20140903AFQ	237.9
Yes	KVQT-LD	D14	LD	LIC	HOUSTON, TX	BLANK00000163581	120.2
No	KWTC-LD	D14-	LD	LIC	KERRVILLE, TX	BLANK00000036258	266.3
Yes	KIBN-LD	D14	LD	LIC	LUFKIN, TX	BLANK00000001197	150.5
No	K14QT-D	D14	LD	LIC	TEXARKANA, TX	BLANK00000081887	368.5
No	K14NR-D	D14	LD	CP	TYLER, TX	BLANK00000210969	242.8
No	K14NR-D	D14	LD	LIC	TYLER, TX	BLDTL20140218AHN	210.5
No	KFDM	D15	DT	LIC	BEAUMONT, TX	BLANK00000063111	202.1
No	KRHD-CD	D15	DC	LIC	BRYAN, TX	BLANK00000108095	47.5
No	KVVV-LD	D15	LD	LIC	HOUSTON, TX	BLANK00000143124	120.2
No	KZAU-LD	D15	LD	LIC	KILLEEN, TX	BLANK00000162804	213.7
No	KZAU-LD	D15	LD	APP	KILLEEN, TX	BLANK00000195594	179.5
No	KHPL-CD	D15	DC	LIC	LA GRANGE, TX	BLANK00000074892	108.4
No	DKEID-LD	D15	LD	LIC	LUFKIN, TX	BLANK00000001090	160.1
No	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK00000071581	175.1
No	KVDA	D15	DT	LIC	SAN ANTONIO, TX	BLANK00000113393	256.3
No	KVTX-LD	D15	LD	LIC	VICTORIA, TX	BLANK00000196889	217.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D14  
Mask: Full Service  
Latitude: 30 33 16.50 N (NAD83)  
Longitude: 96 1 52.30 W  
Height AMSL: 482.1 m  
HAAT: 0.0 m  
Peak ERP: 15.0 kW  
Antenna: ERI ALP-OC rev2021 290.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.00

48.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	9.34 kW	395.0 m	60.4 km
45.0	5.91	373.2	56.9
90.0	6.49	375.6	57.5
135.0	6.38	371.7	57.3
180.0	6.01	395.0	58.0
225.0	9.95	415.1	61.8
270.0	14.4	414.5	64.0



**Table 1 KLNLD-TV Study Analysis of Proposal**  
(page 2 of 5)



315.0 14.1 400.0 63.1

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m Computed HAAT: 393 m

Distance to Canadian border: 1708.2 km

Distance to Mexican border: 472.9 km

Conditions at FCC monitoring station: Kingsville TX  
Bearing: 208.0 degrees Distance: 390.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 324.5 degrees Distance: 1349.2 km

No land mobile station failures found

Study cell size: 1.00 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 BLANK0000116332 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	
Undesireds:	KLNLD-KVDA	D14-D15	LD-DT	APP-LIC	COLLEGE STATION, TX SAN ANTONIO, TX	KLNLD-1062868_1250-f BLANK0000113393	171.4 km 123.0
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	8553.7 1,678,988		8465.7 1,674,743		8464.7 1,673,701	8449.7 1,673,554	0.18 0.01
Undesired			Total IX		Unique IX, before	Unique IX, after	
KLNLD-D14 LD APP		15.0	147		15.0 147		
KVDA D15 DT LIC		1.0	1,042		1.0 1,042		

-----  
Interference to BLANK0000123233 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000123233	
Undesireds:	KLNLD-KVDA	D14-D15	LD-DT	APP-LIC	COLLEGE STATION, TX SAN ANTONIO, TX	KLNLD-1062868_1250-f BLANK0000113393	171.4 km 123.0
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	8553.7 1,678,988		8465.7 1,674,743		8464.7 1,673,701	8449.7 1,673,554	0.18 0.01
Undesired			Total IX		Unique IX, before	Unique IX, after	
KLNLD-D14 LD APP		15.0	147		15.0 147		
KVDA D15 DT LIC		1.0	1,042		1.0 1,042		

-----  
Interference to BLEDT20140903AFQ LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KERA-TV	D14	DT	LIC	DALLAS, TX	BLEDT20140903AFQ	
Undesireds:	KLNLD-KTUL	D14	LD-DT	APP-LIC	COLLEGE STATION, TX TULSA, OK	KLNLD-1062868_1250-f BLANK0000215800	237.9 km 400.2
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	259.0
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	189.9
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	39215.6 6,681,116		38930.2 6,678,293		38909.2 6,677,991	38905.1 6,677,888	0.01 0.00



**Table 1 KLNL-LD TVStudy Analysis of Proposal**  
(page 3 of 5)



Undesired		Total IX	Unique IX, before	Unique IX, after
KLNL-LD D14 LD APP	7.1	108		4.0 103
KTUL D14 DT LIC	8.9	191	8.9 191	8.9 191
KXLK-CD D14 DC LIC	11.1	92	11.1 92	8.1 87
KYTX D15 DT LIC	1.0	19	1.0 19	1.0 19

-----  
Interference to BLEDT20140903AFQ LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KERA-TV	D14	DT	LIC	DALLAS, TX	BLEDT20140903AFQ	
Undesireds:	KLNL-LD	D14	LD	APP	COLLEGE STATION, TX	KLNL-LD 1062868_1250-f	237.9 km
	KTUL	D14	DT	CP	TULSA, OK	BLANK0000170605	400.2
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	259.0
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	189.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
39215.6	6,681,116	38930.2	6,678,293	38909.2	6,677,991	38905.1 6,677,888	0.01 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
KLNL-LD D14 LD APP	7.1	108		4.0 103
KTUL D14 DT CP	8.9	191	8.9 191	8.9 191
KXLK-CD D14 DC LIC	11.1	92	11.1 92	8.1 87
KYTX D15 DT LIC	1.0	19	1.0 19	1.0 19

-----  
Interference to BLEDT20140903AFQ LIC scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KERA-TV	D14	DT	LIC	DALLAS, TX	BLEDT20140903AFQ	
Undesireds:	KLNL-LD	D14	LD	APP	COLLEGE STATION, TX	KLNL-LD 1062868_1250-f	237.9 km
	KTUL	D14	DT	LIC	TULSA, OK	BLANK0000215800	400.2
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000123233	259.0
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	189.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
39215.6	6,681,116	38930.2	6,678,293	38909.2	6,677,991	38905.1 6,677,888	0.01 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
KLNL-LD D14 LD APP	7.1	108		4.0 103
KTUL D14 DT LIC	8.9	191	8.9 191	8.9 191
KXLK-CD D14 DC LIC	11.1	92	11.1 92	8.1 87
KYTX D15 DT LIC	1.0	19	1.0 19	1.0 19

-----  
Interference to BLEDT20140903AFQ LIC scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KERA-TV	D14	DT	LIC	DALLAS, TX	BLEDT20140903AFQ	
Undesireds:	KLNL-LD	D14	LD	APP	COLLEGE STATION, TX	KLNL-LD 1062868_1250-f	237.9 km
	KTUL	D14	DT	CP	TULSA, OK	BLANK0000170605	400.2
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000123233	259.0
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	189.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
39215.6	6,681,116	38930.2	6,678,293	38909.2	6,677,991	38905.1 6,677,888	0.01 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
KLNL-LD D14 LD APP	7.1	108		4.0 103
KTUL D14 DT CP	8.9	191	8.9 191	8.9 191
KXLK-CD D14 DC LIC	11.1	92	11.1 92	8.1 87
KYTX D15 DT LIC	1.0	19	1.0 19	1.0 19

-----  
Interference to BLANK0000163581 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KVQT-LD	D14	LD	LIC	HOUSTON, TX	BLANK0000163581	
Undesireds:	KLNL-LD	D14	LD	APP	COLLEGE STATION, TX	KLNL-LD 1062868_1250-f	120.2 km



**Table 1 KLNLD-TV Study Analysis of Proposal**  
(page 4 of 5)



DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	258.5
KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	235.9
K14NR-D	D14	LD	CP	TYLER, TX	BLANK0000210969	330.8
KVVV-LD	D15	LD	LIC	HOUSTON, TX	BLANK0000143124	0.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9951.2 5,059,445	9951.2 5,059,445	9850.3 5,052,550	9849.3 5,052,212	0.01 0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
KLNLD-LD D14 LD APP 1.0	338	1.0	338
KVVV-LD D15 LD LIC 100.9	6,895	100.9	6,895

Interference to BLANK000001197 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KIBN-LD	D14	LD	LIC	LUFKIN, TX	BLANK0000001197	
Undesireds:	KLNLD-LD	D14	LD	APP	COLLEGE STATION, TX	KLNLD-LD 1062868_1250-f	150.5 km
	K14OK-D	D14	LD	CP	EL DORADO, AR	BLANK0000193269	287.0
	DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	213.4
	K14TF-D	D14z	LD	CP	OPELOUSAS, LA	BLANK0000137318	339.7
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	311.6
	KERA-TV	D14	DT	LIC	DALLAS, TX	BLED20140903AFQ	244.7
	K14NR-D	D14	LD	CP	TYLER, TX	BLANK0000210969	125.7
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	67.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9040.2 170,284	9012.9 170,172	8775.1 168,178	8741.4 168,050	0.38 0.08

Undesired	Total IX	Unique IX, before	Unique IX, after
KLNLD-LD D14 LD APP 33.6	128	33.6	128
KERA-TV D14 DT LIC 24.3	533	9.1	64
K14NR-D D14 LD CP 3.0	30	1.0	30
KYTX D15 DT LIC 227.7	1,900	210.5	1,431

Interference to BLANK000001197 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KIBN-LD	D14	LD	LIC	LUFKIN, TX	BLANK0000001197	
Undesireds:	KLNLD-LD	D14	LD	APP	COLLEGE STATION, TX	KLNLD-LD 1062868_1250-f	150.5 km
	K14OK-D	D14	LD	CP	EL DORADO, AR	BLANK0000193269	287.0
	DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	213.4
	K14TF-D	D14z	LD	CP	OPELOUSAS, LA	BLANK0000137318	339.7
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	311.6
	KERA-TV	D14	DT	LIC	DALLAS, TX	BLED20140903AFQ	244.7
	KYTX	D15	DT	LIC	NACOGDOCHES, TX	BLANK0000071581	67.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9040.2 170,284	9012.9 170,172	8776.1 168,208	8742.4 168,080	0.38 0.08

Undesired	Total IX	Unique IX, before	Unique IX, after
KLNLD-LD D14 LD APP 33.6	128	33.6	128
KERA-TV D14 DT LIC 24.3	533	9.1	64
KYTX D15 DT LIC 227.7	1,900	212.5	1,431

Interference to proposal scenario 1  
11.90% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KLNLD-LD	D14	LD	APP	COLLEGE STATION, TX	KLNLD-LD 1062868_1250-f	
Undesireds:	DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	297.7 km
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000116332	171.4
	KVQT-LD	D14	LD	LIC	HOUSTON, TX	BLANK0000163581	120.2
	KIBN-LD	D14	LD	LIC	LUFKIN, TX	BLANK0000001197	150.5
	K14NR-D	D14	LD	CP	TYLER, TX	BLANK0000210969	242.8
	KRHD-CD	D15	DC	LIC	BRYAN, TX	BLANK0000108095	47.5

Service area	Terrain-limited	IX-free	Percent IX
--------------	-----------------	---------	------------



**Table 1 KLNL-LD TVStudy Analysis of Proposal**  
(page 5 of 5)

11311.6      483,729      11310.6      483,729      10565.3      426,173      6.59      11.90

Undesired			Total IX		Unique IX	Prcnt Unique IX
KXLK-CD D14 DC LIC	1.0	0	1.0	0	0.01	0.00
KVQT-LD D14 LD LIC	528.3	54,852	528.3	54,852	4.67	11.34
KIBN-LD D14 LD LIC	5.0	983	5.0	983	0.04	0.20
KRHD-CD D15 DC LIC	211.0	1,721	211.0	1,721	1.87	0.36

-----  
Interference to proposal scenario 2  
11.90% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KLNL-LD	D14	LD	APP	COLLEGE STATION, TX	KLNL-LD 1062868_1250-f	
Undesireds:	DKYHT-LD	D14	LD	CP	LAKE CHARLES, LA	BLANK0000054614	297.7 km
	KXLK-CD	D14	DC	LIC	AUSTIN, TX	BLANK0000123233	171.4
	KVQT-LD	D14	LD	LIC	HOUSTON, TX	BLANK0000163581	120.2
	KIBN-LD	D14	LD	LIC	LUFKIN, TX	BLANK0000001197	150.5
	K14NR-D	D14	LD	CP	TYLER, TX	BLANK0000210969	242.8
	KRHD-CD	D15	DC	LIC	BRYAN, TX	BLANK0000108095	47.5

Service area		Terrain-limited		IX-free	Percent IX
11311.6      483,729	11310.6      483,729	10565.3      426,173	6.59      11.90		

Undesired			Total IX		Unique IX	Prcnt Unique IX
KXLK-CD D14 DC LIC	1.0	0	1.0	0	0.01	0.00
KVQT-LD D14 LD LIC	528.3	54,852	528.3	54,852	4.67	11.34
KIBN-LD D14 LD LIC	5.0	983	5.0	983	0.04	0.20
KRHD-CD D15 DC LIC	211.0	1,721	211.0	1,721	1.87	0.36



**Channel and  
Facility  
Information**

Section	Question	Response
Facility ID	182053	
State	Texas	
City	COLLEGE STATION	
LPD Channel	14	



Antenna Location  
Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1062868
Coordinates (NAD83)	Latitude	30° 33' 16.5" N+
	Longitude	096° 01' 52.3" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	502.9 meters
	Support Structure Height	487.7 meters
	Ground Elevation (AMSL)	101.1 meters
Antenna Data	Height of Radiation Center Above Ground Level	381.0 meters
	Height of Radiation Center Above Mean Sea Level	482.1 meters
	Effective Radiated Power	15 kW



Antenna  
Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	ERI
	Model	ALP12L4-ESOC-14
	Rotation	290 degrees
	Electrical Beam Tilt	1.0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1.000	90	0.693	180	0.668	270	0.693
10	0.995	100	0.656	190	0.666	280	0.738
20	0.980	110	0.633	200	0.658	290	0.789
30	0.957	120	0.622	210	0.646	300	0.840
40	0.925	130	0.623	220	0.633	310	0.887
50	0.887	140	0.633	230	0.623	320	0.925
60	0.840	150	0.646	240	0.622	330	0.957
70	0.789	160	0.658	250	0.633	340	0.980
80	0.738	170	0.666	260	0.656	350	0.995

Additional Azimuths

Degree	V <sub>A</sub>
--------	----------------