

ENGINEERING STATEMENT
SUPPORTING REQUEST FOR WAIVER
TELEVISION STATION KDLT-TV
(FACILITY ID NO. 55379)
SIOUX FALLS, SOUTH DAKOTA
CHANNEL 21

Background

This statement was prepared on behalf of Red River Broadcast Co., LLC ('Red River'), licensee of KDLT-TV, Sioux Falls, South Dakota, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for television station KDLT-TV in the Sioux Falls (Mitchell) DMA.* KDLT-TV is licensed for operation on RF Channel 47 (668-674 MHz) with a nominal non-directional effective radiated power (ERP) of 1000 kW and an antenna height above average terrain (HAAT) of 608 m.

As a result of the FCC's Incentive Auction repack process, the KDLT-TV facility was reassigned to RF Channel 21. Red River holds a construction permit for operation on Channel 21 with a non-directional ERP of 589 kW and an antenna HAAT of 608 m.† A summary of the FCC engineering database information for the KDLT-TV construction permit facility is attached hereto for reference.

In coordination with the wireless carrier, T-Mobile, Red River seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow KDLT-TV to make the transition to Channel 21 earlier than its given phase transition date. This will facilitate the early deployment of new 600 MHz band wireless broadband services.

This statement demonstrates that KDLT-TV can transition to Channel 21 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of KDLT-TV Channel 21 as authorized in its

* Nielsen Designated Market Area abbreviated as DMA.

† See FCC File No. 0000027512.

construction permit will have no adverse interference consequences, either caused or received, under the current repack allocation environment.

Assigned Phase

KDLT-TV was assigned to transition Phase 8, with a testing begin date of January 18, 2020. This is based on the latest FCC Phase Assignment spreadsheet database dated October 6, 2017.

Linked Station Sets and Linked Station Neighbor Stations

An inspection of the latest FCC Linked Station Set (LSS) and Linked Station Neighbor (LSN) spreadsheet databases indicates that the KDLT-TV facility is not part of any LSSs or LSNs. These are based on the latest LSS and LSN spreadsheets available from the FCC, both dated July 3, 2017.

Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the KDLT-TV Channel 21 facility utilizing the latest version[‡] of the FCC's *TVStudy* coverage and interference analysis prediction software. The report of the results is attached hereto entitled 'Interference Caused Analysis for KDLT-TV Channel 21 Facility Under Current Allocation Environment.'

The results of the analysis indicate that there are no cases of outgoing (caused) interference exceeding the normal 0.5% rounding tolerance level to any other protected full-power or Class A television stations now operating.

Interference Received Analysis Under Current Allocation Environment

An interference analysis specifically for the 'received case' of interference was conducted for the KDLT-TV Channel 21 facility utilizing the aforementioned *TVStudy* prediction software. The report of the results is attached hereto entitled 'Interference Received Analysis for KDLT-TV Channel 21 Facility Under Current Allocation

[‡] *TVStudy* Version 2.2.3

Environment.' The purpose of this study is to evaluate all current environment records in the received interference analysis.

The results of the analysis indicate that there are no cases of incoming (received) interference exceeding 0.5% to the KDLT-TV Channel 21 facility.

Effects on Linked Station Sets

Based on these results, the transition of the KDLT-TV facility to Channel 21 in advance of its phase transition date will not create any pairwise interference cases or new linked station sets.

Conclusion

It is concluded that the early transition of the KDLT-TV facility on Channel 21 will not result in any interference cases, either caused or received, that would result in the creation or alteration of any linked station sets established in the Incentive Auction repack process.



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October 18, 2017

TV Inquiry

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida



Callsign: KDLT-TV **Service:** DT **Status:** CP **App. Status:** GRANT **Border Code:** **Rec. Type:** C
Channel: 21 **Offset:** **Zone:** 2 **Docket Number:** **DTV Type:** POSTTRAN
Fac. ID: 55379 **Assoc. ID:** **Application File No.:** BLANK-0000027512 **DT Emission Mask:**
City: SIOUX FALLS **State:** SD **Country:** US **CP Expiration Date:**
Party Name: RED RIVER BROADCAST CO., LLC **Last Change Date:** 7/20/2017

Height AGL (m): 599 **Polarization:** E
Overall Height AGL (m): 609.2 **Electrical Tilt (°):** 0.5
ERP (kW): 589 **Mechanical Tilt (°):**
Maximum ERP (kW): **Mechanical Tilt Azimuth (°):**
Maximum ERP (dBk): 27.7 **Degrees True (°):**
Maximum ERP at any Angle (kW): **Antenna Make:**
RCAMSL (m): 1033.9 **Antenna Model:**
Site Elevation AMSL (m): 434.9
HAAT (m): 608
Maximum HAAT (m):

Antenna Type: N **Antenna ID:** 70681 **Rotation (°):**

0° 1.000	90° 1.000	180° 1.000	270° 1.000
10° 1.000	100° 1.000	190° 1.000	280° 1.000
20° 1.000	110° 1.000	200° 1.000	290° 1.000
30° 1.000	120° 1.000	210° 1.000	300° 1.000
40° 1.000	130° 1.000	220° 1.000	310° 1.000
50° 1.000	140° 1.000	230° 1.000	320° 1.000
60° 1.000	150° 1.000	240° 1.000	330° 1.000
70° 1.000	160° 1.000	250° 1.000	340° 1.000
80° 1.000	170° 1.000	260° 1.000	350° 1.000

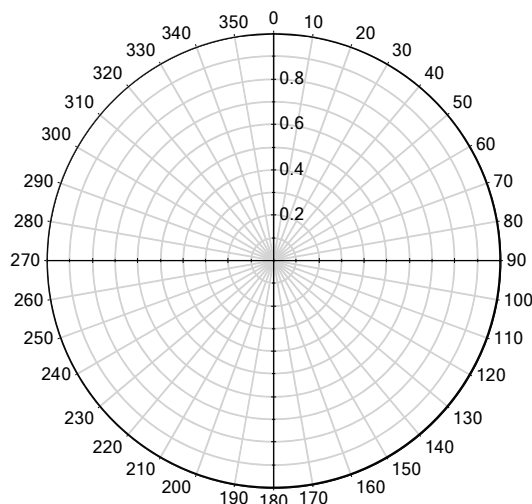
Standard Pattern:

Antenna Make: DIE

Antenna Model: TFU-27JTH/VP-R 04

Last Change Date:

Note: Rotation or tilt is not applied to the pattern shown



Type: TOWER	ASRN: 1042104	FAA Study No.: 98-AGL-4741-OE	Structure Height (m): 573.8
Latitude (NAD 27): 043-30-18.1	Date Received: 12/13/2012	Structure Height (ft): 1882.5	
Longitude (NAD 27): 096-33-21.8	Date Entered: 12/13/2012	Ground Elevation (m): 434.9	
Latitude (NAD 83): 43-30-18.0	Date Issued: 12/13/2012	Ground Elevation (ft): 1426.8	
Longitude (NAD 83): 096-33-23.0	Date Constructed: 08/19/1998	Overall Height AGL (m): 609.2	
Struct. Address:	Date Dismantled:	Overall Height AGL (ft): 1998.7	
1/4 MI E & 1 1/4 MI S		Overall Height AMSL (m): 1044.1	
ROWENA	SD	Overall Height AMSL (ft): 3425.5	
Entity Name: HOLLAND & KNIGHT LLP			

INTERFERENCE CAUSED ANALYSIS FOR KDLT-TV CHANNEL 21 FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.3 (Dxtpx3)
Database: localhost, Study: kdlt21p1, Model: Longley-Rice

Study build station data: LMS TV 2017-10-18 (72)

Proposal: KDLT21P1 D21 DT APP SIOUX FALLS, SD
File number: kdlt21p1
Facility ID: 55379
Station data: User record
Record ID: 1566
Country: U.S.
Zone: II

Build options:
Protect records not on baseline channel

No protected stations found.

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
NEW 690 A DA2 D BRANDON, SD BNP20040130AOX
NEW 690 A DA2 N BRANDON, SD BNP20040130AOX

Record parameters as studied:

Channel: D21
Latitude: 43 30 18.00 N (NAD83)
Longitude: 96 33 23.00 W
Height AMSL: 1033.9 m
HAAT: 608.0 m
Peak ERP: 589 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.5

39.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	589 kW	612.4 m	118.9 km
45.0	589	600.1	118.3
90.0	589	584.9	117.5
135.0	589	598.8	118.3
180.0	589	619.1	119.3
225.0	589	613.8	119.0
270.0	589	596.5	118.1
315.0	589	602.8	118.5

Database HAAT does not agree with computed HAAT
Database HAAT: 608 m Computed HAAT: 604 m

ERP exceeds maximum
ERP: 589 kW ERP maximum: 323 kW

Proposal service area is within baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 596.3 km

Distance to Mexican border: 1565.9 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 208.9 degrees Distance: 325.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 245.5 degrees Distance: 808.3 km

No land mobile station failures found

INTERFERENCE CAUSED ANALYSIS FOR KDLT-TV CHANNEL 21 FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

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 RECEIVED ANALYSIS FOR KDLT-TV CHANNEL 21 FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.3 (Dxtpx3)

Database: localhost
Station Data: LMS TV 2017-10-11 (69)
Study: lms_1711
Model: Longley-Rice
Scenario: kdlt_1

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
KDLT-TV D21 DT CP SIOUX FALLS, SD	44125.7	639,284	43482.9	628,281	43439.1	628,199
WDAY-TV D21 DT LIC FARGO, ND	43.8		82	43.8	82	(0.01%)