

ENGINEERING STATEMENT  
SUPPORTING REQUEST FOR WAIVER  
TELEVISION STATION KKTV  
(FACILITY ID NO. 35037)  
COLORADO SPRINGS, COLORADO  
CHANNEL 26

Background

This statement was prepared on behalf of Gray Television Licensee, LLC, licensee of KKTV, Colorado Springs, CO, in support of a request for waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date for television station KKTV in the Colorado Springs-Pueblo DMA\*. KKTV is licensed for operation on RF Channel 49 with a maximum directional effective radiated power (ERP) of 550 kW and an antenna height above average terrain (HAAT) of 723.8 m.†

As a result of the FCC's Incentive Auction repack process, the KKTV facility was reassigned to RF Channel 26. KKTV now holds a construction permit for operation on Channel 26 with a maximum directional ERP of 540 kW and an antenna HAAT of 719.1 m.‡ An FCC engineering database summary sheet for the KKTV construction permit facility is attached hereto for reference. The KKTV construction permit facility is the subject early transition facility.

In coordination with the wireless carrier T-Mobile, Gray Television Licensee, LLC seeks a waiver of the FCC's Phase Assignment, Testing Period, and Phase Completion Date to allow KKTV to make the transition to Channel 26 earlier than its given phase transition date. Specifically, the target date for KKTV to begin operations on Channel 26 is on or before June 21, 2019. This will facilitate the early deployment of new 600 MHz band wireless broadband services.

This statement demonstrates that the KKTV facility can transition to Channel 26 before its assigned phase date without any disruption to the FCC's transition plans. Specifically, it is demonstrated that the operation of KKTV on Channel 26 will have no

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\* Nielsen Designated Market Area abbreviated as DMA.

† See FCC File No. BLCDDT-20110121AAN.

‡ See FCC File No. 0000033929.

adverse interference consequences, either caused or received, under the current allocation environment.

#### Assigned Phase

KKTV is assigned to transition Phase 8, with a testing begin date of January 18, 2020. This is based on the latest FCC Phase Assignment spreadsheet dated October 5, 2018.

#### 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 KKTV facility is part of a LSS and a LSN with the following stations:

- KGHB-CD, Pueblo, Etc., CO (Facility ID 24515) (Channel 27 → 21)
- KVSNDT, Pueblo, CO (Facility ID 166331) (Channel 48 → 27)

These are based on the latest LSS and LSN spreadsheets available from the FCC.

#### Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the KKTV Channel 26 facility utilizing the latest version<sup>§</sup> of the FCC's *TVStudy* coverage and interference analysis prediction software. The report of the results is attached hereto entitled 'Interference Caused Analysis for KKTV Channel 26 Construction Permit Facility Under Current Allocation Environment.'

The results of the analysis indicate that the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations.

The following is noted:

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<sup>§</sup> *TVStudy* version 2.2.5

1. KGHB-CD has an agreement with T-Mobile to make an early transition from Channel 27 to Channel 21 with a target date of June 21, 2019. Therefore, the KGHB-CD record was omitted from the study.
2. KTFD-TV is in repack Phase 2, which begins on December 1, 2018 and is completed on April 12, 2019. The KTFD-TV facility will transition from Channel 26 to Channel 28. Therefore, the KKTV early transition will occur following the transition of KTFD-TV and its license record was omitted from the study.

#### Interference Received Analysis Under Current Allocation Environment

An interference analysis specifically for the ‘received case’ of interference was conducted for the KKTV Channel 26 early transition facility utilizing the FCC’s *TVStudy* prediction software. The report of the results is attached hereto entitled ‘Interference Received Analysis for KKTV Channel 26 Construction Permit Facility Under Current Allocation 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 the proposal meets the 0.5% permissible interference level with respect to interference caused to all other full-service and Class A television stations.

It is noted that the KGHB-CD and KTFD-TV license records were omitted from the study for the reasons outlined above.

#### Effects on Linked Station Sets

Because the KKTV early transition will occur following the transitions of stations, KGHB-CD and KTFD-TV, the early transition of the KKTV facility to Channel 26 in advance of its phase transition date will not create any pairwise interference cases or new linked station sets.

Conclusion

Based on the early transition of KKTU following the transitions of stations KGHB-CD and KTFD-TV, it is concluded that the early transition of the KKTU facility on Channel 26, as described herein, will not result in any interference caused or received cases that would result in the creation of any new linked station sets or dependencies established in the Incentive Auction repack process.



Louis R. du Treil, Jr., P.E.

du Treil, Lundin & Rackley, Inc.  
3135 Southgate Circle  
Sarasota, Florida 34239

October 23, 2018

# TV Inquiry

## KKTV EARLY TRANSITION FACILITY

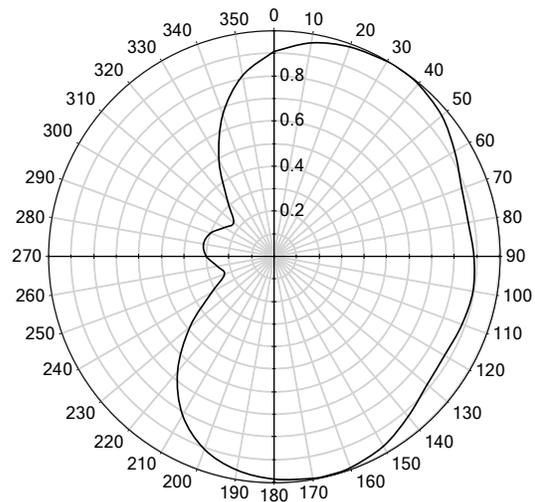
du Treil, Lundin, & Rackley, Inc., Sarasota, Florida



**Callsign:** KKTV      **Service:** DT    **Status:** CP MOD    **App. Status:** GRANT    **Border Code:**    **Rec. Type:** C  
**Channel:** 26    **Offset:**    **Zone:** 2    **Docket Number:**    **DTV Type:** POSTTRAN  
**Fac. ID:** 35037    **Assoc. ID:**    **Application File No.:** BLANK-0000033929    **DT Emission Mask:**  
**City:** COLORADO SPRINGS    **State:** CO    **Country:** US    **CP Expiration Date:**  
**Party Name:** GRAY TELEVISION LICENSEE, LLC    **Last Change Date:** 3/19/2018

<b>Height AGL (m):</b> 98.5	<b>Polarization:</b> E
<b>Overall Height AGL (m):</b> 107.6	<b>Electrical Tilt (°):</b> 1.5
<b>Latitude (NAD 83):</b> 038-44-42	<b>Mechanical Tilt (°):</b>
<b>Longitude (NAD 83):</b> 104-51-45	<b>Mechanical Tilt Azimuth (°):</b>
<b>RCAMSL (m):</b> 2975.8	<b>Degrees True (°):</b>
<b>Site Elevation AMSL (m):</b> 2877.3	<b>Antenna Make:</b>
<b>HAAT (m):</b> 719.1	<b>Antenna Model:</b>
<b>Maximum HAAT (m):</b>	
<b>ERP (kW):</b> 540	
<b>Maximum ERP (kW):</b>	
<b>Maximum ERP (dBk):</b> 27.3	
<b>Maximum ERP at any Angle (kW):</b>	

**Antenna Type:** D    **Antenna ID:** 1002169    **Rotation (°):** 0  
 0° 0.908    90° 0.887    180° 0.987    270° 0.300    34° 1.000  
 10° 0.961    100° 0.896    190° 0.961    280° 0.318    166° 1.000  
 20° 0.987    110° 0.887    200° 0.908    290° 0.300  
 30° 0.999    120° 0.875    210° 0.812    300° 0.255  
 40° 0.996    130° 0.886    220° 0.666    310° 0.234  
 50° 0.971    140° 0.926    230° 0.488    320° 0.320  
 60° 0.926    150° 0.971    240° 0.319    330° 0.488  
 70° 0.886    160° 0.996    250° 0.234    340° 0.666  
 80° 0.875    170° 0.999    260° 0.255    350° 0.812



**Standard Pattern:**

**Antenna Make:** DIE  
**Antenna Model:** TFU-17JTT/VP-R 4C160

**Last Change Date:**

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

<b>Type:</b> TOWER	<b>ASRN:</b> 1024861	<b>FAA Study No.:</b> 97-ANM-0500-OE	<b>Structure Height (m):</b> 91.4
<b>Latitude (NAD 27):</b> 038-44-42	<b>Date Received:</b> 05/14/2012	<b>Structure Height (ft):</b> 299.9	
<b>Longitude (NAD 27):</b> 104-51-43.1	<b>Date Entered:</b> 05/14/2012	<b>Ground Elevation (m):</b> 2877.3	
<b>Latitude (NAD 83):</b> 38-44-42.0	<b>Date Issued:</b> 05/14/2012	<b>Ground Elevation (ft):</b> 9440.0	
<b>Longitude (NAD 83):</b> 104-51-45.0	<b>Date Constructed:</b> 06/01/1960	<b>Overall Height AGL (m):</b> 107.6	
<b>Struct. Address:</b>	<b>Date Dismantled:</b>	<b>Overall Height AGL (ft):</b> 353.0	
SUMMIT OF CHEYENNE MOUNTAIN		<b>Overall Height AMSL (m):</b> 2984.9	
COLORADO SPRINGS	CO	<b>Overall Height AMSL (ft):</b> 9793.0	

**Entity Name:** Gray Television Group, Inc.

# INTERFERENCE CAUSED ANALYSIS FOR KKTV CHANNEL 26 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: kktv26e6, Model: Longley-Rice

Study build station data: LMS TV 2018-10-16

Proposal: KKTV26E6 D26 DT CP COLORADO SPRINGS, CO  
File number: kktv26e6  
Facility ID: 35037  
Station data: User record  
Record ID: 3299  
Country: U.S.  
Zone: II

## Build options:

Protect pre-transition records not on baseline channel

## Search options:

All post-transition APP, CP, and baseline records excluded

## Individual records excluded:

0000001491 KTFD-TV D26 DT LIC DENVER, CO BLANK0000001491 (KTFD-TV will have completed its Phase 2 transition by April 12, 2019.)  
0000030611 KOAA-TV D25 DT CP PUEBLO, CO BLANK0000030611 (KOAA-TV remains in transition Phase 8.)  
20120817AAY KGHB-CD D27z DC LIC PUEBLO, ETC., CO BLDTA20120817AAY (KGHB-CD has an agreement with T-Mobile to transition by June 21, 2019.)

## Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KOB	D26	DT	LIC	ALBUQUERQUE, NM	BLCDT20051003BQP	417.2 km
Yes	KVSN-DT	D27	DT	CP	PUEBLO, CO	BLANK0000030616	0.1
No	KLWY	D27	DT	LIC	CHEYENNE, WY	BLCDT20090227AAD	256.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

## Record parameters as studied:

Channel: D26  
Latitude: 38 44 42.00 N (NAD83)  
Longitude: 104 51 45.00 W  
Height AMSL: 2975.8 m  
HAAT: 719.1 m  
Peak ERP: 540 kW  
Antenna: DIE-TFU-17JTT/VP-R 4C160 (ID 1002169) 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.50

## 40.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	445 kW	1036.5 m	132.7 km
45.0	522	1137.1	139.0
90.0	425	1194.8	138.5
135.0	443	1179.8	138.5
180.0	526	940.3	130.8
225.0	180	146.0	70.6
270.0	48.6	-83.3	45.3
315.0	41.4	201.3	67.5

## ERP exceeds maximum

ERP: 540 kW ERP maximum: 239 kW

Distance to Canadian border: 1139.7 km

Distance to Mexican border: 788.3 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 64.2 degrees Distance: 599.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 347.7 degrees Distance: 156.3 km

# INTERFERENCE CAUSED ANALYSIS FOR KKTV CHANNEL 26 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

ERP: 327 kW    Field strength: 26.3 dBu, 0.0 mV/m

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%

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Interference to BLANK0000030616 CP scenario 1 (KVSN-DT has an agreement with T-Mobile to transition by June 21, 2019.)

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KVSN-DT	D27	DT	CP	PUEBLO, CO	BLANK0000030616	
Undesireds:	KKTv26E6	D26	DT	CP	COLORADO SPRINGS, CO	kktv26e6	0.1 km
	KLWY	D27	DT	LIC	CHEYENNE, WY	BLCDT20090227AAD	256.2
	KTFD-TV	D28	DT	CP	DENVER, CO	BLANK0000029913	114.4
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	34166.7	2,706,244	31189.1	2,283,409	27888.8	1,031,801	27800.9
							1,031,522
							0.31
							0.03
Undesired				Total IX	Unique IX, before	Unique IX, after	
KKTv26E6 D26 DT CP				87.8	279	87.8	279
KLWY D27 DT LIC				3125.3	1,176,121	1727.4	65,158
KTFD-TV D28 DT CP				1572.9	1,186,450	175.0	75,487

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# INTERFERENCE RECEIVED ANALYSIS FOR KKTV CHANNEL 26 CONSTRUCTION PERMIT FACILITY UNDER CURRENT ALLOCATION ENVIRONMENT

tvstudy v2.2.5 (4uoc83)

Database: localhost  
 Station Data: LMS TV 2018-10-11  
 Study: LMS181011  
 Model: Longley-Rice  
 Scenario: kktv26e6r

Desired station	Service area		Terrain-limited		Interference-free	
Undesired station	Total interference		Unique interference			
KKTV26E6 D26 DT CP COLORADO SPRINGS, CO	41439.9	3,117,022	37688.5	2,692,993	37684.6	2,692,993
KVSN-DT D27 DT CP PUEBLO, CO	4.0	0	4.0		0	
KOB D26 DT LIC ALBUQUERQUE, NM	0.0	0	0.0		0	

**Note:**

1. KGHB-CD D27z DC LIC PUEBLO, ETC., CO BLDTA20120817AAY (KGHB-CD has an agreement with T-Mobile to transition by June 21, 2019.)
2. KTFD-TV D26 DT LIC DENVER, CO BLANK0000001491 (KTFD-TV will have completed its Phase 2 transition by April 12, 2019.)