

**K26KH-D MINOR MODIFICATION TO CONSTRUCTION PERMIT FOR CH 26 15 kW DIRECTIONAL  
FACILITY ID 182794 BNPDTL-20090825BTX  
COLUMBIA, MISSOURI  
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS  
APRIL 2019**

K26KH-D is authorized for operation on CH 26. This application proposes a minor change to those CP facilities, BNPDTL-20090825BTX. The proposed facility qualifies as a minor change as there is no change in channel of operation, there is significant overlap of the present and proposed LPTV service contours and the proposed site is 34.8 kilometers from the CP site in compliance with 74.787 (b) (iii). FCC TVStudy software was utilized to determine the interference levels associated with the proposed K26KH-D facility and they are pasted in below.

The applicant proposes herein to move to FCC Tower registration ASR 1007050. The proposed antenna system consists of an ATC ATC-BCE312M-V0-26 antenna with an omnioid pattern oriented at 350 degrees True. The antenna is a UHF slot antenna, elliptically polarized, with 0.75 degree of beam tilt. The maximum relative field in the elevation pattern across the depression angle range of 30 to 90 degrees is less than 0.20 with a radiation center 146.3 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.20 has been used to calculate the power density 2 meters above ground. The maximum power density is 1.44 uw/cm squared calculated for an ERP OF 15,000 watts H. polarization and 7,500 watts V. polarization. This value is 0.4% of the Public Exposure MPE per section 1.1310. Based on this analysis it is believed that the proposed facility follows OET-65 Guidelines.

The applicant will reduce power or cease transmission as required to meet FCC OET-65 Guidelines.

The proposed tower is existing along with the transmitter building, access road and power.

Below is a copy of the TVStudy interference analysis for CH 26 based on the facilities described above with the antenna orientation of 350 degrees true. As can be seen at the conclusion of the report there is no impermissible ISIX interference. **It is believed that the proposed facility provides full protection to other television facilities based on the following:**

1. Caused interference to BNPDTL20090825BVM is a co-owned CH 26 CP in Eldon, MO which will be filing a modification application as well. Any mutual interference between these facilities is accepted.
2. 8.68% caused interference to unbuilt CP K26KU-D, BNPDTL20090825BXR, Marshall, MO is proposed. A TVStudy analysis of the granted K26KH-D CP facility shows caused interference from K26KH-D to K26KU-D is 9.62% therefore the proposed facility reduces caused interference to K26KU-D.

### TVStudy Report: Proposed facility

Study created: 2019.04.10 16:00:06

Study build station data: LMS TV 2019-04-04

Proposal: K26KH-D D26 LD CP COLUMBIA, MO

File number: BNPDTL20090825BTX

Facility ID: 182794

Station data: User record

Record ID: 197

Country: U.S.

Stations potentially affected by proposal:

| IX  | Call    | Chan | Svc | Status | City, State     | File Number       | Distance |
|-----|---------|------|-----|--------|-----------------|-------------------|----------|
| No  | KMCI-TV | D25  | DT  | CP     | LAWRENCE, KS    | BLANK0000034675   | 194.8 km |
| Yes | K25NR-D | D25  | LD  | CP     | COLUMBIA, MO    | BLANK0000001278   | 0.0      |
| No  | KFKY-LD | D25  | LD  | CP     | JOPLIN, MO      | BLANK0000052631   | 194.8    |
| No  | K25NG-D | D25  | DC  | LIC    | ST. LOUIS, MO   | BLDTL20130805ABR  | 179.8    |
| No  | K26GS-D | D26  | LD  | LIC    | HARRISON, AR    | BLDTL20100517AFK  | 304.9    |
| No  | KBBA-LD | D26  | LD  | CP     | CEDAR FALLS, IA | BLANK0000052694   | 416.0    |
| No  | KCYM-LD | D26  | LD  | CP     | FORT DODGE, IA  | BLANK0000051607   | 345.2    |
| No  | K26PC-D | D26  | LD  | CP     | OTTUMWA, IA     | BNPDTL20101013AAT | 230.3    |
| No  | W26DZ-D | D26  | LD  | LIC    | CHAMPAIGN, IL   | BLANK0000014105   | 287.3    |
| No  | W26DZ-D | D26  | LD  | CP     | CHAMPAIGN, IL   | BLANK0000013445   | 287.3    |
| No  | WMBD-TV | D26  | DT  | CP     | PEORIA, IL      | BLANK0000027808   | 312.3    |
| No  | W26DY-D | D26  | LD  | CP     | PEORIA, IL      | BLANK0000013918   | 312.6    |

|     |         |      |    |     |                    |                   |       |
|-----|---------|------|----|-----|--------------------|-------------------|-------|
| No  | WUEB-LD | D26  | LD | CP  | ROCKFORD, IL       | BLANK0000053006   | 357.2 |
| No  | WFIE    | D26  | DT | CP  | EVANSVILLE, IN     | BLANK0000034157   | 428.3 |
| No  | NEW     | D26  | LD | APP | EVANSVILLE, IN     | BNPDTL20090825AZW | 426.2 |
| No  | WROB-LD | D26  | LD | LIC | TOPEKA, KS         | BLDTL20140908AFA  | 304.7 |
| No  | KSAS-TV | D26  | DT | LIC | WICHITA, KS        | BLCDDT20021120AAN | 468.6 |
| No  | K26ME-D | D26  | LD | CP  | CAPE GIRARDEAU, MO | BLANK0000036235   | 263.9 |
| Yes | K26KT-D | D26  | LD | CP  | ELDON, MO          | BNPDTL20090825BVM | 54.1  |
| No  | KCNH-LD | D26  | LD | CP  | JOPLIN, MO         | BLANK0000052633   | 194.8 |
| Yes | K26KU-D | D26  | LD | CP  | MARSHALL, MO       | BNPDTL20090825BXR | 73.3  |
| Yes | K26KV-D | D26  | LD | CP  | SEDALIA, MO        | BNPDTL20090825BWL | 86.7  |
| Yes | KPLR-TV | D26  | DT | APP | ST. LOUIS, MO      | BLANK0000050068   | 172.6 |
| Yes | KPLR-TV | D26  | DT | LIC | ST. LOUIS, MO      | BLCDDT20030812ABY | 172.6 |
| No  | WBUY-TV | D26  | DT | LIC | HOLLY SPRINGS, MS  | BLANK0000063641   | 450.1 |
| No  | KPTM    | D26  | DT | CP  | OMAHA, NE          | BLANK0000033633   | 420.0 |
| No  | KXUN-LD | D26  | LD | LIC | SALLISAW, OK       | BLANK0000064232   | 414.4 |
| No  | KOTV-DT | D26  | DT | CP  | TULSA, OK          | BLANK0000028019   | 428.8 |
| No  | W27DF-D | D27  | LD | LIC | QUINCY, IL         | BLANK0000023020   | 155.4 |
| No  | K27OS-D | D27  | LD | CP  | ROLLA, MO          | BNPDTL20090825BJV | 102.1 |
| No  | KBGU-LP | D27  | LD | CP  | ST. LOUIS, MO      | BLANK0000051595   | 172.6 |
| No  | KLMC-LP | N28+ | TX | LIC | JEFFERSON CITY, MO | BLTTL20050613AFP  | 25.2  |

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

Mask: Full Service

Latitude: 38 47 28.00 N (NAD83)

Longitude: 92 17 44.00 W

Height AMSL: 414.0 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: ATC OMNIOID 350.0 deg

Elev Pattn: Generic

Elec Tilt: 1.75

50.0 dBu contour:

| Azimuth | ERP     | HAAT    | Distance |
|---------|---------|---------|----------|
| 0.0 deg | 14.9 kW | 182.4 m | 50.0 km  |
| 45.0    | 10.9    | 157.2   | 46.8     |
| 90.0    | 6.59    | 168.3   | 45.0     |
| 135.0   | 6.73    | 186.2   | 46.2     |
| 180.0   | 7.46    | 211.2   | 48.1     |
| 225.0   | 6.22    | 210.0   | 47.1     |

270.0        8.08        218.4        48.9  
315.0        13.1        206.5        50.7

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m    Computed HAAT: 193 m

Distance to Canadian border: 852.6 km

Distance to Mexican border: 1304.1 km

Conditions at FCC monitoring station: Grand Island NE

Bearing: 296.3 degrees    Distance: 574.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 281.7 degrees    Distance: 1118.4 km

Study cell size: 0.50 km

Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

\*\*IX check failure to BNPDTL20090825BVM CP scenario 1, 13.55% interference caused

See Page 2

\*\*IX check failure to BNPDTL20090825BVM CP scenario 2, 13.55% interference caused

See Page 2

\*\*IX check failure to BNPDTL20090825BXR CP scenario 1, 8.68% interference caused

See Page 2

\*\*IX check failure to BNPDTL20090825BXR CP scenario 2, 8.68% interference caused

See Page 2

---- Below is IX received by proposal BNPDTL20090825BTX ----

\*\*MX with BLANK0000050068 APP scenario 1, 6.17% interference received

Proposal receives 6.17% interference from scenario 2

## TVStudy Report: K26KH-D CP to K26KU-D CP

Study created: 2019.04.10 16:25:15

Study build station data: LMS TV 2019-04-04

Proposal: K26KH-D D26 LD CP COLUMBIA, MO

File number: BNPDTL20090825BTX

Facility ID: 182794

Station data: User record

Record ID: 198

Country: U.S.

Stations potentially affected by proposal:

| IX  | Call    | Chan | Svc | Status | City, State        | File Number       | Distance |
|-----|---------|------|-----|--------|--------------------|-------------------|----------|
| No  | KMCI-TV | D25  | DT  | CP     | LAWRENCE, KS       | BLANK0000034675   | 195.8 km |
| Yes | K25NR-D | D25  | LD  | CP     | COLUMBIA, MO       | BLANK0000001278   | 34.8     |
| No  | KFKY-LD | D25  | LD  | CP     | JOPLIN, MO         | BLANK0000052631   | 227.5    |
| No  | K25NG-D | D25  | DC  | LIC    | ST. LOUIS, MO      | BLDTL20130805ABR  | 184.0    |
| No  | K26GS-D | D26  | LD  | LIC    | HARRISON, AR       | BLDTL20100517AFK  | 339.3    |
| No  | KBBA-LD | D26  | LD  | CP     | CEDAR FALLS, IA    | BLANK0000052694   | 381.2    |
| No  | KCYM-LD | D26  | LD  | CP     | FORT DODGE, IA     | BLANK0000051607   | 312.0    |
| No  | K26PC-D | D26  | LD  | CP     | OTTUMWA, IA        | BNPDTL20101013AAT | 195.6    |
| No  | W26DZ-D | D26  | LD  | LIC    | CHAMPAIGN, IL      | BLANK0000014105   | 281.2    |
| No  | W26DZ-D | D26  | LD  | CP     | CHAMPAIGN, IL      | BLANK0000013445   | 281.2    |
| No  | WMBD-TV | D26  | DT  | CP     | PEORIA, IL         | BLANK0000027808   | 288.6    |
| No  | W26DY-D | D26  | LD  | CP     | PEORIA, IL         | BLANK0000013918   | 288.7    |
| No  | WUEB-LD | D26  | LD  | CP     | ROCKFORD, IL       | BLANK0000053006   | 325.8    |
| No  | WFIE    | D26  | DT  | CP     | EVANSVILLE, IN     | BLANK0000034157   | 434.9    |
| No  | WROB-LD | D26  | LD  | LIC    | TOPEKA, KS         | BLDTL20140908AFA  | 305.8    |
| No  | K26ME-D | D26  | LD  | CP     | CAPE GIRARDEAU, MO | BLANK0000036235   | 285.1    |
| Yes | K26KT-D | D26  | LD  | CP     | ELDON, MO          | BNPDTL20090825BVM | 87.9     |
| No  | KCNH-LD | D26  | LD  | CP     | JOPLIN, MO         | BLANK0000052633   | 227.5    |
| Yes | K26KU-D | D26  | LD  | CP     | MARSHALL, MO       | BNPDTL20090825BXR | 65.3     |
| Yes | K26KV-D | D26  | LD  | CP     | SEDALIA, MO        | BNPDTL20090825BWL | 102.2    |
| Yes | KPLR-TV | D26  | DT  | APP    | ST. LOUIS, MO      | BLANK0000050068   | 178.4    |
| Yes | KPLR-TV | D26  | DT  | LIC    | ST. LOUIS, MO      | BLCDT20030812ABY  | 178.4    |
| No  | KPTM    | D26  | DT  | CP     | OMAHA, NE          | BLANK0000033633   | 401.1    |
| No  | KOTV-DT | D26  | DT  | CP     | TULSA, OK          | BLANK0000028019   | 455.3    |
| No  | W27DF-D | D27  | LD  | LIC    | QUINCY, IL         | BLANK0000023020   | 125.9    |
| No  | K27OS-D | D27  | LD  | CP     | ROLLA, MO          | BNPDTL20090825BJV | 133.5    |
| No  | KBGU-LP | D27  | LD  | CP     | ST. LOUIS, MO      | BLANK0000051595   | 178.4    |
| No  | KLMC-LP | N28+ | TX  | LIC    | JEFFERSON CITY, MO | BLTTL20050613AFP  | 59.7     |

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  
Mask: Simple  
Latitude: 39 6 13.00 N (NAD83)

Longitude: 92 16 15.60 W  
Height AMSL: 388.1 m  
HAAT: 0.0 m  
Peak ERP: 15.0 kW  
Antenna: Omnidirectional  
Elev Pattn: Generic  
Elec Tilt: 1.75

50.0 dBu contour:

| Azimuth | ERP     | HAAT    | Distance |
|---------|---------|---------|----------|
| 0.0 deg | 15.0 kW | 133.5 m | 46.8 km  |
| 45.0    | 15.0    | 123.7   | 46.1     |
| 90.0    | 15.0    | 112.7   | 45.3     |
| 135.0   | 15.0    | 122.2   | 46.0     |
| 180.0   | 15.0    | 138.3   | 47.1     |
| 225.0   | 15.0    | 171.1   | 49.3     |
| 270.0   | 15.0    | 167.0   | 49.1     |
| 315.0   | 15.0    | 143.3   | 47.5     |

Database HAAT does not agree with computed HAAT  
Database HAAT: 0 m    Computed HAAT: 139 m

Distance to Canadian border: 835.7 km

Distance to Mexican border: 1331.3 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 293.1 degrees    Distance: 561.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 279.9 degrees    Distance: 1114.0 km

Study cell size: 0.50 km  
Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

\*\*IX check failure to BLANK0000001278 CP scenario 1, 5.90% interference caused  
\*\*IX check failure to BNPDTL20090825BXR CP scenario 1, 9.62% interference caused  
\*\*IX check failure to BNPDTL20090825BXR CP scenario 2, 9.62% interference caused

---- Below is IX received by proposal BNPDTL20090825BTX ----

\*\*MX with BLANK0000050068 APP scenario 1, 4.59% interference received  
Proposal receives 4.59% interference from scenario 2

The foregoing was prepared on behalf of SagamoreHill of Columbia, LLC by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements she believes them to be true and correct.



Clarence M. Beverage  
for Communications Technologies, Inc.  
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April 11, 2019

