CORPORATION

# STATEMENT OF JOHN E. HIDLE, P.E. IN SUPPORT OF AN APPLICATION TO AMEND AN APPLICATION FOR CONSTRUCTION PERMIT FOR POST-TRANSITION DTV STATION <br> BPCDT-20080411ABZ <br> KRBK-DT - OSAGE BEACH, MISSOURI CH. 49-615 kW-299.8 m HAAT 

Prepared for: Koplar Communications International, Inc.
I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

## GENERAL

This office has been authorized by Koplar Communications International, Inc., permittee of KRBK(TV), channel 49, Osage Beach, Missouri, to prepare this statement, and the associated exhibits in support of an application to amend a pending application for a post-transition DTV construction permit, BPCDT-20080411ABZ. Koplar Communications International, Inc. was the successful winning bidder and obtained construction permit BNPCT-20060421ACD, in Auction \#64. That permit was granted on August 11, 2006, and expires August 11, 2009. The KRBK analog television facility authorized on channel 49 has no separate digital channel allotment, is considered a "singleton" and, as such, was allotted digital facilities in the new Post-Transition DTV Table of Allotments on its analog channel 49. The permittee herein seeks to amend it proposed post-transition DTV facilities in its pending application, BPCDT-20080411ABZ.

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## PROPOSED POST-TRANSITION DTV FACILITIES

The post-transition DTV facilities for KRBK-DT set forth in the new DTV Table of Allotments specify an Effective Radiated Power (ERP) of 204 kW and an Antenna Height Above Average Terrain (HAAT) of 463 meters at the analog construction permit site geographic coordinates. The Table also specifies a directional antenna, ID number 80245, which differs slightly from the directional antenna authorized in the construction permit, antenna ID number 72668. This difference appears to be a result of the Commission's DTV replication process.

The permittee proposes post-transition digital facilities on channel 49 that differ from the new post-transition DTV Table facilities in that the ERP is increased from 204 kW to 575 kW , the directional antenna is replaced with a non-directional antenna, the geographic coordinates are changed from 374910 N.L. - 924452 W.L. to 374226 N.L - 931632 W.L. and the HAAT, 463 meters, is changed to 299.8 meters. See the table below which shows the proposed changes in bold.

| 166319 | MO OSAGE BEACH | 49 | 49 | 204 | 463 | 80245 | 374910 | 924452 | 23362 | 524 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| 166319 | MO | OSAGE BEACH | 49 | 49 | $\mathbf{6 1 5}$ | $\mathbf{2 9 9}$ |  | $\mathbf{3 7 4 3 2 6}$ | $\mathbf{9 3 1 6 3 2}$ | $\mathbf{2 5 0 3 5}$ | $\mathbf{5 6 6}$ |

Interference studies using the Commission's Longley-Rice methodology, utilizing a 0.5 km cell, indicates that the proposed post-transition DTV facilities comply with the requirements of the rules and policies regarding interference protection to pre and post transition DTV facilities and existing analog facilities. The proposed DTV facilities cause no increase in interference exceeding $0.5 \%$ to the population of any relevant facility.

## PROPOSED CHANGES IN PENDING APPLICATION

The pending application proposes a tower support structure which would extend to 479.2 meters above ground level (AGL). The permittee, according to a recommendation of the FAA, herein proposes a shorter tower structure that will only extend to 312.4 meters AGL. As a result the HAAT will decrease from 463 meters to 299.8 meters. The ERP will increase from 500 kW to 615 kW and the permittee proposes to install a non-directional antenna, a Dielectric model TFU-20GTH O4, instead of the directional antenna proposed in the currently pending application. See exhibits $2 A, 2 B$ and 3 for elevation patterns.

## PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate $\mathrm{F}(50,90)$ propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 4 shows the predicted Noise Limited ( 41 dBu ) contour, and the principal community ( 48 dBu ) contour. The 48 dBu contour completely encompasses the principal community of license, Osage Beach, Missouri.

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## ALLOCATION CONSIDERATIONS

## DTV Allocation Considerations

A study was performed to determine if the instant application for amendment to an application for construction permit for KRBK-DT is predicted to cause any level of new prohibited interference to domestic DTV stations, expansion construction permits or DTV allotments. Results of the study, utilizing a 0.5 km cell size with the FCC's own application processing software, indicate that the instant application is predicted to cause no unacceptable level of new interference to the populations served by any domestic DTV station, expansion construction permit or allotment. .

## Class A Television Allocation Considerations

As required in Section 73.616(f) of the FCC's Rules, a study was performed, using the FCC's application processing software. The study revealed that no class A stations will be affected by the instant proposal.

## BLANKETING AND INTERMODULATION INTERFERENCE

There is one FM radio station, and several non-broadcast facilities, but there are no other television broadcast stations nor any AM radio broadcast stations located within 10 km of the proposed KRBK-DT antenna site. The permittee, however, does recognize its responsibility to investigate and remedy any complaints of interference that might result from the implementation of this proposal, in accordance with applicable Rules.

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## RADIO FREQUENCY IMPACT

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSIIIEEE C95.1-1992 (IEEE C95.1-1991). The guidelines provide a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared $\left(\mathrm{mW} / \mathrm{cm}^{2}\right)$ when applied to broadcast facilities operating between 30 MHz and 300 MHz , and for broadcast facilities operating between 300 MHZ and 1500 MHz , primarily UHF TV stations, is derived from the formula, (frequency/1500). The MPE level for "controlled" environments is 1.0 milliwatts per

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centimeter squared $\left(\mathrm{mW} / \mathrm{cm}^{2}\right)$ for operations between 30 MHz and 300 MHz , and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, (frequency/300). The predicted emissions of KRBK-DT channel 49 must be considered, along with the predicted emissions from any other proposed stations at the proposed site. For KRBK-DT, which operates on television Channel $49(680-686 \mathrm{MHz})$, the MPE is 0.455 milliwatts per centimeter squared ( $\mathrm{mW} / \mathrm{cm}^{2}$ ) in an "uncontrolled" environment and 2.275 $\mathrm{mW} / \mathrm{cm}^{2}$ in a "controlled" environment. The proposed KRBK-DT facility will operate with a maximum ERP of 615 kW from a horizontally polarized omni-directional transmitting antenna with a centerline height of 306.3 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3 , the KRBK-DT facility is predicted to produce a power density at two meters above ground level of 0.01987 $\mathrm{mW} / \mathrm{cm}^{2}$, which is $4.36 \%$ of the FCC's guideline value for an "uncontrolled" environment, and $0.872 \%$ of the FCC's guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all post-transition stations within relevant proximity is only $4.36 \%$ of the limit for "uncontrolled" environments, and $0.872 \%$ of the limit for "controlled" environments.

## OCCUPATIONAL SAFETY

The licensee of KRBK-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KRBK-DT antenna, and is committed to reducing power and/or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

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## SUMMARY

It is submitted that the instant application for construction permit for KRBK's posttransition DTV facilities on channel 49 is believed to be in substantial compliance with the Rules, Regulations and Policies of the Federal Communications Commission as set forth in the most recent Reports and Orders and Orders on Reconsideration. This statement was prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: June 27, 2008


## VERTICAL PLAN ANTENNA SKETCH

KBRK-DT, OSAGE BEACH, MISSOURI
CH. 49, 615 kW - 299.8 m HAAT
JUNE, 2008

Date
Call Letters
Location
Customer
Antenna Type

23 Jun 2008
KRBK-DT Channel
49
Osage Beach, MO
KOPLAR Comm.
TFU-20GTH O4

## ELEVATION PATTERN

RMS Gain at Main Lobe
RMS Gain at Horizontal
Calculated / Measured
$18.0 \quad$ ( 12.55 dB )
16.9 (12.28 dB) Calculated


Remarks:

Date
Call Letters
Location
Customer
Antenna Type

23 Jun 2008
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Remarks:

Date
Call Letters
Location
Customer
Antenna Type

23 Jun 2008
KRBK-DT Channel
Osage Beach, MO KOPLAR Comm.
TFU-20GTH O4

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing \#
20G180050

| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -10.0 | 0.064 | 2.4 | 0.654 | 10.6 | 0.080 | 30.5 | 0.047 | 51.0 | 0.024 | 71.5 | 0.007 |
| -9.5 | 0.063 | 2.6 | 0.597 | 10.8 | 0.075 | 31.0 | 0.055 | 51.5 | 0.022 | 72.0 | 0.014 |
| -9.0 | 0.048 | 2.8 | 0.539 | 11.0 | 0.069 | 31.5 | 0.057 | 52.0 | 0.017 | 72.5 | 0.021 |
| -8.5 | 0.024 | 3.0 | 0.483 | 11.5 | 0.050 | 32.0 | 0.052 | 52.5 | 0.011 | 73.0 | 0.028 |
| -8.0 | 0.000 | 3.2 | 0.430 | 12.0 | 0.025 | 32.5 | 0.042 | 53.0 | 0.003 | 73.5 | 0.034 |
| -7.5 | 0.017 | 3.4 | 0.379 | 12.5 | 0.005 | 33.0 | 0.029 | 53.5 | 0.005 | 74.0 | 0.040 |
| -7.0 | 0.017 | 3.6 | 0.333 | 13.0 | 0.038 | 33.5 | 0.016 | 54.0 | 0.013 | 74.5 | 0.045 |
| -6.5 | 0.001 | 3.8 | 0.290 | 13.5 | 0.068 | 34.0 | 0.005 | 54.5 | 0.019 | 75.0 | 0.050 |
| -6.0 | 0.037 | 4.0 | 0.253 | 14.0 | 0.092 | 34.5 | 0.002 | 55.0 | 0.024 | 75.5 | 0.053 |
| -5.5 | 0.082 | 4.2 | 0.220 | 14.5 | 0.103 | 35.0 | 0.004 | 55.5 | 0.027 | 76.0 | 0.056 |
| -5.0 | 0.124 | 4.4 | 0.192 | 15.0 | 0.101 | 35.5 | 0.000 | 56.0 | 0.028 | 76.5 | 0.058 |
| -4.5 | 0.146 | 4.6 | 0.168 | 15.5 | 0.085 | 36.0 | 0.009 | 56.5 | 0.027 | 77.0 | 0.060 |
| -4.0 | 0.134 | 4.8 | 0.149 | 16.0 | 0.057 | 36.5 | 0.020 | 57.0 | 0.024 | 77.5 | 0.061 |
| -3.5 | 0.077 | 5.0 | 0.135 | 16.5 | 0.023 | 37.0 | 0.032 | 57.5 | 0.019 | 78.0 | 0.061 |
| -3.0 | 0.028 | 5.2 | 0.123 | 17.0 | 0.013 | 37.5 | 0.042 | 58.0 | 0.014 | 78.5 | 0.060 |
| -2.8 | 0.083 | 5.4 | 0.115 | 17.5 | 0.043 | 38.0 | 0.049 | 58.5 | 0.009 | 79.0 | 0.059 |
| -2.6 | 0.145 | 5.6 | 0.110 | 18.0 | 0.064 | 38.5 | 0.052 | 59.0 | 0.004 | 79.5 | 0.058 |
| -2.4 | 0.212 | 5.8 | 0.107 | 18.5 | 0.073 | 39.0 | 0.050 | 59.5 | 0.001 | 80.0 | 0.056 |
| -2.2 | 0.283 | 6.0 | 0.105 | 19.0 | 0.070 | 39.5 | 0.043 | 60.0 | 0.004 | 80.5 | 0.053 |
| -2.0 | 0.358 | 6.2 | 0.105 | 19.5 | 0.057 | 40.0 | 0.034 | 60.5 | 0.006 | 81.0 | 0.051 |
| -1.8 | 0.435 | 6.4 | 0.105 | 20.0 | 0.039 | 40.5 | 0.023 | 61.0 | 0.007 | 81.5 | 0.048 |
| -1.6 | 0.511 | 6.6 | 0.106 | 20.5 | 0.020 | 41.0 | 0.012 | 61.5 | 0.006 | 82.0 | 0.045 |
| -1.4 | 0.587 | 6.8 | 0.108 | 21.0 | 0.004 | 41.5 | 0.003 | 62.0 | 0.003 | 82.5 | 0.041 |
| -1.2 | 0.660 | 7.0 | 0.109 | 21.5 | 0.004 | 42.0 | 0.003 | 62.5 | 0.001 | 83.0 | 0.038 |
| -1.0 | 0.729 | 7.2 | 0.110 | 22.0 | 0.005 | 42.5 | 0.005 | 63.0 | 0.005 | 83.5 | 0.034 |
| -0.8 | 0.792 | 7.4 | 0.110 | 22.5 | 0.001 | 43.0 | 0.003 | 63.5 | 0.010 | 84.0 | 0.031 |
| -0.6 | 0.849 | 7.6 | 0.110 | 23.0 | 0.011 | 43.5 | 0.002 | 64.0 | 0.016 | 84.5 | 0.027 |
| -0.4 | 0.897 | 7.8 | 0.110 | 23.5 | 0.022 | 44.0 | 0.009 | 64.5 | 0.021 | 85.0 | 0.024 |
| -0.2 | 0.937 | 8.0 | 0.109 | 24.0 | 0.031 | 44.5 | 0.017 | 65.0 | 0.026 | 85.5 | 0.021 |
| 0.0 | 0.968 | 8.2 | 0.108 | 24.5 | 0.034 | 45.0 | 0.025 | 65.5 | 0.030 | 86.0 | 0.017 |
| 0.2 | 0.988 | 8.4 | 0.106 | 25.0 | 0.032 | 45.5 | 0.031 | 66.0 | 0.033 | 86.5 | 0.014 |
| 0.4 | 0.999 | 8.6 | 0.105 | 25.5 | 0.023 | 46.0 | 0.034 | 66.5 | 0.035 | 87.0 | 0.011 |
| 0.6 | 0.999 | 8.8 | 0.103 | 26.0 | 0.011 | 46.5 | 0.034 | 67.0 | 0.036 | 87.5 | 0.009 |
| 0.8 | 0.989 | 9.0 | 0.101 | 26.5 | 0.002 | 47.0 | 0.030 | 67.5 | 0.035 | 88.0 | 0.006 |
| 1.0 | 0.971 | 9.2 | 0.099 | 27.0 | 0.013 | 47.5 | 0.024 | 68.0 | 0.033 | 88.5 | 0.004 |
| 1.2 | 0.943 | 9.4 | 0.097 | 27.5 | 0.019 | 48.0 | 0.015 | 68.5 | 0.030 | 89.0 | 0.002 |
| 1.4 | 0.908 | 9.6 | 0.095 | 28.0 | 0.018 | 48.5 | 0.006 | 69.0 | 0.025 | 89.5 | 0.001 |
| 1.6 | 0.866 | 9.8 | 0.093 | 28.5 | 0.011 | 49.0 | 0.004 | 69.5 | 0.020 | 90.0 | 0.000 |
| 1.8 | 0.819 | 10.0 | 0.090 | 29.0 | 0.002 | 49.5 | 0.012 | 70.0 | 0.014 |  |  |
| 2.0 | 0.767 | 10.2 | 0.087 | 29.5 | 0.018 | 50.0 | 0.019 | 70.5 | 0.007 |  |  |
| 2.2 | 0.711 | 10.4 | 0.084 | 30.0 | 0.034 | 50.5 | 0.023 | 71.0 | 0.000 |  |  |

Remarks:


PREDICTED COVERAGE CONTOURS
KRBK-DT, OSAGE BEACH, MISSOURI
CH. $49,615 \mathrm{~kW}-299.8 \mathrm{~m}$ HAAT
$\overline{\text { Predicted Principal Community Contour }}$
F(50,90) - 48 dBu

Population ( 2000 Census)
489,370-19,860 sq km

Predicted Noise Limited Contour
$F(50,90)-41 \mathrm{dBu}$

Population (2000 Census) 584,486-26,520 sq km

## SUMMARY OF RADIOFREQUENCY

## RADIATION STUDY

KRBK-DT, OSAGE BEACH, MISSOURI CHANNEL 49, 615 kW ERP, 299.8 meters HAAT

JUNE, 2008

** The antenna heights indicated above are 2 meters less than the actual antenna heights
so that the predicted power densities consider the 2 meter human height allowance.
This evaluation includes facilities collocated at the site, and facilities located within 315 meters.

