



## **ENGINEERING STATEMENT**

OF

**JOHN F.X. BROWNE, P.E.**

IN SUPPORT OF

**APPLICATION FOR CONSTRUCTION PERMIT**

**POST-TRANSITION DTV FACILITY**

**KJRH-DT**

**TULSA, OK**

### **Background**

Scripps Howard Broadcasting Company (SHB) is the licensee of KJRH, located at Tulsa, OK, which is presently operating its digital facility on out-of-core Channel 56 with a side-mounted antenna facility having the following parameters:

#### **Pre-transition Facility (Ch. 56)**

Coordinates: 36° 01' 15" N (NAD27)  
95° 40' 32" W  
ERP: 800 kW (omni)  
HAAT: 505m

KJRH elected Channel 8 (through a Negotiated Channel Agreement with KAFT) and has been allotted the post-transition DTV Appendix B facility operating parameters listed below:

#### **Post-transition Facility (Ch. 8)**

Coordinates: 36° 01' 15" N (NAD27)  
95° 40' 32" W  
ERP: 18.2 kW (omni)  
HAAT: 558m



The tower that will be used for the new KJRH digital antenna is a multi-user structure shared with KOTV-DT (post-transition Channel 45), KWHB-DT (post-transition Channel 47) and KOED-DT (post-transition Channel 11). The KJRH (Channel 2) and KOTV (Channel 6) analog antennas are presently stacked on the top of the tower and occupy the space where the new digital Channel 8 antenna must be placed (along with the KOTV Channel 45 DTV antenna). KJRH (along with KOTV<sup>1/</sup>) plans to remove the stacked analog antennas before the end of the transition in order to complete the build-out of its Appendix B facility.

### **Antenna System and Tower**

As noted above, the new KJRH digital Channel 8 omni-directional antenna, a Dielectric THV-9A8/CP-R O4, will be installed on the tower (ASR#1011355) after the existing stacked analog antennas are removed. The present overall tower height (with appurtenances) of 775.6m AMSL will remain the same, however, the new DTV antenna will have a center of radiation of 766.1m AMSL (with a calculated HAAT of 573.2m) which is approximately 15 m higher than the radiation center of the Appendix B facility. Given this difference in height, the ERP will be reduced from 18.2 kW (as specified in Appendix B) to 15.9 kW so that the contour of the proposed post-transition facility does not exceed the contour of its Appendix B facility in any direction.

The proposed KJRH facility will incorporate circular polarization (equal horizontal and vertical ERP) of 15.9kW.

### **Coverage**

The entire principal community of Tulsa, OK is well within the predicted F(50,90) 43 dBu contour based on the proposed omni-directional 15.9 kW ERP.

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<sup>1/</sup> All of the required transition work, where necessary, has been coordinated with KOTV to ensure that both stations can build-out their Appendix B facilities before the end of the transition.



### **Interference**

KJRH is not seeking to expand its service contour beyond the contour of its Appendix B facility in any direction; therefore, no interference analysis is required to be submitted with this application. Table 1, attached hereto, compares the distances to the noise limited contour for the KNXV Appendix B facility vs. the proposed facility.

### **Environmental/RFR**

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.

The additional ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.000064 mW/cm<sup>2</sup> which is less than 5% of the MPE for public exposure (0.20 mW/cm<sup>2</sup>) at the proposed frequency and, therefore, the proposal is excluded from further consideration.

SHB recognizes that this is a multi-user tower site and RFR levels on the tower may exceed the occupational exposure limit. SHB agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers are encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of RFR hazards is posted.

### **Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact

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contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, reading "John F.X. Browne", written over a horizontal line.

John F.X. Browne, P.E.  
February 27, 2008

**Table 1**  
**KJRH-DT**  
**Appendix B Facility vs. Proposed Facility Contour Distance Table**

<u>Degrees</u>	<u>Appendix B Facility ERP - 18.2 (O) Distance (miles)</u>	<u>Proposed Facility ERP - 15.9 kW (O) Distance (miles)</u>	<u>Difference (miles)</u>
0	71.46	71.34	-0.12
10	71.15	71.03	-0.12
20	71.83	71.65	-0.19
30	72.21	72.02	-0.19
40	72.27	72.08	-0.19
50	72.21	72.02	-0.19
60	72.14	71.96	-0.19
70	72.27	72.08	-0.19
80	72.33	72.14	-0.19
90	72.21	72.02	-0.19
100	72.14	71.96	-0.19
110	72.08	71.90	-0.19
120	72.08	71.83	-0.25
130	71.83	71.65	-0.19
140	71.77	71.59	-0.19
150	71.52	71.34	-0.19
160	71.65	71.46	-0.19
170	71.71	71.52	-0.19
180	71.59	71.40	-0.19
190	71.46	71.34	-0.12
200	71.46	71.34	-0.12
210	71.27	71.09	-0.19
220	71.21	71.09	-0.12
230	71.40	71.27	-0.12
240	71.46	71.34	-0.12
250	71.40	71.27	-0.12
260	71.03	70.90	-0.12
270	70.90	70.84	-0.06
280	70.78	70.72	-0.06
290	70.59	70.59	0.00
300	70.47	70.40	-0.06
310	70.65	70.65	0.00
320	70.96	70.96	0.00
330	71.27	71.21	-0.06
340	71.40	71.27	-0.12
350	71.46	71.34	-0.12