

**AMENDMENT  
TO A  
PENDING  
APPLICATION**

**FCC FORM 301**

**FACILITY NUMBER 2894**

**(FILE NUMBER BPH-20000919ABP)**

**KVRW**

**LAWTON, OKLAHOMA**

**CHANNEL 297C2 (107.3 MHz)**

**ERP: 50.0 kW (H&V)**

**HAAT: 150.0 meters (H&V)**

**APPLICANT: PAT-TOWER, INC.**

**FEBRUARY, 2001**

**Prepared by:**



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**Engineering Statement**  
**In Support of an Amendment to a Pending**  
**Application for a Construction Permit**  
**KVRW(FM), Lawton, Oklahoma**  
**Channel 297C2**

**CONTENTS**  
FOR ENGINEERING EXHIBITS F.C.C. FORM 301

1. Statement of Engineers	E3-E9
2. Exhibit E, Figure 1	Channel Spacing Study
3. Exhibit E, Figure 2	Service Contour Study and Terrain Averaging Study
4. Exhibit E, Figure 3	Proposed Site Map
5. Exhibit E, Figure 4	Reduced Copy, Proposed Site Map
6. Exhibit E, Figure 5	Vertical Plane Sketch
7. Exhibit E, Figure 6	Proposed Service Contour Map

**ENGINEERING STATEMENT**

**Of**

**Lee S. Reynolds**

**And**

**Virgle Leon Strickland**

**In Support of an**

**Amendment to a**

**Pending Application**

**KVRW(FM)**

**Pat-Tower, Inc.**

**Lawton, Oklahoma**

**Channel 297C2 – 107.3 MHz**

**ERP: 50.0 kW(H&V)**

**HAAT: 150.0 m (H&V)**

**February, 2001**

**General**

As broadcast technical consultants doing business as Reynolds Technical Associates, we have been authorized by Pat-Tower, Inc. (herein referred to as “Pat-Tower” as well as “The Applicant”), licensee of KVRW(FM), Lawton, Oklahoma, to conduct engineering studies and prepare the engineering portion of an amendment to a pending application, file number BPH-20000919ABP.

This application is filed simultaneously with KYNZ, Lawton, Oklahoma; and KDXT, Benbrook, Texas.

The attached engineering exhibits will show that when KVRW operates as a class C2 facility with an ERP of 50 kW and a HAAT of 150.0 meters (CORAMSL of 530.8 meters, it will be in compliance with all the Commission's Rules and Regulations.

**Channel Spacing Study**  
**(Exhibit E, Figure 1)**

The current (and proposed) transmitter site is approximately 11.27 kilometers west (286.2°) of the central business district of Lawton with the geographical coordinates 34° (degrees), 38' (minutes), 13" (seconds) North Latitude; 98° (degrees), 30' (minutes), 28" (seconds) West Longitude. A channel spacing study was performed to insure that the proposed site meets all of the minimum separation requirements with respect to other authorized co-channel, adjacent-channel, I.F. separated channels, new allocations and proposed allocations. The stations considered in the study are listed by channel in Exhibit E, Figure 1 showing the location, separation, and the required minimum spacing of each.

The results of the channel allocation study indicates that The Applicant's proposed transmitter site will meet all the required §73.207 separation requirements specified in the Commission's Rules and Regulations.

**The Site and Surrounding Terrain**  
**(Exhibit E, Figures 2, 3, and 4)**

A computer study was conducted to determine the average terrain elevations for each of the eight required radials, plus an additional 16 radials (one every 15°) for a total of 24, beginning with true north, then at intervals of 15 degrees. Only the 8 cardinal radials were considered to establish the terrain average. The average of each cardinal radial was taken from three to sixteen kilometers, at 0.1-km intervals. The NGDC 30-second

database was used to conduct the computer study. Exhibit E, Figure 2 is a copy of the terrain study and the contour study showing the distance to the service contours and the average elevations of each. According to the computer study, the elevation of the licensed (and proposed) site is 13.3 meters (43.6 feet) above the average terrain.

A full scale 7.5-minute series USGS topographic quadrangle map (Mount Scott, OK), with the required coordinate plotting, with exact geographical coordinates of the proposed transmitter site properly marked and labeled, is included as Exhibit E, Figure 3.

Exhibit E, Figure 4 is a copy of a portion of the Mount Scott, Oklahoma 7.5-minute map depicting the copy of the entire map used for preparing Exhibit E, Figure 3. The actual 7.5-minute series USGS topographical map that was used for preparing Exhibit E, Figures 3 and 4 is being included as part of the original application submitted to the Commission.

There are no proposed or authorized FM or TV transmitters, nor any non-broadcast radio stations within 60 meters of the proposed antenna. There are no proposed or authorized FM or TV transmitters that may produce receiver-induced intermodulation interference within ten (10) kilometers of the proposed transmitting antenna. There are no AM facilities within 3.2 kilometers of the proposed tower site.

The distance to the blanketing (115 dBu) contour is calculated to be 2.786 kilometers.

**Antenna and Supporting Structure**  
**(Exhibit E, Figure 5)**

The elevation above mean sea level of the proposed site is 394.1 meters (1293.0 feet) AMSL. According to a computer study of the eight cardinal radials at 3 to 16 kilometers (utilizing the NGDC 30-second database), the average terrain surrounding the proposed transmitter site is 380.8 meters (1249.4 feet). Therefore, the proposed site is 13.3 meters

(43.6 feet) above the average terrain. Exhibit E, Figure 5 is a vertical plane sketch of the proposed supporting structure depicting the elevations in meters as well as feet.

**Predicted Service Contours**  
**(Exhibit E, Figure 6)**

Exhibit E, Figure 6 is a map that shows the F(50,50) 70-dBu contour and 60 dBu contours. The map shows that 100% of the community of license (Lawton, Oklahoma) is encompassed by the F(50,50) 70-dBu contour, in compliance with §73.315(a) of the Commission's Rules and Regulations.

**Human Exposure to Radiofrequency Radiation**  
**(No Exhibits)**

The proposed FM facility was evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with the RF Worksheet #1 (FCC Worksheet 3, pages 5 and 6). According to this study, the power density 2 meters above ground at the base of the tower is 0.183 mW/cm<sup>2</sup>. This is less than the 0.2 mW/cm<sup>2</sup> required for general public/uncontrolled population, as well as the 1.0 mW/cm<sup>2</sup> required for controlled/occupational limit.

The side-mount antenna for The Applicant's proposed FM broadcast station will utilize a proposed tower. The proposed center of radiation above ground level is to be rounded to 137 meters, with an ERP (both horizontally and vertically) of 50.0 kW. The controlled/occupational limit and uncontrolled/general public limits are in compliance. A radiofrequency radiation warning sign is to be placed at the base of the tower with clearly visible instructions to workers who climb the tower. The sign shall instruct anyone working on the tower to reduce (or turn off) the FM transmitter, whichever is appropriate, in order to avoid harmful exposure to radiofrequency radiation.

The radiation for the FM facility is predicted to remain well within the guidelines concerning exposure to radiofrequency radiation.

**Environmental Impact**  
**(No Exhibits)**

A grant of the proposed construction would not constitute a major action as defined in the Commission's Rules and Regulations.

The KVRW licensed uniform cross-sectional guyed tower of 152.1 meters AGL, including top mounted beacon, is to be used for the purpose of supporting the applicant's FM transmitting antenna.

During operation, the facility will produce no chemical or significant thermal pollution, and no ionizing radiation will be generated. Areas of high intensity radiofrequency fields will be confined to the immediate area of the transmitting antenna, far above the ground and away from any human and wildlife population.

The area is not officially designated as a wilderness area or wildlife preserve and is not pending consideration. The area has no significant value in American history, architecture, archaeology, or culture, which is listed in the Register of Historic Places, and it is not eligible for listing. It is not recognized either nationally or locally for special scenic or recreational value. The proposed site is located in Comanche County, Oklahoma, near the city of Lawton, approximately 11.3 kilometers from the central business district of that city.

**Conclusion**

This statement/application has been prepared for The Applicant by utilizing the latest available information, cross-checked with the Federal Communications Commission and other sources. Therefore, it is submitted that the proposed is in compliance with the

Commission's Rules and Regulations and other sources. Therefore, it is submitted that the engineering data compiled and demonstrated herein for the proposed is in compliance with Commission's Rules and Regulations at the time of this application's filing date. We welcome the opportunity to discuss with the staff of the Federal Communications Commission the engineering data contained in this application. Should any questions arise concerning the information, please contact us.

The following pages are exhibits prepared and assembled in support of the proposed.

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### **Statement of the Consultants**

The instant engineering statement (amendment to a pending application) was prepared for Pat-Tower, Inc. (“The Applicant”) and supports an application for a modification of the construction permit to KVRW(FM), Lawton, Oklahoma. It was developed by Lee S. Reynolds and Virgle Leon Strickland of Reynolds Technical Associates and may not be used for purposes other than submission to the Commission by The Applicant.

It may not be reproduced in its entirety, or in part, by anyone (other than from the Commission) without the written consent of Strickland and/or Reynolds.

It is prepared for The Applicant under contractual agreement, and its certification by Strickland/Reynolds is used accordingly. If The Applicant fails in its contractual obligation, Strickland/Reynolds reserve the right to withdraw its certification.

The information in this application is compiled from the most recent Commission and outside data. Strickland/Reynolds are not responsible for errors resulting from incorrect data or unpublished rule and procedure changes.

For Strickland and Reynolds:

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February \_\_\_\_\_, 2001

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