## GRAHAM BROCK, INC.

BROADCAST TECHNICAL CONSULTANTS

NIGHTTIME FEASIBILITY STUDY
SOUTH TEXAS BROADCASTING, INC.
KTEK AM RADIO STATION
1110 kHz - 2.5 KW - DAD
ALVIN, TEXAS
September 2007

**TECHNICAL EXHIBIT** 

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This Feasibility Study and attached exhibits were prepared on behalf of South Texas Broadcasting, Inc., at the request of Jon Lunsford. This study will examine the possibility and /or feasibility of adding nighttime service to AM Broadcast Station KTEK, 1110 kHz, Alvin, Texas. KTEK currently operates with 2.5 kilowatts with a directional antenna system both daytine and Critical Hours. Nighttime service might include a simple non-directional antenna or a directional antenna system utilizing the existing towers for KTEK.

Exhibit #1 is a printout of the nighttime radiation limitations to the operation of KTEK. The most severe limitation is co-channel Class A station KFAB, Omaha, Nebraska. The next most severe limitation is co-channel Class A station WBT, Charlotte, North Carolina. Due to the limitations of KFAB, the maximum non-directional power for KTEK at night is 3 watts. This clearance is shown on Exhibit #2.

By manipulating the present towers and power, we have demonstrated that, during nighttime hours, the maximum power of the station (using the existing 6 towers) is approximately 100 watts. Exhibit #3 shows the present directional array, reversed to limit radiation toward KFAB. Exhibit #4 shows the nighttime interference free service of KTEK operating in this configuration.

We have tried to be as accurate as possible in the preparation of this report. Should there be any questions concerning the information contained herein, we welcome the opportunity to discuss the matter by phone (912) 638-8028 or e-mail at <a href="mailto:rsg@grahambrock.com">rsg@grahambrock.com</a>.

## NIGHTTIME FEASIBILITY STUDY SOUTH TEXAS BROADCASTING, INC. KTEK AM RADIO STATION 1110 kHz - 2.5 KW - DAD ALVIN, TEXAS September 2007

## EHIBIT #1

## **Night Radiation Limits**

Frequency: 1110 kHz

Latitude:  $29-22-51 \ N$  Longitude:  $095-14-15 \ W$  Radiation limits above  $100.0 \ mV/m@1km$  are not shown.

|           |         | City      |       | (Deg) |      | (mV/m @ 1km) |
|-----------|---------|-----------|-------|-------|------|--------------|
| KEAR (65) |         | OMAHA     |       |       |      | 91.1         |
|           |         |           |       |       |      | 44.1         |
|           |         | OMAHA     |       |       |      |              |
|           |         |           | 284.1 |       |      | 34.1         |
|           |         | OMAHA     |       |       |      | 51.1         |
|           |         |           | 287.2 |       |      | 26.9         |
|           |         |           | 288.0 | 5.1   | 10.0 | 60.1         |
|           |         |           | 291.1 | 4.3   | 8.7  | 69.3         |
| KFAB (200 | ) US NE | OMAHA     | 294.4 | 14.5  | 23.8 | 21.2         |
| KFAB (240 | ) US NE | OMAHA     | 298.1 | 2.9   | 6.9  | 87.9         |
| KFAB (245 | ) US NE | OMAHA     | 301.7 | 2.5   | 6.2  | 97.1         |
| KFAB (195 | ) US NE | OMAHA     | 308.2 | 17.1  | 27.4 | 17.7         |
| KFAB (190 | ) US NE | OMAHA     | 327.0 | 17.4  | 27.8 | 17.3         |
| KFAB (185 | ) US NE | OMAHA     | 343.5 | 14.9  | 24.4 | 20.6         |
|           |         |           | 353.4 |       |      | 26.6         |
|           |         |           | 358.5 |       |      | 34.3         |
| ,         | ,       |           |       |       |      |              |
| WBT (245) | US NC   | CHARLOTTE | 61.8  | 4.1   | 8.5  | 73.0         |
| WBT (240) | US NC   | CHARLOTTE | 64.2  | 5.1   | 10.0 | 61.3         |
| WBT (235) | US NC   | CHARLOTTE | 68.8  | 6.3   | 11.8 | 50.5         |
| WBT (230) | US NC   | CHARLOTTE | 76.3  |       |      | 42.1         |
|           |         |           | 81.2  |       |      | 51.2         |
|           |         |           | 83.2  |       |      | 71.3         |
|           |         | CHARLOTTE |       |       | 11.8 | 87.7         |
| , ,       |         |           |       |       |      |              |





