

# ENGINEERING EXHIBIT

## Application for Construction Permit

prepared for

**Liberman Broadcasting of Houston License Corp**

**KQQK(FM) Beaumont, Texas**

**Facility ID 19087**

**Ch. 300C 90 kW 596 m**

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FCC Form 301, Section III-B

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#### Exhibit 29

Statement B	Environmental Considerations
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*This material supplies a "hard copy" of the engineering portions of this application as entered April 16, 2004 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.*

<b>Section III-B - FM Engineering</b>												
<b>TECHNICAL SPECIFICATIONS</b>												
Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.												
<b>TECH BOX</b>												
1. Channel Number: 300												
2. Class (select one): <input type="radio"/> A <input type="radio"/> B1 <input type="radio"/> B <input type="radio"/> C3 <input type="radio"/> C2 <input type="radio"/> C1 <input type="radio"/> C0 <input checked="" type="radio"/> C <input type="radio"/> D												
3. Antenna Location Coordinates: (NAD 27)  Latitude: Degrees 30 Minutes 1 Seconds 1 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 94 Minutes 32 Seconds 47 <input checked="" type="radio"/> West <input type="radio"/> East												
4. One Step Proposal Allotment Coordinates: (NAD 27) <input checked="" type="checkbox"/> Not Applicable  Latitude: Degrees Minutes Seconds <input type="radio"/> North <input type="radio"/> South  Longitude: Degrees Minutes Seconds <input type="radio"/> West <input type="radio"/> East												
5. Antenna Structure Registration Number: <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Notification filed with FAA												
6. Overall Tower Height Above Ground Level:										609.6meters		
7. Height of Radiation Center Above Mean Sea Level:										611.4 meters(H)		611.4 meters(V)
8. Height of Radiation Center Above Ground Level:										594.6meters(H)		594.6meters(V)
9. Height of Radiation Center Above Average Terrain:										596meters(H)		596meters(V)
10. Effective Radiated Power:										90 kW(H)		90 kW(V)
11. Maximum Effective Radiated Power: <input checked="" type="checkbox"/> Not Applicable (Beam-Tilt Antenna ONLY)										kW(H)		kW(V)
12. Directional Antenna Relative Field Values: <input checked="" type="checkbox"/> Not applicable (Nondirectional)  Rotation (Degrees): <input type="checkbox"/> No Rotation												
Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	
0		10		20		30		40		50		
60		70		80		90		100		110		
120		130		140		150		160		170		
180		190		200		210		220		230		
240		250		260		270		280		290		
300		310		320		330		340		350		
Additional Azimuths												

Relative Field Polar Plot

**NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.**

#### CERTIFICATION

**AUXILIARY ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 13-16. PROCEED TO ITEM 17.**

13. <b>Allotment.</b> The proposed facility complies with the allotment requirements of 47 C.F.R. Section 73.203.	<input checked="" type="radio"/> Yes <input type="radio"/> No
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		See Explanation in [Exhibit 21]
14.	<b>Community Coverage.</b> The proposed facility complies with 47 C.F.R. Section 73.315.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 22]
15.	<b>Main Studio Location.</b> The proposed main studio location complies with 47 C.F.R. Section 73.1125.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 23]
16.	<b>Interference.</b> The proposed facility complies with all of the following applicable rule sections: Check all those that apply:  <b>Separation Requirements.</b> <input checked="" type="checkbox"/> a) 47 C.F.R. Section 73.207  <b>Grandfathered Short-Spaced.</b>  <input type="checkbox"/> b) 47 C.F.R. Section 73.213(a) with respect to station(s): [Exhibit 25] <b>Exhibit required</b> <input type="checkbox"/> c) 47 C.F.R. Section 73.213(b) with respect to station(s): [Exhibit 26] <b>Exhibit required</b> <input type="checkbox"/> d) 47 C.F.R. Section 73.213(c) with respect to station(s): [Exhibit 27] <b>Exhibit required.</b>  <b>Contour Protection</b>  <input checked="" type="checkbox"/> e) 47 C.F.R. Section 73.215 with respect to station(s): [Exhibit 28] <b>Exhibit required.</b>	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 24]
17.	<b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b>  By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	<input type="radio"/> Yes <input checked="" type="radio"/> No  See Explanation in [Exhibit 29]
<b>PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.</b>		

### SECTION III - PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 4/16/2004	
Mailing Address CAVELL MERTZ & DAVIS, INC. 7839 ASHTON AVENUE			
City MANASSAS	State or Country (if foreign address) VA		Zip Code 20109 -
Telephone Number (include area code) 7033929090		E-Mail Address (if available) JDAVIS@CMDCONSULTING.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

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**Exhibits**

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**Exhibit 4****Description:** EXHIBIT 4EXHIBIT 4 - ATTACHED AS A PDF FILE

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**Attachment 4**

Description
<a href="#">Exhibit 4</a>

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**Exhibit 24****Description:** EXHIBIT 24 - STATEMENT AEXHIBIT 24 - STATEMENT A - ATTACHED AS A PDF FILE

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**Attachment 24**

Description
<a href="#">Exhibit 24 - Statement A</a>

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**Exhibit 28****Description:** SEE EXHIBIT 24SEE EXHIBIT 24

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**Attachment 28**

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**Exhibit 29****Description:** EXHIBIT 29 - STATEMENT BEXHIBIT 29 - STATEMENT B - ATTACHED AS A PDF FILE

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**Attachment 29**

Description
<a href="#">Exhibit 29 - Statement B</a>

Exhibit 29 - Statement B  
**ENVIRONMENTAL CONSIDERATIONS**  
prepared for  
**Liberman Broadcasting of Houston License Corp**  
KQQK(FM) Beaumont, Texas  
Facility ID 19087  
Ch. 300C 90 kW 596 m

**Nature of The Proposal**

*Liberman Broadcasting of Houston License Corp.* (“*Liberman*”) is the licensee of KQQK(FM), Ch. 300C, Beaumont, Texas. *Liberman* seeks to relocate KQQK to a proposed new tower structure at a different site location.

*Liberman* will commission a review of the various environmental subjects outlined in Section 1.1307(a)(1-8). The instant application will be amended when that review is complete to provide any additional material that may be necessary. Pending submission of that amendment, a response of “no” has been supplied in response to Item 17 of the associated FCC Form 301 Section III-B.

**Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to radiofrequency (“RF”) electromagnetic field using the procedures outlined in the Commission’s OET Bulletin No. 65 (“OET 65”). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

*Liberman* proposes to install the KQQK transmitting antenna such that its center of radiation is 594.6 meters above ground level. An effective radiated power of 90 kilowatts, horizontally and vertically polarized, will be employed. A worst-case value of 100 percent relative field is used for

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**ENVIRONMENTAL CONSIDERATIONS**  
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this calculation. The “uncontrolled/general population” limit specified in §1.1310 for the FM Broadcast service is 200  $\mu\text{W}/\text{cm}^2$ . RF plane wave power density is predicted pursuant to OET Bulletin 65, equation (9):

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

S	=	RF power density in microwatts/cm <sup>2</sup>
ERP	=	total ERP in Watts
F	=	relative field factor
D	=	distance in meters

Using this formula, the proposed facility would contribute an RF power density of 17.1  $\mu\text{W}/\text{cm}^2$  at two meters above ground level near the antenna support structure, or 8.6 percent of the general population/uncontrolled limit.

According to the FCC’s CDBS database, the nearest authorized FM station is KVST(FM) (CP, Ch. 279C, La Porte, TX), at 3.2 km from the proposed KQQK. There are no authorized television or AM stations within 10 km. At these large distances, consideration of these other broadcast station emitters is not necessary.

In a separate application, *Lieberman* will propose to relocate KTJM (Ch.253C, Port Arthur, TX) to the site proposed herein for KQQK and employ a “common” antenna system at 100 kW ERP (horizontal and vertically polarized) with KQQK. Calculations show that on a worst-case basis, KTJM would contribute an RF power density of 19.0  $\mu\text{W}/\text{cm}^2$  at two meters above ground level near the antenna support structure, or 9.5 percent of the general population/uncontrolled limit.

Summing the individual contributions from KQQK and KTJM, the total RF power density is 18.1 percent of the general population/uncontrolled limit. When the antenna’s actual vertical (elevation) pattern is employed, the calculated RF power density near the ground is reduced

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**ENVIRONMENTAL CONSIDERATIONS**  
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significantly. At ground level locations away from the base of the tower, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna.

**Safety of Tower Workers and the General Public**

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.