

## **ENGINEERING EXHIBIT**

### **Application for Construction Permit**

prepared for

#### **Liberman Broadcasting of Houston License LLC**

KTJM Port Arthur, TX

Facility ID 20489

Ch. 253C (98.5 MHz) 100 kW 537 m

*Liberman Broadcasting of Houston License LLC (“Liberman”)* is the licensee of KTJM, Channel 253C, Port Arthur, TX (file number BMLH-20050429ADO). *Liberman* has recently relocated KTJM to a new transmitter location as authorized by a Construction Permit (BPH-20040427ABJ). KTJM is operating pursuant to Automatic Program Test Authority while an Application for License to cover the CP is pending (BLH-20071113AGU). *Liberman* herein proposes to construct a new auxiliary antenna for KTJM.

At its new location, KTJM is authorized to operate at 100 kW maximum effective radiated power (“ERP”) using a non-directional antenna at a height above average terrain (“HAAT”) of 596 meters. The proposed auxiliary antenna will be side-mounted at a lower elevation on the same supporting tower as the new KTJM facility (FCC Antenna Structure Registration number 1247890). No change in overall structure height is proposed. The proposed auxiliary antenna will operate at 100 kW ERP (non-directional) and an antenna HAAT of 537 meters.

**Figure 1** shows that the 60 dB $\mu$  (1 mV/m) contour of the proposed auxiliary facility does not extend beyond the 60 dB $\mu$  contour of the main facility, in compliance with §73.1675(a)(1).

#### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed transmitting antenna will be side-mounted on an existing antenna support structure. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting

requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and considering the worst-case of 100 percent antenna relative field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $23.5 \mu\text{W}/\text{cm}^2$ , which is 11.7 percent of the general population/uncontrolled maximum permitted exposure ("MPE") limit.

Station KQQK(FM) (Ch.300C, Beaumont, TX) is also authorized to operate on the same tower structure. KQQK is also licensed to *Liberman* and its normal operation contributes a worst-case RF power density of 8.6 percent of the general population / uncontrolled MPE limit. The KQQK auxiliary antenna (proposed under a separate application) would contribute a worst-case RF power density at two meters above ground level of 11.7 percent of the general population / uncontrolled MPE limit.

Summing the individual contributions from KTJM and KQQK, the total RF power density is 23.4 percent of the general population/uncontrolled MPE limit for both stations operating with their auxiliary facilities, and 20.3 percent for the condition of KTJM's auxiliary antenna and KQQK on the main antenna. When the antennas' actual vertical (elevation) patterns are employed, the calculated RF power density near the ground is reduced. 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.

According to the FCC's CDBS database, the nearest authorized FM station is over 4 km from the KTJM site, and 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.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

Joseph M. Davis, P.E.  
January 8, 2008

**Chesapeake RF Consultants, LLC**  
11993 Kahns Road  
Manassas, VA 20112  
703-650-9600

### List of Attachments

Figure 1 Coverage Contour Comparison  
Form 301 Saved Version of Engineering Sections from FCC Form at Time of Upload

*This material was entered January 8, 2008 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.*

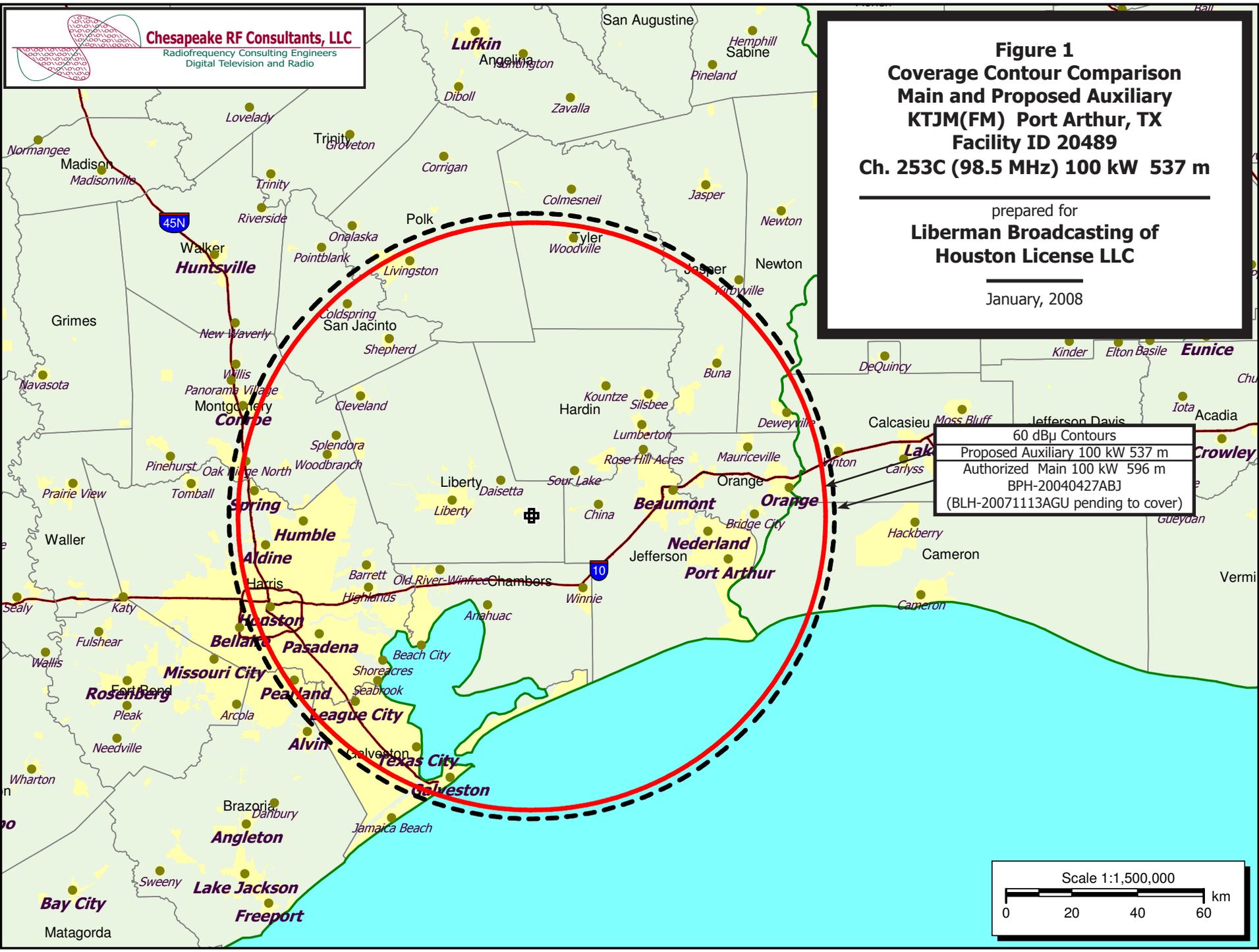
**Figure 1**  
**Coverage Contour Comparison**  
**Main and Proposed Auxiliary**  
**KTJM(FM) Port Arthur, TX**  
**Facility ID 20489**  
**Ch. 253C (98.5 MHz) 100 kW 537 m**

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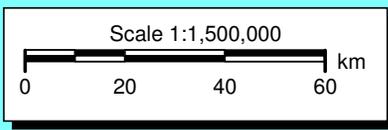
prepared for  
**Liberman Broadcasting of**  
**Houston License LLC**

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January, 2008



60 dBμ Contours  
 Proposed Auxiliary 100 kW 537 m  
 Authorized Main 100 kW 596 m  
 BPH-20040427ABJ  
 (BLH-20071113AGU pending to cover)



**Section III-B - FM Engineering**

**TECHNICAL SPECIFICATIONS**  
 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.

**TECH BOX**

1. Channel Number: 253

2. Class (select one):  
 A  B1  B  C3  C2  C1  C0  C  D

3. Antenna Location Coordinates: (NAD 27)  
 Latitude:  
 Degrees 30 Minutes 01 Seconds 01  North  South  
 Longitude:  
 Degrees 94 Minutes 32 Seconds 47  West  East

4. Proposed Allotment or Assignment Coordinates: (NAD 27)  Not Applicable  
 Latitude:  
 Degrees Minutes Seconds  North  South  
 Longitude:  
 Degrees Minutes Seconds  West  East

5. Antenna Structure Registration Number: 1247890  
 Not Applicable  Notification filed with FAA

6. Overall Tower Height Above Ground Level: 607.7meters

7. Height of Radiation Center Above Mean Sea Level: 552.6 meters(H) 552.6 meters(V)

8. Height of Radiation Center Above Ground Level: 535.8meters(H) 535.8meters(V)

9. Height of Radiation Center Above Average Terrain: 537.2meters(H) 537.2meters(V)

10. Effective Radiated Power: 100 kW(H) 100 kW(V)

11. Maximum Effective Radiated Power:  Not Applicable (Beam-Tilt Antenna ONLY) kW(H) kW(V)

12. Directional Antenna Relative Field Values:  Not applicable (Nondirectional)  
 Rotation (Degrees):  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 type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 23]
14. <b>Community Coverage.</b> The proposed facility complies with 47 C.F.R. Section 73.315.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 24]
15. <b>Main Studio Location.</b> The proposed main studio location complies with 47 C.F.R. Section 73.1125.	<input type="radio"/> Yes <input type="radio"/> No

		See Explanation in [Exhibit 25]
16.	<p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections: Check all those that apply:</p> <p><b>Separation Requirements.</b>  <input type="checkbox"/> a) 47 C.F.R. Section 73.207</p> <p><b>Grandfathered Short-Spaced.</b>  <input type="checkbox"/> b) 47 C.F.R. Section 73.213(a) with respect to station(s): [Exhibit 27]  <b>Exhibit required</b>  <input type="checkbox"/> c) 47 C.F.R. Section 73.213(b) with respect to station(s): [Exhibit 28]  <b>Exhibit required</b>  <input type="checkbox"/> d) 47 C.F.R. Section 73.213(c) with respect to station(s): [Exhibit 29]  <b>Exhibit required.</b></p> <p><b>Contour Protection</b>  <input type="checkbox"/> e) 47 C.F.R. Section 73.215 with respect to station(s): [Exhibit 30]  <b>Exhibit required.</b></p>	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 26]
17.	<p><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></p> <p>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.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 31]
18.	<p><b>Community of License Change - Section 307(b).</b> If the application is being submitted to change the facility's community of license, then the applicant certifies that it has attached an exhibit containing information demonstrating that the proposed community of license change constitutes a preferential arrangement of station assignments under Section 307(b) of the Communications Act of 1934, as amended (47 U.S.C. Section 307(b)).</p> <p><b>An exhibit is required</b> unless this question is not applicable.</p>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A  [Exhibit 32]
<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 01/08/2008	
Mailing Address CHESAPEAKE RF CONSULTANTS LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.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).