

## Comprehensive Engineering Statement

Prepared for

**LSB Broadcasting, Inc.**

K36ID-D Beaumont, TX Facility ID 168234

Channel 36 15 kW 162 meters AGL

*LSB Broadcasting, Inc. (“Tegna”)* is the licensee of low power television translator K36ID-D, Facility ID 168234 (file number BLDTL-20071126AHR). *Tegna* is hereby submitting a proposal for a minor change to the license in order to move the transmission facility 8.8 km from its current locations to ASRN 1047437, which currently is the antenna support structure for co-owned KBMT(DT). The height above ground will increase 2 meters to 162 meters AGL, and ERP will remain the same.

The proposed K36ID-D antenna will be side mounted on the existing KBMT(DT) antenna support structure, having FCC Antenna Structure Registration (“ASR”) number 1047437. No increase in overall structure height is necessary for the instant proposal.

The proposed facility will continue to operate on Channel 36 using a “stringent” out of channel emission mask with a directional, omnioioid-pattern antenna having an effective radiated power of 15 kW. The proposed antenna is an ERI model ALP8-OC-36, horizontally polarized, oriented with the main lobe at 344 degrees. **Figure 1** depicts the coverage contours of the licensed digital facility and the proposed facility at the KBMT tower. The service area overlap with each facility demonstrates compliance with the minor change criteria of §73.3572.

### Allocation Considerations

The instant proposal complies with the Commission’s interference protection requirements toward all DTV, television translator, LPTV, and Class A stations. A detailed interference study was conducted in accordance with the terrain dependent Longley-Rice point-to-point propagation model, per the Commission’s Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET 69”). The interference study examined the change in interference as experienced by nearby pertinent stations that would result from the proposed facility.

The results, summarized in **Table I**, show that no new interference in excess of 0.5% is

predicted to full power, Class A stations, or to secondary stations. Accordingly, the instant proposal complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

### **International Coordination and Other Matters**

The proposed facility is located 567 km from the nearest U.S. - Mexico border, which is well beyond the coordination distance specified for international coordination. The nearest FCC monitoring station is at Kingsville, Texas, at a distance of 495 km from the proposed site. This exceeds by a great margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The proposed site is also located outside the area specified in §73.1030(a)(1). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, is not required. Based on information extracted from the Commission's engineering database, the nearest AM broadcast station KOGT(AM), 1600 kHz, Orange, TX, is located 13.93 km distant from the proposed site, and is not a factor.

As described fully above, it is believed that the instant proposal complies with the Commission's allocation Rules and policies.

### **Environmental Considerations**

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required. *Tegna* herein proposes to move the K36ID-D digital facility to an existing tower structure, presently authorized for the KBMT(DT) facility under BLCDT-20090610ACH.

The use of existing tower structures has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change i n

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.

### **Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin 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.

The proposed K36ID-D digital companion Channel 36 antenna will be situated such that its center of radiation will be 162 meters above ground level. According to elevation pattern data provided by the antenna manufacturer, the K36ID-D Channel 36 antenna has a maximum relative field of 20 percent from 15 to 90 degrees below the horizontal plane (i.e., below the antenna). Thus, a "worst-case" relative field value of 30 percent is used for purposes of the calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 36 (center frequency 605 MHz) is  $403.3 \mu\text{W}/\text{cm}^2$ .

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET 65.

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

Where:

S = power density in microwatts/cm<sup>2</sup>

ERP = total (average) ERP in Watts

F = relative field factor

D = distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a power density of 0.80  $\mu\text{W}/\text{cm}^2$  at two meters above ground level near the antenna support structure, or 0.20 percent of the general population/uncontrolled limit.

§1.1307(b)(3) states that facilities are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the exposure limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

### **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 or near the base of 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 fence and locked gate. 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 or at the base of the top mounted tower structure. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or 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 would otherwise 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.

## **Conclusion**

Based on the preceding, it is believed that the instant proposal complies with all Commission Rules and policies.

# FIGURE 1 - K36ID-D AS-LICENSED AND PROPOSED PREDICTED CONTOURS

Prepared June 2016 for  
**LSB Broadcasting, Inc.**  
K36ID-D Fac ID 168234  
Ch. 36 15 kW 162 m AGL

Cavell, Mertz & Associates, Inc.  
Manassas, Virginia

K36ID-D As Proposed  
51 dB $\mu$  F(50,90) Contour

BLDTL-20071126AHR  
51 dB $\mu$  F(50,90) Contour

City of License

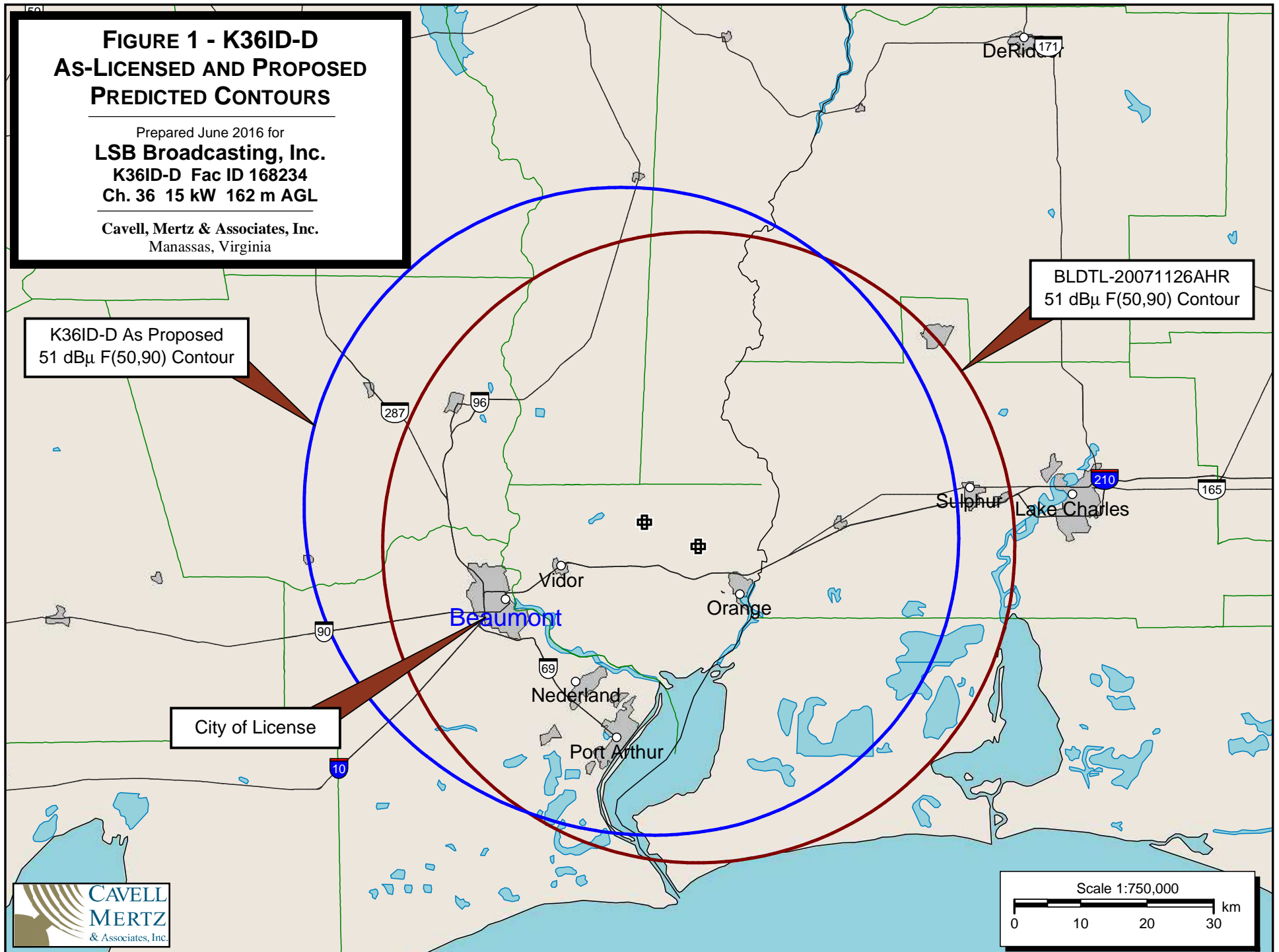
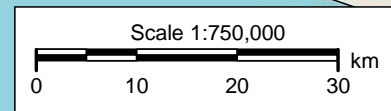


Table I  
**INTERFERENCE STUDY RESULTS**

prepared for  
**LSB Broadcasting, Inc.**  
K36ID-D Beaumont, TX  
Facility Id: 168234  
Ch. 36 15 kW

<u>Channel</u>	<u>Affected Station</u>	<u>City, State</u>	<u>File Number</u>	<u>Calculated Baseline (2000 Census)</u>	<u>Interference Population without Proposal (2000 Census)</u>	<u>Interference Population with Proposal (2000 Census)</u>	<u>New Interference</u>	
							<u>Population</u>	<u>Percentage</u>
22	K22GT	Lake Charles, LA	BLTTL-20060103ABZ			---	No Interference	---
35	KALB-TV	Alexandria, LA	BLCDDT-20090924AAC			---	No Interference	---
35	NEW	Beaumont, TX	BNPDTL-20090825AQW			---	No Interference	---
35	KPRC-TV	Houston, TX	BLCDDT-19991022ABJ			---	No Interference	---
36	K36MU-D	Texarkana, AR	BNPDTL-20101020AAM			---	No Interference	---
36	K36MG-D	Crowley, LA	BLANK-0000010893			---	No Interference	---
36	K36MG-D	Crowley, LA	BMPDTL-20120531AGD			---	No Interference	---
36	K36MG-D	Crowley, LA	BLANK-0000008698			---	No Interference	---
36	WWL-TV	New Orleans, LA	BLCDDT-20080730AKH			---	No Interference	---
36	KARD	West Monroe, LA	BLCDDT-20080116ABD			---	No Interference	---
36	W36AC	Mccomb, MS	BDFCDTL-20110707ABB			---	No Interference	---
36	W36AC	Mccomb, MS	BLTTL-19890613II			---	No Interference	---
36	KFTH-DT	Alvin, TX	BLCDDT-20050527BEM	4,844,125	669	6,696	6,027	0.124 %
36	KTFO-CD	Austin, TX	BLDTA-20100609AGZ			---	No Interference	---
36	K36LD-D	College Station, TX	BNPDTL-20100119AEB			---	No Interference	---
36	KDFI	Dallas, TX	BLCDDT-20081027AAS			---	No Interference	---
36	KLGV-LD	Longview, TX	BLDTL-20140325AGH			---	No Interference	---
36	K36ND-D	Victoria, TX	BMPDTL-20140225AAV			---	No Interference	---