

KLBJ-FM Channel 229C
Facility ID No. 65792
Austin, Texas
New Auxiliary License
ASR No. 1063584
Comprehensive Technical Exhibit
February 6, 2020

TECHNICAL NARRATIVE

The applicant, Waterloo Media Group, L.P. ("Waterloo"), requests authority to license a new FM auxiliary station for KLBJ-FM, Channel 229C, Facility ID No. 65792, licensed to Austin, Texas.

Waterloo requests to operate the KLBJ-FM auxiliary license with 65.0 kW ERP at 238.4 meters above ground level and 253.3 m HAAT from an existing tower associated with ASR number 1063584. The transmit antenna will be an ERI Model SHP-6AC6 broadband six bay full wave circularly polarized omni-directional antenna with a center of radiation of 238.4 meters height above ground level.

The proposed KLBJ-FM auxiliary station will not result in extension of the licensed main facility FCC F(50,50) 60 dBu contour in any direction as required in Section 73.1675(a). A contour map demonstrating compliance of Section 73.1675(a) is included in the exhibit titled Comprehensive Technical Exhibit.

Compliance with environmental processing is demonstrated in an Exhibit titled Compliance with RF Exposure Limits and Section 106 which is included in the Comprehensive Technical Exhibit and includes an FM Model for Windows.

KLBJ-FM

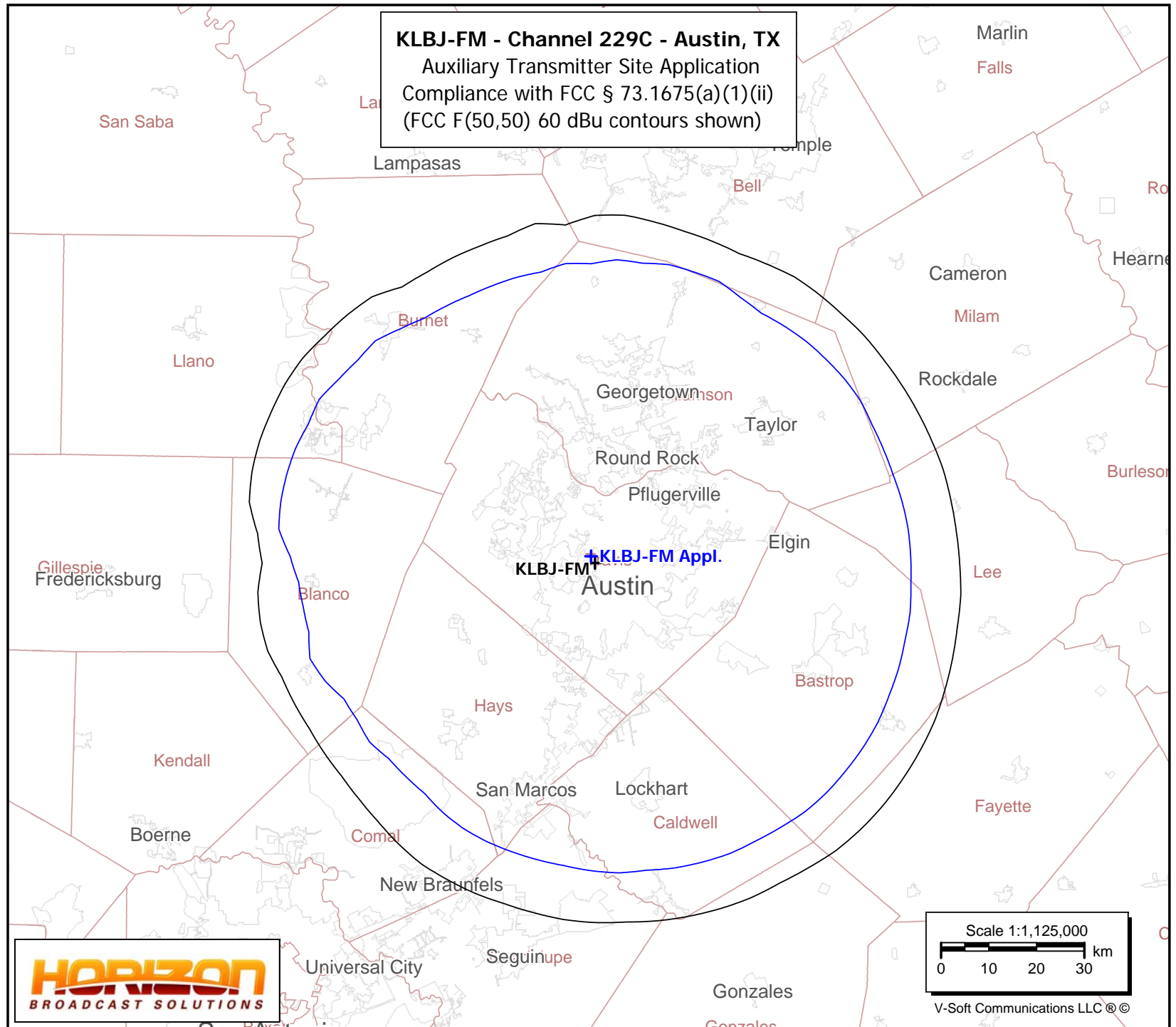
Austin, TX
BMLH20070405ABS
Latitude: 30-18-35.96 N
Longitude: 097-47-32.97 W
ERP: 97.00 kW
HAAT: 320.0 m
Channel: 229
Frequency: 93.7 MHz
AMSL Height: 539.0 m
Elevation: 275.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

KLBJ-FM Appl.

Austin, TX
Latitude: 30-19-21 N
Longitude: 097-48-04 W
ERP: 65.00 kW
HAAT: 253.3 m
Channel: 229
Frequency: 93.7 MHz
AMSL Height: 476.2 m
Elevation: 237.8 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

KLBJ-FM - Channel 229C - Austin, TX

Auxiliary Transmitter Site Application
Compliance with FCC § 73.1675(a)(1)(ii)
(FCC F(50,50) 60 dBu contours shown)



**Human Exposure to Radiofrequency Electromagnetic Field
&
Section 106 Compliance
(Environmental)**

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. 1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. Waterloo Media Group, L.P., licensee of KLBJ-FM seeks requests authority to license an new FM auxiliary station KLBJ-FM, Channel 229C, Facility ID No. 65792, licensed to Austin, Texas. The transmitting site is an existing tower 284.4 meters in overall height. This tower is registered with the FCC's Antenna Structure Registration (ASR) #1063584. The tower is located at 30° 19' 21.0" N Latitude ~ 97° 48' 04.0" W Longitude (NAD 83). The proposed antenna is a side mounted ERI Model SHP-6AC6 six bay full wave circularly polarized broadband antenna. The KLBJ-FM auxiliary facility will operate with 65.0 kilowatts ERP at 238.4 meters above ground level and 253.25 meters HAAT. 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. The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. The ERI antenna is included in the Antenna Types in the OET's updated FM Model Program under Type 3 Opposed "U" dipole. Using the Commission's FM Model Program, the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed facility is 5.306 $\mu\text{W}/\text{cm}$ at 75.2 meters, which is 2.653 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in 1.1307(b) regarding sites with multiple emitters, which excludes applicant from responsibility for taking any corrective action in areas where the proposal's contribution is less than five percent.

The ERI Model SHP-6AC6 broadband antenna is proposed to also be the transmit antenna for KROX-FM Channel 268C2, Buda Texas BLH-20110830AEH main facility license. KROX-FM will operate with 12.5 kW ERP. Waterloo will conduct a spurious emissions report and include it with the KLBJ-FM auxiliary facility license application.

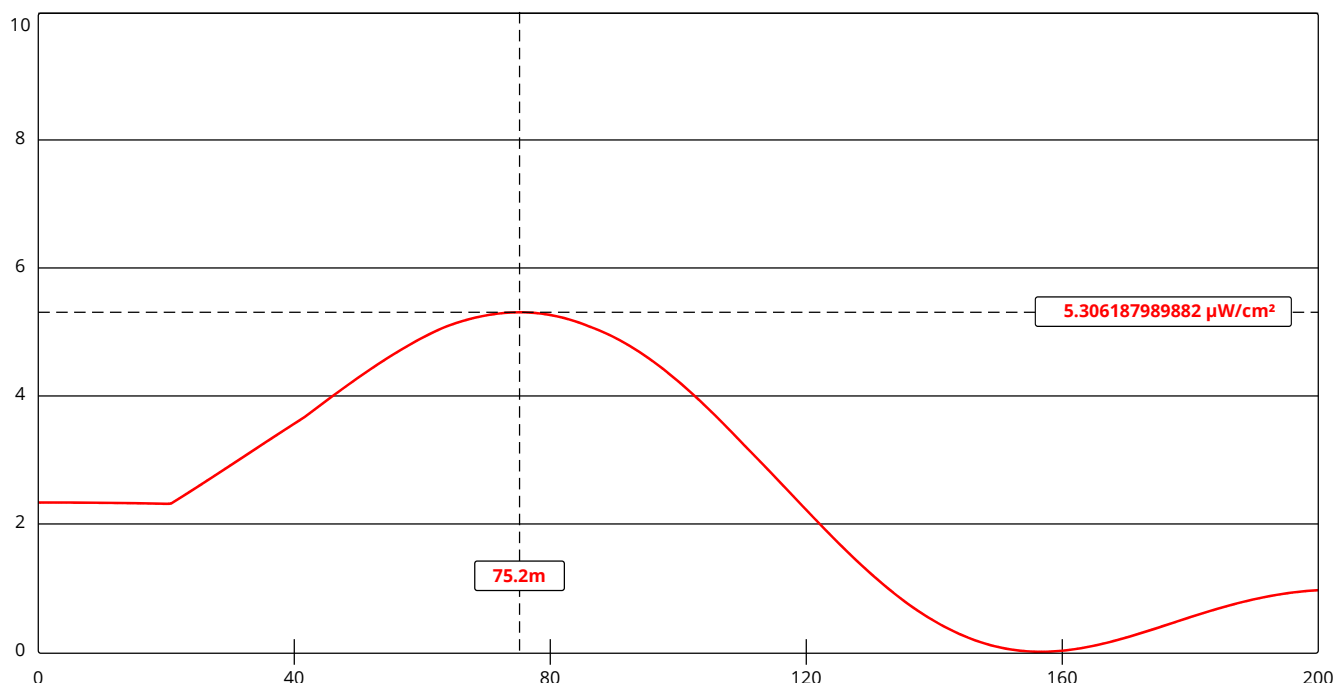
The applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.



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FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data [published in 1985 by the EPA](http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Tx\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL) (<http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Tx\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>). [▼ Show More.....](#)



[View Tabular Results +](#)

Channel Selection	Channel 229 (93.7 MHz) ▼		
Antenna Type +	EPA Type 3: Opposed U Dipole ▼		
Height (m)	<input type="text" value="238.4"/>	Distance (m)	<input type="text" value="200"/>
ERP-H (W)	<input type="text" value="65000"/>	ERP-V (W)	<input type="text" value="65000"/>
Num of Elements	<input type="text" value="6"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	