

Comprehensive Technical Exhibit
Application for Construction Permit
Auxiliary Antenna
KSIV-FM - St. Louis, Missouri
Community Broadcasting, Inc.
March 2012

Application for Construction Permit

The following engineering statement and attached exhibits have been prepared for **Community Broadcasting, Inc. ("CBI")**, licensee of non-commercial educational station KSIV-FM at St. Louis, Missouri, and are in support of their application for construction permit.¹ This application pertains to requested changes for the auxiliary antenna system. Related changes for the main antenna system have been requested in a separate application currently pending before the Commission.²

This application seeks to correct the geographic coordinates and overall height of the structure supporting the antenna. These changes have resulted from a re-survey of the site following a change in the main community antenna at the top of the tower. This application will therefore bring the KSIV-FM auxiliary facility into compliance with the antenna structure registration data associated with the tower.

The geographic coordinates authorized for the auxiliary facility 38-34-24 North Latitude and 90-19-30 West Longitude. The actual coordinates of the structure as determined by the owner are 38-34-27.7 North Latitude and 90-19-31.5 West Longitude.³ The change in the coordinates is therefore 3.7 seconds of latitude and 1.5 seconds of longitude.

The licensed center of radiation is 183 meters above ground, which corresponded to 326 meters above mean sea level based on previous data. Following the resurvey of the site, it was determined that the actual site elevation at the base of the tower is 137.2 meters above mean sea

¹ The Facility ID for KSIV-FM at St. Louis, Missouri is 4276.

² See FCC File No. BPED-20120309AAS.

³ Geographic coordinates are in NAD27, and are converted from the NAD83 coordinates of 38-34-27.9 North Latitude and 90-19-31.9 West Longitude specified on the Antenna Structure Registration data.

level. The center of radiation of the auxiliary antenna above ground level remains unchanged. The center of radiation above mean sea level changes to 320.1 meters. The center of radiation above average terrain changes to 166.8 meters based on a 360 radial sample of a 30-second linearly interpolated terrain database.⁴

No change to the authorized effective radiated power is proposed. The auxiliary facility would continue to operate with an ERP of 17.1 kW for auxiliary purposes. The predicted 60 dBu service contour of the proposed auxiliary facility would continue to be wholly contained within the predicted 60 dBu service contour of the main facility. Exhibit E-1 illustrates both contours.

The proposed changes to the facility would not result in an increase in the environmental impact, and are exempt from environmental processing. No actual physical change in the plant is being proposed under this application. Rather, as previously stated, this application is being submitted to bring the technical parameters into agreement with the antenna structure registration data.

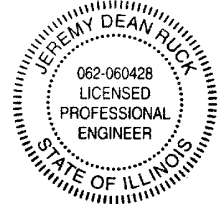
The facility would not constitute an RF exposure hazard to persons at the site. The Commission's *FM Model* software package predicts a maximum power density from the KSIV-FM auxiliary antenna of $3.03 \mu\text{W}/\text{cm}^2$ at a distance of 74 meters from the base of the tower. It should be noted that the tower used to support this antenna is a community structure with multiple additional tenants. The proposed facility if operational represents 1.65 percent of the total permissible power density under the uncontrolled environment condition of the safety standard.

⁴ Average terrain determined to be 166.8 meters AMSL.

CBI will coordinate with all present and future users of the site to ensure that workers and personnel having access to the site are not exposed to levels of non-ionizing radiation in excess of the applicable safety standards. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power or cessation of operation.

Affidavit

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.





Above signature is digitized copy of actual signature
License Expires November 30, 2013

Jeremy D. Ruck, PE
March 13, 2012

BPED20120309AAS
Latitude: 38-34-27.70 N
Longitude: 090-19-31.50 W
ERP: 85.00 kW
Channel: 218
Frequency: 91.5 MHz
AMSL Height: 462.2 m
Elevation: 137.2 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

BXLED20070201BPZ
 Latitude: 38-34-27.70 N
 Longitude: 090-19-31.50 W
 ERP: 17.10 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 320.1 m
 Elevation: 146.51 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

Exhibit E-1
Service Contour Comparison
KSIV-FM - St. Louis, Missouri
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 KSIV-FM Main 60 dBu Service Contour
 KSIV-FM Auxiliary 60 dBu Service Contour

