

**EXHIBIT 30  
FM AUXILIARY ANTENNA  
KHIT(FM) 34 KW 133 M HAAT CH. 242C1  
St. LOUIS, MISSOURI**

**INTRODUCTION**

This application is prepared on behalf of Emmis Radio License, LLC, licensee of FM station KHIT(FM) at St. Louis, Missouri, Facility ID No. 27022. It requests authority to employ a new auxiliary back-up antenna for FM broadcast station KHIT(FM), Channel 242-C1. The new auxiliary antenna is a side mounted Roto-Tiller style antenna that is positioned below the main “master” FM antenna on the tower, ASRN 1020785.

**TECHNICAL PROPOSAL**

KHIT presently operates with 80 kW Effective Radiated Power (ERP) from the St. Louis master antenna at a height of 313m AAT. The proposed auxiliary facility will operate at the reduced ERP of 34 KW, using a side mounted nondirectional Auxiliary antenna on the same tower, at the reduced radiation center height of 133m AAT, 180 meters less than the main licensed facility.

**60 dBu AUXILIARY ANTENNA PREDICTED CONTOUR**

The proposed auxiliary antenna will radiate at a reduced ERP relative to the main operation, also in an omnidirectional pattern, from the same location, but at 180 meters

less antenna height. It is apparent that this auxiliary facility will not result in any extension of coverage beyond the 60 dBu (1.0 mV/m) contour of the main authorization as required in Section 73.1675(a) of the Commission's rules. A contour map demonstrating compliance is not necessary since the auxiliary and main antennas will be co-located and ERP and HAAT for the back-up proposal do not exceed the licensed operating parameters of the main station.

## **ENVIRONMENTAL EXCLUSION**

The new auxiliary antenna will not have a significant effect on the quality of the human environment and does not require an environmental assessment. It is categorically excluded from environmental processing by Section 1.1306 of the FCC Rules since the existing back-up auxiliary antenna is supported by an existing tower (ASRN 1020785) and does not exceed the standards for human exposure to radio-frequency (RF) energy in Section 1.1307(b) as described below.

## **R. F. EXPOSURE**

Operation of the new auxiliary operation in the existing back-up antenna will not result in RF contributions exceeding the *RF Exposure Limits* specified in Section 1.1310 of the FCC Rules. The proposed back-up facility will transmit on FM Channel 242, 96.3 MHz, and the maximum permissible exposure (MPE) limits for this frequency are 200  $\mu\text{W}/\text{cm}^2$  for general (uncontrolled) exposure and 1,000  $\mu\text{W}/\text{cm}^2$  for occupational (controlled) exposure. Compliance with these limits will be established based on a

calculation of power density levels at all accessible locations, calculated two meters above access surfaces.

The applicant plans to operate into a four-bay, circularly polarized, ERI (Harris) FMH-4AE antenna at an elevated location on the St. Louis tower. The backup antenna is manufactured by ERI, consisting of four full wavelength spaced layers of ring style elements. The vertical plane pattern, supplied by ERI, indicates that the relative field from the antenna does not exceed 40% of maximum for any angle exceeding 10 degrees below the horizontal plane.

The auxiliary antenna is located at an elevated position of 143 meters AGL. The antenna geometry and operating power have been used in the FCC FM Model software to calculate the expected RF Exposure at ground level below the tower. That calculation shows a maximum R.F. Exposure level of  $9.9 \mu\text{W}/\text{cm}^2$  at a radial distance of approximately 60 meters out from the base of the antenna tower. The uncontrolled exposure limit is  $200 \mu\text{W}/\text{cm}^2$  and thus the calculated exposure is 4.95% of this limit. Since this estimated level is less than 5% of the MPE limits for Uncontrolled Exposure, and hence also for Controlled Exposure, the applicant is not required to further evaluate the antenna location with respect to other RF contributors.

## **OCCUPATIONAL R.F. EXPOSURE**

It has been demonstrated that the proposal will comply with the uncontrolled, and thus the occupational exposure limit, at any ground level location. At higher elevations on

the antenna structure, however, workers will be protected from excessive exposure to RF fields in accordance with the methods recommended in *OET Bulletin No. 65, Version 97-01*. In regard to other site users, the applicant acknowledges their obligation to participate in the coordination of projects involving work at higher elevations. The St. Louis tower has an active users group which tracks and controls all potential RF Exposure. Preventive steps to protect workers during such scheduled events shall include reducing power or shutting down facilities.

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