

FCC 301 application for CP for Aux antenna  
KMXB fac. Id. 51676  
July 10, 2013

## **ENGINEERING STATEMENT**

### **SPURIOUS EMISSIONS**

CBS Radio Stations Inc., the licensee of KMXB (FM) seeks to utilize an auxiliary facility that will be shared with co-owned stations KLUC-FM, KXTE, and KXNT-FM.<sup>1</sup> The underlying application proposes to share the KXNT-FM auxiliary antenna utilizing a combining system designed to facilitate auxiliary facilities for all 4 of the CBS owned FM stations. Since it is possible that multiple stations might need to utilize the auxiliary antenna simultaneously, CBS will provide a report of measurements, filed with the application for license, showing that the shared system meets or exceeds the spurious and harmonic emission requirements specified in the Commission's rules.

### **ENVIRONMENTAL**

An Environmental Assessment is not required as grant of this application would not be considered a major environmental action.

The transmitting antenna will be mounted on a tower that has been registered with the Commission (ASR 1264840).<sup>2</sup> The antenna, an ERI, model SHPX-8C6 8 bay with 1 wavelength spaced elements, will be installed with the center of radiation 79.9 meters above ground. The total combined ERP with all 4 of the stations operating into the antenna is 205.5 kW (H+V).

The proposed transmitting facilities will comply with the FCC guidelines limiting human exposure to radio frequency energy. The vertical pattern is typical of a standard ERI SHPX rototiller type antenna. A worst case field factor of .3 at an elevation angle of -75° was considered, based on the manufacturer's theoretical specifications. The maximum power density level at any location at ground level, calculated in accordance with OET Bulletin No. 65 (August 1997), is determined to be 48% of the most restrictive applicable limit (Un-controlled General Population). If work is done on the tower in an area where over exposure could occur, the Licensee in coordination with the other users will take necessary action to prevent the overexposure of workers on the tower including reducing the transmitting power or ceasing operation completely.

### **PROXIMITY TO AN AM ARRAY**

Although the tower utilized for the shared auxiliary antenna will be located within the AM array of CBS owned station KXST, the addition of KMXB to the shared antenna combining system will not have an effect on the pattern of the KXST array.

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<sup>1</sup> KXNT-FM has a pending application on file with the Commission, BXPB-20130709AAL, for an auxiliary antenna. Applications for auxiliary facilities for KLUC-FM and KXTE utilizing the shared combiner system are being filed concurrently with this application for KMXB.

<sup>2</sup> The antenna will be installed on the tower (yet to be constructed) upon grant of the KXNT-FM Construction Permit application.