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Introduction

This engineering statement has been prepared on behalf of Cactus Radio, Inc. (Cactus), licensee of FM station KSLX(FM), Scottsdale, Arizona, in support of its request for special temporary authority, (STA) for use of separate antennas for digital FM (IBOC) transmissions. Cactus certifies that the constructed IBOC facilities conform to the iBiquity hybrid specifications use of separate antennas for analog and digital signals.

Antenna Site

The proposed digital transmission of the KSLX(FM) signal will operate using the KSLX(FM) auxiliary facilities (FCC File No. BXPB-20060809ADT). The auxiliary antenna site is located within three seconds of latitude and longitude of the main KSLX(FM) transmitting antenna. The height above average terrain of the auxiliary antenna is approximately 97 percent of the height above average terrain of the main antenna, thereby conforming to the 70 to 100 percent requirement.

The geographic coordinates (NAD-27) of the licensed auxiliary operation based on the Antenna Structure Registration No. 1052104 are as follows.

North Latitude: 33° 19' 53"

West Longitude: 112° 03' 47"

Antenna and Elevation Data

Antenna: ERI, LPX-2E, 2 bay, single wavelength

Antenna Gain: .9971 db

Beam Tilt: 0.0°

Analog Transmitter
Power Output 31.8 kW

Digital Transmitter
Power Output 1.32 kW

Elevation of the site above mean sea level: 801.6meters
2629.9 feet

Overall height of supporting structure:
above grounding including FM antenna 128.0 meters
419.95 feet

Overall height of supporting structure:
above mean sea level including FM antenna 929.6 meters
3049.9 feet

Height of FM antenna radiation center:
meters above ground 100 meters
328.08 feet

Height of FM antenna radiation center:
above mean sea level 901 meters
2956 feet

Height of FM antenna radiation center:
above average terrain 543 meters
1781.5 feet

Permissible Maximum and Reference ERP

The maximum permissible ERP for the KSLX(FM) licensed operation is 100 kW at 561 meters HAAT. Cactus certifies that the analog effective radiated power remains as authorized. Station KSLX(FM) is proposing to operate its digital FM facilities with a maximum ERP of 1.00 kW at 543 meters HAAT using the auxiliary 2-bay , ERI LPX-2E antenna.

Contact Representative

In the event of interference, questions should be directed to Cactus's technical representative:

Mr. Gary Jaques, KSLX

Telephone Number: (480) 941-1007

Environmental Assessment

KSLX(FM) is proposing to operate the digital IBOC facilities using the licensed auxiliary antenna with a radiation center above ground of 100 meters. With a maximum ERP of 1.0 kW, the proposed STA operation would have a maximum of 1.0 microwatts per square. Based upon the facilities specified above, in conjunction with digitized terrain data for the South Mountain site, the maximum calculated power density at 2 meters above ground is calculated to be 1.3% of the occupational MPE limit applicable to the frequency of the permitted operation. The KSLX-FM auxiliary operation is therefore categorically excluded under Section 1.1307(b)(3) of the Commission's rules from having to consider the contributions of other stations at the site. Nevertheless, based upon measurements made on March 26-27, 2003, the maximum ambient RF levels in the vicinity of the KSLX-FM tower measured less than 3% of the FCC occupational exposure limit. Therefore, the maximum ambient RF level from the proposed facility in conjunction with existing operations at the site is calculated to be less than 4.3% of the FCC occupational exposure limit.