

K43GZ-D, Spokane, Washington
Facility ID# 71624
23 August, 2017

Environmental Statement

Access to this tower site is restricted from public access by locked gates to which only authorized users have a key. Gates are posted with registration and RF caution signs and are the only means of access to the tower area. The proposed construction is on an existing registered broadcast tower requiring no new ground construction. The base of the tower is enclosed in a fence, further restricting any access to unauthorized persons.

According to data supplied by the proposed antenna manufacturer the antenna field factor in a downward direction within 30 degrees of vertical does not exceed 0.141. Height to the center of the antenna is 52 meters, and assuming a 2 meter height of interest above ground the height to be calculated will be 50 meters. The intended channel 29 (563 MHz) carries a maximum public exposure MPE of $563/1500 = .375$ mW/cm or $375 \mu\text{W}/\text{cm}^2$. This application specifies elliptical polarization with 15 kW ERP in the horizontal plane, plus 33 percent or 5 kW in the vertical plane, for a total summed ERP of 20 kW.

Using the general exposure formula $S = (.256)(1.64)(100)(F^2) (ERP)/4\pi R^2$ translates to:

$S = (.256)(1.64)(100)(0.141^2) (20000)/4\pi(50^2) = .531 \mu\text{W}/\text{cm}^2$, far below the maximum of $375 \mu\text{W}/\text{cm}^2$ for uncontrolled exposure. Even though this location would readily be considered an Occupational/Controlled Exposure location, RF radiation values are far below even the public/uncontrolled limits.

The other two stations on the same tower are KHBA-LD at 500 watts total ERP, and KEEH-FM with an ERP of 10.5 kW.

At 65 meters AGL and only 500 watts ERP, KHBA-LD is considered inconsequential in this analysis.

KEEH-FM is centered at 82 meters AGL with a 6 bay antenna. According to the FM estimation chart in OET-65a under those conditions the minimum distance for the antenna center AGL for full time public exposure is approximately 34 meters. Since KEEH-FM is operating at more than double that height they too are considered to be a non-hazard even for the public MPE.

These facts clearly demonstrate that this application does not present any significant environmental impact as defined in the FCC Rules and Regulations.