Meintel, Sgrignoli, & Wallace

Engineering Statement

Displacement of K23HY-D
Proposed Channel 22 at Idabel, Oklahoma
April 15, 2018

This Engineering Statement has been prepared on behalf of the Oklahoma Educational Television Authority (OETA), licensee of Digital TV Translator Station K23HY-D at Idabel, Oklahoma. The statement was prepared in support of a Displacement Channel Window Filing Application.

The translator currently operates on channel 23, which is inside the new post-incentive auction core television spectrum. However, the current operations on channel 23 will cause impermissible interference to repacking full power station KSLA at Shreveport, Louisiana which is moving to co-channel 23. Thus, K23HY-D will be displaced from operations on channel 23.

Therefore, OETA is filing a displacement application seeking authorization to move its operations to channel 22 from the existing tower site.

The parameters of the proposed facility are as follows:

Proposed Parameters:

Transmitter Location:	33-53-16.0 N 094-48-29.0 W (NAD 83)
Channel:	22
ERP:	9.5 KW
Emission Mask:	Full Service
Antenna Pattern:	Omnidirectional
Antenna Manufacturer:	RFS
Antenna Model:	RD08OM-518578L1T00
Antenna RCAGL:	136.3 Meters
Overall Structure AGL:	140.5 Meters
RCAMSL	279.8 Meters

Interference Study:

An interference study was undertaken utilizing the FCC's TVStudy program to analyze the co-channel and adjacent channel interference scenarios for the new proposed channel of operation. A copy of the results from the TVStudy analysis is attached hereto.

The results of the study indicated that no impermissible interference would result from the proposed operations.

Based upon the forgoing interference study, it is believed that the proposed facility can operate without any impermissible interference to other stations.

RF Exposure Study:

Furthermore, a study was conducted to determine compliance with the RF Radiation Maximum Permissible Exposure (MPE) limits of the proposed operation. The study was conducted using the methodology outlined in the FCC's OET Bulletin 65 regarding RF Radiation Compliance.

The study utilized the proposed antenna height of 136.3 meters AGL and a reference height of 2 meters AGL for the reference location. This yields a distance from the antenna of 134.3 meters.

The proposed antenna elevation pattern indicates that the downward radiation from the antenna from 45° to 90° below horizontal has a maximum relative field value of 0.1. This value was used in conjunction with the distance from the antenna and the prescribed formula from OET Bulletin 65 to determine a maximum predicted power density of 1.8μW/cm² at 2 meters above ground level near the base of the tower. The Maximum Permissible Exposure Level (MPE) for the Uncontrolled/General Population environment for Channel 22 is approximately 351.3μW/cm². Thus, the proposal is approximately 0.5% of the General Population MPE level and well within the allowable limit.

Based upon the forgoing it is believed that the proposed facility is in compliance with the required RF Exposure limits.

The licensee and all station personnel and contractors are required to follow appropriate safety procedures before the commencement of any work on the tower or in close proximity to the antenna. These procedures including reducing power or turning off the transmitter before any work is undertaken at the site. The licensee in coordination with any other users of the site must reduce power or cease operations as necessary to ensure workers having access to the site, tower, and antenna locations are not exposed to RF Radiation levels in excess of those prescribed by FCC Guidelines.

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