Meintel, Sgrignoli, & Wallace

# Engineering Statement

**Displacement of K39GL**
**Proposed Channel 35 at Starr Valley, Nevada**
**June 1, 2018**

This Engineering Statement has been prepared on behalf of the Elko Television District (ETD), licensee of TV Translator Station K39GL at Starr Valley, Nevada. The statement was prepared in support of a Displacement Channel Window Filing for facilities as herein proposed.

The translator currently operates on channel 39, which is outside of the new post-incentive auction core television spectrum. Consequently, the licensee must cease its operations on channel 39 in order to clear the spectrum in the area to enable the commencement of wireless operations in the band prior to the completion of the Post-Incentive Auction Repacking.

The licensee proposes to move its operations to channel 35.

The parameters of the proposed facility are as follows:

**Proposed Parameters:**

| | |
|---|---|
| Transmitter Location: | 41-11-39.7 N 114-56-39.1 W (NAD 83) |
| Channel: | 35 |
| ERP: | 0.73 KW |
| Emission Mask: | Stringent |
| Antenna Pattern: | Custom Directional |
| Antenna Manufacturer: | Scala |
| Antenna Model: | PR450U |
| Antenna RCAGL: | 6.1 Meters |
| Overall Structure AGL: | 29.0 Meters |
| RCAMSL | 2223.1 Meters |

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**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.

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:**

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 6.1 meters AGL and a reference height of 2 meters AGL for the reference location. This yields a distance from the antenna of 4.1 meters.

The proposed antenna elevation pattern indicates that the downward radiation from the antenna from 20° to 90° below horizontal has a maximum relative field value of 0.2. 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 290.1μW/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 26 is approximately 399.3μW/cm². Thus, the proposal is approximately 72.6% of the General Population MPE level and within the allowable limit. The licensee has restricted access to this mountaintop communications site with appropriate fencing and warning signs to ensure that the general public does not have access in close proximity to the antenna.

It is noted that other existing radiators at the site will remain essentially unchanged with respect to their contribution of total power at the site and therefore the total contribution to permissible exposure remains essentially unchanged at this site.

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

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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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