



**Kessler and Gehman Associates**  
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**MINOR MODIFICATION TO A  
CONSTRUCTION PERMITTED  
TELEVISION BROADCAST  
TRANSLATOR STATION**

**CALL SIGN: W16DT-D**  
**FACILITY ID: 167356**  
**FCC FILE NO.: 0000035614**  
**LOCATION: KEYSER, WV**

**Prepared For:**

West Virginia Educational  
Broadcasting Authority  
600 Capitol Street  
Charleston, WV 25301

**Prepared By:**

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October 19, 2022

## **1.0 MINOR MODIFICATION APPLICATION**

West Virginia Educational Broadcasting Authority “WVEBA” is the licensee of a TV broadcast translator station having call sign W16DT-D facility ID 167356. The construction permitted<sup>1</sup> facility utilizes a Dielectric DLP-8B non-directional horizontally polarized antenna. The applicant hereby seeks to replace the antenna with a similar antenna of different make and model. The substitution of the old to new antenna on the existing tower will not require FAA or FCC ASR structure registration and does not increase the overall height. It is herein proposed to modify the permitted facility as follows:

- Change the antenna from a Dielectric DLP-8B to a Propagation Systems, Inc. PSILP12OI-16-EP
- Change the polarization from Horizontal to Elliptical

Pursuant to 47 CFR § 74.787(b) the instant application is considered a minor modification since there is no

- change in the frequency (output channel) not related to displacement relief;
- change in transmitting antenna location where the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station; or
- change in transmitting antenna location of greater than 30 miles (48 kilometers) from the reference coordinates of the existing station's antenna location.

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<sup>1</sup> FCC File No.: 0000035614

## **2.0 FREQUENCY ALLOCATION STUDY**

Allocation studies have not been conducted since there is no change in coverage proposed.

## **3.0 National Environmental Policy Act (NEPA)**

### **3.1 General Environmental Requirements**

The support structure is existing and not proposed to be modified and thus it is presumed that the following NEPA Environmental Assessment key trigger points have already been mitigated:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation, or water diversion).

### **3.2 Radio Frequency Radiation (RFR) Compliance.**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001-mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix A demonstrates that the peak exposure is 2.84% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. The instant application is

compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

#### **4.0 CERTIFICATION**

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on October 19, 2022.

KESSLER AND GEHMAN ASSOCIATES, INC.



Ryan Wilhour  
Consulting Engineer

APPENDIX A – OET65 Far Field Exposure to RF Emissions

