

TECHNICAL SUMMARY
APPLICATION FOR CONSTRUCTION PERMIT
TV STATION WVLR
TAZEWELL, TENNESSEE
CHANNEL 36 798 KW (ND) 430 m

1. The instant application is the initial 90 day ‘checklist’ application for the reassigned facilities of WVLR, Tazewell, Tennessee (Ch. 36). It is proposed to operate with facilities that are identical to those listed for WVLR in the FCC’s *Closing and Reassignment Public Notice* (CRP). Specifically, it is proposed to replace the existing top-mounted Andrew model ATW27HS4-HTCX-48H directional antenna (antenna ID 89537) with an ERI model ATW23HS4-HTCX-36H directional antenna and operate with a maximum ERP of 798 kW (horizontal polarization). The horizontal plane relative field patterns for the existing and proposed directional antennas are identical. In addition, there will be no change in the antenna radiation center height (829 m AMSL). There will also be no change in the overall structure height of the existing tower (ASRN 1220006).

2. As the proposed facilities are identical to the facilities listed for WVLR in the CRP, there will be no extension of the predicted service area relative to the baseline reassignment facility listed in the CRP. As indicated in the attached FCC *TVStudy* analysis, the proposed facility is also compliant with the 95% population service requirement. In addition, the proposal complies with the city coverage requirements as demonstrated in the Predicted Coverage Contours exhibit.

3. As also indicated in the *TVStudy* analysis, the proposal complies with the FCC’s interference protection requirements based on a cell size of 2.0 km and profile resolution of 1.0 points/km.

4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna will be located 85.3 meters above ground level. The total DTV ERP is 798 kW (horizontal polarization). A greater than expected vertical plane relative field value of 0.05 is presumed for the antenna’s downward radiation (for angles below 60 degrees downward, see vertical plane relative field pattern attached). The calculated power density at a point 2 meters above ground level is 9.6 $\mu\text{W}/\text{cm}^2$ which is 2.4% of the FCC’s recommended limit of 403.3 $\mu\text{W}/\text{cm}^2$ for channel 36

for an uncontrolled environment. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site is restricted and appropriately marked with RFR warning signs. Also, a protocol is in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measure will be taken to assure worker safety with respect to RFR exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.