Consulting Engineers

TECHNICAL SUMMARY APPLICATION FOR CONSTRUCTION PERMIT DTV STATION WUVN HARTFORD, CONNECTICUT CHANNEL 47 15 KW (MAX-DA) 152 M

1. The instant application is a channel sharing application for Station WUVN(TV), Hartford, Connecticut (Facility ID 3072, the "sharee"), a winning bidder in the recent incentive auction that is now proceeding with the channel sharing it proposed. See *Public* Notice, Incentive Auction Task Force and Media and Wireless Telecommunications Bureaus Announce the Commission is Ready to Pay Reverse Auction Winning Bids, DA 17-702, released July 20, 2017 (Attachment). The "sharer" station will be Station WUTH-CD. Hartford, Connecticut (Facility ID 74214). In accordance with Commission guidance, this application is being filed for the current channel of the sharer (47) and there will be a further application filed for WUVN(TV) when the sharer completes the construction of its new facilities on its reassigned channel (22) (for which it has a pending application in File No. 0000028353), as its Phase is reached in the post-auction transition process. Specifically, WUVN now proposes to use WUTH-CD's pre-auction channel 47 facilities (FCC License File No. BLDTA-20140512ACR), namely, a directional antenna maximum effective radiated power (ERP) of 15 kW utilizing WUTH-CD's existing Bogner model B4UD horizontally polarized directional antenna (antenna ID 18125) having a main lobe orientation of 295 degrees true with an antenna center of radiation of 274.7 meters AMSL.

2. City Coverage Compliance: The proposed operation will provide the requisite city grade [48 dBu, f(50,90)] signal to 100% of the Hartford city limits as depicted on the attached Figure 1.

3. 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 DTV antenna is located 38 meters above ground level on the existing tower (ASRN 1206978). The total DTV ERP is 15 kW (horizontal polarization). A greater than expected vertical plane relative field value of 0.2 is presumed for the antenna's downward radiation (for angles below 60 degrees downward, see attached Antenna Information Exhibit). The calculated power density at a point 2 meters above ground level is 15.5 uW/cm² which is 3.5% of the FCC's recommended limit of 447.3 uW/cm² for channel

47 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 markets with RFR warning signs. Furthermore, a formal RFR protection 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.