

TECHNICAL SUMMARY  
SPECIAL DISPLACEMENT WINDOW  
APPLICATION FOR CONSTRUCTION PERMIT  
LOW POWER DIGITAL STATION WLCF-LD  
DECATUR, ILLINOIS  
CHANNEL 21 15 KW (DA)

1. The instant application is a special displacement window application for WLCF-LD currently on “out-of-core” channel 45 at Decatur, Illinois (BLDTL-20081124AIG). It is proposed to operate on “in core” channel 21 with a directional antenna maximum effective radiated power (ERP) of 15 kW using an ERI model ALP8M1-HSPR-21 directional antenna oriented at 40 degrees true. The antenna radiation center height will be 509 m AMSL. There will be no change in the overall structure height (ASRN 1057485).

2. Waiver of Displacement Freeze: WLCF-LD received a 120 day letter from T-Mobile indicating that the current WLCF-LD operation would likely interfere with its new 600 MHz band license. Therefore, pursuant to the FCC’s Public Notice dated June 14, 2017 entitled “*Incentive Auction Task Force and Media Bureau Set Forth Tools Available to LPTV/Translator Stations Displaced Prior to the Special Displacement Window*” (DA 17-584, MB Docket No. 16-306, GN Docket No. 12-268), WLCF-LD is eligible to submit the instant displacement application for channel 21 along with a request for waiver of the displacement freeze and request for Special Temporary Authority (STA) to operate on channel 21 on a temporary basis.

3. As indicated in the attached *TVStudy* analysis, the proposal will not cause interference to the predicted service of: (1) all other primary users in the repacked TV Band or in adjacent bands including land mobile operations, (2) licenses and valid construction permits for LPTV stations, (3) licenses and valid construction permits for full power and Class A stations that were not reassigned, and (4) the post-auction channels of reassigned full power and Class A stations as reflected in the *Closing and Reassignment Public Notice*. A cell size of 1.0 km and a profile resolution of 1.0 points/km were utilized for the *TVStudy* analysis.

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 299 meters above ground level. The total DTV ERP is 15 (horizontal polarization). A worst-case vertical plane relative field value of 1.0 is presumed for the antenna's downward radiation ( $-60^{\circ}$  to  $-90^{\circ}$  elevation). The calculated power density at a point 2 meters above ground level is  $5.7 \text{ uW/cm}^2$  which is 1.7% of the FCC's recommended limit of  $343.3 \text{ uW/cm}^2$  for channel 21 for an uncontrolled environment. Thus, as this is less than the 5% threshold value, it is believed that the WLCF-LD facility is in full compliance with the FCC's requirements with regard to radio frequency radiation exposure.

Access to the transmitting site will be restricted and appropriately marked 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.