

TECHNICAL SUMMARY  
AMENDMENT TO  
SPECIAL DISPLACEMENT WINDOW  
APPLICATION FOR CONSTRUCTION PERMIT  
LOW POWER DIGITAL STATION WLCF-LD  
DECATUR, ILLINOIS  
CHANNEL 17 15 KW (DA)

1. Application Purpose: The instant application is an amendment to the pending special displacement window application for WLCF-LD at Decatur, Illinois, (LMS File No. 0000029606).<sup>1</sup> Specifically, it is proposed to change from channel 21 to channel 17 and operate with a maximum effective radiated power (ERP) of 15 kW using an ERI model ATW8H3-HTM-17L horizontally polarized directional antenna. The antenna radiation center height will be 517.3 meters AMSL. There will no change in the overall structure height (ASREN 1057485).

2. Background: Station WLCF-LD currently operates on channel 21 pursuant to an STA (LMS File No. 0000029607, as extended by 0000048468). The channel 21 STA was obtained based on a waiver of the displacement freeze resulting from receipt of a 120 day letter from T-Mobile which indicated that the licensed WLCF-LD operation on channel 45 (BLDTL-20081124AIG) would likely interfere with its new 600 MHz band license. WLCF-LD concurrently filed a special displacement window application for channel 21 (LMS File No. 0000029606) with the same facilities as set forth in the channel 21 STA. That pending displacement window application is being amended by the instant application.

3. Eligibility to File in Special Displacement Window: Station WLCF-LD is eligible to file in the special displacement window as it was operating with its currently licensed channel 45 facilities (BLDTL-20081124AIG) prior to April 13, 2017 – the release date of the *Closing and Channel Reassignment Public Notice*.<sup>2</sup> In addition, WLCF-LD's STA operation on channel 21 is considered to be displaced due to impermissible interference

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<sup>1</sup> See FCC Public Notice dated February 9, 2018 entitled "*Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018 through May 15, 2018 and Make Location and Channel Data Available*" (DA 18-124, MB Docket No. 16-306, GN Docket No. 12-268) ("FCC Special Displacement Window PN").

<sup>2</sup> See *Media Bureau Announces Date by Which LPTV and TV Translator Stations Must Be "Operating" In Order to Participate In Post-Incentive Auction Special Displacement Window, Public Notice*, 31 FCC Rcd 5383 (MB 2016).

received from the authorized (CP) and pending (Application) post-transition operations of full-power station WAND on repacked channel 20 at Decatur, Illinois [LMS File Nos. 0000028607 (CP) and 0000034594 (Application)]. Specifically, as indicated by the attached *TVStudy* analysis, WLCF-LD's STA operation on channel 21 is predicted to receive 20.68% new interference from the WAND CP and 21.35% new interference from the WAND application (a 2% threshold was used by the FCC for determination of displacement in the FCC Special Displacement Window PN). An exhibit supporting a request for waiver of the contingent application, Section 73.3517 of the FCC Rules, is also attached.

4. Interference Compliance: As indicated in the attached *TVStudy* analysis, WLCF-LD's proposed channel 17 displacement operation meets the FCC's interference protection requirements with respect to all protected facilities based on the post-transition allocation environment. A cell size of 1.0 km and a profile resolution of 1.0 points/km were utilized for the *TVStudy* analysis.

5. 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 307 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  $5.4 \text{ uW/cm}^2$  which is 1.6% of the FCC's recommended limit of  $327.3 \text{ uW/cm}^2$  for channel 17 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.