

TECHNICAL SUMMARY
REQUEST FOR SPECIAL TEMPORARY AUTHORITY (STA)
TV STATION KCEC
BOULDER, COLORADO
CH 15 660 KW (MAX-DA) 363 m

1. The instant request is for Special Temporary Authority (STA) for KCEC, Boulder, Colorado, which is licensed for operation on channel 15.¹ The KCEC STA facility will operate on channel 15 using a RFS model SBB-E-24C170 wideband directional antenna to be side-mounted at a height of 54 meters above ground level on KCEC's current tower. The maximum ERP will be 660 kW. There will be no change in the overall structure height of the existing tower (ASRN 1023484).

2. Justification for STA: Univision's Denver-market station, KCEC, assigned to phase 9, is located at Mt. Morrison, along with local PBS affiliate KRMA-TV, assigned to phase 2, and KETD, also assigned to Phase 9. The KCEC and KRMA-TV antennas are side-mounted, with KRMA-TV at the tower top and KCEC immediately below it. Changing either necessitates shutdown of the other. (KETD's antenna is located on the transmission line ice bridge and its replacement doesn't impact use of the KCEC and KRMA-TV antennas.), Thus, to simplify the transition, Univision planned to replace its existing channel 15 antenna (Dielectric model TFU-22DSC-R 3C200 DC) with a wideband model (RFS model SBB-E-24C170) coincidental with KRMA-TV's antenna replacement, which gets all of the on-tower work done at once and eliminates the need for a temporary channel 33 antenna for KRMA-TV at the time of KCEC's antenna swap. KCEC has installed a temporary panel array on the lower part of the tower to maintain service during the several days when antenna replacement is underway; KRMA-TV has installed a temporary channel 18 antenna on the transmission line bridge, for the same purpose.

KCEC has long planned to seek STA to operate with the wideband antenna, on its present channel, from the antenna replacement date (presently planned for late November) until its phase 9 cutover date. As expected, there are azimuth pattern differences between the current Dielectric antenna and the RFS SBB wideband antenna, on the sides of the main lobe. To hold the KCEC STA facility contour within that of the licensed facility, a tenfold power reduction, from 1000 kW to 100 kW,

¹ See FCC File No. BLCDDT-20110812AAS.

appears necessary, which would significantly reduce KCEC's service for many months. With the wideband antenna used at an ERP of 660 kW, TVStudy shows no population increase over the licensed (1000 kW) operation, but there are contour extensions to the northwest and south. Attached is a Google Earth map of the licensed (blue) and prospective STA (red) NLSC contours, along with the STA service points (red pins), all generated by TVStudy kml files. As can be seen by zooming in on the map, there are no service points located within the northwestern extension area and all service points within the southern extension area are located atop mountainous terrain. The attached TVStudy analysis shows no pre- or post-cutover adverse interference impact. In fact, the worst-scenario interference scenario to adjacent-channel KQDK-CD, from its phase 2 cutover to the KCEC phase 9 cutover date, would be reduced from 1.75% with the KCEC licensed facility to 0.84% with the proposed STA facility. As noted in the TVStudy analysis, KETD's channel 15 operations have been excluded as they are in phase 9 as is KCEC. It is also noted that the KTFD-TV channel 14 baseline (DTVBL24514) was excluded as KTFD-TV was authorized to change to channel 28 (LMS File No. 0000029913).

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 proposed DTV antenna will be located 54 meters above ground level. The total DTV ERP is 846.8 kW (660 kW-horizontal, 186.8 kW-vertical). A conservative vertical plane relative field value of 0.087 is presumed for the antenna's downward radiation in both the horizontal and vertical planes of polarization (for angles below 60 degrees downward, see attached antenna data). The calculated power density at a point 2 meters above ground level is 79.2 uW/cm² which is 24.8% of the FCC's recommended limit of 319.3 uW/cm² for channel 15 for an uncontrolled environment. It is noted that this is a reduction in the calculated power density as compared to the current KCEC operation (BLCDT-20110812AAS) which has a calculated power density at a point 2 meters above ground level of 134 uW/cm² or 41.8% of the FCC's recommended limit (see Attachment 46/Environmental Considerations to BPCDT-20080619ADV).

The tower base is fenced and marked with RFR warning signs. Additional RFR signs mark areas of this remote, uninhabited mountaintop site where excessive exposure may occur, based upon field RFR survey. Furthermore, the site is periodically

surveyed for RFR changes. In addition, 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.