

Engineering Statement
CBS Stations Group of Texas LLC
KTVT(DT)(Aux) Fort Worth, Texas
Facility ID 23422
Ch. 19 465 kW(Max-DA) 524 m

CBS Stations Group of Texas LLC (“CBS”) proposes to install a new auxiliary antenna for KTVT(DT) Fort Worth, Texas.¹ The proposed facility will operate with a directional antenna height 524 meters above average terrain (HAAT) and an effective radiated power (ERP) of 465 kW. This Statement addresses allocations, environmental, and radiofrequency factors related to this proposal.

The attached coverage map Figure 1 demonstrates that the proposed service contour does not extend beyond that of the main KTVT antenna² as required by FCC Rule §73.1675.³ Because there are no AM transmitter sites within 3 kilometers of the proposed facility, FCC Rule §1.30002 will not be triggered. The nearest FCC monitoring station is 577 kilometers from the proposed facility at Kingsville, Texas, well beyond the protection radius specified in §73.1690(c). Thus, it is believed that the proposed facility satisfies all allocation matters.

The proposed facility uses an existing tower⁴ with no change in overall height, marking specifications, or lighting specifications. Consequently, this application is categorically excluded from environmental processing.

The proposed elliptically polarized antenna is to be located 462.7 meters above ground level and have a horizontally polarized ERP of 465 kilowatts and a vertically polarized ERP of 140 kilowatts. According to the manufacturer, the proposed antenna relative field elevation pattern is 10 percent or less from 20 to 90 degrees below the horizon. Thus, a relative field value of 10 percent is used for this calculation.

¹ CBS presently holds a license (FCC file BXMLCDT-20121127AGD) for a KTVT auxiliary antenna that the proposed facility will ultimately replace.

² See FCC File Number BLCDT-20121115ABM.

³ §73.1675 specifies an analysis of Grade B contours. Because “Grade B” is not defined in a digital television context, Figure 1 provides 41 dBμ contours instead.

⁴ See Antenna Structure Registration 1055009.

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The proposed operation was evaluated for human exposure to radiofrequency energy using equation ten (10) from the Commission's OET Bulletin No. 65. Calculations show that the proposed facility would contribute a power density of $1 \mu\text{W}/\text{cm}^2$ at two meters above ground level near antenna support structure, or 0.3 percent of the FCC's $335.3 \mu\text{W}/\text{cm}^2$ "uncontrolled/general population" exposure limit for UHF Channel 19 (503 MHz). RF power density is expected to be even lower at ground level locations away from the base of the tower, due to the increasing distance from the transmitting antenna.

According to §1.1307(b)(3), facilities at locations with multiple emitters are categorically excluded from responsibility for taking corrective action in areas where their contribution is less than five percent of the limit. Since the calculated exposure is less than five percent at all ground level areas, the impact of other possible contributors should not be a factor.

Tower access will continue to be controlled and appropriate RF exposure warning signs will continue to be posted. A site exposure policy is in effect that includes restriction of access, power reduction, or the complete shutdown of facilities when work must be performed where predicted RF levels would otherwise exceed appropriate guidelines. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

