

Engineering Statement
Sacramento Television Stations, Inc
KMAX-TV(Aux) Sacramento, California
Facility ID 51499
Ch. 24 388.6 kW(Max-DA) 435 m

Sacramento Television Stations, Inc (ViacomCBS), licensee of KMAX-TV Sacramento, California, proposes to repurpose an existing broadband auxiliary antenna for operation on KMAX-TV post-transition channel 24. The facility will continue to operate with a directional, elliptically polarized antenna height 437.8 meters above ground level and 435 meters above average terrain (HAAT) along with a maximum effective radiated power (ERP) of 388.6 kW.¹ This post-transition facility will be retained as a permanent auxiliary antenna.² 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 KMAX-TV antenna³ as required by FCC Rule §73.1675.⁴ Because no AM transmitter sites are within 3 kilometers of the proposed facility and no actual construction is proposed, the KMAX-TV auxiliary antenna is expected to have no significant effect on any AM station antenna system.⁵ The nearest FCC monitoring station at Livermore, California is located at a distance of 62.1 kilometers. However, as shown in **Figure 1**, the proposed facility slightly reduces field strengths in all directions. Thus, it is believed that the proposed facility satisfies all allocation matters.

The proposed facility uses an existing tower⁶ with no change in overall height, marking specifications, or lighting specifications. Consequently, this application is categorically excluded from environmental processing.

¹ The Vertically polarized ERP is 129.5 kW.

² Notably, although this application seeks a post-transition channel 24 facility, the FCC's filing system incorrectly shows a grayed-out channel 21 that cannot be corrected.

³ See FCC file number 0000066967 for the post-transition KMAX-TV Construction Permit.

⁴ §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 F(50,90) contours instead.

⁵ Please See FCC Rule §1.30002.

⁶ See Antenna Structure Registration 1012855.

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CBS Television Licenses LLC

The proposed operation was evaluated for human exposure to radiofrequency energy using equation ten (10) from the Commission's OET Bulletin No. 65 using the manufacturer supplied antenna elevation pattern field value of 6.3 percent or less toward angles 20 degrees or more below the horizon. This study shows that the proposed facility would contribute a power density of $2.6 \mu\text{W}/\text{cm}^2$ at two meters above ground level near antenna support structure, or 0.7 percent of the FCC's $355.3 \mu\text{W}/\text{cm}^2$ "uncontrolled/general population" exposure limit for UHF Channel 24 (533 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.

