

Engineering Statement
CBS Broadcasting Inc.
KPIX-TV(Aux) San Francisco, California
Facility ID 25452
Ch. 29 500 kW(Max-DA) 371 m

CBS Broadcasting Inc. (“Paramount”) proposes to construct an auxiliary antenna for KPIX-TV San Francisco, CA.¹ The existing antenna, a horizontally polarized, Dielectric model TUA-C4SP-12/40U-1-S, is located 371.4 meters above average terrain (HAAT) and will have an effective radiated power (ERP) of 500 kW(Max-DA). This Statement addresses allocations, environmental, and radiofrequency factors related to this proposal.

The attached coverage map (**Figure 1**) shows that the proposed service contour will not extend beyond that of the KPIX-TV licensed antenna as required by FCC Rule §73.1675.² As 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 61.7 kilometers away at Livermore, California but, since use of the proposed facility will only operate in lieu of the licensed facility, field strength produced over the monitoring station would be reduced, harmful interference is not anticipated, and prior coordination is not required. Thus, it is believed that the proposed facility satisfies all allocation matters.

The proposed facility uses an existing support structure and antenna, so no construction is needed.³ According to Note 1 of FCC Rule §1.1306, the use of existing facilities is environmentally preferable to new construction. With no change in structure overall height, marking specifications, or lighting specifications, this application is categorically excluded from environmental processing.

The proposed operation was evaluated for human exposure to radiofrequency energy using equation ten (10) from the Commission’s OET Bulletin No. 65. The existing antenna is

¹ Paramount is also filing a license application to use the prior KPIX-TV main antenna (file number BLCDT-20091112AIZ) for auxiliary purposes. When completed, KPIX-TV plans to have two auxiliary antennas.

² FCC Rule §73.1675 requires a comparison of Grade B contour locations. Because “Grade B” is not defined in a digital television context, Figure 1 provides 41 dBμ contours instead.

³ See Antenna Structure Registration 1001289.

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located 148.1 meters above ground level. According to the manufacturer, the proposed antenna relative field elevation pattern is 15 percent or less from 10 to 90 degrees below the horizon. Therefore, a relative field value of 15 percent is used for this calculation. Calculations show that the proposed facility would contribute a power density of $17.6 \mu\text{W}/\text{cm}^2$ at two meters above ground level near the antenna support structure or 4.7 percent of the FCC's $375.3 \mu\text{W}/\text{cm}^2$ "uncontrolled/general population" exposure limit for UHF Channel 29 (563 MHz). 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. RF power density is expected to be even lower at ground level locations away from the base of the support structure due to the increasing distance from the transmitting antenna.

Tower access will continue to be controlled and appropriate RF exposure warning signs will continue to be posted. Paramount will continue to participate in a site exposure policy 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 continue coordinating exposure procedures with all pertinent stations.

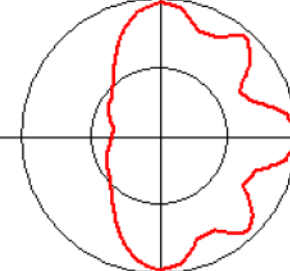
Figure 1
Proposed Facility Coverage Contours

KPIX-TV(Aux) San Francisco, California
Facility ID 25452
Ch. 29 500 kW(Max-DA) 371.4 m

FCC 41 dBμ F(50, 90) Service Contours
(Dipole Corrected)
Licensed Facility (0000159327)
Proposed Auxiliary Facility

Directional Antenna Pattern

Rotation Angle = 0



Scale 1:1,500,000

