

Engineering Statement  
***CBS Broadcasting Inc.***  
KYW-TV(Aux) Philadelphia, Pennsylvania  
Facility ID 25453  
Ch. 30 491 kW(Max-DA) 272.5 m

*CBS Broadcasting Inc.* (ViacomCBS) seeks to amend a pending Construction Permit application to specify technical parameters based on more accurate antenna system specifications. The proposed facility would upgrade the existing, previously authorized KYW-TV Philadelphia, PA interim directional, elliptically-polarized antenna system with a height 272.4 meters above average terrain (HAAT) to an effective radiated power (ERP) of 491 kW (Max-DA).<sup>1</sup> Since the antenna system already exists, there will be no actual construction. 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 KYW-TV antenna as required by FCC Rule §73.1675.<sup>2</sup> The proposed facility is within 3 kilometers of the licensed directional antenna system of WNWR(AM) but, since no construction is proposed, FCC Rule §1.30002 is not triggered.<sup>3</sup> The nearest FCC monitoring station is 167 kilometers from the proposed facility at Laurel, Maryland, well beyond the protection radius specified in §73.1030(c). Thus, it is believed that the proposed facility satisfies all allocation matters.

The proposed facility uses an existing antenna and tower with no change in overall height, marking specifications, or lighting specifications.<sup>4</sup> Consequently, this application is categorically excluded from environmental processing.

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<sup>1</sup> See STA (file numbers 0000072284 and 0000118192) and pending CP application (file number 0000129588).

<sup>2</sup> See FCC file number 0000129344. §73.1675 specifies an analysis of Grade B contours. Because “Grade B” is not defined for DTV stations, **Figure 1** provides dipole-corrected 41 dBμ contours instead.

<sup>3</sup> Notably, although the WNWR license remains, the towers have been demolished.

<sup>4</sup> See Antenna Structure Registration 1023152.

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The existing elliptically polarized antenna is located 262.1 meters above ground level and will have a horizontally polarized ERP of 491 kilowatts and a vertically polarized ERP of 148 kilowatts. According to the manufacturer, the proposed antenna relative field elevation pattern is 15 percent or less toward elevation angles greater than 20 degrees below the horizon. Therefore, a relative field value of 15 percent is used for the following radiofrequency exposure calculation.

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  $7.1 \mu\text{W}/\text{cm}^2$  at two meters above ground level near antenna support structure, or 1.9 percent of the FCC's  $379.3 \mu\text{W}/\text{cm}^2$  "uncontrolled/general population" exposure limit for UHF Channel 30 (569 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.

