Engineering Statement

CBS Broadcasting Inc.

KYW-TV(Aux) Philadelphia, Pennsylvania

Facility ID 25453

Ch. 30 420 kW(Max-DA) 272.5 m

CBS Broadcasting Inc. (*CBS*) seeks temporary approval to install an interim antenna for KYW-TV Philadelphia, Pennsylvania. The proposed facility will operate with a directional, elliptically-polarized antenna height 272.4 meters above average terrain (HAAT) and an effective radiated power (ERP) of 420 kW (Max-DA). The antenna will be utilized starting about August 2, 2019 for an initial period of 180 days. 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[1] as required by FCC Rule §73.1675.[2] The proposed facility is within 3 kilometers of directional AM station WNWR(AM) but, since no "significant construction" is proposed, FCC Rule §1.30002 is not triggered. 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 tower[3] 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 262.1 meters above ground level and have a horizontally polarized ERP of 420 kilowatts and a vertically polarized ERP of 127 kilowatts. According to the manufacturer, the proposed antenna relative field elevation pattern is 10 percent or less from 45 to 90 degrees below the horizon. Therefore, a relative field value of 10 percent is used for this calculation.

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[1] *See* FCC file number BLCDT-20090326ABH for the KYW-TV pre-transition license and 0000033618 for the post-transition Construction Permit.

[2] §73.1675 specifies an analysis of Grade B contours. Because "Grade B" is not defined in a digital television context, Figure 1 provides dipole-corrected 41 dBµ contours instead.

[3] *See* Antenna Structure Registration 1023152.

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 2.7 μW/cm² at two meters above ground level near antenna support structure, or 0.7 percent of the FCC's 379.3 μW/cm² "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.

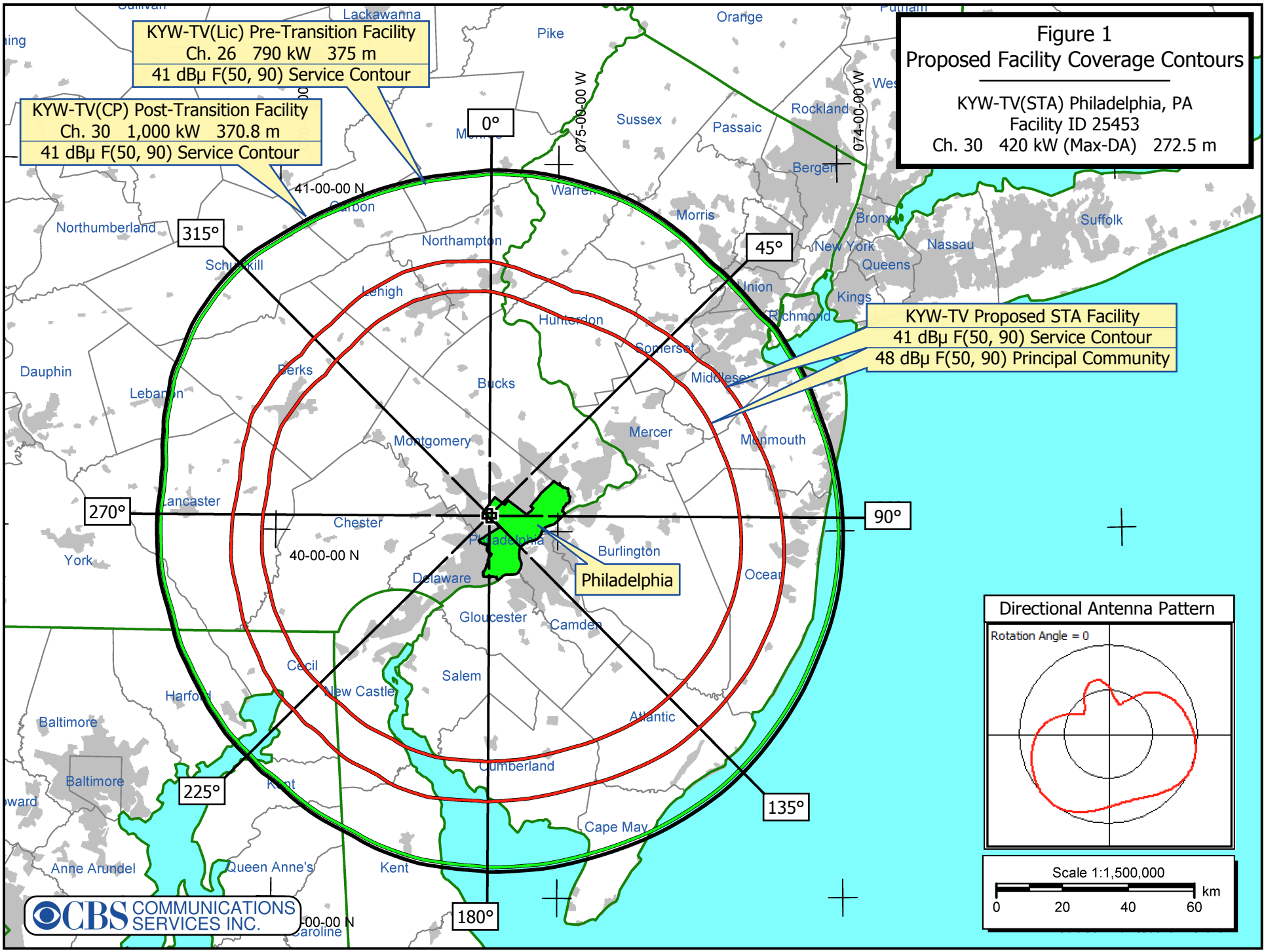
Figure 1
Proposed Facility Coverage Contours
KYW-TV(STA) Philadelphia, PA
Facility ID 25453
Ch. 30 420 kW (Max-DA) 272.5 m
KYW-TV(Lic) Pre-Transition Facility
Ch. 26 790 kW 375 m
41 dBµ F(50, 90) Service Contour
KYW-TV(CP) Post-Transition Facility
Ch. 30 1,000 kW 370.8 m
41 dBµ F(50, 90) Service Contour
KYW-TV Proposed STA Facility
41 dBµ F(50, 90) Service Contour
48 dBµ F(50, 90) Principal Community
0°
45°
90°
135°
180°
225°
270°
315°
075-00-00 W
074-00-00 W
41-00-00 N
40-00-00 N
Philadelphia
Directional Antenna Pattern
Rotation Angle = 0
Scale 1:1,500,000
0 20 40 60 km
CBS COMMUNICATIONS SERVICES INC.