Engineering Statement

CBS Broadcasting Inc.

WCBS-TV(Aux) New York, New York

Facility ID 9610

Ch. 36 (Post-Transition) 321 kW 496 m

CBS Broadcasting Inc. ("CBS") seeks special temporary authority to operate with its authorized auxiliary antenna at an increased ERP starting August 1 for a period of six weeks or less. The proposed facility will be utilized by WCBS-TV when it transitions to channel 36 while the main antenna combiner system is modified, adjusted, and tested for permanent operation on post-transition channels by WCBS-TV and other television stations operating at One World Trade Center. This Statement addresses allocations, environmental, and radiofrequency exposure factors related to this proposal.

CBS proposes to use the existing auxiliary antenna, an RFS model PEP96L located 496 meters above average terrain (HAAT) with an effective radiated power (ERP) of 321 kW. This power level exceeds the 241 kW ERP authorized by the present auxiliary antenna Construction Permit (file number 0000059127) and is less than half of the 650 kW ERP specified for the same antenna in a recently-filed application to modify that Construction Permit (file number 0000075271).

Since the 650 kW facility contour was shown to not extend service contours beyond the authorized, post-transition main antenna, it can be seen that this proposal for just 321 kW will also comply with this requirement. 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 299 kilometers away at Laurel, Maryland, 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 support structure[1] and antenna so no physical construction is required. Because there will be no change in overall height, marking

[1] *See* Antenna Structure Registration 1055009.

specifications, or lighting specifications, this application is categorically excluded from environmental processing.

The existing elliptically polarized antenna is located 501.7 meters above ground level and will operate with an ERP of 321 kilowatts (H-Pol) and 227.5 kilowatts (40% V-Pol). According to data provided by the manufacturer, the antenna relative field pattern (aggregate H-Pol and V-Pol) is less than 16 percent at angles thirty or more degrees below the horizon.[2] Thus, a relative field value of 16 percent was used for these calculations.

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 1.5 μW/cm² at two meters above ground level near the antenna support structure or 0.4 percent of the FCC's 403.3 μW/cm² "uncontrolled/general population" exposure limit for UHF Channel 36 (605 MHz). 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.

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. Calculations using the same methodology confirm that this five percent threshold will not be exceeded at elevations ranging from ground level to 362 meters above ground. At present, the tallest nearby building is the 72-floor, 298-meter-tall Four World Trade Center. Therefore, even if the rooftop of Four World Trade Center is publically accessible, the five percent categorical exclusion applies.[3]

[2] Because this proposal increases the V-Pol percentage, the aggregate relative field value is a bit higher than shown in the pending WCBS-TV Construction Permit modification application for the same antenna.

[3] According to information retrieved from https://4wtc.com, the highest publically accessible location of the building is a terrace on the 57th floor, which is well below 362 meters above ground and thus less than five-percent of the FCC's "uncontrolled/general population" limit.

Tower and rooftop access will continue to be strictly controlled by the building owner. *CBS* will continue to participate in the building owner's RF exposure safety program that, in cooperation with other broadcasters, includes restriction of access, power reduction, or shutdown of facilities when predicted or measured RF exposure would otherwise be exceeded.