

Exhibit 35 – Engineering Statement

CBS Radio Stations Inc.

WWMX(FM)(Aux) Baltimore, Maryland

Facility ID 74196

Ch. 293B 16 kW(Max-DA) 268 m

CBS Radio Stations Inc. (“*CBS Radio*”) proposes to install an auxiliary antenna for WWMX(FM) Baltimore, Maryland. The proposed facility will operate with a directional antenna height 268 meters above average terrain (HAAT) and an effective radiated power (ERP) of 16 kW. This Statement provides background information while addressing allocations, environmental, and radiofrequency factors related to this proposal.

The main WWMX antenna is colocated with three full-service television stations on a tower in the *Television Hill* neighborhood of Baltimore, MD.¹ Two additional television stations are located within 200 meters on an adjacent tower.² Based solely on published incentive auction results and present channel assignments, three or more of these television stations are expected to be replacing antennas and/or transmission lines during the forthcoming DTV spectrum reallocation. To assure continuity of service and because the main and auxiliary³ WWMX antennas are both colocated on this TV tower, *CBS Radio* seeks authorization to construct a second WWMX auxiliary antenna on an existing tower located 12.5 km away at Towson, MD.⁴

The attached coverage map Figure 1 demonstrates that the proposed 1.0 mV/m (60 dBμ) coverage contour does not extend beyond that of the WWMX main antenna⁵ as required by FCC Rule §73.1670. Station WNST(AM) is located within one-wavelength of the proposed facility. However, the proposal is not a “significant modification” as defined by §1.30002(d) since there will be no height change to the existing tower, which is neither detuned nor base-insulated. Thus, it is believed that the proposed facility satisfies all allocation matters.

¹ See FCC Antenna Structure Registration Number 1035558, which supports WBAL-TV, WMAR-TV, and WJZ-TV, all Baltimore, MD. WJZ-TV is licensed to commonly-owned CBS Television Licensees LLC.

² See FCC Antenna Structure Registration Number 1044237, which supports WBFF(TV) and WNUV(TV), both Baltimore, MD.

³ See FCC File Number BXLH-20121221AAN. *CBS Radio* wishes to retain the presently licensed auxiliary antenna.

⁴ See FCC Antenna Structure Registration Number 1035558.

⁵ See FCC File Number BLH-20130107ABF.

Exhibit 35 – Engineering Statement
CBS Radio Stations Inc.

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

The proposed operation was evaluated for radiofrequency exposure using the FCC Office of Engineering and Technology's updated *FMModel* software⁶ which calculates RF power density at ground level given the height, power, and type of FM broadcast antenna. As demonstrated in the following, the proposed transmitting system complies with the FCC's general population/uncontrolled maximum permitted exposure (MPE) exposure guideline of $200 \mu\text{W}/\text{cm}^2$ for the FM broadcast band.

An ERI four-bay, 0.5 wavelength-spaced circularly-polarized "Rototiller" antenna is proposed for WWMX.⁷ Using this antenna type and WWMX's proposed parameters as input values, *FMModel* predicts a maximum, ground-level power density of $1.78 \mu\text{W}/\text{cm}^2$ or 0.89 percent of the MPE; well less than the FCC limit.

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 MPE limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities may be considered independently from this proposal. Thus, the impact of the proposed operation should not be considered to be a factor at ground level locations.

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

⁶ See FCC Public Notice DA 16-340, Released March 31, 2016.

⁷ This is an EPA "Type 3 – Opposed U Dipole" antenna.

Exhibit 35 – Engineering Statement
CBS Radio Stations Inc.

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 Auxiliary Antenna Coverage

WWMX(FM) Baltimore, Maryland
 Facility ID 74196
 Aux Antenna: 16 kW(Max-DA) 268 m

WWMX(Lic) Main Antenna
 FCC File BLH-20130107ABF
 60 dBμ F(50, 50) Coverage Contour

WWMX Proposed Auxiliary Antenna
 60 dBμ F(50, 50) Coverage Contour

