

Engineering Statement – Change to Antenna Model

CBS Television Licenses LLC

WSBK-TV Boston, Massachusetts

Facility ID 73982

Ch. 21 163 kW 388.3 m

CBS Television Licenses LLC (“ViacomCBS”) has completed construction of its WSBK-TV Boston, MA transmission facility. This Statement addresses a change in as-built antenna make and model from that shown on the WSBK-TV Construction Permit.¹

The WSBK-TV Construction Permit specified a Dielectric model TUM-AP-04-14/56H-2-T antenna. The actual antenna model is an RFS model PEP70E-O5-2-T. Since both antennas are non-directional and there is no change in height, this substitution meets the requirements in section 73.1690(c)(1) for a permissible change in a License Application.

Since the actual antenna has a slightly different elevation pattern, the as-built operation was reevaluated for human exposure to radiofrequency energy using equation ten (10) from the Commission’s OET Bulletin No. 65 along with the manufacturer’s maximum elevation pattern field value of 10 percent toward angles 15 degrees or more below the horizon. This study shows that the proposed facility would contribute a power density of 0.5 $\mu\text{W}/\text{cm}^2$ at two meters above ground level near antenna support structure, or 0.1 percent of the FCC’s 343.3 $\mu\text{W}/\text{cm}^2$ “uncontrolled/general population” exposure limit for UHF Channel 21 (515 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,

¹ See Construction Permit file number 0000034574.

Engineering Statement
CBS Television Licenses LLC

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.