

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Digital Television Station Auxiliary Antenna Construction Permit

prepared for

WNET

WNET(DT) Newark, NJ
Facility ID 18795
Ch. 12 20 kW 298 m

WNET is the licensee of digital television station WNET(DT), Facility ID 18795, Newark NJ. Reassignment of WNET from Channel 13 to Channel 12 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice* (DA 17-317, released April 13, 2017). The WNET reassignment facility was recently constructed, and WNET is now licensed (file# 0000117719) to operate on Channel 12 at 6.5 kW effective radiated power (“ERP”) with a nondirectional antenna at 508 meters height above average terrain (“HAAT”). *WNET* herein seeks authorization for an auxiliary antenna for WNET on its post-auction Channel 12.

The proposed WNET facility will employ an existing broadband antenna which is installed on a portion of the mast atop the Four Times Square building (“4TS”), a skyscraper in New York City located 5.3 km from the WNET main facility. The mast structure atop 4TS is associated with FCC Antenna Structure Registration number 1238745. No change to the overall structure height will result from this proposal.

The proposed antenna is a horizontally polarized nondirectional Dielectric model THA-O4-6H/24U-1-R. The subject antenna was previously authorized for use as an auxiliary facility on WNET’s pre-auction Channel 13 (file# 0000041367).

The proposed auxiliary antenna will operate on Channel 12 at 20 kW ERP and a HAAT of 298 meters. Figure 1 shows that the 36 dB μ noise limited service contour of the proposed Channel

12 auxiliary facility does not extend beyond that of the licensed main facility. Thus, the proposal complies with §73.1675(a).

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering 20 percent antenna relative field in downward elevations (pattern data shows less than 20 percent relative field at angles 20 to 90 degrees below the antenna), the calculated signal density near the 4TS building at two meters above ground level attributable to the proposed facility is $0.31 \mu\text{W}/\text{cm}^2$, which is 0.2 percent of the general population / uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b)(3) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

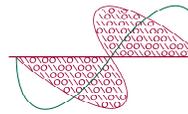
Access to the 4TS rooftop, antenna support structure, and any areas within the building that may exceed exposure limits are strictly controlled by the building owner. *WNET* participates in the building's RF exposure safety program along with other broadcasters and FCC licensees that utilize 4TS as a transmission site. As necessary, based on calculations or actual measurements considering all emitters, exposure abatement procedures will be modified. The RF safety program is employed protecting maintenance and installation workers from excessive exposure when work must be performed in locations where high RF levels may be present. Such areas are under strict restricted access and properly identified.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. The applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, mast, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

Engineering Exhibit

WNET

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Chesapeake RF Consultants, LLC

Radiofrequency Consulting Engineers
Digital Television and Radio

List of Attachments

Figure 1 Proposed Auxiliary Contours

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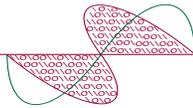
Joseph M. Davis, P.E.

August 25, 2020

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Figure 1
Proposed Auxiliary Contours
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