

## WRC-TV / WZDC-CD Application for Auxiliary Antenna Construction Permit

August 20, 2019

### Engineering Exhibit

The purpose of this application is to request authorization to replace the former WRC-TV auxiliary facility on channel 48 (File Number BXLCDT-20120405ACH) for WRC-TV, Facility ID 47904, Washington, D.C., licensed to NBC Telemundo License LLC with a new auxiliary facility using the same antenna at slightly reduced power on post auction channel 34. WRC-TV channel shares with commonly owned WZDC-CD, Facility ID 50347, Washington, D.C. with WRC-TV as the host/sharer station and WZDC-CD as the sharee station.

The requested facility is at a lower height above average terrain and at lower power than the WRC-TV channel 34 main facility (FCC File Number 0000079826) and the proposed contour will not exceed that of the main facility in any direction.

### Antenna System

The proposed facility uses a RFS-PHP32L non-directional broadband panel antenna with 0.7 degrees of electrical beam tilt.

The question "Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?" in the "DTV and DTS Elevation Pattern" section of the "Antenna Technical Data" portion of the application was checked "Yes," solely for the purpose of providing the actual elevation pattern for the antenna on channel 34. The elevation pattern does not vary with azimuth nor is any mechanical tilt employed.

The antenna will be horizontally polarized with a main beam RMS ERP of 285 kW.

### Environmental Statement

The requested facility uses an existing antenna on an existing antenna structure at a site shared with other broadcasters. No new tower construction is proposed.

An RF exposure study conducted using the procedures outlined in FCC Office of Engineering and Technology Bulletin 65 shows the maximum power density on the ground and up to 9.2 meters (30 feet) above ground (plus an additional 2 meters for person height) is 0.0196 mW/cm<sup>2</sup>, which is 4.97% of the 0.395 mW/cm<sup>2</sup> level for an uncontrolled environment as specified in FCC rule §1.1310. The tower is located adjacent to the WRC-TV studio facility. At the building roof top level of 15.3 meters, the maximum RF power density, after allowing an additional 2 meters for the height of a person, is calculated to be 0.0223 mW/cm<sup>2</sup>, which is 5.65% of the 0.395 mW/cm<sup>2</sup> level for an uncontrolled environment. Access to the roof of the studio building, to the tower with the antenna, and to an adjacent tower are secured and not accessible to unauthorized personnel. RF power density in uncontrolled areas at or around this facility are calculated to be below 4.97% of the level allowed for an uncontrolled environment. For purposes of calculating RF exposure, the azimuth peak relative field rather than the RMS main beam relative field was used, resulting in a maximum ERP of 418.64 kW.

Power will be reduced or shut off as required to protect workers on the tower proposed for the auxiliary facility or the adjacent tower with the main antenna from RF exposure above the limits specified in FCC rule §1.1310.

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### Broadcast Facility

#### *Compliance with 73.616:*

Interference to and from the proposed auxiliary facility was studied using TVStudy 2.2.5 and the LMS database dated 8/20/2019. It showed no new interference to any licensed facilities, constructions permits or applications identified by TVStudy. It showed received interference above 0.5% from the WPXW-TV CP (FID 74091, File Number 0000068032) and WHUT-TV CP (FID 27772, File Number BPEDT20120627AAD). To the extent required, WRC-TV agrees to accept interference to its proposed auxiliary facility from these construction permits.

#### *Compliance with 73.622(i):*

The proposed facility is an auxiliary antenna facility that will operate on the channel assigned to WRC-TV with coverage not exceeding that of the WRC-TV main facility (FCC File Number 0000079826).

#### *Compliance with 73.623(e):*

Not applicable. This application does not change the assigned channel or location of the authorized station.

#### *Compliance with 73.625:*

The proposed facility will place a 48 dB $\mu$ v/m principle community contour over Washington, DC, the community of license for both WRC-TV and WZDC-CD, which is sharing the channel. See the "WRC-TV/WZDC-CD Contours" map, attached.

#### *Compliance with 73.1030:*

A TVStudy analysis did not show a requirement for notification or coordination with any facility listed in Section 73.1030.

#### *Compliance with 73.1125*

The main WRC-TV and WZDC-CD telephone numbers are not a toll call from Washington, D.C., the community of license for both stations.

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