

WVIT Application for Modification of Post-Repack Construction Permit

October 26, 2017

Engineering Exhibit

The purpose of this application is to request modification of the post-repack construction permit (LMS file number 0000027739) for operation on channel 31 for WVIT, New Britain, CT, Facility ID 74170, licensed to NBC Telemundo License LLC.

This application specifies the same top mount antenna location at the same radiation center height of 548.6 meters AMSL and height above average terrain (HAAT) of 450 meters as specified in LMS file number 0000027739 but uses a non-directional antenna and increases effective radiated power (ERP) from 200 kW to 374 kW. A TVStudy 2.2.3 analysis with the non-directional antenna at 374 kW ERP and 548.6 meters AMSL showed the maximum amount of new interference created to any post-auction baseline facility, any application filed in the replication and first priority window, and any granted post-auction construction permits in the LMS database dated October 24, 2017 was under 0.5%.

Antenna System

The proposed facility will use a non-directional antenna with elliptical polarization. The proposed vertically polarized ERP is 187 kW. The vertically polarized ERP will not exceed the horizontally polarized ERP (374kW) in any direction.

Environmental Statement

The requested facility will be installed on an existing tower located in an antenna farm. The proposed antenna will replace the existing unused WVIT analog antenna on top of the tower and will not increase the height of the tower.

RF power density from the facility using combined horizontal and vertically polarized ERP was calculated using the procedures described in FCC Office of Engineering and Technology Bulletin 65. The maximum RF power density anywhere on the ground including extra height allowance of 31 meters for buildings and terrain variation combined and 2 meters for a person is calculated to be 0.000336 mw/cm² or 0.09% of the maximum permissible exposure (MPE) level of 0.383 mw/cm² at 575 MHz for an uncontrolled environment. At full power in the main beam of the antenna, RF power density is calculated to drop below the maximum public exposure level at distances greater than 222 meters and below the maximum permissible occupational (controlled environment) exposure level of 1.917 mw/cm² at distances greater than 99 meters from the tower. The only tower within this distance is a 37 meter high communications tower adjacent to this tower. Calculated RF power density anywhere on that tower, including the top of the tower, from the proposed facility is calculated to be less than 0.5% of the maximum permissible exposure level for an uncontrolled environment. Access to the tower site is restricted with a locked gate. WVIT will reduce power or shut down as required to protect workers on the tower from RF exposure above the limits specified in FCC rule §1.1310.

Broadcast Facility

Compliance with 73.616:

A study using TVStudy 2.2.3 and the FCC LMS database dated 10/24/2017 showed the proposed facility complies with the interference requirements of Section 73.616 when run with the default parameters of 2 km cell size and 1 km terrain profile point spacing.

Compliance with 73.622(i):

The proposed facility will operate on the channel assigned to WVIT for operation post-repack. The requested ERP of 374 kW is within the ERP limit for the 450 meter HAAT as specified in Section 73.622(f)(8).

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Compliance with 73.623(e):

Not applicable. This channel is not assigned to land mobile in any market.

Compliance with 73.625:

The proposed facility extends the contour previously approved by the Commission and will place a 48 dB μ V/m principle community contour over New Britain, Connecticut, the community of license. See attached coverage map.

Compliance with 73.1030:

A TVStudy 2.2.3 analysis of the proposed facility did not identify any coordination requirements for the facilities listed in Section 73.1030.

Compliance with 73.1125:

The proposed facility extends the contour previously approved by the Commission and will place a 48 dB μ V/m principle community contour over the main studio located at 1422 New Britain Ave. West Hartford, CT 06110.. See attached coverage map.

Compliance with 73.1650 :

The proposed facility is 388.6 km from the Canadian border and 2811.8 km from the Mexican border. Coordination with Canada or Mexico is not required.

Doug Lung
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