

ENGINEERING STATEMENT  
RE SECTION 1.1307 OF THE FCC RULES  
ON BEHALF OF  
VERMONT ETV, INC.  
WVTB-DT, ST. JOHNSBURY, VERMONT  
CHANNEL 18 67 KW ERP 590 METERS HAAT

OCTOBER 2007

This engineering statement has been prepared on behalf of Vermont ETV, Inc., licensee of WVTB(TV), St. Johnsbury, Vermont. The purpose of this engineering statement is to certify that an environmental assessment is not required in its request for a minor change in its currently licensed facility.

Station WVTB(TV) is licensed to operate on NTSC television Channel 20 with a maximum visual effective radiated power ("ERP") of 589 kW (maximum directional) and an antenna height above average terrain ("HAAT") of 592 meters. WVTB(TV) is currently operating under special temporary authority ("STA") with 235.6 kW ERP and 592 meters HAAT. WVTB(TV) has been allocated DTV Channel 18 with facilities of 50 kW and HAAT of 592 meters in the revised DTV Table of Allotments.<sup>1</sup> WVTB-DT is licensed with facilities of 75 kW non-directional (horizontal polarization) at a height above average terrain of 590 meters. WVTB-DT proposes facilities of 67 kW non-directional (horizontal polarization) at a height above average terrain of 590 meters from the licensed site. The antenna will be diplexed with the NTSC and DTV transmissions.

There are no AM stations located within 3.22 km of the existing WVTB(TV) tower site. WVTB(TV) and WVTB-DT are the only full-service TV stations currently operating from the existing tower. There are two full-service FM stations located within approximately 100 meters of the tower.

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<sup>1</sup>In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service", MM Docket No. 87-286, Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order (FCC 98-24), 2/12/98, DTV Table of Allotments, p. B-58.

The DTV antenna is top-mounted on the existing tower having a total overall structure height above ground of 38.5 meters (126.4 feet). The existing transmitter site is located at Burke Mountain, Vermont.

The geographic coordinates of the site are as follows:

North Latitude: 44° 34' 16"

West Longitude: 71° 53' 39"

NAD-27

Equipment Data

Antenna Dielectric, Type TUA-04-12/48H-1-R-T (or equivalent) antenna with 1.0° electrical beam tilt.

Power Data

Effective Radiated Power	67 kW	18.26 dBk
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Elevation Data

(Existing Tower; No Change in Overall Height)

Vertical dimension of Channel 18 top-mounted antenna	14.3 meters 46.9 feet
Overall height above ground of the existing antenna structure (including beacon)	38.5 meters 126.4 feet
Center of radiation of Channel 18 antenna above ground	30.3 meters 99.3 feet
Elevation of site above mean sea level	992.1 meters 3254.9 feet

Center of radiation of Channel 18 antenna above mean sea level	1022.4 meters 3354.2 feet
Overall height above mean sea level of existing tower (including beacon)	1030.6 meters 3381.3 feet
Antenna height above average terrain	590 meters

Note: Slight height differences result due to conversion to metric.

#### Other Licensed and Broadcast Facilities

No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility. If required, the applicant will install filters or take other measures as necessary to resolve the problem.

#### FCC Rule, Section 1.1307

The proposed 67 kW operation will utilize a Dielectric, TUA-04-12/48H-1-R-T antenna or the equivalent with a center of radiation above ground of 30.3 meters. The proposed WVTB-DT diplexed antenna is top-mounted on an existing self-supported, cross-section, steel lattice tower with an overall height of 38.5 meters AGL.

According to the FCC data base, there are two full-service FM stations (WVPA-FM construction permit BPED-19970108MC and WGMT Class C3) located within 100 meters from the existing tower. These facilities have listed effective radiated power 0.29 kW for WVPA-FM and for WGMT-FM 0.60 kW. These power levels will not contribute significantly to radio frequency field level ("RFF") at the WVTB(TV) tower.

The proposed operation based upon the current OET Bulletin No. 65, Edition No. 97-01 dated August 1997 and Supplement A meets the provisions of the FCC RFF

guidelines, and thus, complies with Section 1.1307 of the FCC Rules. Provisions will be made to reduce power or to terminate the transmitter emissions, as appropriate, when it is necessary for authorized personnel to be on the tower.

NTSC Station, WVTB(TV) will employ a Dielectric, Type TUA-04-12/48-1-R-T antenna. The antenna manufacturer representative indicates that the elevation pattern for this antenna shows a maximum relative field of less than 0.1 towards the ground in the vicinity of the tower. Using this relative field factor and the procedures prescribed in OET Bulletin No. 65, the maximum RFF resulting from the present operation at two meters above the base of the tower is calculated to be less than 123 microwatts/cm<sup>2</sup>. This is less than 37% of the 339.3 microwatts/cm<sup>2</sup> maximum uncontrolled exposure to RFF recommended by the current FCC guidelines for the general population.

For the DTV operation, WVTB-DT, the elevation pattern for DTV Channel 18 shows a maximum relative field of less than 0.1 towards the ground in the vicinity of the tower. Using this relative field factor and the procedures prescribed in OET Bulletin 65, the maximum RFF resulting from the proposed operation is 28  $\mu\text{W}/\text{cm}^2$ . This is less than 8.5 percent of the 331.3  $\mu\text{W}/\text{cm}^2$  maximum human exposure to RFF recommended by the current FCC guidelines for the general population.

The total contribution by the proposed NTSC station and the proposed DTV operation at 2 meters above ground level is less than 46 percent of the current FCC guidelines for general population exposure.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

#### Environmental Assessment

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the licensee indicates:

- (a)(1) The existing tower is not located in an officially designated wilderness area.
- (a)(2) The existing tower is not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities located on a tower which was built prior to the adoption of WT Docket No. 03-128 and is grandfathered and has not affected any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing tower is not located near any known Indian religious sites.
- (a)(6) The existing tower is not located in a flood plain.

- (a)(7) The installation of the DTV facilities on an existing guyed tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.