

**Larry H. Will, P.E.**

**Broadcast Engineering**

---

1055 Powderhorn Drive  
Glen Mills, PA 19342-9504

PH (610) 399-1826  
E-Mail [lhwill@verizon.net](mailto:lhwill@verizon.net)

**SONSHINE FAMILY TELEVISION CORPORATION**

**LICENSEE OF WBPH-DT**

**DTV CHANNEL 9**

**BETHLEHEM, PENNSYLVANIA**

**FAC ID# 60850**

**FCC FILE # BPCDT-20080619ALA**

**APPLICATION FOR A MINOR MODIFICATION OF CP TO CHANGE  
TRANSMITTER LOCATION, HAAT, AND DIRECTIONAL ANTENNA  
PATTERN**

**RFR EXHIBIT 47**

**January 4, 2010**

**SONSHINE FAMILY TELEVISION CORPORATION**

**LICENSEE OF WBPH-DT**

**DTV CHANNEL 9**

**BETHLEHEM, PENNSYLVANIA**

**FAC ID# 60850**

**FCC FILE # BPCDT-20080619ALA**

**ENGINEERING EXHIBIT 47**

**ENVIRONMENTAL CONSIDERATIONS**

The instant application is excluded under 1.1306. There are no changes proposed to the existing pre-1986 tower and there will be no terrain disturbances as a result of the modifications proposed herein. The construction involves replacing an existing antenna with one of similar size and shape. Using the procedures outlined in Supplement A, OET Bulletin 65, Edition 97-01 and specifically Equation 10, I have evaluated the RFR energy radiation from the antenna system of proposed WBPH-DT as follows:

The proposed WBPH-DT is the only broadcast antenna at the station location required to be considered by 47 CFR 1.1307(b). WBPH-DT is proposing to utilize an average ERP of 80.6 kilowatts (maximum DA) with horizontal polarization.

**WBPH-DT**

WBPH-DT, Channel 9, is requesting a modification of a C.P. to utilize an average ERP of 80.6 kilowatts (DA) with horizontal polarization. The proposed WBPH-DT transmitting antenna is a medium gain unit with an elevation power gain of 6X top mounted with a base approximately 141 meters up the tower. Because of the elevation gain, the ERP at angles

departing +/- 10 degrees from the horizon is attenuated by a minimum of 10 dB. For occupational/controlled environment ( $1.0 \text{ mW/cm}^2$  at 189 MHz) and utilizing Equation 10 of OET Bulletin 65 and allowing for 10 dB at steep angles below 10 degrees, the required physical separation is 16.4 meters. For general population/uncontrolled environment ( $0.2 \text{ mW/cm}^2$ ), the required physical spacing is 36.7 meters. Since the bottom of the antenna is approximately 141 meters above the ground, the height of the structure limits the possible excessive radiation values to at least 104.3 meters above the ground. Again using Equation 10 of OET Bulletin 65, and using the total average RF power corrected for steep angles, the **actual RF level at 2 meters above the ground from WBPH-DT is  $13.91 \text{ uW/cm}^2$  or less than 6.96 % of the total allowable at 189 MHz.**

Therefore the total calculated RFR levels at the base of the proposed tower contributed by the WBPH-DT proposed operation are calculated to *be no more than 6.96 %* of the total and well below the allowable limits of OET Bulletin 65 for the general public/uncontrolled environment.

As a result this multi-user site along with WBPH-DT will continue to be in full compliance with the RFR requirements of FCC OET 65 and 47 CFR 1.1312.