

**ENGINEERING STATEMENT RE;  
RADIO FREQUENCY EXPOSURE CALCULATION  
AND EXPOSURE COMPLIANCE STATEMENT  
WDHO-CA, BPTTA-20040405AAB  
CH. 38, 79.5 Kw, MAX-DA, 79m AGL  
ORLANDO, FLORIDA**

## **INTRODUCTION**

This engineering statement is prepared on behalf of Digital TV of Orlando, LLC, licensee of Class A TV station WDHO-CA at Orlando, Florida. It supplies information regarding RF exposure at the transmitter site. This statement with attachments is submitted in support of a request for construction permit for a minor power change for the above station. The information contained in this statement has been determined in accordance with the FCC Rules and procedures.

## **BASIS OF R.F. EXPOSURE CALCULATION**

The RF exposure calculation for the immediate transmitter site area was based on the proposed operating facilities. No other significant (full power) R.F. exposure sources are located on the roof top at the Rosen Center building where WDHO-CA will install its antenna. There are several low power communication facilities at this building top site.

The TV facility will be constructed with an 8-layer SWR type SWMPWLS/38 antenna, with its center mounted at 10 meters above the top of the Rosen Center building roof at 9840 International Drive in Orlando. Also on this building are several very low power communications antennas; typically 2-way, cellular and similar operations. The TV operation will have an ERP of 79.5 kW peak of sync with 10% aural power.

This one significant R.F. exposure source was evaluated using the antenna vertical pattern data supplied by the manufacturer and using R.F. Analysis computer software. It was assumed that the antenna emissions are undistorted by tower mounting and the RF signals are projected equally around the tower. The formulas and procedures in the program are derived from the FCC OET Bulletin 65, Edition 97-01 and revised in August, 1997.

## **CALCULATED R.F. EXPOSURE CONTRIBUTION**

An analysis of the proposed station was conducted and the results demonstrate that the main concentration of power density at the roof top level occurs near the base of the antenna, within a 5 meter radius of the antenna base.

The modified ERP for WDHO-CA at 79.5 kW at 10 meters above the roof, with the above described antenna, will contribute 844 uW/cm<sup>2</sup> RF Exposure at roof level, 41.1% of the FCC adopted controlled (occupational) exposure, at a radial distance of approximately 1.8 meters out from the antenna base. That exposure level and distribution is illustrated on the Roof Top Exposure graph attached to this statement.

A similar analysis at ground level, 79 meters below the antenna, indicates an exposure level of 9.1 uW/cm<sup>2</sup>, 2.2% of the uncontrolled (public) exposure level. This level, less than 5% of the uncontrolled exposure limit, requires no further analysis or mitigation efforts at this site.

## **R.F. EXPOSURE CONTROL REQUIREMENTS**

The above calculation indicates that the maximum permissible guideline for controlled exposure is not reached at any roof top location, but that the un-controlled (public) limit is exceeded on the roof close to the WDHO antenna. To eliminate public exposure, access to the entire roof top antenna site is controlled as described below.

The WDHO antenna site is on a private building roof top. Access to the roof is by way of a stairwell, passage and roof top door, all of which are locked. Keys to those locks are kept in the building security station. RF Warning and Authorized Personnel Only signs are posted on the roof top door. Access is limited to only those under active security escort and then only those previously authorized on an approved visitor list and with positive identification. The transmitter site is excluded from all public access.

The transmitter site is not predicted to exceed the Controlled Environment exposure levels as described above. As stated above, the site is not accessible to the general public and therefore Un-Controlled access exposure is not possible.

## **R.F. EXPOSURE COMPLIANCE**

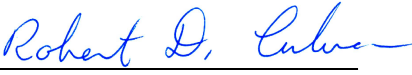
Compliance with the FCC adopted RF exposure limits will be assured under the following conditions. The operators of the transmission site have installed suitable barriers and warning signs to alert workers and to exclude public access to the antennas and any area of potential exposure in excess of the FCC un-controlled and controlled exposure guidelines. The barriers will be locked and are sufficient to control ready access.

WDHO will generate a roof top level RF Exposure, an area from which the public is excluded, of approximately 41.1% of the FCC adopted controlled exposure level. At ground level the exposure is predicted at far less than 5% of the uncontrolled (public) exposure level. Ground level exposure is therefore excluded from further RF control measures.

The site owners and operators have adopted suitable working arrangements and other controls, such as reduced power, shutting down the transmitter and lock-out / tag-out controls, so that employees will not be exposed to RF energy in areas on the roof top where exposure in excess of the controlled area exposure limits may be exceeded.

By these controls, exposure in excess of the FCC adopted RF limits is not possible.

Respectfully Submitted  
Lohnes & Culver;

by   
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## ROOF TOP LEVEL EXPOSURE

