

## ENVIRONMENTAL IMPACT / RFR HAZARD ANALYSIS

An analysis has been made of the human exposure to RFR using the calculation methodology described in *OET Bulletin 65, Edition, 97-01*. Exhibit 18.1 is a RFR study demonstrating compliance within the most restrictive permissible exposure at any location 2 meters above the ground. The most restrictive permissible exposure at any location 2 meters above the ground for WVEP(FM) is demonstrated by the green contour. The most restrictive permissible exposure at any location 2 meters above the ground for W15AD is demonstrated by the blue contour. The composite most restrictive permissible exposure at any location 2 meters above the ground for WVEP(FM) and W15AD is demonstrated by the red contour and peaks at 7.4% and thus meets and exceeds the most restrictive permissible exposure combined threshold. No other RF sources are in the area to contribute to the RFR calculations.

The applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off in order to protect maintenance workers on the tower.

**DECLARATION OF ENGINEER**

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on September 4, 2012

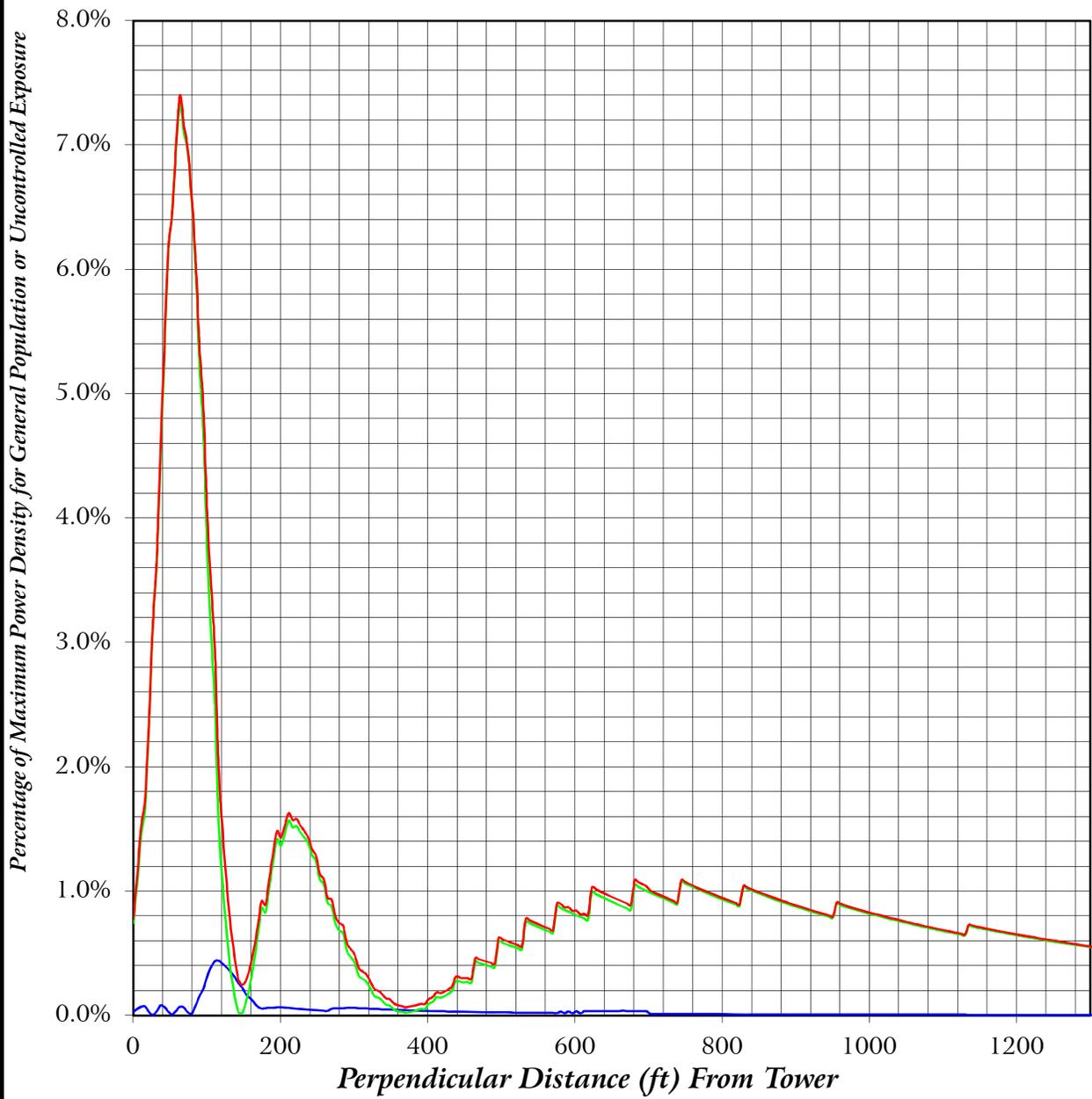
KESSLER AND GEHMAN ASSOCIATES, INC.

A handwritten signature in blue ink that reads 'Ryan Wilhour'.

Ryan Wilhour

Consulting Engineer

# FAR FIELD EXPOSURE TO RF EMISSIONS



— Percentage of Maximum General Population or Uncontrolled Exposure for W15AD  
— Percentage of Maximum General Population or Uncontrolled Exposure for WVEP(FM)  
— Combined Percentage of Maximum General Population or Uncontrolled Exposure

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**WVEP(FM)**

**MARTINSBURG, WEST VIRGINIA**

20120904

EXHIBIT 18.1

METHODOLOGY AND EXPLANATION OF  
ENVIRONMENTAL IMPACT / RADIO FREQUENCY RADIATION  
HAZARD ANALYSIS

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in *OET Bulletin 65, Edition 97-01*. The RFR analysis is conducted pursuant to the following methodology:

Terrain<sup>1</sup> extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

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<sup>1</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.