

## **ENGINEERING EXHIBIT**

### **Application for New FM Auxiliary Antenna Construction Permit**

prepared for

**VPM Media Corporation**  
WCVE-FM Richmond, VA  
Facility ID 10016  
Ch. 205B (88.9 MHz) 1.6 kW 211 m

*VPM Media Corporation* (“VPM”) is the licensee of WCVE-FM, Facility ID 10016, Channel 205B, Richmond VA (file number BLED-20151209ABA). *VPM* herein seeks a Construction Permit for an auxiliary antenna for WCVE-FM.

WCVE-FM is licensed to operate at 10 kW effective radiated power (“ERP”) using a nondirectional antenna at a height above average terrain (“HAAT”) of 302 meters. The proposed auxiliary facility will utilize an existing tower structure located immediately adjacent to the main WCVE-FM facility. The tower structure is associated with FCC Antenna Structure Registration number 1035535. No change to the overall structure height is proposed.

The proposed WCVE-FM auxiliary facility will utilize a side-mounted antenna on a time-shared basis with *VPM*’s WBBT-FM (Ch. 297A, Facility ID 31859, Powhatan VA). Contemporaneously, *VPM* is submitting a separate Construction Permit application for WBBT-FM to also use the subject antenna as an auxiliary. Only one station (WCVE-FM or WBBT-FM) may utilize the shared auxiliary antenna at a time, therefore simultaneous operation will not occur and it will not be necessary to conduct measurements of potential intermodulation spurious emission products.

As specified herein, the WCVE-FM auxiliary facility will operate with an ERP of 1.6 kW nondirectional and 211 meters antenna HAAT. Figure 1 shows that the 60 dBμ (1 mV/m) contour of the proposed auxiliary facility does not extend beyond the 60 dBμ contour of the main facility, in compliance with §73.1675(a)(1).

## **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed auxiliary WCVE-FM operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent relative field at downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $3.9 \mu\text{W}/\text{cm}^2$ , which is 1.9 percent of the general population/uncontrolled maximum permitted exposure limit. This demonstrates compliance using the FCC's rudimentary "RF Exposure Compliance Worksheet" method. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent. The calculated RF exposure will be much lower when the antenna's elevation pattern is considered.

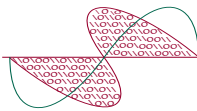
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

### List of Attachments

Figure 1 Coverage Contour Comparison – Main and Proposed Auxiliary

### **Chesapeake RF Consultants, LLC**

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**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 1**  
**Coverage Contour Comparison**  
**Main and Proposed Auxiliary**  
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