



**ENGINEERING STATEMENT**  
**OF**  
**JOHN F.X. BROWNE, P.E.**  
**IN SUPPORT OF APPLICATION TO**  
**AMEND A PENDING LICENSE APPLICATION**  
**FOR**  
**SCRIPPS HOWARD BROADCASTING COMPANY**  
**WMAR-DT**  
**BALTIMORE, MD**

**Background**

Scripps Howard Broadcasting Company (Scripps) is the licensee of WMAR, located at Baltimore, MD, which is authorized to operate its post-transition digital facility on Ch. 38 with the following parameters <sup>1/</sup>:

**Existing Post-Transition Facility (Ch. 38)**

Coordinates (NAD27):	39° 20' 05" N, 76° 39' 03" W
Horizontally Polarized ERP:	1000 kW (omni)
Vertically Polarized ERP:	0 kW
RCAMSL:	395m

The tower supporting the WMAR antenna is a multi-user candelabra structure shared with WJZ-DT (post-transition Ch. 13) and WBAL-DT (post-transition Ch. 11). WMAR had been operating its digital facility on Ch. 52 (pre-transition facility), but after WMAR was granted Ch.

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<sup>1/</sup> Scripps has been operating its authorized facility under automatic program test authority since June 18, 2008 (concurrent with cessation of analog transmission at the end of the DTV transition) and timely filed a license application (BLCDT20090619ACA) to cover its construction permit authorization on June 22, 2009 after commencement of operation.



38 for post-transition operating during the channel election process, Scripps agreed to purchase the WJZ pre-transition digital facility on Ch. 38 to be used for interim post-transition operation.

The WJZ pre-transition Ch. 38 facility, which Scripps is now operating as its post-transition facility, meets the Commission's Appendix B coverage requirement for WMAR; however, the facility has an antenna that is horizontally polarized only. Scripps had intended, at the earliest possible opportunity, subject to coordination with the other tower tenants, to replace the Ch. 38 antenna to allow the use of some vertical polarization.

The work for replacing the Ch. 38 antenna has now been completed and the new antenna has a slightly lower RCAMSL (2.4m) than the previous antenna; therefore, Scripps is seeking to modify its existing license application (BLCDDT20090619ACA) to specify the changes in its Ch. 38 facility. The modified facility will have the following parameters:

Coordinates (NAD27):	39° 20' 05" N, 76° 39' 03" W – (no change)
Horizontally Polarized ERP:	1000 kW (omni) – (no change)
Vertically Polarized ERP:	270 kW – (increase)
RCAMSL:	392.6m – (decrease)

As WMAR is exchanging one omni-directional antenna for another, and the new RCAMSL is only 2.4m lower than the authorized RCAMSL, Section 73.1690 allows the filing of a 302-DTV license application to modify the WMAR authorization.

### Site

The facility is not located within any border zone; however, the proposed facility is located 24 km from the FCC Monitoring Station at Laurel, MD. While the calculated field value that will be generated by the proposed facility exceeds the recommended threshold value of 10mV/m, WMAR-DT presently operates a 1000 kW horizontally polarized (only) omni-directional Ch. 38 facility from the proposed location which generates a field value that is



higher than 10mW/m. The proposed WMAR facility will continue to operate with a horizontally polarized ERP of 1000 kW, but will also have a vertically polarized ERP of 270 kW; however, the vertically polarized component will not increase the calculated field strength value, as defined by the Commission, above the level already generated at the Laurel monitoring station by the existing WMAR Ch. 38 facility.

### **Antenna System and Tower**

The proposed WMAR-DT antenna is an omni-directional Dielectric TFU-26GTH/VP-R O6 which is top-mounted on the tower (ASR#1035558) at the coordinates specified above. The tower has a height of 401m AMSL (with appurtenances) and the antenna will have a center of radiation of 392.6m AMSL with an HAAT of 309.6m. The change in antenna has no effect on the overall height of the structure and, therefore, no notification to the FAA or modification of the ASR is required.

### **Coverage**

The entire principal community of Baltimore, MD is well within the predicted F(50,90) 48 dBu contour using the proposed omni-directional 1000 kW ERP and the proposed facility is predicted (OET-69 analysis) to provide service to significantly more persons than that specified in the 8<sup>th</sup> Report and Order Appendix B table.

### **Interference**

Interference studies were conducted with the proposed parameters using software that emulates the software used by the FCC (OET-69 analysis). The results of the study indicate that there are no post-transition domestic stations or Class A stations that would receive more than 0.5% new interference.



### **Environmental/RFR**

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.

The additional ground level RFR contributed to the multi-user site by this proposal in public areas is calculated to be 0.004818 mW/cm<sup>2</sup> which is less than 5% of the MPE for public exposure (0.41 mW/cm<sup>2</sup>) at the proposed frequency and, therefore, the proposal is excluded from further consideration.

SHB recognizes that this is a multi-user candelabra tower site and RFR levels at the antenna platform level may exceed the occupational exposure limit. SHB agrees to comply with the Commission's requirements to cooperate with other users regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be trained on RFR issues and encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of potential RFR hazards is posted.

### **Proposed Changes to License Application**

The table below indicates that changes Scripps is proposing in the WMAR license application:

<b>Parameter</b>	<b>Existing</b>	<b>Proposed</b>
RCAGL:	298m	295.6m
RCAMSL:	395m	392.6m
HAAT:	312m	309.6m
TPO:	77.45 kW	71.3 kW
Antenna Type:	Dielectric TFU-20GTH RO4	Dielectric TFU-26GTH/VP-R O6
Polarization:	Horizontal	Elliptical

**Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

John F.X. Browne, P.E.  
December 15, 2009