



**ENGINEERING STATEMENT**  
**OF**  
**JOHN F.X. BROWNE, P.E.**  
**IN SUPPORT OF AN APPLICATION FOR**  
**MINOR CHANGE IN LICENSED FACILITY**  
**(FOR CHANGE IN ALLOTTED CHANNEL)**  
**WCPO-DT**  
**CINCINNATI, OH**

**Background**

Scripps Howard Broadcasting Company (Scripps) is the licensee of WCPO which has been authorized to operate its post-transition DTV facility on Channel 10 (BPCDT-20090723ADV<sup>1/</sup>) at Cincinnati, OH, with an ERP of 28 kW at an HAAT of 305m. The tower is located at the following coordinates:

(NAD27)  
39° 07' 30" N  
84° 29' 56" W

Since the transition, WCPO has received numerous calls from viewers living in the Cincinnati DMA area complaining that they are unable to reliably receive the WCPO signal on Channel 10 (including viewers using indoor receiving equipment). The WCPO technical staff has worked with many of these callers to resolve the problems but it became apparent that

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<sup>1/</sup> WCPO filed a license application (BLCDDT-20090821AAZ) for its authorized post-transition facility on August 24, 2009 and, therefore, this application is being filed as a minor change in a licensed facility rather than a minor modification of construction permit.



the digital Channel 10 signal is not providing these viewers with the same quality of service that the analog Channel 9 facility provided; therefore, in September 2009, Scripps filed a Petition for Rulemaking with the Commission, requesting that its post-transition DTV channel be changed from Channel 10 to Channel 22. The Commission granted Scripps request on December 8, 2009 (which became effective on December 21, 2009 after publication in the Federal Register) with the following parameters:

WCPO Allotted Ch. 22 Facility

Coordinates:	39° 07' 30" N (NAD27)
	84° 29' 56" W
ERP:	850 kW (Omni)
HAAT:	305m

Scripps is filing herewith an application for authorization to construct a facility on its newly allotted DTV channel (Ch. 22).

**Site**

The proposed facility is located within the Canadian border zone; however, the noise-limited contour of the proposed Channel 22 facility will not exceed the noise-limited contour of the allotted facility in any azimuth. Since the allotted facility has already been through Canadian coordination and received approval, coordination of the proposed facility with the Canadian government should not be required.

**Antenna System and Tower**

WCPO is proposing to use an omni-directional Dielectric TFU-36GTH/VP-R O6 for its Channel 22 facility. The antenna will be placed on the tower (ASR#1013618) at the coordinates specified above. The structure will have a new overall height of 519m AMSL (with appurtenances) which is 14m lower than the previous overall tower height of 533m AMSL and the antenna will have a center of radiation of 507m AMSL. After completion of construction of



the proposed Channel 22 facility, WCPO will notifying the FAA of the reduction in height of the existing structure and amend the ASR accordingly.

The HAAT for the proposed WCPO facility, based on an RCAMSL of 507m, is calculated to be 298m which is 7m lower than the allotted HAAT of 305m. WCPO proposes to operate with an ERP of 910 kW (an increase of 60 kW over the allotted ERP of 850 kW) to offset the potential coverage loss due to the reduction in height of the facility; however, the noise-limited contour of the proposed facility will not exceed the noise-limited contour of the allotted facility in any direction. Appendix A, attached hereto, contains a table comparing the distances (at various azimuths) to the respective contours for the proposed facility and the allotted facility.

The proposed WCPO facility will incorporate both horizontal (910 kW) and vertical polarization (273 kW). The vertically polarized radiation component will not exceed the authorized horizontally polarized component in any azimuth.

### **Coverage**

The entire principal community of Cincinnati, OH is well within the predicted F(50,90) 48 dBu contour based on the proposed 910 kW ERP.

The proposed facility is predicted to provide service to 99.8% of the population predicted to receive service from the allotted Channel 22 facility which meets the Commission's requirement of providing service to 95% (or more) of the Appendix B population.

### **Interference**

While, as indicated above, the predicted noise-limited contour of the proposed WCPO facility will not exceed the noise-limited contour of the allotted Channel 22 facility, the parameters proposed by WCPO (910 kW at an HAAT of 298m) do vary from the allotted



parameters; therefore, WCPO has run interference studies to verify that it meets the interference protection requirements to domestic full-service and Class A stations.

Interference studies were conducted with the proposed parameters using software that emulates the software used by the FCC (OET-69 analysis) at a cell size of 0.5 km. **WCPO is requesting the Commission use a cell size of 0.5 km (rather than the default 2 km cell size)** in its OET-69 analysis of the proposed facility as permitted under Section 73.616(e)(1) of the Commission's Rules.

The results of these studies indicate that the proposed Channel 22 facility would satisfy the 0.5% new interference criterion with respect to all other post-transition and Class A facilities; however, the studies do predict that the proposed facility would cause new interference above 0.5% to the WCTE Appendix B facility (Channel 22 at Cookeville, TN). A search of the database shows that WCTE completed construction on its authorization for a post-transition facility (BMPEDT-20090626AAC) as it has filed a license to cover this authorization (BLEDT-20090729ACP), and furthermore, WCTE has an authorization for a maximized facility (BMPEDT-20090430AAC); both of these facilities are protected by this proposal.

In Paragraph 155 of the Report and Order on the Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, the Commission announced that it would protect the Appendix B facilities of stations for up to approximately a year after lifting the filing freeze. Nevertheless, where, as here, the affected station (WCTE) has completed and is operating its maximized post-transition facility and proposed even further expanded service beyond that provided by the Appendix B facility, there appears to be no reason to continue protecting the supplanted Appendix B facility.

### **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 site by this proposal in public areas is calculated to be  $0.004834 \text{ mW/cm}^2$  which is less than 5% of the MPE for public exposure ( $0.34 \text{ mW/cm}^2$ ) at the proposed frequency and, therefore, the proposal is excluded from further consideration.

Scripps agrees to comply with the Commission's requirements 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.

### **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.

A handwritten signature in black ink, appearing to read 'John F. X. Browne', written over a horizontal line.

John F. X. Browne, P.E.  
January 12, 2010

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**I**

## **Appendix A**

**Comparison of Distances to Noise-Limited Contours of WCPO Allotted Ch. 22 Facility  
vs. Proposed Facility**

<u>Degrees</u>	<b>WCPO Alloted Ch. 22 Facility ERP - 850 kW (Omni) HAAT - 305m</b>	<b>WCPO Proposed Facility ERP - 910 kW (Omni) HAAT - 298m</b>	<b>Difference (miles)</b>
	<b><u>Distance (miles)</u></b>	<b><u>Distance (miles)</u></b>	
0	61.33	61.21	-0.12
10	63.01	62.95	-0.06
20	63.13	63.07	-0.06
30	62.02	61.89	-0.12
40	60.28	60.09	-0.19
50	60.77	60.65	-0.12
60	61.77	61.71	-0.06
70	61.46	61.27	-0.19
80	62.08	62.02	-0.06
90	63.26	63.26	0.00
100	62.26	62.20	-0.06
110	62.76	62.70	-0.06
120	61.71	61.58	-0.12
130	63.07	63.01	-0.06
140	63.51	63.44	-0.06
150	61.02	60.90	-0.12
160	61.15	61.02	-0.12
170	62.33	62.20	-0.12
180	62.82	62.76	-0.06
190	63.07	62.95	-0.12
200	61.39	61.27	-0.12
210	59.16	58.97	-0.19
220	60.77	60.65	-0.12
230	61.46	61.33	-0.12
240	62.20	62.14	-0.06
250	60.52	60.34	-0.19
260	59.97	59.78	-0.19
270	60.21	60.03	-0.19
280	58.29	58.04	-0.25
290	58.60	58.41	-0.19
300	60.65	60.46	-0.19
310	59.78	59.59	-0.19
320	59.65	59.41	-0.25
330	59.59	59.34	-0.25
340	60.09	59.90	-0.19
350	60.59	60.46	-0.12