



## **ENGINEERING STATEMENT**

**IN SUPPORT OF**

**APPLICATION FOR MINOR CHANGE TO CONSTRUCTION PERMIT**

**WXYZ-TV**

**DETROIT, MI**

### **Background**

Scripps Broadcasting Holdings LLC (Scripps) is the licensee of WXYZ which has been authorized to operate its post-incentive auction facility on Ch. 25 (0000027142) at Detroit, MI, with an ERP of 720 kW at an HAAT of 301.0m. The tower is located at the following coordinates:

42° 28' 14.0'' N (NAD 83)  
83° 15' 01.0'' W

Scripps now wishes to “maximize” the WXYZ post-incentive auction facility ERP from 720 kW to 765 kW; all other facility parameters will remain the same.

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## **Antenna System and Tower**

WXYZ intends to replace the existing top-mounted directional Ch. 41 antenna (Dielectric TFU-26GTH-R 6C140) with a new directional coaxial slot antenna for Ch. 25 (Dielectric TFU-22GTH/VP-R 6C140SP). The azimuth and elevation patterns and dBk table for the proposed antenna have been attached to the application.

The antenna will be installed on the registered tower ASR#1002464 which will have a new overall height of 523.9m AMSL (with appurtenances) and the antenna will have a center of radiation of 516.1m AMSL (with a calculated HAAT of 301m). The replacement of the top-mounted antenna will result in a 0.2m reduction in the overall height of the structure. Scripps plans to notify the FAA of the reduction in structure height and update the ASR after construction of the new Ch. 25 facility is complete.

The new Ch. 25 antenna will be elliptically polarized. The vertically polarized radiation will not exceed the horizontally polarized component in any azimuth.

## **Coverage**

The entire principal community of Detroit, MI is well within the predicted F(50,90) 48 dBu contour based on the proposed directional 765 kW ERP.

## **Interference**

An interference check study was run using the FCC TVStudy software (Version 2.2.3) for the proposed WXYZ post-repack maximized facility parameters. The summary results of the study show that the proposed facility is not predicted to cause more than 0.5% new interference to any

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other surrounding co-channel or adjacent channel post-repack facilities (see attached study results).

### **Environmental/RFR**

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation. Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report; since the structure is existing and registered, such conditions should not be an issue requiring further consideration.

The location of the proposed post-incentive auction facility is assumed to currently be “in compliance” with FCC guidelines for human exposure to RFR (as defined in OET-65). The worst case ground level RFR contributed to the site by this proposal in public areas is calculated to be  $0.005923 \text{ mW/cm}^2$ , which is less than 5% of the MPE for public exposure ( $0.359333 \text{ mW/cm}^2$ ) at Ch. 25 (536-542 MHz). The contribution to the overall RFR from the proposed facility is negligible and, therefore, the site will remain “in compliance” with FCC guidelines.

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.

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### **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 "B. Pidek", is written over a horizontal line.

Benjamin L. Pidek, P.E.  
October 28, 2017

Attached:  
WXYZ TVStudy Interference Results

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## WXYZ Maximization TVStudy Summary Results

Study created: 2017.10.13 08:37:22

Study build station data: LMS TV 2017-10-11 (8)

Proposal: WXYZ-TV D25 DT CP DETROIT, MI  
File number: WXYZ-CP-765k-CanSta  
Facility ID: 10267  
Station data: User record  
Record ID: 395  
Country: U.S.  
Zone: I

Search options:  
Non-U.S. records included  
Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
WPXD-TV	D24	DT	CP	ANN ARBOR, MI	BLANK0000027025	5.3 km
WPXD-TV	D24	DT	BL	ANN ARBOR, MI	DTVBL5800	5.3
WOGC-CD	D25	DC	LIC	HOLLAND, MI	BLDTA20120316ADA	224.5
KDKA-TV	D25	DT	LIC	PITTSBURGH, PA	BLCDT20041004ACS	347.3
WUPW	D26	DT	CP	TOLEDO, OH	BLANK0000025186	91.9
WUPW	D26	DT	BL	TOLEDO, OH	DTVBL19190	91.9
CBLFT-DT	D25	DT	LIC	TORONTO, ON	BLANKCANADA235	339.7

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D25  
Latitude: 42 28 14.00 N (NAD83)  
Longitude: 83 15 1.00 W  
Height AMSL: 516.1 m  
HAAT: 301.0 m  
Peak ERP: 765 kW  
Antenna: DIE-TFU-22GTH/VP-R 6C140SP (ID 1001585) 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 0.50

39.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	553 kW	271.4 m	89.4 km
45.0	484	307.8	93.5
90.0	513	318.9	95.3
135.0	504	316.6	94.9
180.0	522	327.4	96.3
225.0	437	320.7	94.1
270.0	536	287.8	91.8
315.0	754	259.5	90.6

Proposal service area is within baseline plus 1.0%  
Proposal service area population is more than 95.0% of baseline

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\*\*Proposal is within coordination distance of Canadian border  
Distance to Canadian border: 22.8 km

Distance to Mexican border: 2147.6 km

Conditions at FCC monitoring station: Allegan MI  
Bearing: 274.8 degrees Distance: 222.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 269.4 degrees Distance: 1847.3 km

Study cell size: 2.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

Proposal receives 0.62% interference from scenario 1  
Proposal receives 0.68% interference from scenario 2  
No IX check failures found.

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