



ENGINEERING STATEMENT

OF

BENJAMIN L. PIDEK, P.E.

IN SUPPORT OF

APPLICATION FOR CONSTRUCTION PERMIT

POST-INCENTIVE AUCTION ASSIGNMENT FACILITY

WXYZ-TV

DETROIT, MI

Background

Scripps Broadcasting Holdings LLC (Scripps) is the licensee of WXYZ, located at Detroit, MI, which is presently authorized to operate its digital facility on Channel 41 with the following parameters:

Pre-Incentive Auction Facility (Ch. 41)

Coordinates: 42° 28' 14" N (NAD83)
83° 15' 01" W
ERP: 1000.0 kW (DA)
RCAMSL: 516.1m

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WXYZ has been assigned Ch. 25 for its post-incentive auction facility with the following parameters:

Post-Incentive Auction Facility (Ch. 25)

Coordinates: 42° 28' 14" N (NAD83)
83° 15' 01" W
ERP: 720 kW (DA)
RCAMSL: 516.1m

Antenna System and Tower

The existing top-mounted directional WXYZ Ch. 41 antenna (Dielectric TFU-26GTH-R 6C140) is a coaxial slot antenna that is channel specific and not usable on Ch. 25. Scripps intends to replace the existing top-mounted antenna with a new directional coaxial slot antenna for Ch. 25 (Dielectric TFU-22GTH/VP-R C140). The azimuth and elevation patterns and dBk table for the proposed antenna have been attached to the application.

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 (#1002464) after construction of the new Ch. 25 facility is complete.

The current Ch. 41 antenna is horizontally polarized only. The new Ch. 25 antenna will be elliptically polarized; however, the vertically polarized radiation will not exceed the horizontally polarized component in any azimuth.

The new Ch. 25 antenna will have a center of radiation of 516.1 m AMSL (with a calculated HAAT of 301m) which is the same height as the radiation center height of the assigned repack facility; however, the antenna manufacturer was not able to produce an exact match of the

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assigned repack antenna azimuth pattern due to the significant change in the operating channel (from Ch. 41 to Ch. 25). Some sections of the azimuth pattern will produce 0.33 dB less power (compared to the assigned repack pattern) while other sections will exceed the assigned repack pattern by up to 0.18 dB.

To account for the changes in the azimuth pattern, Scripps proposes to keep the WXYZ ERP 720 kW, the same as the assigned ERP. The proposed parameters of the WXYZ facility (ERP of 720 kW, RCAMSL of 516.1m and directional antenna azimuth pattern) will result in an increase in the predicted noise-limited contour; however, that increase will be less than 1% in any azimuth and it is necessary to mitigate the predicted loss in interference free service population due to the antenna azimuth pattern discrepancies when compared to the assigned post-repack facility. The predicted interference free service population of the assigned post-repack facility and the proposed facility are listed below:

Call Sign	Service Population (TVStudy Version 2.2.2)	
	Assigned Post Repack Facility ERP - 720 kW RCAMSL - 516.1 m	Proposed Repack Facility ERP - 720 kW RCAMSL - 516.1 m
WXYZ	5,569,250	5,570,019

Coverage

The entire principal community of Detroit, MI is well within the predicted F(50,90) 48 dBu contour based on the proposed directional 720 kW ERP.

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Interference

An interference check study was run using the FCC TVStudy software (Version 2.2.2) for the proposed WXYZ post-repack facility parameters. The results of the study show that the proposed facility is not predicted to cause more than 0.5% new interference to any other surrounding co-channel or adjacent channel post-repack facilities.

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 0.005574 mW/cm², which is less than 5% of the MPE for public exposure (0.359333 mW/cm²) 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 "Ben Pidek", is written over a horizontal line.

Benjamin L. Pidek, P.E.
June 6, 2017

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