

***COMPREHENSIVE TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT***

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**WJYS - HAMMOND, INDIANA  
FACILITY ID: 32334**

**OXFORD MEDIA GROUP, INC.**

**JULY 2017**

## **APPLICATION FOR CONSTRUCTION PERMIT**

The following engineering statement and attached exhibits have been prepared for **Oxford Media Group, Inc.** ("Oxford"), licensee of digital television station WJYS at Hammond, Indiana, and are in support of their application for construction permit.<sup>1</sup> This application is the initial construction permit application for WJYS following the Commission's incentive auction. The technical parameters specified in this application are in agreement with those listed for WJYS in the post-repack environment table of allotments.

WJYS is licensed to operate on television channel 36 with a maximum effective radiated power of 145 kilowatts, horizontally polarized, at a center of radiation of 689.5 meters above mean sea level, 510 meters above average terrain. WJYS has been assigned channel 21 in the post repack environment. This application proposes operation by WJYS with a maximum effective radiated power of 105 kilowatts at a center of radiation of 689.5 meters above mean sea level. This elevation corresponds to 508.1 meters above ground level, and 510.0 meters above average terrain.<sup>2</sup>

No change in the antenna utilized by WJYS is proposed. This antenna is owned by the owners of Willis Tower, and is a broadband panel array fed by a combiner system. This antenna is currently utilized by one other facility, and in the post-repack environment will also serve as an auxiliary antenna for several other facilities located at Willis Tower. Oxford does not propose any change in the technical parameters from those specified in the table of allotments. As a result, the

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<sup>1</sup> The Facility ID for WJYS at Hammond, Indiana is 32334.

<sup>2</sup> Average terrain elevations agree with those calculated by *TV Study*, and are unchanged from those used to calculate HAAT on the current license.

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proposed noise limited contour is identical to that resulting from the allocated parameters. Since no extension of the noise limited contour is proposed.

The closest FCC monitoring station to the proposed facility is the Allegan, Michigan facility. This facility is located at a distance of 160.1 kilometers from the proposed facility, as calculated by *TV Study*. That utility also calculates a predicted field strength of 10.7 dBu at the monitoring station. This value is less than the coordination threshold specified in Section 73.1030(c) of the Commission's Rules. WJYS is not located within the West Virginia quiet zone area, and is located 1485 kilometers from the Table Mountain receiving zone.

The main studio for WJYS complies with the provisions of Section 73.1125 of the Commission's Rules. The main studio is located at Tinley Park, Illinois. Exhibit E-1 illustrates the main studio location along with the proposed 48 dBu F(50,90) service contour, and a twenty-five mile radius centered on the reference coordinates of Hammond, Indiana, the community of license. As this map demonstrates, the main studio is located within both of these constructs.

The proposed facility would not constitute a significant environmental impact, and is excluded from environmental processing. Implementation of the construction permit resulting from the proposed technical parameters would not increase the existing environmental impact already present from the WJYS facility and the Willis Tower broadcast platform. The combined antenna utilized by WJYS is located on the structure assigned 1032960 as its Antenna Structure Registration Number. This ASRN is assigned to the aggregate of the east antenna structures atop Willis Tower in Chicago. Construction of the proposed facility would not require ground excavation as a change in the transmitter and combiner is all that will be required for implementation.

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Additionally, the proposed WJYS facility would not constitute an RF exposure hazard for persons at the site. Using the equations in Supplement A of *OET Bulletin 65*, and assuming a relative field of 0.1 at downward vertical angles, the calculated power density at two meters above ground elevation is  $0.137 \mu\text{W}/\text{cm}^2$ . This value is considerably less than the upper limit permissible under the uncontrolled environment condition of the Commission's safety standard.

As previously stated, the antenna utilized by WJYS is part of the Willis Tower broadcast platform, and is owned by the owners of Willis Tower. Willis Tower is a multi-user community site utilized by several FM and Television broadcast facilities, as well as other communications systems. Access to the rooftop and related supporting structures is strictly controlled, and limited to authorized personnel who are cognizant of RF safety procedures, and the effects that non-ionizing radiation may have on persons. Areas where the measured power density levels exceed the upper limit permissible under the controlled environment condition of the Commission's safety standard may not be entered until pertinent antennas are de-energized and locked out.

Willis Tower supervises the coordination between all licensees of the broadcast platform to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. These coordination activities include power reductions and/or the cessation of operation of certain antennas with appropriate lockout procedures. Oxford complies fully with these procedures to ensure the protection of workers and other personnel.

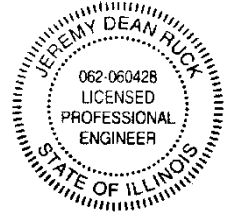
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7.11.2017

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature  
License Expires November 30, 2017

Jeremy D. Ruck, PE  
July 11, 2017

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