

ENGINEERING STATEMENT
SUPPORTING REQUEST FOR EXPERIMENTAL AUTHORIZATION
CHICAGO 3.0 – ATSC 3.0 TESTING
IN CHICAGO, ILLINOIS MARKET
CHANNEL 23

Background

This statement was prepared in support of a request for experimental authorization for a digital television station to operate with the new ATSC 3.0 ‘Next Gen TV’ digital standard*. The proposed facility will operate on RF Channel 23 in the Chicago, Illinois market using the Willis Tower transmitting location. The technical details of the proposed facility are described in the instant application. In summary, the proposed facility will operate with a maximum effective radiated power (ERP) of 53.5 kW with an antenna height of 660.4 m AMSL (480 m HAAT).

The FCC has determined that facilities under the ATSC 3.0 Standard emission can employ the same planning factors as the ATSC 1.0 (current) digital television standard.† Therefore, interference studies for ATSC 3.0 facilities can be conducted utilizing the current FCC *TVStudy* analysis methodology.

Date of Chicago 3.0 Experimental Termination on Channel 23

The proposed experimental authority is proposed on Channel 23, which is the post-transition assignment channel for WCIU-TV in the Chicago market. WCIU-TV is assigned to Phase 6 of the Incentive Auction repack, which begins on September 7, 2019. Therefore, in order to avoid an interference conflict with WCIU-TV, and any other post-transition assignment, the proposed Chicago 3.0 experimental operation shall be terminated before September 7, 2019.

* Advanced Television Systems Committee, Inc., Standard A/300

† See *Report and Order and Further Notice of Proposed Rulemaking*, In the Matter of: Authorized Permissive Use of the “Next Generation” Broadcast Television Standard, GN Docket No. 16-142, Released: November 20, 2017 (FCC 17-158).

Interference Caused Analysis Under Current Allocation Environment

An interference analysis was conducted for the proposed Chicago 3.0 experimental facility utilizing the latest version[‡] of the FCC's *TVStudy* coverage and interference analysis prediction software. The report of the results is attached hereto entitled 'Interference Caused Analysis for Proposed Chicago 3.0 Experimental Facility Under Current Allocation Environment.'

The results of the analysis indicate that there are no cases of outgoing (caused) interference exceeding the normal 0.5% rounding tolerance level to any other protected full-power or Class A television stations now operating.

It is noted that there is predicted interference of 7.18% caused to the construction permit (C.P.) facility of W25DW-D, Aubury Hills, IL (Channel 22). It has been determined though local observations that the W25DW-D C.P. facility on Channel 22 is not on the air. But in any case, the licensee/permittee of W25DW-D has provided an interference consent agreement for the proposed Chicago 3.0 experimental facility. This is contained elsewhere with the instant application.

Interference Caused with Respect to Low Power Television/Translators

As indicated above, the Chicago 3.0 experimental facility will operate on Channel 23 in the Chicago market. Because Channel 23 is the Incentive Auction repack assignment for WCIU-TV in Chicago, there is no potential for conflict with any future low power television (LPTV) or television translator displacement filing. Specifically, the FCC's Public Notice announcing the Special Displacement Window for LPTV and translator stations prohibits filings on channels that conflict with the full power and Class A television station modifications proposed in the two alternate channel/expanded facilities filing windows.[§]

[‡] TVStudy Version 2.2.5

[§] See FCC *Public Notice* dated February 9, 2018 entitled "*Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018 through May 15, 2018 and Make Location and Channel Data Available*" (DA 18-124, MB Docket No. 16-306, GN Docket No. 12-268).

WCIU-TV holds a C.P. for operation on Channel 23 in Chicago with a maximum ERP of 1000 kW with an antenna height of 653.4 m AMSL (473 m HAAT).^{**} The WCIU-TV facility entirely subsumes the proposed Chicago 3.0 experimental facility such that there is no potential for the proposed Chicago 3.0 to create any preclusions or conflicts that would otherwise not be present due to the WCIU-TV C.P. facility.

Conclusion

It is concluded that the proposed Chicago 3.0 experimental facility will:

1. Fully protect all authorized and operating full-service, Class A, LPTV/Translator facilities;
2. Have no effect on the Incentive Auction repack facilities; and,
3. Have no preclusive or interference effects on applications that could be filed in the upcoming LPTV/Translator Special Displacement Window.



Louis R. du Treil, Jr., P.E.

du Treil, Lundin & Rackley, Inc.
3135 Southgate Circle
Sarasota, Florida 34239

March 19, 2018

^{**} See FCC File No. 0000034608.