



ENGINEERING STATEMENT

IN SUPPORT OF

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

WRJK-LP/WRJK-LD

ARLINGTON HEIGHTS, IL

Background

Chicago 22, LLC is the licensee of television translator station WRJK-LP (BLTT-19991020AAO, Facility ID. 68061) near Arlington Heights, IL (Chicago DMA), which is operating as a digital television translator on Ch. 24 pursuant to Special Temporary Authority (LMS File No. 0000071682). The station will no longer be able to operate on Ch. 24 after October 18, 2019, when the full-service DTV station WFLD completes its transition to Ch. 24 as part of the post-incentive auction repack since both stations operate in the Chicago area.

WRJK holds a construction permit to displace from Ch. 22 to Ch. 11 (LMS File No. 0000054928); however, the facility is located on Willis Tower in downtown Chicago, which houses the majority of broadcasters in the market. As such, tower space is limited and there are restrictions on the type and size of any new antennas that can be installed. WRJK has been working with an antenna manufacturer to design an antenna that can satisfy the building requirements, but to-date, it has not obtained approval for the new Ch. 11 antenna.

Since WRJK will no longer be able to broadcast on Ch. 24 after October 18th and has not completed the build-out of its authorized Ch. 11 facility, WRJK is working to devise an interim solution with Willis Tower management to use an existing high-band VHF panel antenna that is side-mounted on the west cylinder between 1478 ft and 1510 ft AGL. The existing antenna does

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have a different azimuth pattern than the antenna that is authorized in the construction permit, but it is similar enough that WRJK can operate with the same ERP as authorized on the construction permit (0.4 kW) without causing more than allowable interference to any surrounding stations. Use of this interim antenna will allow WRJK to remain broadcasting while it continues to work with the building management on a final Ch. 11 antenna solution.

STA Parameters

WRJK is proposing the following parameters for digital operation on Ch. 11:

Coordinates:	41° 52' 44.0" N (NAD83) 87° 38' 08.0" W
ERP:	4.0 kW
RCAMSL:	636.4m
RCAGL:	455.4m
ASR#:	1032960
Antenna:	RCA TBF-2AH (Special)
Mask:	Full-Service

Figure 1, attached hereto, is a coverage map that depicts the predicted protected contour of the WRJK Ch. 11 construction permit facility and the predicted service contour of the proposed STA facility.

Interference

An interference study was conducted of the proposed facility parameters using the FCC TVStudy software (Version 2.2.5). Note, the WRJK-LD (Ch. 11) displacement construction permit record (LMS File#0000054928) was excluded from the TVStudy analysis.

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The results of the study (copy attached hereto) show that potential interference is not predicted to exceed 0.49% to any full-service DTV or Class A stations or 1.99% to any low power stations as required by the Commission's Rules.

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 facility, Willis Tower, is a multi-user site and it 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 is calculated to be 0.000065 mW/cm² at 2m AGL, assuming a worst-case 100% relative field at downward elevation angles. The calculated RFR is much less than 5% of the maximum permissible exposure (MPE) for public areas (0.2 mW/cm²) at Ch. 11 (198-204 MHz). Per Section 1.1307(b) of the FCC Rules, the proposed operation would be categorically excluded from taking corrective action in areas with levels above the MPE limit where the contribution to the RFR from the proposed facility is less than 5%.

There are areas of Willis Tower that may exceed exposure limits (rooftop, antenna support structures, etc.); however, these areas are strictly controlled by the building owner. Chicago 22, LLC, like all tenants with broadcast facilities on Willis Tower, cooperates with the building owner in its RF safety plans/procedures for protecting workers who need access to areas where high

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levels of RFR may be present. These areas have been properly identified and access to them is restricted.

Chicago 22, LLC, 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.

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 15, 2019

Attached:

TVStudy Interference Check Report

Figure 1 – Map of Predicted Protected Service WRJK Ch. 11 CP Facility vs. Service Contour of Proposed STA Facility

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TVStudy TV Interference Check Report for WRJK on Ch. 11

Study created: 2019.10.15 11:00:57

Study build station data: LMS TV 2019-10-15

Proposal: WRJK D11 LD APP CHICAGO, IL
File number: WRJK-C11-OldABC-0.4k
Facility ID: 9617
Station data: User record
Record ID: 1487
Country: U.S.
Zone: I

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Individual records excluded:
0000054928 WRJK-LP D11- LD CP ARLINGTON HEIGHTS, IL BLANK0000054928

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WAOE	D10	DT	CP	PEORIA, IL	BLANK0000077741	126.9 km
No	WYGN-LD	D10	LD	LIC	BERRIEN SPRINGS, MI	BLDVL20090629AAT	106.7
No	WILX-TV	D10	DT	LIC	ONONDAGA, MI	BLCDDT20120404ACG	260.0
No	WMVS	D10	LD	CP	MILWAUKEE, WI	BLANK0000051870	137.1
Yes	WYCH-LD	D11	LD	CP	ROCKFORD, IL	BLANK0000054713	106.7
No	WCIX	D11	DT	CP	SPRINGFIELD, IL	BLANK0000028391	280.8
Yes	WLFI-TV	D11	DT	LIC	LAFAYETTE, IN	BLCDDT20040520AIX	186.4
No	WHAS-TV	D11	DT	LIC	LOUISVILLE, KY	BLCDDT20100628AWQ	420.0
No	WBKB-TV	D11	DT	LIC	ALPENA, MI	BLCDDT20090623AAS	457.2
Yes	WGVU-TV	D11	DT	LIC	GRAND RAPIDS, MI	BLEDT20100827ABE	186.6
No	WTOL	D11	DT	APP	TOLEDO, OH	BLANK0000035661	353.5
No	WTOL	D11	DT	LIC	TOLEDO, OH	BLCDDT20090622ABU	353.5
No	WLUK-TV	D11	DT	LIC	GREEN BAY, WI	BLCDDT20110818ACB	282.7
Yes	WISC-TV	D11	DT	CP	MADISON, WI	BLANK0000028220	203.4
No	WINM	D12	DT	LIC	ANGOLA, IN	BLCDDT20130711ABN	239.9
No	WODN-LP	N13+	TX	LIC	PORTAGE, IN	BLTVL20080211ADH	46.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D11
Mask: Full Service
Latitude: 41 52 44.00 N (NAD83)
Longitude: 87 38 8.00 W
Height AMSL: 636.8 m
HAAT: 464.0 m
Peak ERP: 0.400 kW
Antenna: RCA-TBF-2AH (SPECIAL) (ID 120403) 0.0 deg
Elev Pattn: Generic

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48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.161 kW	460.0 m	49.4 km
45.0	0.007	461.8	27.2
90.0	0.016	461.4	32.9
135.0	0.277	461.7	53.4
180.0	0.369	454.4	55.2
225.0	0.123	454.1	47.2
270.0	0.154	451.2	48.6
315.0	0.400	453.3	55.7

Database HAAT does not agree with computed HAAT

Database HAAT: 464 m Computed HAAT: 457 m

Distance to Canadian border: 371.2 km

Distance to Mexican border: 1825.6 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 59.1 degrees Distance: 160.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 268.4 degrees Distance: 1484.9 km

Study cell size: 1.00 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%

No IX check failures found.

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Mid-State Consultants

WRJK-LD (CP)

0000054928
Latitude: 41-52-44 N
Longitude: 087-38-08 W
ERP: 0.40 kW
Channel: 11-
Frequency: 200.5 MHz
AMSL Height: 636.4 m

WRJK STA

Latitude: 41-52-44 N
Longitude: 087-38-08 W
ERP: 0.40 kW
Channel: 11
Frequency: 201.0 MHz
AMSL Height: 636.8 m

**Protected Service Contour of WRJK-LD CH. 11 CP Facility (Black) vs.
Predicted Service Contour of Proposed Ch. 11 STA Facility (Red)**

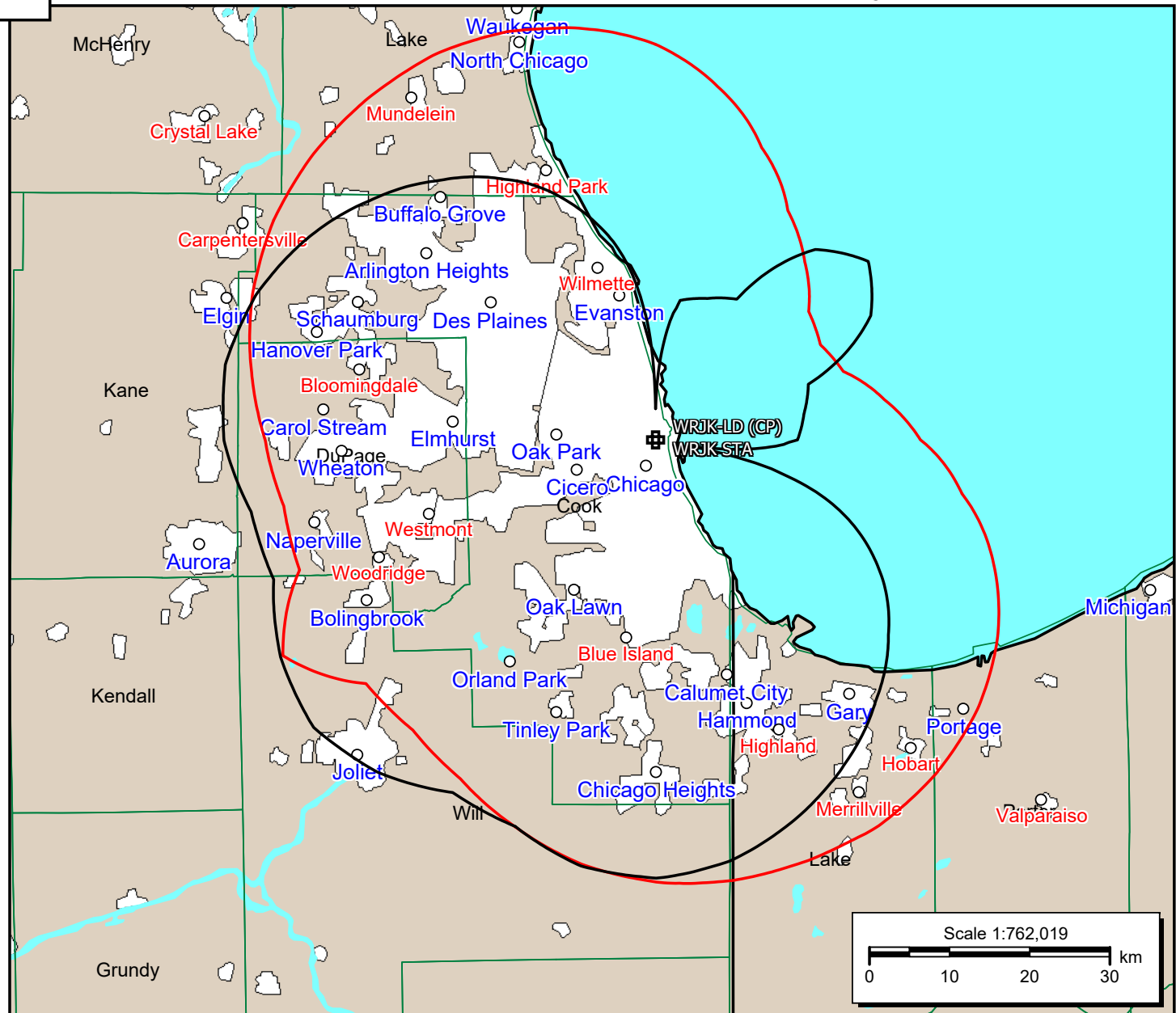


Figure 1
10-15-19