

ENGINEERING EXHIBIT

WLS TELEVISION, INC. ENGINEERING EXHIBIT IN SUPPORT OF A REQUEST FOR EXTENSION OF SPECIAL TEMPORARY AUTHORITY TO USE JOHN HANCOCK BUILDING ANTENNA AS AUXILIARY ANTENNA

CHANNEL 7 – 7.0 KW DA-MAX (DTV AVERAGE) – 410 METERS HAAT

CHICAGO, ILLINOIS

ENGINEERING STATEMENT

Introduction

WLS Television, Inc. (WLS) is the licensee of WLS-TV, Chicago, Illinois. WLS was licensed to operate NTSC analog facilities on channel 7 with an effective radiated power of 55 KW at a height above average terrain of 515 meters. FCC File Number BLCT-19820609KE describes the WLS-TV analog channel 7 facilities.

The post-transition channel 7 DTV construction permit, BPCDT-20080529AJS, and the associated application for license, BLCDT-20090615AEE, describe the channel 7 DTV facilities which authorized post-transition DTV operation from the Sears Tower with 4.75 kW ERP and the non-directional former NTSC channel 7 antenna.

The special temporary auxiliary authority sought in this request for STA extension proposes continuation of operation with 7.0 kW ERP DA Maximum as presently authorized in BDSTA-20091124AIM. This outstanding STA specifies use of the channel 7 antenna located on the John Hancock Building, which is the former WLS NTSC Auxiliary Antenna, as described in BXLCT-20070925AHQ and its associated construction permit, BXPCT-20040831ABV.

Extension of the outstanding STA is requested to provide continuity of DTV service to WLS channel 7 viewers while construction continues at Willis Tower (formerly called the Sears Tower). During the next few weeks, work is continuing to replace and upgrade the electrical and mechanical systems in the WLS transmitter room to support construction of the recently authorized channel 44 transmission system.

The ERP specified in this STA request, 7.0 kW DA-Max DTV Average, satisfies the Commission's rules for auxiliary operation based on the authorized channel 7 operating parameters contained in BMPCDT-20080529AJS, which specifies 4.75 kW ERP at 515 meters HAAT from the Willis Tower.

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Continuation of this operation originally authorized in BMPCDT-20080529AJS is authorized by BELDSTA-20100408ACD, which extended the operation authorized earlier by BLDSTA-20091023ABZ. The outstanding STA facility presently authorized at the John Hancock Building and the extension of identical operating parameters as proposed does not cause interference that is greater than the interference generated by the channel 7 facility that is captioned above to any station.

WLS-DT will be moving its main DTV transmission to channel 44 as a result of the Commission's action in RM-11553. Because WLS plans to move to channel 44 as quickly as possible, construction of the WLS-TV facilities is underway in the transmitter room in Willis Tower that has been and once built, will continue to be the main WLS-TV transmitter facility.

During the construction of the final DTV facilities, in the interest of obtaining the shortest build-out time, and to assure compliance with the Commission's rules regarding human exposure to radio frequency energy, a complete shut-down of the WLS facilities at Willis Tower will be necessary for extended periods of time. During this time, the use of an alternate facility, such as the present WLS-TV facility in the John Hancock Building is required to maintain continuity of service.

Because of work that is scheduled to be performed at the Willis Tower during the next few months, but particularly in the immediate days and weeks ahead, WLS respectfully requests an extension of the special temporary authority to operate from the STA facility at the John Hancock Building for an additional six month period.

Through extension of the outstanding STA, WLS will have a means to assure continuity of service during the removal and replacement of the present electrical, HVAC and mechanical systems at Willis Tower and the requested extension will enable a faster completion of construction of new facilities at Willis Tower than would otherwise be possible.

Such operation during the period requested above will provide continuity of service and compliance with the Commission's rules regarding human exposure to radiofrequency energy.

WLS respectfully requests a grant of this request for extension of Special Temporary Authority to operate as described herein beginning Saturday, June 5, 2010.

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The outstanding STA and proposed STA operating parameters are:

Location: John Hancock Building, 875 North Michigan Avenue, Chicago, Illinois

NAD 27 Coordinates: 41° 53' 56.0" N. Latitude 087° 37' 23.0" W Longitude

Antenna Structure Registration Number: 1009012

Antenna: Dielectric Model THA-C4SP-2H/7H-1-R (see BXLCT-20070925AHQ)

ERP DA-Max: 7.0 kW DTV Average from Transmitter Output Power of 2.42 kW

Human Exposure to Radiofrequency Energy

The proposed DTV use of the former NTSC auxiliary antenna will comply with FCC Rules regarding human exposure to radiofrequency energy. The calculated vertical pattern of the proposed antenna produces a relative field of less than 0.260 in the direction of the azimuth pattern maximum at angles below the horizontal by 25 degrees or more and 0.149 or less for angles below horizontal greater than 69 degrees. These values when applied to the proposed ERP and an antenna radiation center height of 407.8 meters above ground level yield a calculated power density at 2 meters above ground of less than 0.00063 mW/cm², which is less than 0.03 percent of the limits contained in Section 1.1310 of the Commission's Rules for Uncontrolled Environments. In the main beam, a distance of 23.3 meters is necessary to reach a power density level that is less than 0.2 mW/cm², but the main beam is well above any nearby buildings. When angles between 25 degrees and 69 degrees below horizontal are considered, the limit for human exposure is found at a maximum distance of 6.1 meters and for angles greater than 69 degrees below horizontal the limit for human exposure to radio frequency energy for uncontrolled areas is found at

3.48 meters distant from the antenna. The calculations allow for increased field strength due to reflection. There are no buildings nearby or adjacent to the John Hancock Building where the general public is present within many multiples of the distances stated above.

The limit for channel 7, 174 to 180 MHz, is 0.2 mW/cm² and is found in Section 1.1310 of the Commission's Rules. The methods used to perform these calculations are found in OET Bulletin 65, Edition 97-01, dated August 1997.

The building management strictly limits access to the roof and to the tower portions of the John Hancock Building. The site management has established a policy that defines the roof area as a controlled area with restricted access for all persons. Neither workers nor members of the general public are allowed access to any areas near antennas which may be energized until the status of the systems in question have been determined to be safe. WLS as a lessee is subject to the RF Safety Program which is currently in effect, and includes restricted access to the roof area during normal broadcast operations, and the use of lock-out/tag-out procedures to prevent accidental exposure of personnel from inadvertent activation of transmitters.

Conclusion


The continuing operation of the former WLS Auxiliary Antenna at the John Hancock building meets the requirements of the Commission's rules for DTV Auxiliary operation and meets the Commission's requirements for RF safety.

Permitting continued use of the channel 7 Auxiliary Antenna will provide a means for WLS to ensure continuity of DTV service during times when cessation of operation is required at the Willis Tower main transmitter facility.

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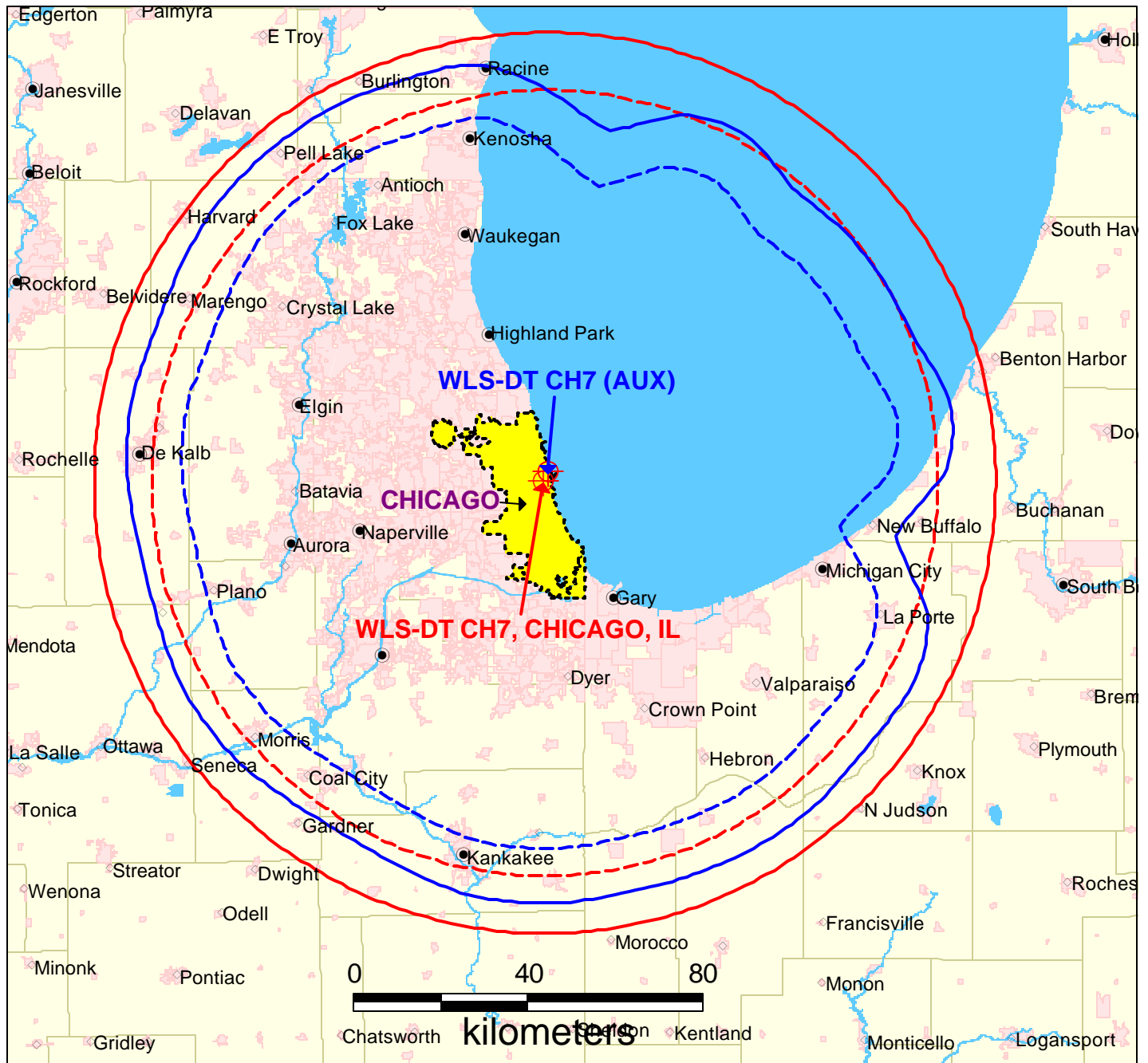
Certification

I certify that, on behalf of WLS Television, Inc. the information in this statement was prepared by me and on behalf of WLS Television, Inc., I have prepared or reviewed the information that is contained in this statement, and that after such review and examination have found it to be accurate and true to the best of my knowledge and belief.



Signed: _____
Alfred E. Resnick, P. E.

Dated: May 25, 2010
Writer's telephone: 703 569-7704



PREDICTED COVERAGE CONTOURS

WLS-DT Ch 7, CHICAGO, IL (AUX)
7.0 kW, 410 mHAAT
588.5 mRCAMSL, 67493 D-ANT

Predicted Noise Limited Coverage Contour
F(50,90), 36 dBu

Predicted Principal Community Coverage Contour
F(50,90), 43 dBu

WLS-DT Ch 7, CHICAGO, IL
4.75kW, 515 mHAAT
695.4 mRCAMSL, NOND ANT

Predicted Noise Limited Coverage Contour
F(50,90), 36 dBu

Predicted Principal Community Coverage Contour
F(50,90), 43 dBu

MAY 2009

CARL T. JONES
CORPORATION