

ENGINEERING EXHIBIT

WLS TELEVISION, INC. ENGINEERING EXHIBIT IN SUPPORT OF A REQUEST FOR SPECIAL TEMPORARY AUTHORITY TO USE FORMER NTSC AUXILIARY ANTENNA AS DTV 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 outstanding channel 7 DTV construction permit, BPCDT-20080529AJS, and the associated application for license, BLCDDT-20090615AEE, authorize post-transition DTV operation from the Sears Tower with 4.75 kW ERP and the non-directional former NTSC channel 7 antenna. Subsequently, an STA was granted that authorizes DTV operation with an ERP of 9.50 kW and the former NTSC main antenna system.

The special temporary auxiliary authority sought in this request for STA proposes operation with 7.0 kW ERP DA Maximum and requests use of the former WLS NTSC Auxiliary Antenna which is located on the John Hancock Building, as described in BXLCT-20070925AHQ and its associated construction permit, BXPCT-20040831ABV. This operation is requested to provide continuity of DTV service to WLS viewers while construction and maintenance is being performed at the Willis Tower (formerly, and still commonly called the Sears Tower). An ERP of 60.3 kW was authorized for NTSC auxiliary service from this antenna on channel 7.

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 granted construction permit, BMPCDT-20080529AJS, which specifies 4.75 kW ERP at 515 meters HAAT from the Sears Tower. The predicted 36 dBu contour from the proposed STA facility is completely contained within the predicted 36 dBu contour that is generated by the 4.75 kW non-directional antenna at 515 meters HAAT on

Sears Tower, and the proposed STA facility 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 DTV transmission to channel 44 as a result of the Commission's action in RM-11553, released on September 15, 2009. Because WLS planned to move to channel 44 as quickly as possible and the fact that most of the construction and modification of facilities for NTSC and DTV stations that were transmitting from the Sears (recently renamed Willis) Tower occurred prior to the DTV transition on June 12, 2009, these earlier circumstances indicated no apparent need to re-license the former NTSC auxiliary antenna at the John Hancock Building for DTV service.

Because of work that is scheduled to be performed at the Willis Tower during morning hours, primarily on Saturday mornings, and additional work which will continue through February 7, 2010, WLS requests special temporary authority to operate from the proposed STA facility at the John Hancock Building primarily on Saturdays in December and mostly overnight in January while construction activities and removal of the channel 5 NTSC antenna at the Willis Tower (formerly and still commonly called the Sears Tower) are underway. The present construction schedule envisions these activities to be carried out on Saturday, December 5, 12, and 19, 2009. The channel 5 antenna removal schedule is timed to minimize impact to viewers consistent with safety practices aloft. In order to provide assurance of continuous service and comply with the Commission's rules regarding human exposure to radiofrequency energy, WLS respectfully requests that the time of operation with the former NTSC Auxiliary antenna not be strictly limited to only those hours of expected construction activity, but that such operation of the auxiliary STA facility be allowed as necessary during the period requested above to 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 Special Temporary Authority to operate as described herein beginning Saturday, December 5, 2009 and continuing until the early hours of Monday, February 8, 2010, or at such times as required to maintain continuity of service upon failure or unavailability of the main transmission system through the period described above.

Although the time of day and day of the week was selected to minimally impact WLS viewers, because WLS would be required to cease transmission during this time, the public interest will be served by a grant of this STA to ensure continuity of DTV service to WLS viewers while allowing work to be accomplished that would not otherwise be possible without access to portions of the WLS transmission system at Willis Tower.

The proposed 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 proposed operation of the former WLS NTSC channel 7 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 use of the former channel 7 NTSC Auxiliary Antenna will provide a means for WLS to ensure continuity of DTV service during times when cessation of operation is required at the Sears Tower main transmitter facility.

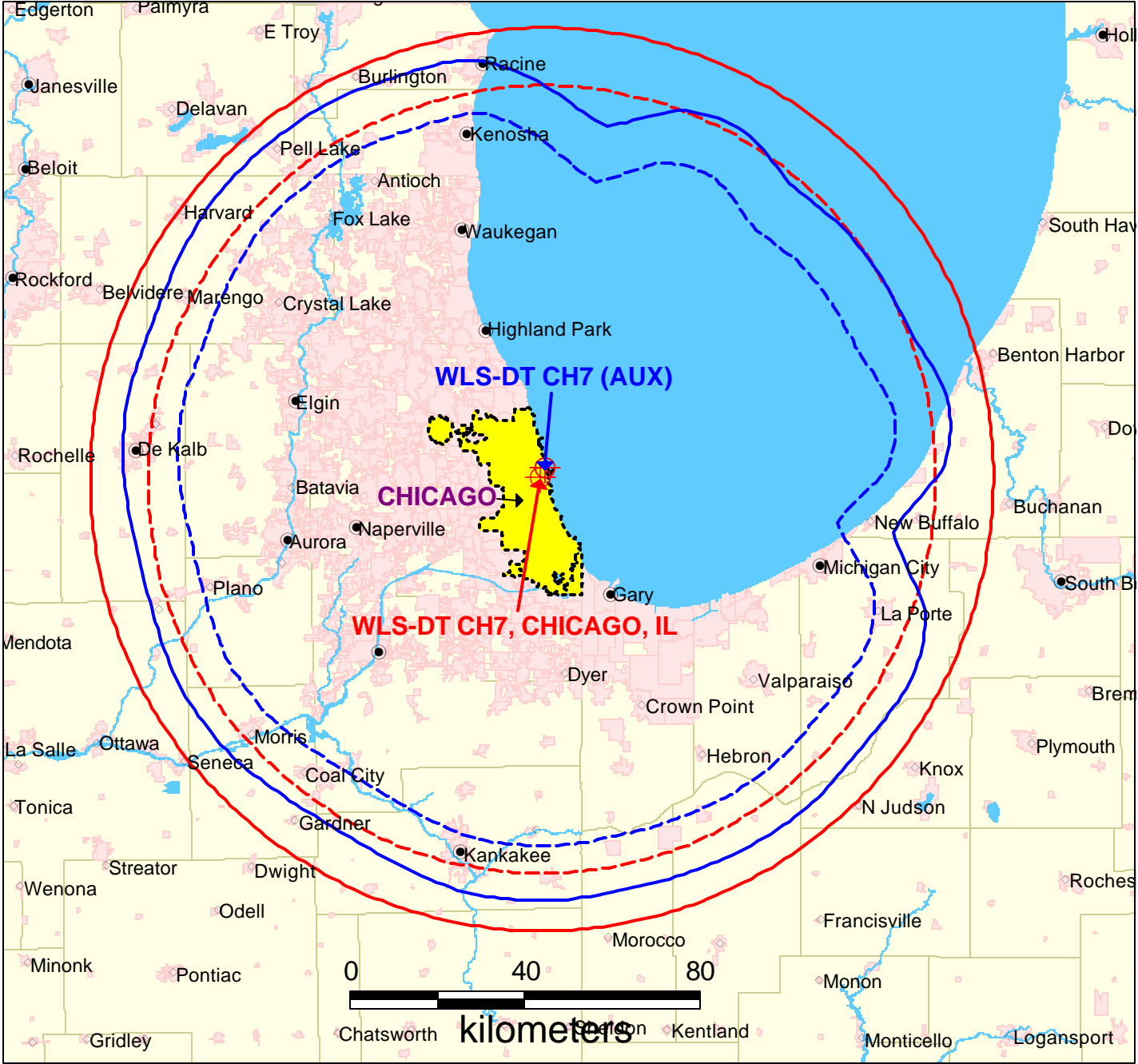
Certification

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: November 24, 2009
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