



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
CONSTRUCTION PERMIT  
WABC-TV - NEW YORK, NEW YORK  
AUXILIARY FACILITY AT EMPIRE STATE BUILDING  
CH. 7 - 26.2 kW - 360 meters HAAT**

Prepared for: AMERICAN BROADCASTING COMPANIES, INC.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

**GENERAL**

This office has been authorized by AMERICAN BROADCASTING COMPANIES, INC., Licensee of WABC-TV, channel 7, New York, New York, to prepare this statement, FCC Form 2100, and the associated exhibits, in support of an application for construction permit. It is proposed herein for WABC-TV to utilize an existing antenna that was installed as an auxiliary antenna for WWOR-TV's use as an analog antenna on channel 9 prior to its migration to its post-transition UHF channel 30 on June 12, 2009. The antenna is a panel type antenna designed to accommodate channels 7, 9, 11 and 13. WABC-TV now seeks to utilize this antenna, a Dielectric Model THA-O4SP-1H/4UD2SP-1-H-M, as a part of a new auxiliary channel 7 digital facility at its licensed main site at the Empire State Building. The proposed auxiliary facility's Effective Radiated Power (ERP) is 26.2 kW with a Height Above Average Terrain (HAAT) of 360 meters.

**PURPOSE OF APPLICATION**

WABC-TV seeks the proposed auxiliary facility for use when conditions necessitate the cessation of operation of WABC-TV's main antenna. WABC-TV seeks the proposed 26.2 kW ERP in order to maximally conform the predicted coverage area of the proposed auxiliary facility with the predicted coverage area of its licensed main facility. In compliance with Section 73.1675 of the Commission's rules, the licensee has determined that the instant proposal will, to a reasonable degree, approach its goal of providing comparable coverage to its viewers when necessary to use the proposed WABC-TV auxiliary facility.

**AUTHORIZED FACILITY**

WABC-TV's current authorization permits a facility with an ERP of 34 kW at a Height Above Average Terrain (HAAT) of 405 meters. WABC-TV's authorized antenna is a Dielectric Model THA-O4-2H/8UD2SP-2-HM channel 7 omni-directional horizontally polarized antenna. The antenna is mounted on the Empire State Building in New York City, FCC registration number 1007048, with its radiation center line located 403 meters above ground level. The authorized antenna employs an electrical beam-tilt of 3 degrees below the horizontal plane.

**PROPOSED AUXILIARY FACILITY**

WABC-TV seeks authorization for an auxiliary facility with an ERP of 26.2 kW at a HAAT of 360 meters. The proposed former analog antenna is a Dielectric Model THA-O4SP-1H/4UD2SP-1-H-M omni-directional horizontally polarized hi-VHF antenna designed to accommodate channels 7, 9, 11 and 13. It is mounted on the Empire State Building in

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New York City, FCC registration number 1007048, with its radiation center line located 358 meters above ground level. The antenna employs no beam tilt below the horizontal plane. The manufacturer's elevation plane radiation pattern is shown in figures 1 and 2, and is tabulated in figure 3.

**PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Figure 4 contains the predicted DTV Noise Limited (36 dBu) contours for both the main and auxiliary facilities. It is clear that the predicted 36 dBu auxiliary contour remains wholly within, the predicted 36 dBu contour for the main facility. The instant proposal therefore complies with Section 73.1675(a)(1)(iii) of the FCC's Rules.

**. BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast technical facilities are co-located with, or located within 10 km of the proposed WABC-TV transmitter/antenna site. The applicant recognizes its responsibility to remedy complaints of interference which might result from this proposal in accordance with applicable Rules.

**RADIO FREQUENCY IMPACT**

Effective October 15, 1997 the FCC adopted modified guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines establish maximum permissible exposure (MPE) levels for both occupational or "controlled" environments, as well as for "uncontrolled" environments such that apply in cases that could affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (DA 04-319, February 6, 2004), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 provides the technical data required to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level established for "uncontrolled" environments is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, the MPE is derived from the formula,  $(\text{frequency (MHz)}/1500)$ . The MPE level that is established for occupational, or

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“controlled” environments is 1.0 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz the MPE is derived from the formula,  $(\text{frequency (MHz)}/300)$ .

The proposed WABC-TV auxiliary operation at the Empire State Building will comply with the FCC’s rules and guidelines pertaining to human exposure to electromagnetic energy. The Empire State Building has established policies and procedures and has defined certain areas as controlled areas where access by all persons is restricted unless certain facilities cease operation, change antennas or reduce power. A procedure to notify tenants of a required shutdown has been developed. As a lessee, WABC-TV is subject to the Empire State Building’s RF Safety Program which is modified periodically as facility modifications occur.

The predicted emissions of WABC-TV’s proposed auxiliary facility operating on channel 7 must be considered, in addition to predicted emissions from all other proposed and existing stations at the site. For WABC-TV, which operates on television channel 7 (174-180 MHz), the MPE is 0.200 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an “uncontrolled” environment and 1.000  $\text{mW}/\text{cm}^2$  in a “controlled” environment. The proposed WABC-TV auxiliary facility will operate with a maximum ERP of 26.2 kW using a horizontally polarized omni-directional transmitting antenna with a centerline height of 357 meters above ground level (AGL). Considering the antenna’s vertical plane relative field factor of 0.3 the WABC-TV facility is predicted to produce a power density at two meters above ground level of 0.00062  $\text{mW}/\text{cm}^2$ , which is 0.31% of the FCC guideline value

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for an “uncontrolled” environment, and 0.062% of the FCC’s guideline value for “controlled” environments. (See Appendix A)

There are eleven other full-service DTV stations, and eighteen FM radio stations that are authorized to be located at the site, or within the relevant proximity of 315 meters. The total percentage of the ANSI value at the proposed site, including the cumulative radiation, based on a field factor of 0.3 for TV stations and 1.0 for FM stations, from all post-transition television and FM radio broadcast stations within the relevant proximity is 49.09% of the limit for “uncontrolled” environments, and 9.82% of the limit for “controlled” environments.

**OCCUPATIONAL SAFETY**

In accordance with its obligations as a lessee at the Empire State Building to comply with the building’s RF Safety Program, the applicant is committed to the protection of station personnel and/or tower contractors working on the tower support structure, or in the vicinity of the proposed WABC-TV antenna, by reducing power and/or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure the proper protection of persons who might be required to perform their assigned tasks in this “controlled” environment.

**SUMMARY**

It is submitted that the instant application for construction permit for WABC-TV seeking to use an existing former analog antenna for an auxiliary facility with an ERP of 26.2 kW at a HAAT of 360 meters, as described herein, except in the instance(s) where

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waiver(s) exist, and/or are requested, complies with the Rules, Regulations, and Policies of the Federal Communications Commission. This statement, FCC Form 2100, and the attached exhibits were prepared by me, or under my direct supervision, and are believed to be true and correct to the best of my knowledge and belief.

DATED: October 26, 2016

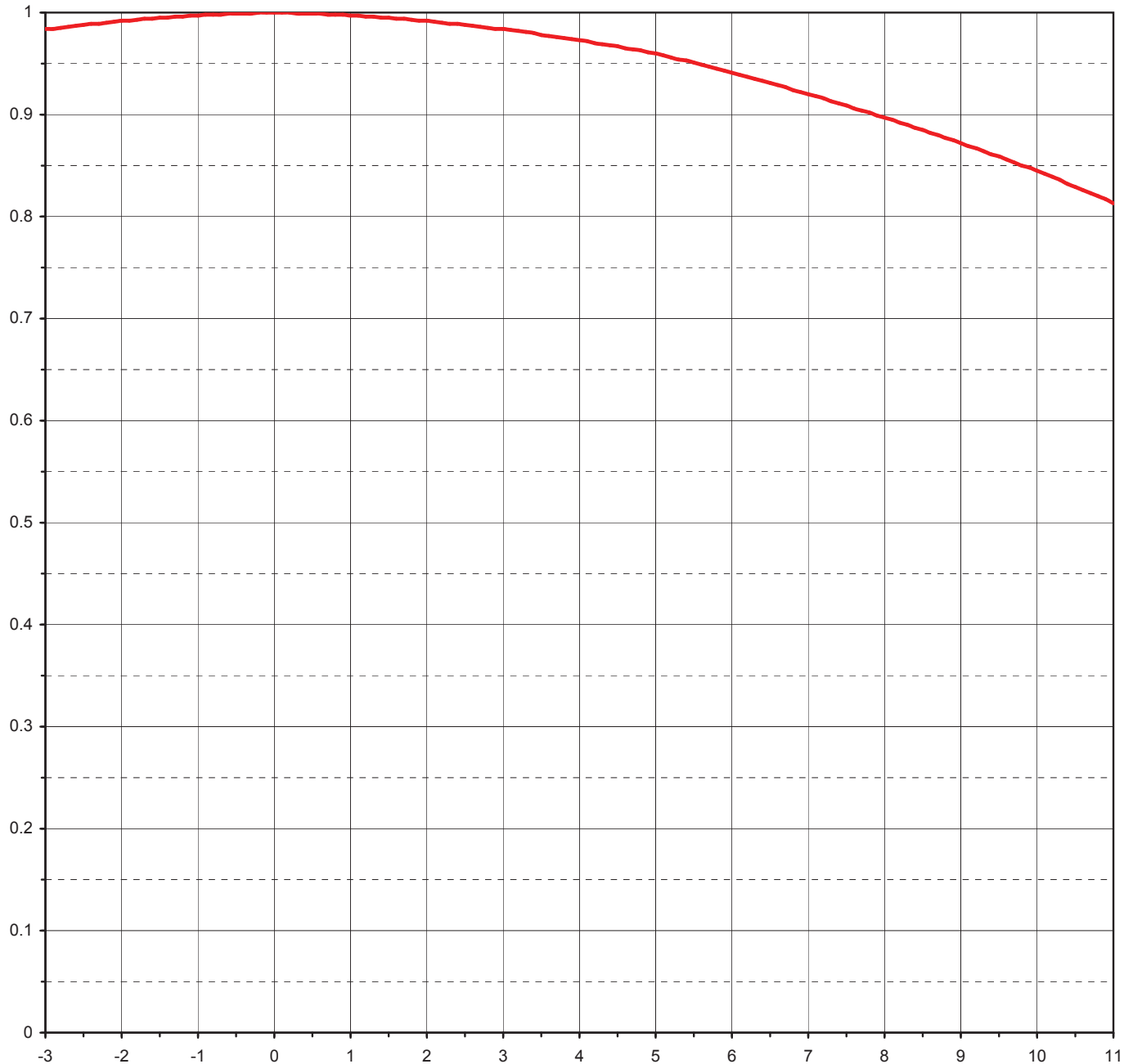




Proposal Number	<b>C-01912</b>	Revision:	<b>1</b>
Date	<b>23-Oct-07</b>	<b>Figure 1</b>	
Call Letters		Channel	<b>7</b>
Location	<b>NY, NY</b>		
Customer	<b>Empire State Bld</b>		
Antenna Type	<b>THA-O4SP-1H/4UD2SP-1-H-M</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>2.14</b>	<b>( 3.31 dB )</b>	Beam Tilt	<b>0.00 deg</b>
RMS Gain at Horizontal	<b>2.10</b>	<b>( 3.22 dB )</b>	Frequency	<b>177.00 MHz</b>
Calculated / Measured	<b>Calculated</b>		Drawing #	<b>01H021000</b>



Degrees Below Horizontal

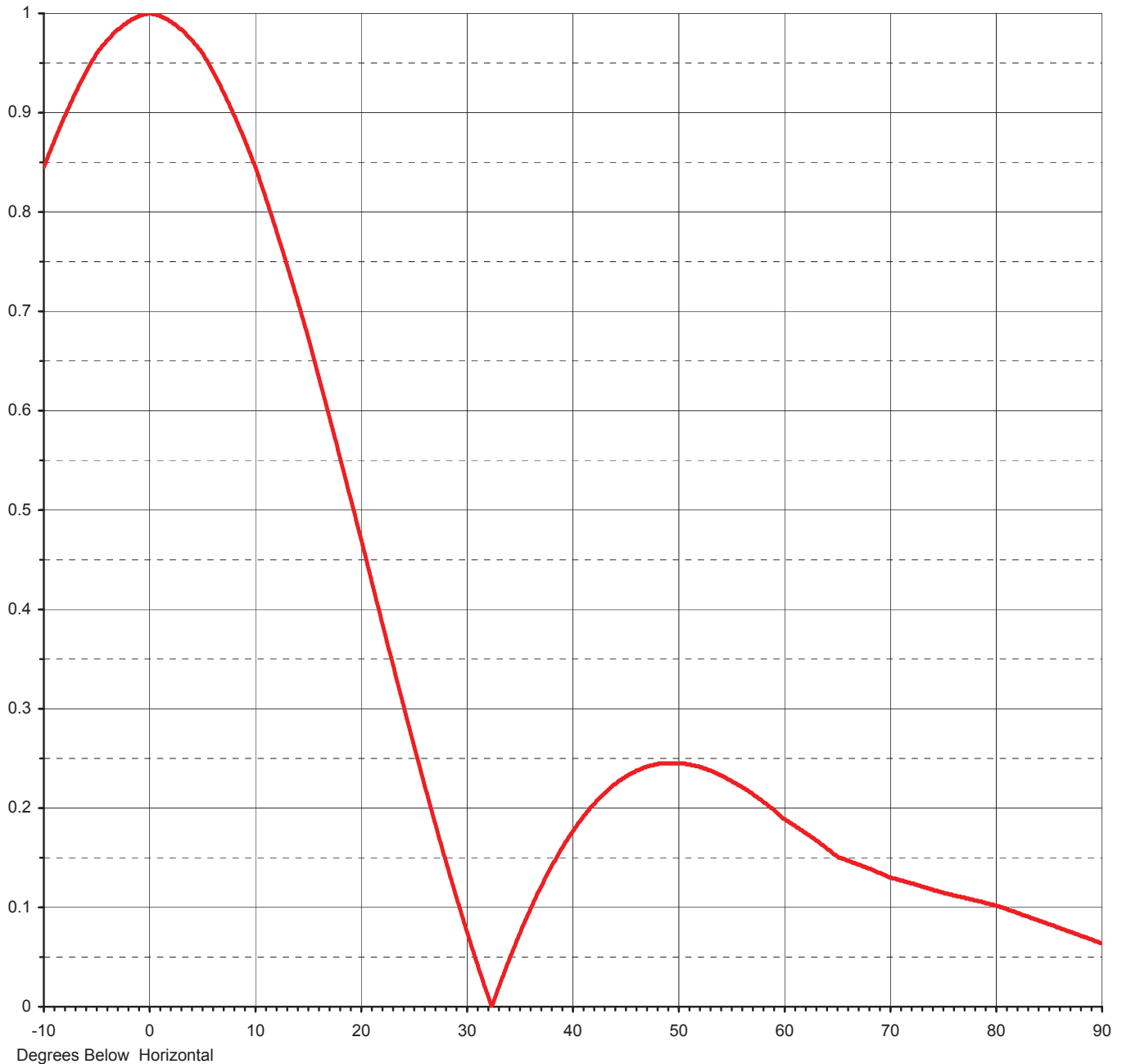




Proposal Number	<b>C-01912</b>	Revision:	<b>1</b>
Date	<b>23-Oct-07</b>	<b>Figure 2</b>	
Call Letters		Channel	<b>7</b>
Location	<b>NY, NY</b>		
Customer	<b>Empire State Bld</b>		
Antenna Type	<b>THA-O4SP-1H/4UD2SP-1-H-M</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>2.14</b>	<b>( 3.31 dB )</b>	Beam Tilt	<b>0.00 deg</b>
RMS Gain at Horizontal	<b>2.10</b>	<b>( 3.22 dB )</b>	Frequency	<b>177.00 MHz</b>
Calculated / Measured	<b>Calculated</b>		Drawing #	<b>01H021000-90</b>





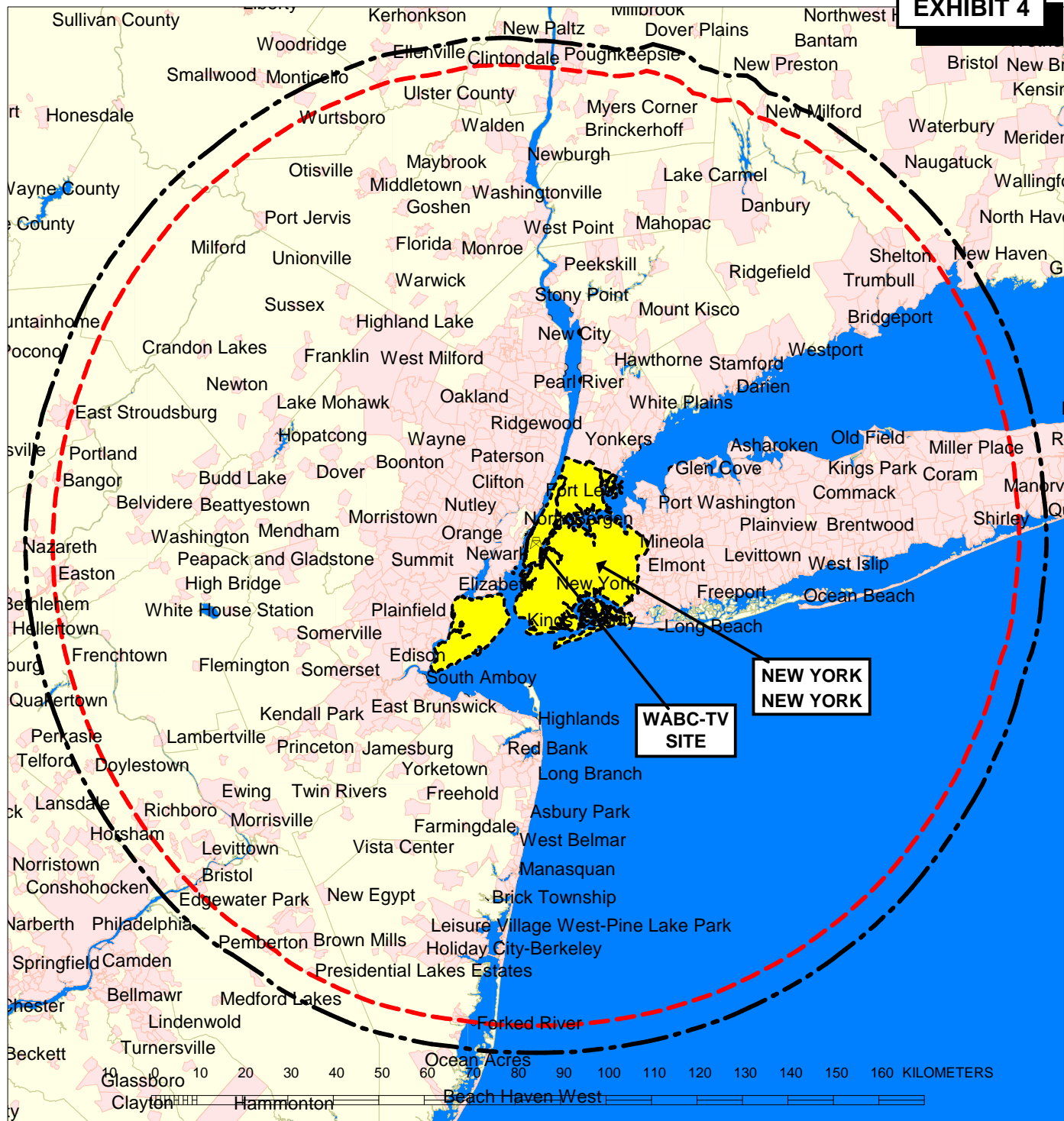
Proposal Number **C-01912** Revision: **1**  
Date **23-Oct-07** **Figure 3**  
Call Letters Channel **7**  
Location **NY, NY**  
Customer **Empire State Bld**  
Antenna Type **THA-O4SP-1H/4UD2SP-1-H-M**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **01H021000-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.845	2.4	0.989	10.6	0.829	30.5	0.061	51.0	0.244	71.5	0.126
-9.5	0.859	2.6	0.987	10.8	0.823	31.0	0.045	51.5	0.243	72.0	0.124
-9.0	0.872	2.8	0.985	11.0	0.817	31.5	0.029	52.0	0.242	72.5	0.123
-8.5	0.885	3.0	0.984	11.5	0.800	32.0	0.013	52.5	0.240	73.0	0.121
-8.0	0.897	3.2	0.982	12.0	0.784	32.5	0.002	53.0	0.238	73.5	0.119
-7.5	0.909	3.4	0.980	12.5	0.767	33.0	0.017	53.5	0.236	74.0	0.118
-7.0	0.920	3.6	0.977	13.0	0.749	33.5	0.031	54.0	0.233	74.5	0.116
-6.5	0.931	3.8	0.975	13.5	0.732	34.0	0.045	54.5	0.231	75.0	0.115
-6.0	0.941	4.0	0.973	14.0	0.714	34.5	0.059	55.0	0.228	75.5	0.113
-5.5	0.951	4.2	0.970	14.5	0.695	35.0	0.072	55.5	0.225	76.0	0.112
-5.0	0.960	4.4	0.968	15.0	0.677	35.5	0.084	56.0	0.222	76.5	0.111
-4.5	0.967	4.6	0.965	15.5	0.657	36.0	0.096	56.5	0.218	77.0	0.110
-4.0	0.973	4.8	0.963	16.0	0.637	36.5	0.108	57.0	0.215	77.5	0.108
-3.5	0.979	5.0	0.960	16.5	0.617	37.0	0.119	57.5	0.211	78.0	0.107
-3.0	0.984	5.2	0.956	17.0	0.597	37.5	0.130	58.0	0.207	78.5	0.106
-2.8	0.985	5.4	0.953	17.5	0.577	38.0	0.140	58.5	0.203	79.0	0.104
-2.6	0.987	5.6	0.949	18.0	0.556	38.5	0.149	59.0	0.199	79.5	0.103
-2.4	0.989	5.8	0.945	18.5	0.536	39.0	0.159	59.5	0.194	80.0	0.102
-2.2	0.990	6.0	0.941	19.0	0.515	39.5	0.167	60.0	0.189	80.5	0.100
-2.0	0.992	6.2	0.937	19.5	0.495	40.0	0.175	60.5	0.186	81.0	0.098
-1.8	0.993	6.4	0.933	20.0	0.474	40.5	0.183	61.0	0.183	81.5	0.096
-1.6	0.994	6.6	0.929	20.5	0.453	41.0	0.190	61.5	0.179	82.0	0.094
-1.4	0.995	6.8	0.924	21.0	0.432	41.5	0.197	62.0	0.175	82.5	0.092
-1.2	0.996	7.0	0.920	21.5	0.410	42.0	0.203	62.5	0.172	83.0	0.091
-1.0	0.997	7.2	0.916	22.0	0.389	42.5	0.209	63.0	0.168	83.5	0.089
-0.8	0.998	7.4	0.911	22.5	0.368	43.0	0.214	63.5	0.164	84.0	0.087
-0.6	0.999	7.6	0.906	23.0	0.348	43.5	0.219	64.0	0.160	84.5	0.085
-0.4	0.999	7.8	0.902	23.5	0.327	44.0	0.224	64.5	0.155	85.0	0.083
-0.2	1.000	8.0	0.897	24.0	0.307	44.5	0.228	65.0	0.151	85.5	0.081
0.0	1.000	8.2	0.892	24.5	0.286	45.0	0.231	65.5	0.149	86.0	0.079
0.2	1.000	8.4	0.887	25.0	0.266	45.5	0.234	66.0	0.147	86.5	0.077
0.4	0.999	8.6	0.882	25.5	0.246	46.0	0.237	66.5	0.145	87.0	0.075
0.6	0.999	8.8	0.877	26.0	0.226	46.5	0.239	67.0	0.143	87.5	0.073
0.8	0.998	9.0	0.872	26.5	0.207	47.0	0.241	67.5	0.141	88.0	0.071
1.0	0.997	9.2	0.867	27.0	0.187	47.5	0.243	68.0	0.139	88.5	0.070
1.2	0.996	9.4	0.861	27.5	0.168	48.0	0.244	68.5	0.137	89.0	0.068
1.4	0.995	9.6	0.856	28.0	0.150	48.5	0.245	69.0	0.135	89.5	0.066
1.6	0.994	9.8	0.853	28.5	0.131	49.0	0.245	69.5	0.132	90.0	0.064
1.8	0.993	10.0	0.848	29.0	0.113	49.5	0.245	70.0	0.130		
2.0	0.992	10.2	0.842	29.5	0.096	50.0	0.245	70.5	0.129		
2.2	0.990	10.4	0.836	30.0	0.078	50.5	0.245	71.0	0.127		

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## PREDICTED COVERAGE CONTOURS

### WABC-TV, NEW YORK, NEW YORK

**DTV Main - ESB - CH. 7 - 34 kW - 405 m HAAT**

**DTV Aux - ESB - CH. 7 - 26.2 kW - 360 m HAAT**

**Aux 26.2 kW - 360 meters HAAT**  
**Predicted Noise Limited Contour**  
**F(50,90) - 36 dBu**  
**Area = 34,360 sq km**  
**Population = 21,284,592**

SEPTEMBER 2013



Consulting Engineers

**CTJC**

CARL T. JONES CORPORATION

**Main 34 kW - 405 meters HAAT**  
**Predicted Noise Limited Contour**  
**F(50,90) - 36 dBu**  
**Area = 38,345 sq km**  
**Population = 22,003,970**

APPENDIX A  
**SUMMARY OF RADIOFREQUENCY RADIATION STUDY**  
**WABC-TV, NEW YORK, NEW YORK**  
**CHANNEL 7, 40 kW ERP, 360 m HAAT**  
AUGUST, 2013

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WABC-TV aux	DT	7	177	H	355	26.200	0.300	0.00062	0.200	0.31%
WPIX	DT	11	201	H	401	7.500	0.300	0.00014	0.200	0.07%
WNET	DT	13	213	H	401	9.300	0.300	0.00017	0.200	0.09%
WMBC-TV	DT	18	497	H	305	90.000	0.300	0.00291	0.331	0.88%
WNBC	DT	28	557	H & V	393	200.200	0.300	0.00779	0.371	2.10%
WFUT-DT	DT	30	569	H	425	200.000	0.300	0.00333	0.379	0.88%
WPXN-TV	DT	31	575	H & V	356	180.000	0.300	0.00854	0.383	2.23%
WCBS-TV	DT	33	587	H & V	393	426.000	0.300	0.01658	0.391	4.24%
WNJU	DT	36	605	H	436	650.000	0.300	0.01028	0.403	2.55%
WWOR-TV	DT	38	617	H & V	435	355.000	0.300	0.01128	0.411	2.74%
WXTV-DT	DT	40	629	H & V	425	360.000	0.300	0.01198	0.419	2.86%
WNYW	DT	44	653	H & V	363	990.000	0.300	0.04517	0.435	10.38%
WXRK	FM	222	92.3	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WNYC-FM	FM	230	93.9	H & V	411	5.200	1.000	0.00206	0.200	1.03%
WPLJ	FM	238	95.5	H & V	404	6.700	1.000	0.00274	0.200	1.37%
WXNY-FM	FM	242	96.3	H & V	369	4.600	1.000	0.00226	0.200	1.13%
WQHT	FM	246	97.1	H & V	404	6.700	1.000	0.00274	0.200	1.37%
WSKQ-FM	FM	250	97.9	H & V	369	4.600	1.000	0.00226	0.200	1.13%
WRKS	FM	254	98.7	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WBAI	FM	258	99.5	H & V	369	3.300	1.000	0.00162	0.200	0.81%
WHTZ	FM	262	100.3	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WCBS-FM	FM	266	101.1	H & V	404	6.700	1.000	0.00274	0.200	1.37%
WEMP	FM	270	101.9	H & V	409	6.200	1.000	0.00248	0.200	1.24%
WWFS	FM	274	102.7	H & V	369	4.600	1.000	0.00226	0.200	1.13%
WKTU	FM	278	103.5	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WAXO	FM	282	104.3	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WWPR-FM	FM	286	105.1	H & V	411	6.000	1.000	0.00237	0.200	1.19%
WQXR-FM	FM	290	105.9	H & V	412	0.610	1.000	0.00024	0.200	0.12%
WLTW	FM	294	106.7	H & V	369	4.700	1.000	0.00231	0.200	1.15%
WBLS	FM	298	107.5	H & V	369	3.300	1.000	0.00162	0.200	0.81%

**TOTAL PERCENTAGE OF ANSI VALUE=**

**49.09%**

*\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.  
This evaluation includes facilities collocated at the site, and facilities located within 315 meters.*

