

Exhibit 7 - Statement A  
**MODIFICATION OF CONSTRUCTED FACILITY**  
prepared for  
**ACC Licensee, Inc.**  
WJLA-TV Washington, D.C.  
Facility ID: 1051  
Ch. 7 30 kW 235 m

*ACC Licensee, Inc.* (“ACC”) is the permittee of digital television station WJLA-TV, Washington, D.C. ACC completed construction of the DTV facility authorized in the construction permit (“CP”) FCC File No. BMPCDT-20080620AIH in June 2009 and filed a license application, FCC File No. BLCDT-20090615ABY, which is still pending. Shortly after commencing digital operation on Channel 7, WJLA-TV was flooded with calls from viewers who no longer could receive the station<sup>1</sup>. In addition to seeking an increase in ERP, ACC investigated other methods to improve off-air reception of the WJLA-TV signal. One such method was to add a vertically polarized radiation component to the existing horizontally polarized antenna system.

To add a vertically polarized radiation component, the WJLA-TV antenna<sup>2</sup> would either need to be replaced or modified. Since the antenna is comprised of a series of panels that are arranged to provide a horizontally polarized radiation component only, a plan was devised to “rotate” some of the panels 90 degrees to provide a vertically polarized radiation component. Therefore, in accordance with Section 73.1690(c) of the Commission’s Rules, the instant amendment seeks to report the change in antenna system<sup>3</sup>.

The WJLA-TV antenna is comprised of 40 individual antenna panels. The panels are divided into two main sections with 20 panels comprising the top section and 20 panels for the bottom section. Each section is fed with its own transmission line. It was determined, with the assistance of Dielectric, the antenna manufacturer, that the lower 12 panels of the bottom section could be physically rotated to provide a vertically polarized radiation component to the horizontal plane. These 12 panels were chosen due to the power divider structure of the antenna.

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<sup>1</sup> In an attempt to rectify the situation, ACC filed for and was granted a Special Temporary Authorization (“STA”), FCC File No. BDSTA-20090827ABP, authorizing an increase in the WJLA-TV effective radiated power (“ERP”) from 30 kW to 52 kW.

<sup>2</sup> The WJLA-TV antenna is shared with WUSA(TV), Channel 9, Washington, D.C. who will also be filing a similar license application amendment.

<sup>3</sup> Typically, a modification of license application would normally be filed. However, given the outstanding license application on file, it is believed that an amendment to the long pending license application would be the most administratively appropriate method.

The authorized antenna, a Dielectric THP-O-10S-2-R, is non-directional in the horizontal plane with an electrical beam tilt of 0.5°. The antenna was modified such that the remaining upper 28 panels comprise the horizontally polarized section of the antenna. Dielectric has designated the modified, horizontally polarized section with a new model number, THP-O4-7/28H-2 which is non-directional in the horizontal plane with 1.4° of electrical beam tilt. The “as-built” radiation center is 184.6 meters above ground level which is 0.6 meters higher than currently authorized. For purposes of the instant amendment, the modified antenna will operate with an ERP of 30 kW, horizontally polarized. See **Exhibit 7-Table 1** for the horizontally polarized antenna/line system gains and losses. Thus, the modification complies with Section 73.1690(c)(1) of the Commission’s Rules. A depiction of the horizontally polarized elevation pattern is provided in **Exhibit 7-Figure 1**.

The antenna bays comprising the vertically polarized radiation component of the modified antenna have been designated by Dielectric with the model number, THP-O4-3/12H-2. This section of the antenna is non-directional in the horizontal plane with an electrical beam tilt of 3.3°. This section of the antenna operates with an ERP of 4.53 kW, vertically polarized, which is 15.1% of the authorized horizontally polarized ERP and complies with Section 73.682(c)(14) of the Rules for elliptical television antennas. See **Exhibit 7-Table 2** for the vertically polarized antenna/line system gains and losses. The vertically polarized section of the antenna has a radiation center of 177 meters above ground level, below that authorized for the horizontally polarized section. Thus, the vertically polarized radiation component of the modified antenna does not exceed that of the authorized horizontally polarized radiation component. A depiction of the vertically polarized elevation pattern is provided in **Exhibit 7-Figure 2**.

### **Human Exposure to Radiofrequency Radiation**

The modified WJLA-TV antenna was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission’s OET Bulletin No. 65 (“OET-65”). OET-65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the

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exposure criteria set forth in OET-65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The modified WJLA-TV antenna has a horizontally polarized center of radiation 184.6 meters above ground level. The vertically polarized section of the antenna has a radiation that is 177.0 meters above ground level. There are buildings surrounding the tower, the tallest of which is 15.2 meters tall. Therefore, the distance to the top of the tallest nearby rooftop, minus 2 meters, is 167.4 meters for the horizontally polarized radiation component. Likewise, the distance to the top of the tallest nearby rooftop, minus 2 meters, is 159.8 meters for the vertically polarized radiation component. An ERP of 30 kilowatts, horizontally polarized, and 4.53 kW, vertically polarized, are employed for this evaluation.

Based on information provided by the antenna manufacturer, the horizontally polarized section of the antenna has a maximum vertical plane (elevation) relative field of 16.1 percent or less from 20 to 90 degrees below the horizontal plane (i.e.: below the antenna). The vertically polarized section of the antenna has a maximum vertical plane (elevation) relative field of 31.8 percent or less from 20 to 90 degrees below the horizontal plane (i.e.: below the antenna). Thus, a value of 16.1 percent relative field is used for the horizontally polarized calculation. Likewise, a value of 31.8 percent relative field is used for the vertically polarized calculation. The “uncontrolled/general population” limit specified in §1.1310 for Channel 7 (center frequency 177 MHz) is 200  $\mu\text{W}/\text{cm}^2$ .

OET-65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the *average* power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (9) in OET-65.

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

<i>S</i>	=	power density in microwatts/cm <sup>2</sup>
<i>ERP</i>	=	total (average) ERP in Watts
<i>F</i>	=	relative field factor
<i>D</i>	=	distance in meters

**Cavell, Mertz & Associates, Inc.**

Using this formula, the WJLA-TV facility would contribute a horizontally polarized power density of  $0.93 \mu\text{W}/\text{cm}^2$  at two meters above the tallest nearby rooftop, or 0.47 percent of the general population/uncontrolled limit. The facility would also contribute a vertically polarized power density of  $0.6 \mu\text{W}/\text{cm}^2$  at two meters above the tallest nearby rooftop, or 0.3 percent of the general population/uncontrolled limit. The total power density for the modified antenna, with both horizontally polarized and vertically polarized components considered, is 0.77 percent of the general population/uncontrolled limit. At ground level locations away from the base of the tower, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna.

§1.1307(b)(3) states that facilities at locations with multiple transmitters (such as the case at hand) are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of the any other facilities using this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

### **Safety of Tower Workers and the General Public**

As demonstrated herein, excessive levels of RF energy attributable to the WJLA-TV operation will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will continue to be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will continue to be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will continue to be employed protecting maintenance workers from excessive exposure when work must be performed on the tower in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of

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facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

### **Conclusion**

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under Section 1.1306 of the Rules, hence preparation of an Environmental Assessment is not required.

**EXHIBIT 7 - FIGURE 1  
HPOL ANTENNA  
VERTICAL PLANE (ELEVATION)  
RELATIVE FIELD PATTERN**

prepared June 2010 for  
**ACC Licensee, Inc.**  
WJLA-TV Washington, D.C.  
Facility ID 1051  
Ch. 7 30 kW 235 m

**Cavell, Mertz & Associates, Inc.**  
Manassas, Virginia

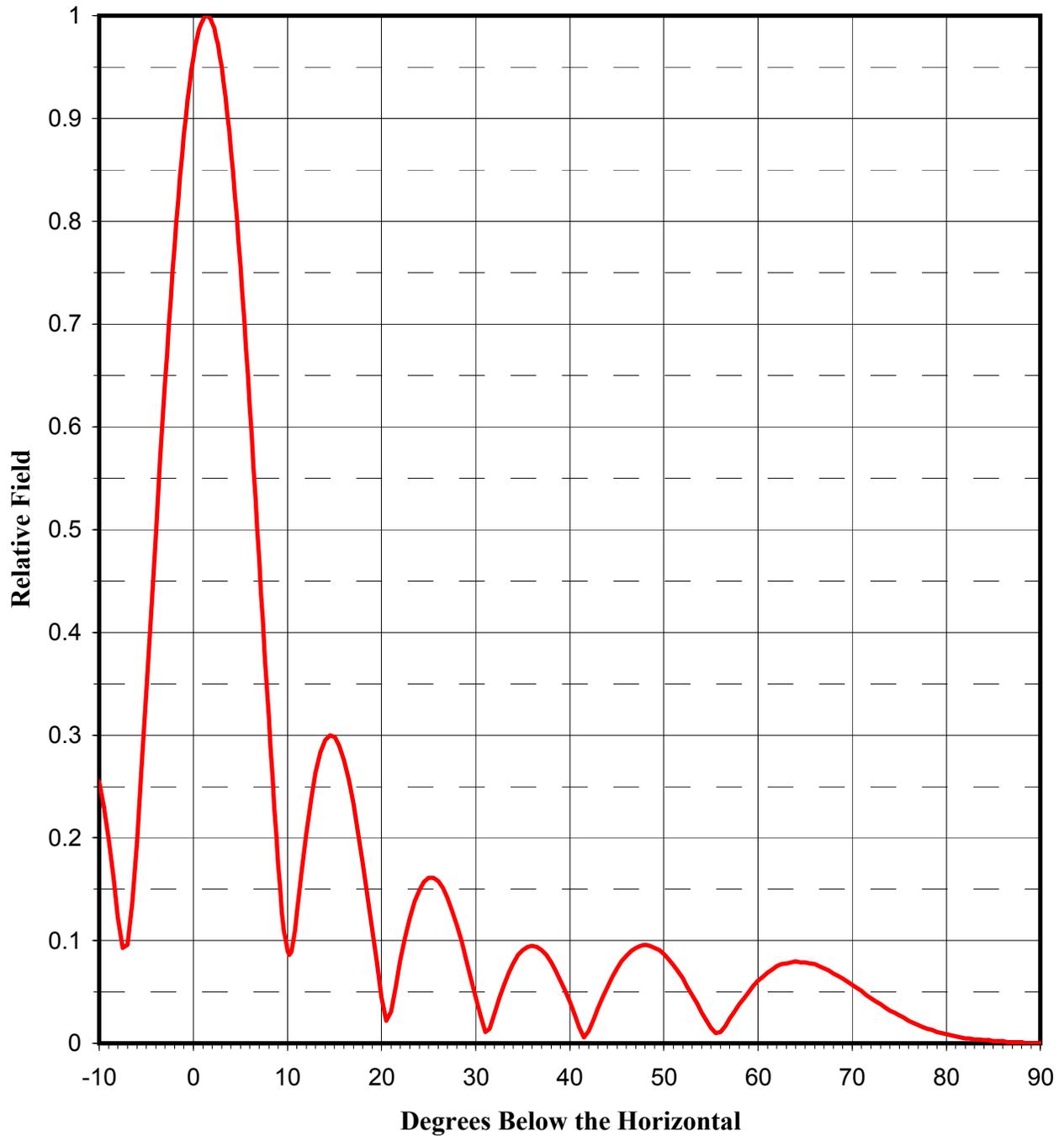


Exhibit 7-Table 1  
**ANTENNA / LINE SYSTEM GAINS AND LOSSES**  
 prepared June 2010 for  
**ACC Licensee, Inc.**  
 WJLA-TV Washington, D.C.  
 Facility ID 1051  
 Ch. 7 30 kW 235 m

Hpol Calculations

**Effective Radiated Power:            30.00 kW            14.77 dBk**

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**Antenna System**

Dielectric	Max Power Gain:	5.30	7.24 dB
THP-O4-7/28H-2			
	<b>Antenna Input Power:</b>	<b>5.66 kW</b>	<b>7.53 dBk</b>

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**Line and Combiner Losses**

Combiner and line losses	Efficiency:	0.85	
See BMLCT-19981224KI	Loss:		0.68 dB
	<b>Total Losses:</b>		<b>0.68 dB</b>

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**Transmitter Power Output:            6.63 kW            8.21 dBk**

**EXHIBIT 7 - FIGURE 2  
VPOL ANTENNA  
VERTICAL PLANE (ELEVATION)  
RELATIVE FIELD PATTERN**

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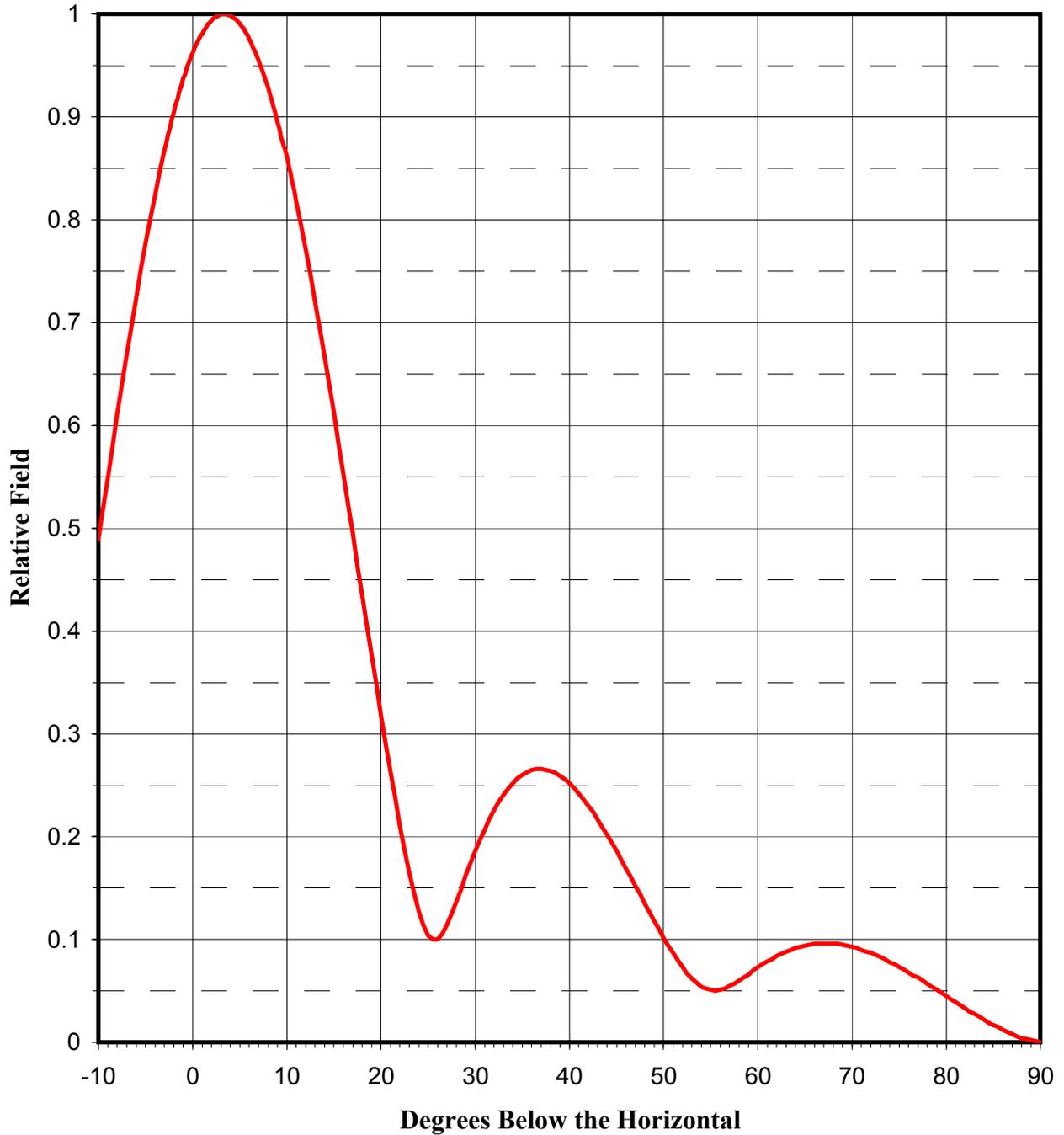


Exhibit 7-Table 2  
**ANTENNA / LINE SYSTEM GAINS AND LOSSES**  
 prepared June 2010 for  
**ACC Licensee, Inc.**  
 WJLA-TV Washington, D.C.  
 Facility ID 1051  
 Ch. 7 4.53 kW (Vpol) 235 m

Vpol Calculations - Based on Transmitter Power Output of 6.63 kW (8.21 dBk)  
 (see Exhibit 7-Table 1)

<b>Effective Radiated Power:</b>	<b>4.53 kW</b>	<b>6.56 dBk</b>
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<b><u>Antenna System</u></b>		
Dielectric THP-O4-3/12H-2	Max Power Gain:	0.80
		-0.97 dB
	<b>Antenna Input Power:</b>	<b>5.66 kW</b>
		<b>7.53 dBk</b>
<hr/>		
<b><u>Line and Combiner Losses</u></b>		
Combiner and line losses See BMLCT-19981224KI	Efficiency:	0.85
	Loss:	0.68 dB
	<b>Total Losses:</b>	<b>0.68 dB</b>
<hr/>		
<b><u>Transmitter Power Output:</u></b>	<b>6.63 kW</b>	<b>8.21 dBk</b>