

Exhibit 45 – Statement A
NATURE OF THE PROPOSAL
PROPOSED ANTENNA SYSTEM
prepared for
Detroit Free Press, Inc.
WUSA(TV) Washington, D.C.
Facility ID: 65593
Ch. 9 52 kW 235.6 m

Detroit Free Press, Inc. (“DFPI”) is the permittee of digital television station WUSA(TV), Washington, D.C. *DFPI* completed construction of the DTV facility authorized in the construction permit (“CP”) FCC File No. BMPCDT-20080425ABL in June 2009 and filed a license application, FCC File No. BLCDT-20090617ABW, which is still pending. Shortly after commencing digital operation on Channel 9, WUSA(TV) was flooded with calls from viewers who no longer could receive the station. In an attempt to restore coverage, *DFPI* filed for an Experimental Operation and was granted a Special Temporary Authorization (“STA”), FCC File No. BDSTA-20091218ACS, authorizing an increase in the WUSA(TV) effective radiated power (“ERP”) from 12.6 kW to 52 kW prior to an impending snowstorm.

A condition of the STA grant was for *DFPI* to demonstrate that (1) stations predicted to receive interference in excess of the Commission’s stated limits were not harmed by WUSA(TV)’s increase in power and (2) that the increase in digital power helped to restore coverage lost after the switch from analog to digital operation. The results of the testing were reported to the Commission in a request for extension of the STA, see FCC File No. BEDSTA-20100608AAH.

The instant application proposes to make the WUSA(TV) STA power increase permanent. Waivers of Section 73.622(f)(7) of the Commission’s Rules (Television Zone I “power cap”) and the Commission’s 0.5% new interference policy¹ are required. In addition, the WUSA(TV) antenna has been modified to provide a vertically polarized radiation component. These changes to the antenna specification are provided herein.

Exhibit 45 - Figure 1 provides a map depicting the service contour for the proposed facility along with principal community coverage contour. As demonstrated therein, the principal community of Washington, D.C. is predicted to receive the enhanced signal level as

¹ See Paragraph 155, *Report and Order, Third Periodic Review of the Commission’s Rules and Policies Affecting the Conversion To Digital Television*, MB Docket No. 07-91, FCC 07-228, Released December 31, 2007.

required in §73.625(a) of the Commission's Rules. The proposed facility is predicted to provide interference free service to 7,570,776 persons, which is 104.6 percent of the 7,238,000 persons that are predicted to receive interference free service from the Appendix B facility².

The installed antenna was previously designated as a Dielectric model THP-O-10S-2-R which is non-directional in the horizontal plane and is horizontally polarized with 0.5° of electrical beam tilt has been modified to an elliptically polarized antenna. The modified antenna is comprised of separate horizontally and vertically polarized elements from the existing antenna. Specifically, the lower 12 antenna bays (3 layers) were physically rotated 90°. The associated power divider and feed lines were also replaced to provide the proper phasing.

The horizontally polarized section of the antenna has been designated by the antenna manufacturer as model THP-O4-7/28H-2. This section of the antenna is non-directional in the horizontal plane and is horizontally polarized with 1.4° of electrical beam tilt. The antenna radiation center has shifted slightly. The actual as-built antenna height is provided in the form's "Tech Box" question 7. The horizontally polarized vertical plane (elevation) pattern is provided in the attached **Exhibit 45-Figure 2**.

The vertically polarized section of the antenna has been designated by the antenna manufacturer as model THP-O4-3/12H-2. This section of the antenna is non-directional in the horizontal plane and is vertically polarized with 3.3° of electrical beam tilt. The antenna radiation center for this section of the antenna is located below that of the horizontal section at 117.0 meters above ground level. The vertically polarized vertical plane (elevation) pattern is provided in the attached **Exhibit 45-Figure 3**.

The proposed ERP is 52 kW, the same as the current operating power under the STA. This power level exceeds the maximum power level for television stations in Zone 1. Therefore, a waiver of Section 73.622(f)(7) of the Rules is hereby respectfully requested on behalf of the applicant.

² See *Memorandum Opinion And Order On Reconsideration of the Seventh Report and Order and Eighth Report And Order, Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, FCC 08-72, Released March 6, 2008

An interference study was performed in accordance with the methods set forth in the Commission's OET Bulletin No 69 ("OET-69"). The results of this study indicate that no new interference in excess of the 0.5% limit established in the Commission's Third Periodic Review³ is caused to affected stations by the WUSA(TV) operation except to WGAL⁴ and WBPH-TV⁵. A summary of the study results is provided in the attached **Exhibit 45 - Table I**. Both WGAL and WBPH-TV agreed to accept the predicted interference from WUSA(TV) operating at 52 kW ERP as a condition for granting the STA (see BDSTA-20091218ACS).

The interference study also indicated that the WUSA(TV) facility is predicted to receive new interference of 0.6%. *DFPI* agrees to accept this new predicted interference. Should a waiver of the Commission's Rules be required, one is respectfully requested on behalf of the applicant.

A report documenting the field measurements required by the STA has been previously provided to Commission Staff (see BEDSTA-20100608AAH). As shown therein, measurement locations within "clusters" of predicted interference areas were selected. For WBPH-TV, five locations were selected. A map depicting the measurement locations is excerpted from the report and provided herein as **Exhibit 45-Attachment 1**. **Exhibit 45-Attachment 2** provides the results of measurements at these locations. As shown, with two exceptions, neither the desired (WBPH-TV) or undesired (WUSA(TV)) signals could be measured at locations where interference was predicted to exist. At those locations where WBPH-TV could be received there was no indication of interference from WUSA(TV) operating at 52 kW ERP. Thus, by measurement, no objectionable interference is caused to WBPH-TV.

Additionally, WBPH-TV currently has an application pending to modify the current construction permit for WBPH-TV (see BMPCDT-20100105AAH) to change transmitter location, modify the directional antenna pattern, and change the ERP to 80.6 kW. As shown in

³ See *Report and Order, Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion To Digital Television*, MB Docket No. 07-91, FCC 07-228, Released December 31, 2007.

⁴ WGAL(TV), Channel 8, Facility ID 53930, Lancaster, PA.

⁵ WBPH-TV, Channel 9, Facility ID 60850, Bethlehem, PA.

Exhibit 45-Table 1, predicted interference from WUSA(TV) at 52 kW ERP to the proposed WBPH-TV operation is significantly reduced.

Likewise, **Exhibit 45-Attachment 3** is a map depicting the locations where interference from WUSA(TV) operating at 52 kW ERP is predicted to WGAL (with WGAL operating at 14.1 kW ERP). **Exhibit 45-Attachment 4** provides a tabulation of the field measurement data from the report that shows, with one exception, that there is no measureable signal from WGAL at location where coverage is predicted. At the one location where the WGAL signal could be received, there were no indications of interference from WUSA(TV) operating at 52 kW ERP or WJLA-TV⁶, Channel 7, operating at 52 kW ERP. WGAL currently has an application pending to increase to 32.2 kW ERP, see BPCDT-20100111AER. As shown in **Exhibit 45-Table 1**, predicted interference from WUSA(TV) at 52 kW ERP to the proposed WGAL operation at 32.2 kW ERP is significantly reduced.

Measurements made to determine the quality of reception of WUSA(TV) were made before and after the increase in power authorized in the STA. **Exhibit 45-Attachment 5** is a map excerpted from the report that shown the locations surveyed. **Exhibit 45-Attachment 6** provides a tabulation of the measurement data demonstrating improvements in coverage as a result of the increase in power for WUSA(TV).

Thus, as demonstrated, with WUSA(TV) operating at 52 kW, predicted interference in excess of 0.5% to WBPH-TV and WGAL does not exist. Further, measurement of the WUSA(TV) signal before and after the power increase authorized in the STA showed distinct improvement in coverage. Since actual interference is not caused to WBPH-TV and WGAL and given the improvement in coverage for WUSA(TV), a waiver of the 0.5% new interference policy is warranted and is respectfully requested on behalf of the applicant.

The proposed WUSA(TV) site is located more than 400 km from the nearest points on the Canadian and Mexican borders and does not require international coordination. The nearest FCC monitoring station is at Laurel, MD, at a distance of 32.7 km from the proposed site. The

⁶ WJLA-TV, Channel 7, Facility ID 1051, Washington, D.C. also has an STA to operate at 52 kW ERP from that same antenna as WUSA(TV) (see BDSTA-20090827ABP as extended by BEDSTA-20091117AAG).

proposed effective radiated power (“ERP”) of 52 kW on Channel 9 is significantly below that of the former, coordinated, 316 kW analog facility previously in operation. At the specified effective radiated power, the proposed WUSA(TV) facility is predicted to have a signal level of 6.2 mV/m at the Laurel monitoring station. This signal level is below that specified in Section 73.1030(c)(2) of the Commission’s Rules that would trigger a coordination effort with the monitoring station. The proposed site is also located outside the area specified in §73.1030(a)(1). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, is not required. There are no AM broadcast stations located within 3.2 km from the proposed site according to the Commission’s engineering database.

Thus, with the noted exceptions, this proposal is believed to be in compliance with the current Commission’s Rules and policy with respect to allocation matters.

**EXHIBIT 45 - FIGURE 1
PREDICTED COVERAGE CONTOURS**

prepared June 2010 for
Detroit Free Press, Inc.
WUSA(TV) Washington, D.C.
Facility ID 65593
Ch. 9 7 52 kW 235.6 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

Proposed WUSA(TV) Facility
Ch. 9 52 kW 235.6 m
Service Contour
Principal Community Contour

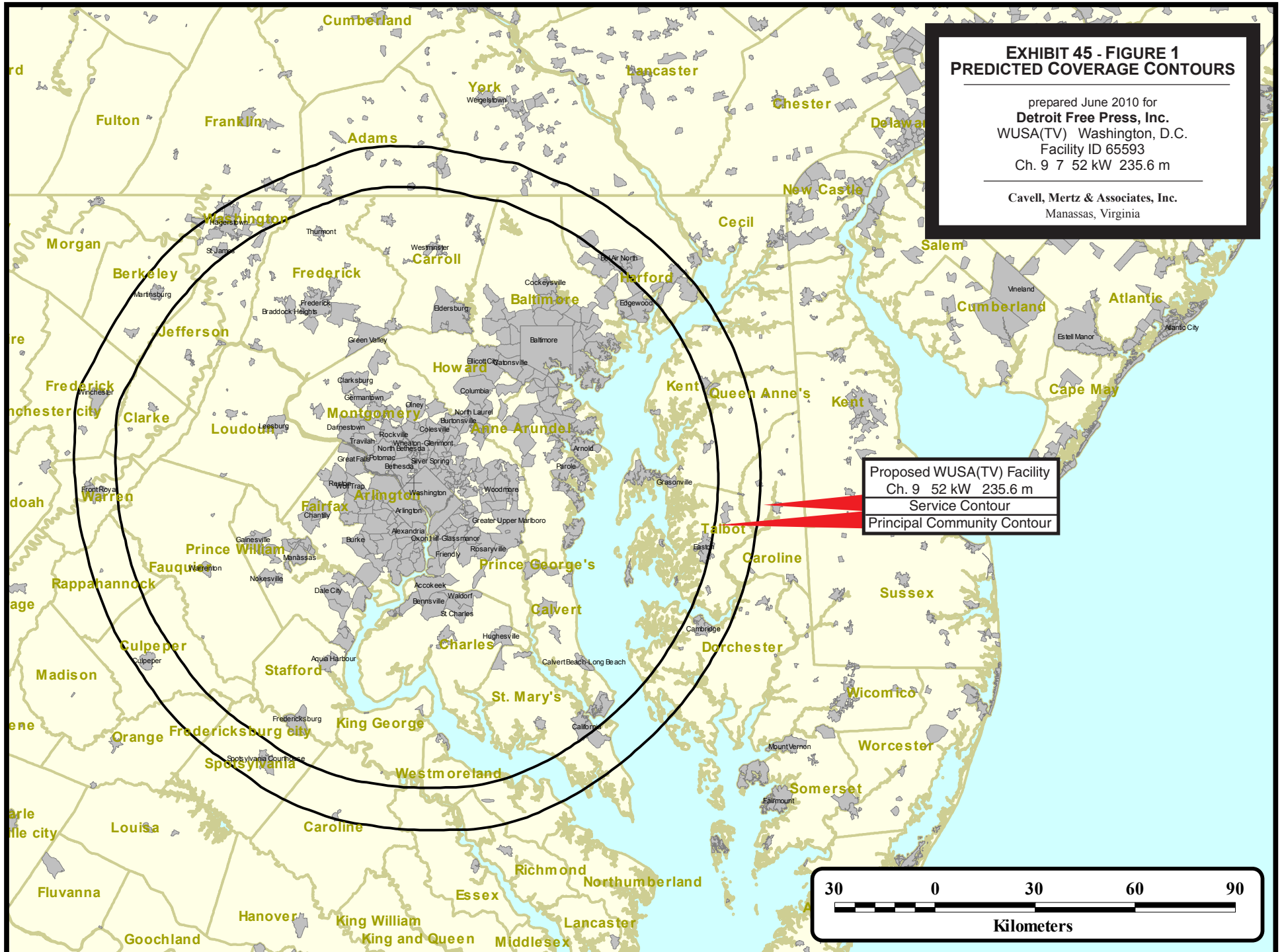
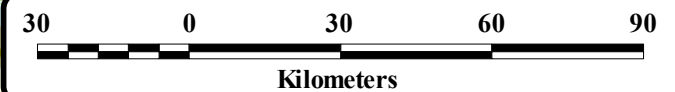


EXHIBIT 45 - FIGURE 2
HPOL ANTENNA
VERTICAL PLANE (ELEVATION)
RELATIVE FIELD PATTERN

prepared June 2010 for
Detroit Free Press, Inc.
WUSA(TV) Washington, D.C.
Facility ID 65593
Ch. 9 52 kW 235.6 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

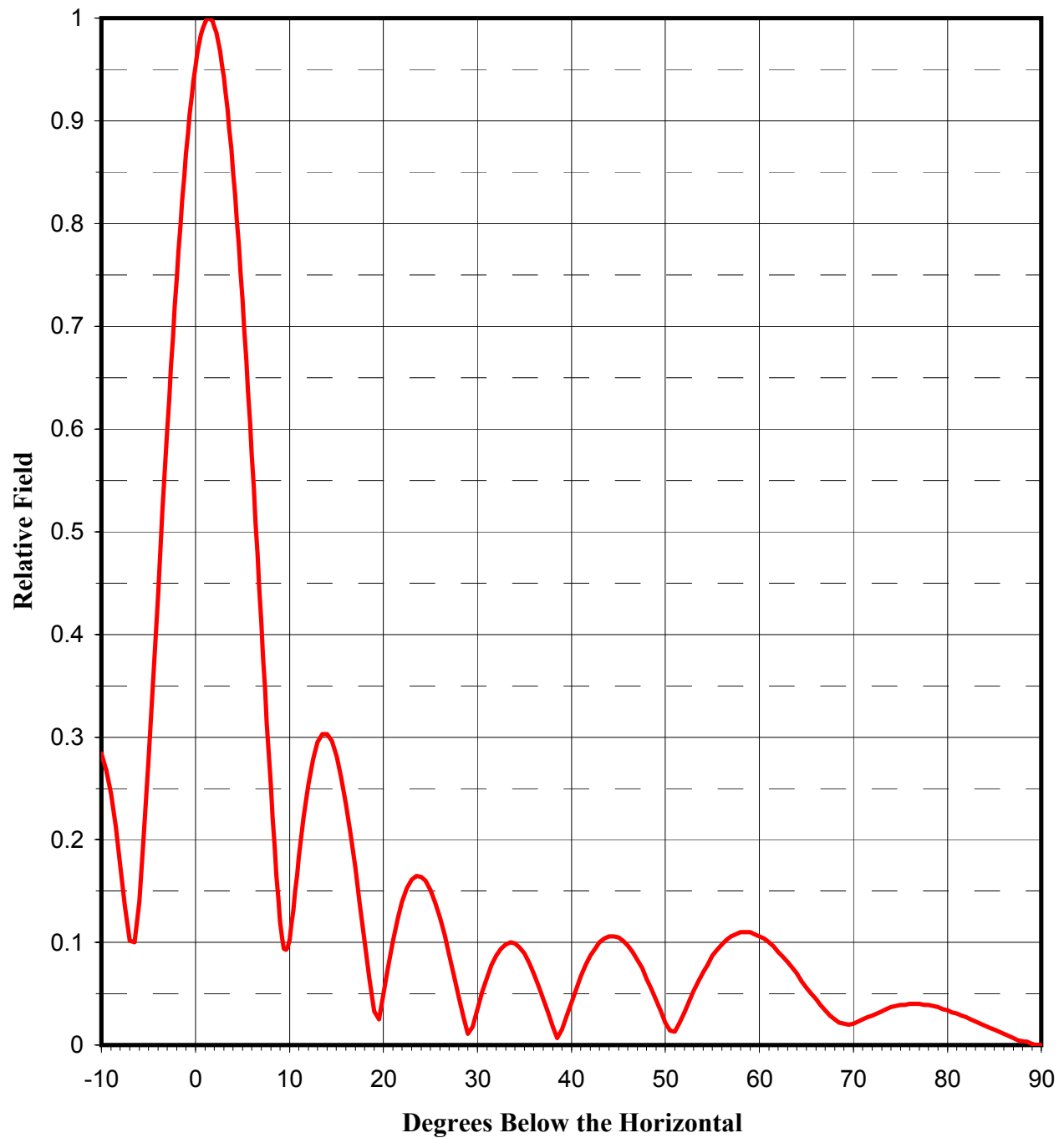


EXHIBIT 45 - FIGURE 3
VPOL ANTENNA
VERTICAL PLANE (ELEVATION)
RELATIVE FIELD PATTERN

prepared June 2010 for
Detroit Free Press, Inc.
WUSA(TV) Washington, D.C.
Facility ID 65593
Ch. 9 52 kW 235.6 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

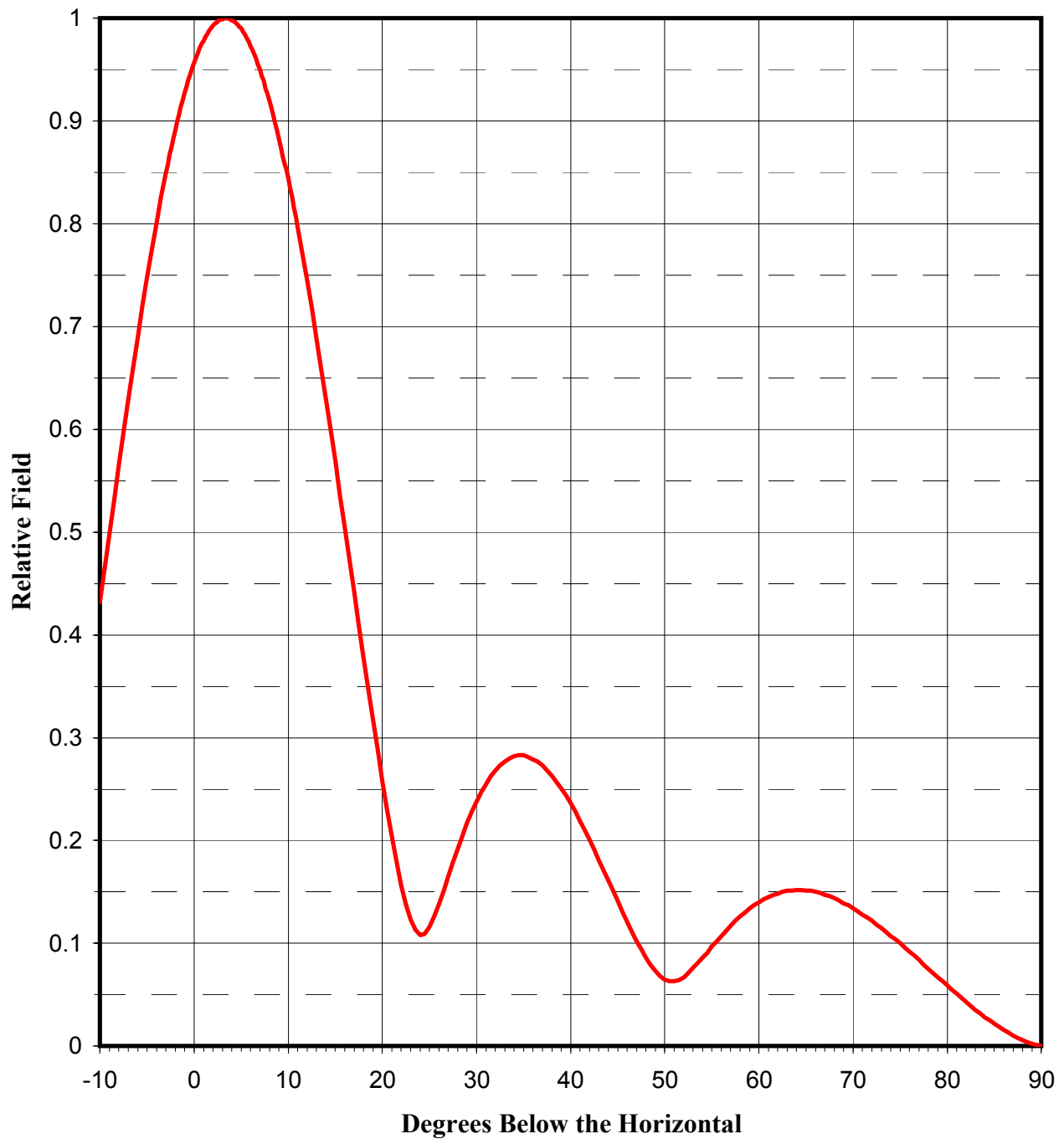


Exhibit 45 - Table I
INTERFERENCE STUDY RESULTS SUMMARY

prepared for
Detroit Free Press, Inc.
WUSA(TV) Washington, DC
Facility Id: 65593
Ch. 9 52 kW 235.6 m

<u>Channel</u>	<u>Affected Station</u>	<u>City, State</u>	<u>File Number</u>	<u>7th R&O Table Baseline (2000 Census)</u>	<u>Calculated Baseline (2000 Census)</u>	<u>Interference Population without Proposal (2000 Census)</u>	<u>Interference Population with Proposal (2000 Census)</u>	<u>New Interference</u>	
								<u>Population</u>	<u>Percentage</u>
8	WWCP-TV	Johnstown, PA	BMPCDT-20080620AIX	2,536,000			---	No Interference	---
8	WWCP-TV	Johnstown, PA	Reference	2,536,000			---	No Interference	---
8	WGAL(TV)	Lancaster, PA	BPCDT-20100111AER	4,088,000	5,704,291	520,575	601,950	81,375	1.427 %
8	WGAL(TV)	Lancaster, PA	Reference	4,088,000	4,051,612	188,970	307,264	118,294	2.920 %
8	WGAL(TV)	Lancaster, PA	BPCDT-20090710AKB	4,088,000	5,121,313	286,840	430,393	143,553	2.803 %
9	WSKY-TV	Manteo, NC	BMPCDT-20100112ADT	1,725,000	1,815,175	5,855	12,738	6,883	0.379 %
9	WSKY-TV	Manteo, NC	Reference	1,725,000	1,725,640	6	5,089	5,083	0.295 %
9	WTOV-TV	Steubenville, OH	BLCDT-20090507AAC	2,829,000	3,623,111	9,374	10,453	1,079	0.030 %
9	WTOV-TV	Steubenville, OH	Reference	2,829,000	2,830,919	1,951	3,042	1,091	0.039 %
9	WBPH-TV	Bethlehem, PA	BMPCDT-20100105AAH	5,211,000	8,702,926	1,822,287	1,983,788	161,501	1.856 %
9	WBPH-TV	Bethlehem, PA	Reference	5,211,000	5,223,163	607,939	1,378,697	770,758	14.757 %
9	WBPH-TV	Bethlehem, PA	BLCDT-20060609AAH	5,211,000	5,223,163	607,939	1,378,697	770,758	14.757 %
9	WBPH-TV	Bethlehem, PA	BPCDT-20080619ALA	5,211,000	8,089,258	1,571,654	1,769,493	197,839	2.446 %
10	WHTM-TV	Harrisburg, PA	BLCDT-20040812AAH	2,185,000			---	No Interference	---
10	WHTM-TV	Harrisburg, PA	Reference	2,185,000			---	No Interference	---
10	WHTM-TV	Harrisburg, PA	BPCDT-20080620AGL	2,185,000	2,601,084	116,556	117,708	1,152	0.044 %
10	WAZT-CA	Woodstock, VA	BLTVA-20030718ADF				---	No Interference	---

**FIGURE 2
MEASUREMENT LOCATIONS
AND WBPH-TV (LIC) PREDICTED
DIGITAL INTERFERENCE ATTRIBUTABLE TO
EXPERIMENTAL WUSA(TV) FACILITY**

prepared June 2010 for

Detroit Free Press, Inc.
WUSA(DT) Washington, D.C.
Experimental Authorization
Ch. 9 52 kW 235 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

WBPH-TV Lic
(BLCDT-20060609AAH)
Ch. 9 3.2 kW (MAX-DA) 284 m
Service Contour
Principal Community Contour

25 0 25 50 75
Kilometers

☐ Predicted area of new digital interference from WUSA(TV) experimental facility

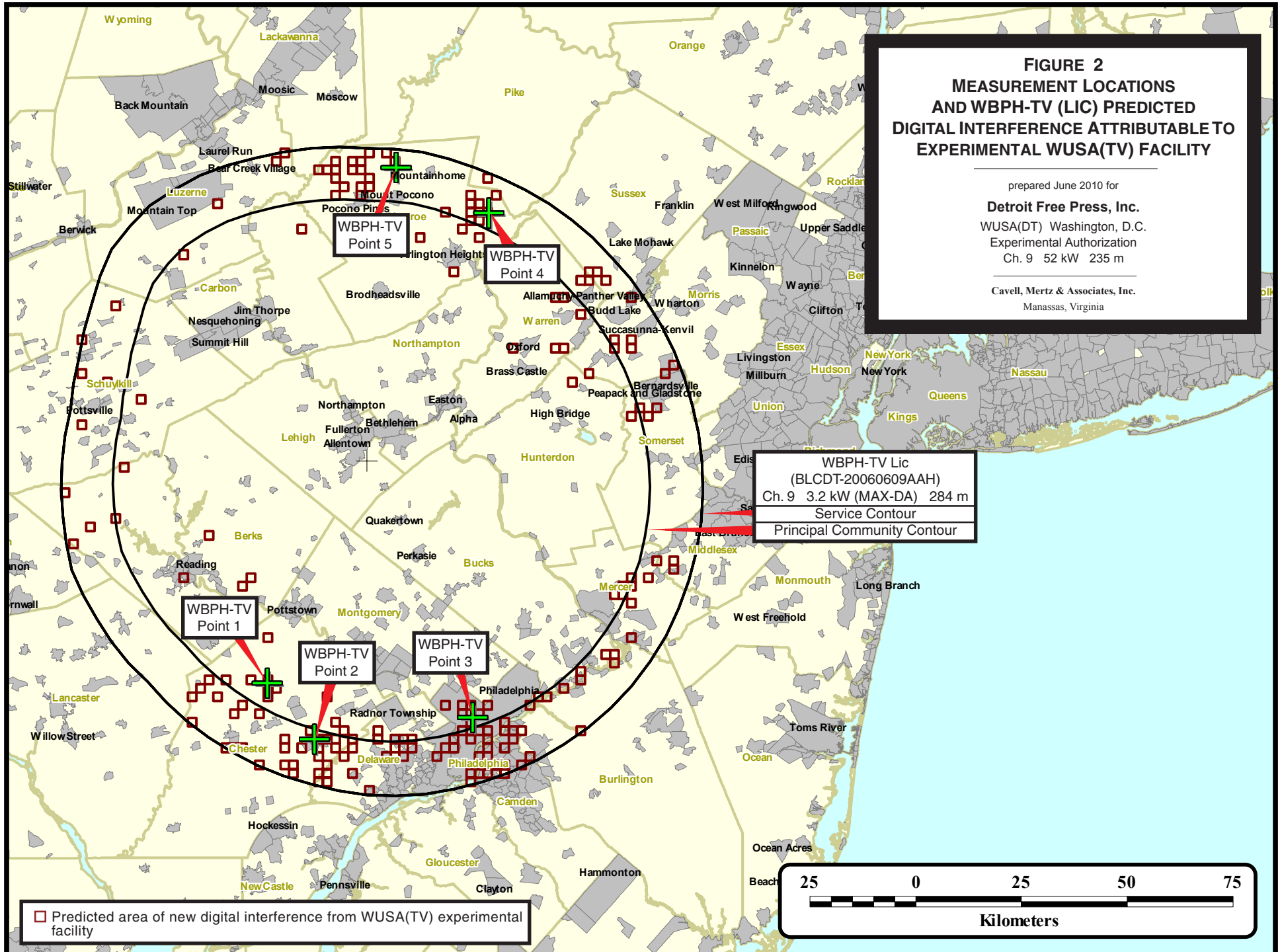


Exhibit 45-Attachment 2

Table I
WUSA TO WBPH-TV INTERFERENCE MEASUREMENT RESULTS
 prepared for
Detroit Free Press, Inc.
 WUSA(TV) Washington, D.C.
 Experimental Authorization
 Ch. 9 52 kW 235 m

	<u>WBPH-TV Point 1</u>	<u>WBPH-TV Point 2</u>	<u>WBPH-TV Point 3</u>	<u>WBPH-TV Point 4</u>	<u>WBPH-TV Point 5</u>
Date	January 21, 2010	January 21, 2010	January 21, 2010	January 25, 2010	January 25, 2010
Time	12:13 PM	2:35 PM	5:25 PM	3:53 PM	2:20 PM
Address	Cul-de-sac in front of private home 108 Oxford Hill Lane Downingtown, PA	In front of private home 110 Afton Way West Chester, PA	N. 10th Street, half way between W. Courtland and W. Wyoming Philadelphia	Cul-de-sac at the end of Buroojy Ct. East Stroudsburg, PA	Shopping center parking lot off Sterling Road Tobyhanna, PA
Latitude (NAD-27)	40° 05' 47.07" N	39° 58' 39.38" N	40° 01' 22.10" N	41° 05' 40.38" N	41° 11' 26.62" N
Logitude (NAD-27)	75° 42' 57.23" W	75° 35' 04.16" W	75° 08' 28.36" W	75° 05' 49.93" W	75° 21' 20.11" W
Site elevation (in feet AMSL from topo map)	456	475.7	95.1	898.6	2083.3
Antenna elevation (in feet AMSL)	486	505.7	125.1	928.6	2113.3
Distance to WBPH -TV (in km)	57.01	66.15.	65.23	65.6	71.3
Azimuth to WBPH-TV (in degrees)	24.16	10.49	337.17	206.18	185.39
Distance to WUSA (in km)	173.05	172.15	205.1	292.1	290.92
Azimuth to WUSA (in degrees)	222.98	228.81	234.98	215.94	210.83
tv_process predicted signal strength (in dBμ)	42.73	43.08	38.56	42.19	37.91 (see note)
WBPH-TV measured signal	--	52.15	--	--	--
WUSA at 12.6 kW measured signal	--	--	--	--	--
WUSA at 52 kW measured signal	--	--	--	--	--
WBPH-TV signal observed	--	Good	--	see below	--
WUSA at 12.6 kW observed signal	--	--	--	--	--
WUSA at 52 kW observed signal	--	--	--	--	--
Triveni Stream Scope SN in db for WBPH-TV	--	12.6	--	7.8 (antenna at 30ft AGL)	--
Triveni Stream Scope SN in db for WUSA	--	--	--	--	--
Zenith coverter box signal level/picture quality - WBPH-TV	--	--	--	Good with some dropouts	--
Digital Stream coverter box signal level/picture quality - WBPH-TV	--	--	--	Some dropouts	--
Dynex receiver picture quality - WBPH-TV	--	Good	--	Good	--
Weather	Clear	Clear	Clear	Cloudy	Clouds / Rain
Temperature (in degrees F)	45	45	40	49	45
	No visible signal for either station. Could see WBPH pilot above the noise.	No change in Triveni SN for WBPH with WUSA at 12.6 kW or 52 kW. Some occasional packet errors were noted.	No signal from either station.	The mast was raised to 49.5 feet AGL. Triveni SN for WBPH was then 12.5 dB. The Digital Stream converter box signal went from 30 to 36 when the mast was raised to 49.5 ft.	This point is outside the predicted interference cell. The interference cells are in a gated community. Local law enforcement would not permit measurements within the gated area. The selected site is the nearest, open site available.

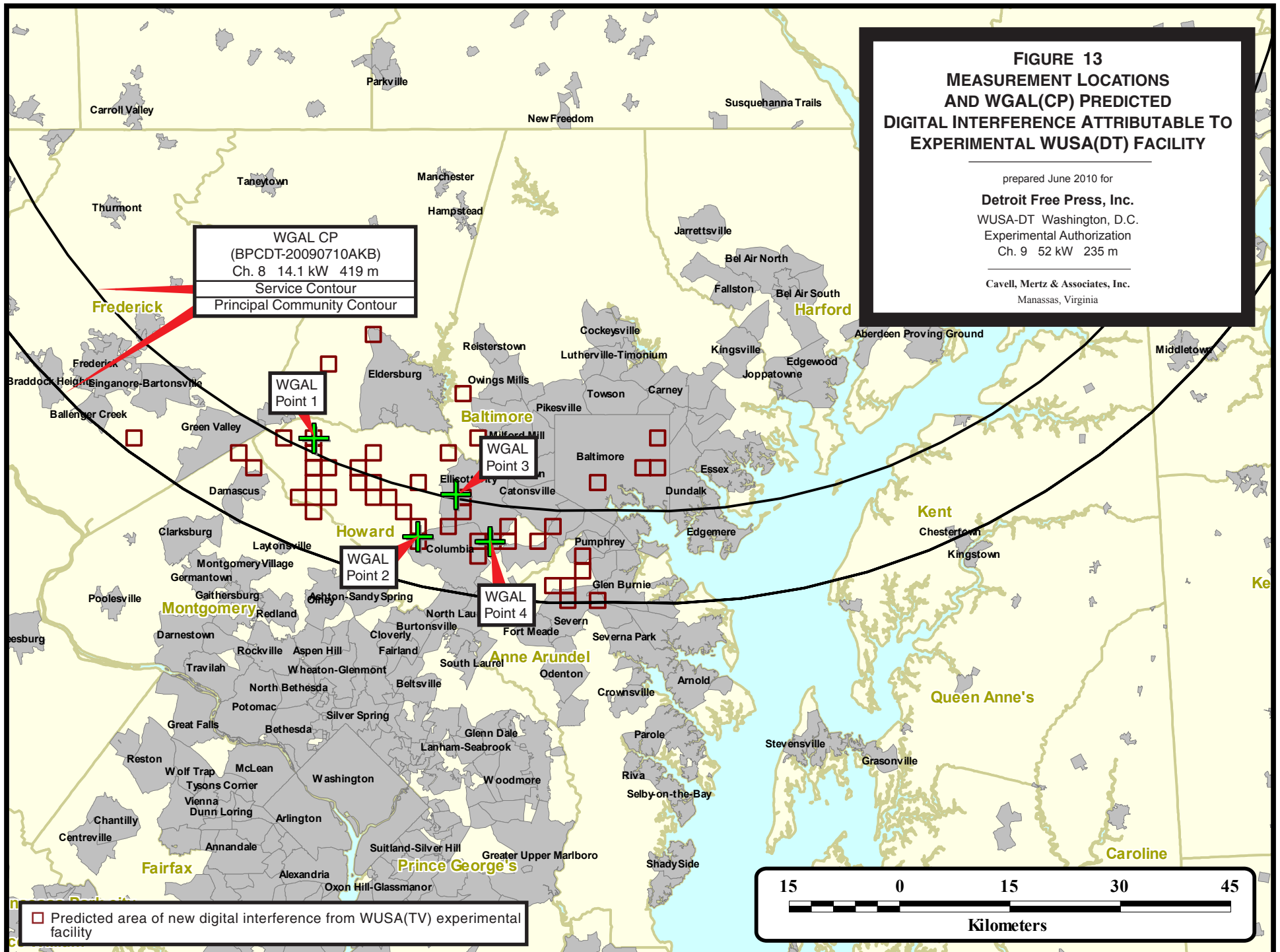
Exhibit 45-Attachment 3

FIGURE 13
MEASUREMENT LOCATIONS
AND WGAL(CP) PREDICTED
DIGITAL INTERFERENCE ATTRIBUTABLE TO
EXPERIMENTAL WUSA(DT) FACILITY

prepared June 2010 for

Detroit Free Press, Inc.
WUSA-DT Washington, D.C.
Experimental Authorization
Ch. 9 52 kW 235 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia



□ Predicted area of new digital interference from WUSA(TV) experimental facility

Exhibit 45-Attachment 4

Table II
WUSA TO WGAL INTERFERENCE MEASUREMENT RESULTS
 prepared for
Detroit Free Press, Inc.
 WUSA(TV) Washington, D.C.
 Experimental Authorization
 Ch. 9 52 kW 235 m

	<u>WGAL Point 1</u>	<u>WGAL Point 2</u>	<u>WGAL Point 3</u>	<u>WGAL Point 4</u>
Date	January 20, 2010	January 20, 2010	January 20, 2010	January 21, 2010
Time	10:50 AM	3:30 PM	4:30 PM	9:00 AM
Address	Cul-de-sac in front of private home 16654 Bahner Court Mt. Airy, Maryland	Cul-de-sac in front of private home 11918 Evening Court Clarksville, Maryland	Cul-de-sac in front of private home 10248 Fairway Drive Ellicott City, Maryland	Cul-de-sac in front of private home 5656 Roundtree Lane Columbia, Maryland
Latitude (NAD-27)	39° 20' 42.49" N	39° 13' 29.20" N	39° 16' 35.42" N	39° 13' 6.95" N
Longitude (NAD-27)	77° 05' 23.94" W	76° 55' 32.27" W	76° 51' 57.12" W	76° 48' 41.07" W
Site elevation (in feet AMSL from topo map)	751.3	449.5	393.7	495.4
Antenna elevation (in feet AMSL)	781.3	479.5	423.7	525.4
Distance to WGAL (in km)	86.55	93.67	86.78	92.08
Azimuth to WGAL (in degrees)	27.59	16.17	14	10.24
Distance to WUSA (in km)	43.83	33.26	40.7	37.6
Azimuth to WUSA (in degrees)	178.84	203.59	207.03	217.61
tv_process predicted signal strength (in dBμ)	47.25	45.47	36.55	50.50
WGAL measured signal	52.17	--	--	--
WUSA at 12.6 kW measured signal	--	--	--	--
WUSA at 52 kW measured signal	79.95	68.45	61.45	86.55
WGAL signal observed	Good	--	--	--
WUSA at 12.6 kW observed signal	--	--	--	--
WUSA at 52 kW observed signal	Good	Good	Good /some dropouts on Dynex TV	Good
Triveni Stream Scope SN in db for WGAL	15.9	--	--	--
Triveni Stream Scope SN in db for WUSA	30.8	--	16 (using "rabbit-ears" antenna)	28.3 (using "rabbit-ears" antenna)
Zenith converter box signal level/picture quality - WGAL	50% / ok	--	--	--
Digital Stream converter box signal level/picture quality - WGAL	31% / intermittent	--	--	--
Dynex receiver picture quality - WGAL	ok	--	--	--
Weather	Clear	Clear	Clear	Clear
Temperature (in degrees F)	39	40	38	35

WUSA signal on Dynex TV went in and out of lock using "rabbit-ears" antenna.

Exhibit 45-Attachment 5

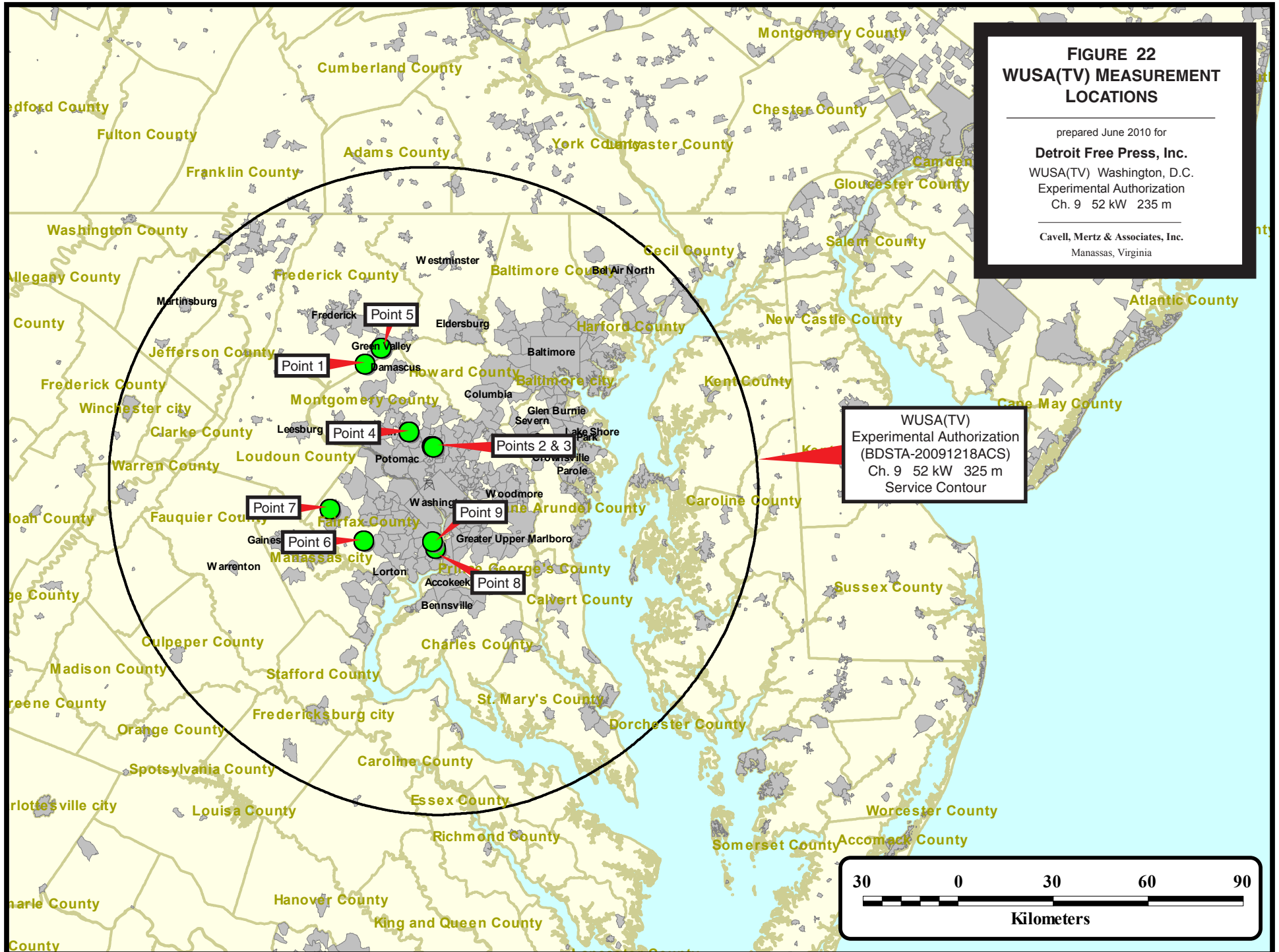


Exhibit 45-Attachment 6

Table III

WUSA-DT RECEPTION TEST RESULTS

prepared for

Detroit Free Press, Inc.

WUSA(TV) Washington, D.C.

Experimental Authorization

Ch. 9 52 kW 235 m

		<u>Coordinates</u>							
<u>Point No.</u>	<u>Location</u>	<u>Latitude</u>			<u>Longitude</u>			<u>WUSA</u>	<u>WUSA</u>
		<u>(°)</u>	<u>(min)</u>	<u>(sec)</u>	<u>(°)</u>	<u>(min)</u>	<u>(sec)</u>	<u>At 12.6 kW ERP</u>	<u>At 52 kW ERP</u>
1	Ijamsville, MD	39	17	53.1	77	18	45.0	No Signal	No Signal
2	Silver Spring, MD	39	3	52.1	77	4	0.3	SNR 27.8 dB	SNR 28.6 dB
3	Silver Spring, MD	39	3	46.1	77	3	45.8	No Prior Measurement	SNR 28.7 dB
4	Rockville, MD	39	6	22.9	77	9	8.3	No Prior Measurement	SNR 35.2 dB
5	Monrovia, MD	39	20	35.8	77	15	16.6	No Signal	No Signal
6	Fairfax, VA	38	47	47.2	77	19	0.2	No Signal	No Signal
7	Chantilly, VA	38	53	11.2	77	26	28.6	No Signal	No Signal
8	Alexandria, VA	38	46	30.2	77	3	17.6	SNR 27.6 dB	SNR 34.2 dB
9	Alexandria, VA	38	47	38.5	77	3	57.7	SNR 30.6 dB	SNR 34.2 dB