ENGINEERING STATEMENT PREPARED BY RYAN WILHOUR OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN SUPPORT OF A FORMAL REQUEST FOR PROGRAM TEST AUTHORITY PURSUANT TO SPECIAL OPERATING RESTRICTION NUMBER 8 FOR AN AUTHORIZATION OF A FM BROADCAST STATION CONSTRUCTION PERMIT FCC FILE NO.: BMPED-20110610ADG, FCC CALL SIGN: WVDM(FM) WEST VIRGINIA EDUCATIONAL BROADCASTING AUTHORITY BLUEFIELD, WEST VIRGINIA

Preface

The firm Kessler and Gehman Associates, Inc. has been retained by West Virginia Educational Broadcasting Authority ("WVEBA") to conduct a radiofrequency ("RF") field strength survey at the WVDM(FM) transmitter site to demonstrate proof of compliance with OET Bulletin 65 Edition 97-01 released August 1997 ("OET65"). The RF survey and instant engineering statement were prepared specifically to address special operating condition numbers 8 and subsequently special operating conditions 9 and 10 listed in construction permit number BMPED-20110610ADG.

Survey Equipment

The following survey equipment was used to record data at the WVDM(FM) transmitter site:

RF Meter and Probe

The WVDM(FM) antenna is collocated on the WHIS(AM) tower with no other sources of RF on or near the tower site. A broadband electromagnetic survey meter ("meter") and an FCC compliant frequency shaped response isotropic electric field probe ("probe") combination were chosen to conduct the RF survey. The following meter and probe manufactured by Narda Safety Test Solutions were used for RF measurements:

- Electromagnetic Survey Meter, Model number: 8718, Serial Number: 01545.
- Shaped Frequency Response Electric Field Probe, Model number: A8742D, Serial Number: 01151.

The meter and probe combination displays a reading which represents a percentage of the Maximum Permissible Exposure ("MPE") of the OET65 occupational or controlled environments for frequencies 300 kHz – 3.0 GHz. This is an acceptable range since no frequencies on or near the tower are less than 300 kHz or greater than 3.0 GHz. The Occupational/Controlled MPE percentage was multiplied by a factor of 5 to obtain the General/Uncontrolled MPE percentage. Exhibit 10.9.1 illustrates the meter, probe, and GPS receiver used to record RF data at each location surveyed. Exhibit 10.9.2 certifies that the meter and probe were calibrated together and specifies an expiration date of March 5, 2013.

Global Positioning System Receiver

A Garmin brand Global Positioning System ("GPS") receiver enabled with Wide Area Augmentation System ("WAAS") specifying Model Number GPSMap 60C and a Serial Number of 2270601136 illustrated in Exhibit 10.9.1 was used to record the position of each site surveyed relative to the WVDM(FM) transmitter site.

Measurement Methodology

In order to satisfy special operating condition number 9, a transmitter site visit was necessary to test for RF MPE compliance with the construction permitted FM transmitter equipment operating pursuant to Section 73.1610. Hence for testing purposes the newly constructed WVDM(FM) facility was temporarily operated at its construction permitted parameters for testing purposes only. WHIS(AM) and WVDM(FM) are the only two sources of RF in the area and were checked for nominal operation prior to the RF measurements.

Before performing the spatially averaged data logging survey, the meter was put in a mode which shows instantaneous MPE percentages. An informal survey was then performed by walking the grounds and seeking and noting hot spots. These hot spots are then used for the spatially averaged data logging survey. Spatially averaged RF field strength measurements were then recorded by the meter as a percentage of the MPE limit by placing the probe very close to ground level then activating the meter spatial averaging logging function while moving the probe in a vertical and consistent motion such that the probe would begin from just above ground level and stop at a point approximately six feet above ground level within a ten second interval. The meter's spatial averaging logging mode samples 40 discrete measurements per second; thus, for each location surveyed a vertical average was based on at least 400 discrete measurements at a vertical length of approximately 0.5 cm for each discrete measurement.

159 locations were surveyed using the described methodology. For each location surveyed, the following data was logged: GPS Waypoint number, Distance from the WVDM(FM) transmitter site in feet, Azimuth from the WVDM(FM) transmitter site in degrees relative to true north, Time of day in EST., Date, Temperature in degrees Ferinheight, and RF field

strength as a percentage of the MPE general population and occupational thresholds. This data is tabulated in Exhibit 10.9.3 and graphically demonstrated in Exhibits 10.9.4 and 10.9.5 for Occupational and General Population MPE percentages respectively. Sites which are underlined in Exhibit 10.9.3 indicate locations inside the fenced parcel which restricts access to the tower site.

Conclusion

General Population / Uncontrolled Exposure

The maximum spatial average RF field strength measurement recorded was 123.75% of the general population / uncontrolled MPE limit as indicated in Exhibit 10.9.3, waypoint number 153. This site was located 3 feet from the base of the tower and is contained within the fenced parcel. Two other locations within the fenced parcel were also found to exceed the general population MPE limit. No locations outside the fenced parcel were found to exceed the general population MPE limit. A substantially reinforced fence prevents general population access to the parcel, as a more immediate concern than RF exposure is the risk of electrocution from the base insulated AM tower. Since the general population does not have access to this secure parcel, there will be no significant effect on the human environment with regard to exposure of the general public.

Occupational / Controlled Exposure

The maximum spatial average RF field strength measurement recorded was 24.75% of the occupational / controlled MPE limit as indicated in Exhibit 10.9.3 at waypoint number 153. No locations exceeded the occupational / controlled MPE threshold.

The WVDM(FM) construction permitted facility as demonstrated above complies with the occupational and general population MPE limits set forth in OET Bulletin No. 65 (Edition 97-01, August 1997). Pursuant to special operating condition or restriction number 8, it is respectfully requested that the Commission grant program test authority based upon the compliance of the surveyed data presented herein.

Certification

I, Ryan Wilhour, state that I personally conducted the site survey described herein. The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

KGA

Ryan Wilhour

Consulting Engineer
April 18, 2012

Narda Model 8718
Serial Number: 01545
Software: V3.12

Garmin Model GPSMap 60C
Serial Number: 2270601136
Software: V4.20

Narda Model A8742D
Serial Number: 01151

KESSLER & GEHMAN

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Gainesville, Florida 32607

WVDM(FM)

BLUEFIELD, WEST VIRGINIA

20120418 EXHIBIT 10.9.1

US INSTRUMENT SERVICES

1607 HART STREET, SUITE #200
SOUTHLAKE, TX 76092
817/481-1666

CERTIFICATE OF CALIBRATION

Kessler & German Associates
507 North West 60th Street
Suite C
Gainsville, FL 32607

Certificate #: 01545
Cal Date: 3/5/12
Due Date: 3/5/13

Mfr/Model : Narda 8718 System
Serial # : 01545 Asset #:
Description: Survey Meter
Temp. 72 °F R.H. 44 % Proc : Agilent

Received Condition: In Tolerance
Comments:

Returned Condition: In Tolerance
Comments:

STANDARD/S USED FOR CALIBRATION

ASSET #	MFG.	MODEL	DUE DATE
US200019	AGILENT	11722A	5/25/12
US200020	AGILENT	8902A	5/25/12
US200008	ANRITSU	MF2413B	2/13/13
US200060	AGILENT	8562A	10/20/12
US200065	AGILENT	8648C	11/5/12

US Instrument Services certifies that the above listed instrument meets or exceeds all published specifications. It has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology. This certificate may only be reproduced in full. All calibration activities are performed in compliance with ANSI/NCSL Z540-1, ISO 10012-1 and MIL-STD-45662A.

CALIBRATED BY Terry Scherrer

"The Company That Puts U First !"

RFR DATA RECORDED AT WVDM(FM) TRANSMITTER SITE

Waypoint Number	Distance from WVDM(FM) TX Site in Feet	Azimuth from WVDM(FM) TX Site in Degrees	Time in E.S.T	Temp Deg. C	Spatial Average of General Population (% of MPE Limit)	Spatial Average of Occupational (% of MPE Limit)
1	33.2	74.7	11:58 AM	72	1.40%	0.28%
2	61.6	45.1	11:59 AM	72	13.80%	2.76%
3	54.7	54.3	11:59 AM	72	10.20%	2.04%
4	24.2	37.4	12:01 PM	72	13.60%	2.72%
5	38.5	337.9	12:01 PM	72	12.20%	2.44%
6	41.0	319.1	12:01 PM	72	21.85%	4.37%
7	42.8	281.2	12:02 PM	72	16.60%	3.32%
8	52.4	17.6	12:03 PM	72	16.15%	3.23%
9	48.0	90.9	12:04 PM	72	16.70%	3.34%
10	62.3	98.6	12:04 PM	72	18.10%	3.62%
11	61.9	74.5	12:05 PM	72	13.40%	2.68%
12	73.0	50.3	12:05 PM	72	16.20%	3.24%
13	80.4	29.9	12:06 PM	72	15.20%	3.04%
14	78.1	9.8	12:06 PM	72	15.75%	3.15%
15	62.7	346.4	12:07 PM	72	18.10%	3.62%
16	64.4	339.7	12:07 PM	72	24.85%	4.97%
17	60.4	324.0	12:08 PM	72	27.75%	5.55%
18	63.9	301.9	12:08 PM	72	24.55%	4.91%
19	70.0	281.4	12:09 PM	72	23.65%	4.73%
20	64.2	259.2	12:09 PM	72	26.05%	5.21%
21	61.6	232.5	12:10 PM	72	21.40%	4.28%
22	51.2	200.5	12:10 PM	72	23.15%	4.63%
23	23.8	244.1	12:11 PM	72	30.85%	6.17%
24	2.7	243.3	12:11 PM	72	24.45%	4.89%
25	24.8	158.8	12:12 PM	72	16.60%	3.32%
26	40.3	130.9	12:12 PM	72	25.40%	5.08%
27	27.3	115.7	12:13 PM	72	32.25%	6.45%
28	36.9	102.9	12:14 PM	72	54.45%	10.89%
29	50.8	110.4	12:15 PM	72	40.40%	8.08%
30	71.7	117.1	12:15 PM	72	39.45%	7.89%
31	39.5	358.5	12:43 PM	72	2.15%	0.43%
32	55.3	336.4	12:43 PM	72	3.00%	0.60%
33	86.1	333.2	12:43 PM	72	15.85%	3.17%
34	99.5	318.4	12:44 PM	72	12.75%	2.55%
35	132.1	322.6	12:44 PM	72	2.55%	0.51%
36	148.5	321.6	12:44 PM	72	0.00%	0.00%
37	180.7	323.0	12:45 PM	72	1.05%	0.21%
38	199.6	322.6	12:45 PM	72	2.15%	0.43%

Underlined - Waypoint located INSIDE the WVDM fence line

Bold Red - Exceeds general population exposure but is within a restricted area from General Population

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Gainesville, Florida 32607

RFR DATA RECORDED AT WVDM(FM) TRANSMITTER SITE

Waypoint Number	Distance from WVDM(FM) TX Site in Feet	Azimuth from WVDM(FM) TX Site in Degrees	Time in E.S.T	Temp Deg. C	Spatial Average of General Population (% of MPE Limit)	Spatial Average of Occupational (% of MPE Limit)
39	235.4	324.9	12:45 PM	72	0.85%	0.17%
40	264.8	324.6	12:46 PM	72	0.85%	0.17%
41	299.5	324.8	12:46 PM	73	1.70%	0.34%
42	326.6	324.7	12:47 PM	73	1.20%	0.24%
43	339.6	317.2	12:47 PM	73	1.15%	0.23%
44	311.5	316.7	12:47 PM	73	1.40%	0.28%
45	278.2	316.2	12:48 PM	73	1.30%	0.26%
46	253.8	315.7	12:48 PM	73	1.95%	0.39%
47	215.7	313.5	12:48 PM	73	1.60%	0.32%
48	182.7	314.4	12:49 PM	73	1.90%	0.38%
49	150.8	315.5	12:49 PM	73	1.95%	0.39%
50	127.3	319.5	12:50 PM	73	3.95%	0.79%
51	95.3	319.4	12:50 PM	73	0.85%	0.17%
52	65.4	322.3	12:50 PM	73	9.40%	1.88%
53	33.2	330.7	12:51 PM	73	14.90%	2.98%
54	18.5	350.2	12:51 PM	73	3.45%	0.69%
55	29.6	303.9	12:52 PM	73	3.75%	0.75%
56	65.6	294.1	12:52 PM	73	8.70%	1.74%
57	101.3	288.8	12:52 PM	73	7.05%	1.41%
58	133.0	288.7	12:53 PM	73	5.70%	1.14%
59	160.4	289.0	12:53 PM	73	0.00%	0.00%
60	191.3	293.7	12:53 PM	73	1.50%	0.30%
61	213.9	295.5	12:54 PM	73	1.20%	0.24%
62	243.8	296.4	12:54 PM	73	0.30%	0.06%
63	289.2	296.5	12:55 PM	73	0.45%	0.09%
64	337.0	289.3	12:55 PM	72	0.75%	0.15%
65	302.8	288.4	12:55 PM	72	0.45%	0.09%
66	266.1	285.6	12:56 PM	72	1.20%	0.24%
67	234.6	284.2	12:56 PM	72	1.80%	0.36%
68	198.8	281.5	12:57 PM	72	0.75%	0.15%
69	165.3	280.2	12:57 PM	72	1.05%	0.21%
70	136.1	279.8	12:57 PM	72	4.50%	0.90%
71	106.9	281.7	12:58 PM	72	1.40%	0.28%
72	76.4	280.1	12:58 PM	72	3.30%	0.66%
73	48.0	275.6	12:58 PM	72	6.95%	1.39%
74	23.9	277.4	12:59 PM	72	7.60%	1.52%
75	3.7	252.9	12:59 PM	72	5.45%	1.09%
76	32.0	244.6	1:00 AM	72	4.60%	0.92%

Underlined - Waypoint located INSIDE the WVDM fence line

Bold Red - Exceeds general population exposure but is within a restricted area from General Population

RFR DATA RECORDED AT WVDM(FM) TRANSMITTER SITE

Waypoint Number	Distance from WVDM(FM) TX Site in Feet	Azimuth from WVDM(FM) TX Site in Degrees	Time in E.S.T	Temp Deg. C	Spatial Average of General Population (% of MPE Limit)	Spatial Average of Occupational (% of MPE Limit)
77	66.9	248.0	11:58 AM	72	7.80%	1.56%
78	98.6	250.2	11:59 AM	72	6.45%	1.29%
79	137.3	252.0	11:59 AM	72	3.20%	0.64%
80	176.1	252.3	12:01 PM	72	0.00%	0.00%
81	212.8	252.5	12:01 PM	72	1.50%	0.30%
82	232.6	252.8	12:01 PM	72	0.10%	0.02%
83	245.0	234.9	12:02 PM	72	0.00%	0.00%
84	213.1	235.1	12:03 PM	73	0.00%	0.00%
85	171.7	232.8	12:04 PM	73	0.00%	0.00%
86	140.0	230.8	12:04 PM	73	0.40%	0.08%
87	113.6	229.4	12:05 PM	73	0.00%	0.00%
88	84.0	228.9	12:05 PM	73	0.10%	0.02%
89	53.1	221.2	12:06 PM	73	5.65%	1.13%
90	24.0	188.8	12:06 PM	73	7.50%	1.50%
91	29.1	152.0	12:07 PM	73	2.70%	0.54%
92	65.8	187.8	12:07 PM	73	3.45%	0.69%
93	93.5	194.3	12:08 PM	73	3.20%	0.64%
94	123.3	200.2	12:08 PM	73	1.40%	0.28%
95	153.0	203.6	12:09 PM	73	0.00%	0.00%
96	178.8	203.5	12:09 PM	73	0.10%	0.02%
97	178.4	187.1	12:10 PM	73	0.00%	0.00%
98	133.9	178.7	12:10 PM	73	0.00%	0.00%
99	112.4	166.1	12:11 PM	73	0.00%	0.00%
100	131.0	187.5	12:11 PM	73	0.00%	0.00%
101	106.2	185.2	12:12 PM	73	0.00%	0.00%
102	83.1	177.6	12:12 PM	73	0.45%	0.09%
103	53.2	166.0	12:13 PM	73	4.50%	0.90%
104	30.9	136.0	12:14 PM	73	6.95%	1.39%
105	55.5	138.0	12:15 PM	73	15.20%	3.04%
106	82.3	148.3	12:15 PM	73	9.85%	1.97%
107	108.2	155.8	12:43 PM	73	0.40%	0.08%
108	130.8	157.1	12:43 PM	73	0.10%	0.02%
109	157.4	150.7	12:43 PM	73	0.10%	0.02%
110	181.3	134.9	12:44 PM	73	0.30%	0.06%
111	150.5	133.6	12:44 PM	74	0.20%	0.04%
112	121.8	132.6	12:44 PM	74	0.00%	0.00%
113	93.4	128.4	12:45 PM	74	0.40%	0.08%
114	73.7	122.3	12:45 PM	74	0.10%	0.02%

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RFR DATA RECORDED AT WVDM(FM) TRANSMITTER SITE

Waypoint Number	Distance from WVDM(FM) TX Site in Feet	Azimuth from WVDM(FM) TX Site in Degrees	Time in E.S.T	Temp Deg. C	Spatial Average of General Population (% of MPE Limit)	Spatial Average of Occupational (% of MPE Limit)
115	48.3	107.4	1:18 AM	74	1.05%	0.21%
116	41.6	87.3	1:18 AM	74	4.90%	0.98%
117	66.7	97.2	1:19 AM	74	9.65%	1.93%
118	101.0	102.7	1:19 AM	74	3.55%	0.71%
119	132.9	107.4	1:19 AM	74	2.55%	0.51%
120	162.7	103.7	1:20 AM	74	2.15%	0.43%
121	154.8	88.6	1:20 AM	74	2.25%	0.45%
122	122.0	83.8	1:21 AM	74	2.15%	0.43%
123	84.6	82.2	1:21 AM	74	2.70%	0.54%
124	50.4	83.5	1:21 AM	74	2.90%	0.58%
125	26.1	61.5	1:22 AM	74	3.10%	0.62%
126	48.6	65.5	1:24 AM	74	10.20%	2.04%
127	70.2	62.9	1:25 AM	74	10.30%	2.06%
128	48.9	58.8	1:25 AM	74	5.25%	1.05%
129	58.1	31.2	1:25 AM	74	4.95%	0.99%
130	84.3	41.7	1:26 AM	74	5.05%	1.01%
131	92.7	36.5	1:26 AM	74	2.70%	0.54%
132	101.5	19.6	1:26 AM	74	3.10%	0.62%
133	135.7	15.4	1:27 AM	74	2.05%	0.41%
134	168.5	18.0	1:27 AM	74	2.25%	0.45%
135	187.0	14.0	1:28 AM	74	2.90%	0.58%
136	191.6	10.7	1:28 AM	74	3.00%	0.60%
137	212.7	10.2	1:29 AM	74	3.30%	0.66%
138	268.5	359.9	1:29 AM	74	3.40%	0.68%
139	225.3	358.9	1:30 AM	74	3.40%	0.68%
140	203.3	2.1	1:30 AM	74	3.95%	0.79%
141	191.8	355.8	1:30 AM	74	4.80%	0.96%
142	161.9	349.3	1:31 AM	74	5.15%	1.03%
143	132.2	345.7	1:31 AM	74	6.55%	1.31%
144	42.7	2.4	1:32 AM	74	6.10%	1.22%
145	23.8	48.6	1:32 AM	74	10.90%	2.18%
146	6.2	13.1	1:33 AM	74	82.20%	16.44%
147	3.6	131.7	1:33 AM	74	**103.95%**	20.79%
148	27.8	103.1	1:35 AM	74	**116.30%**	23.26%
149	43.5	191.6	1:36 AM	74	19.70%	3.94%
150	33.2	216.8	1:36 AM	74	10.05%	2.01%
151	31.0	347.6	1:36 AM	74	14.65%	2.93%
152	32.8	72.6	1:37 AM	74	25.20%	5.04%

Underlined - Waypoint located INSIDE the WVDM fence line

Bold Red - Exceeds general population exposure but is within a restricted area from General Population

RFR DATA RECORDED AT WVDM(FM) TRANSMITTER SITE

Waypoint Number	Distance from WVDM(FM) TX Site in Feet	Azimuth from WVDM(FM) TX Site in Degrees	Time in E.S.T	Temp Deg. C	Spatial Average of General Population (% of MPE Limit)	Spatial Average of Occupational (% of MPE Limit)
153	3.0	10.8	1:37 AM	74	**123.75%**	24.75%
154	8.7	164.6	1:38 AM	74	63.55%	12.71%
155	7.4	339.3	1:39 AM	74	25.80%	5.16%
156	12.9	241.3	1:40 AM	74	26.45%	5.29%
157	19.9	257.3	1:40 AM	74	14.05%	2.81%
158	15.0	323.2	1:41 AM	74	35.05%	7.01%
159	11.1	139.2	1:42 AM	74	52.95%	10.59%

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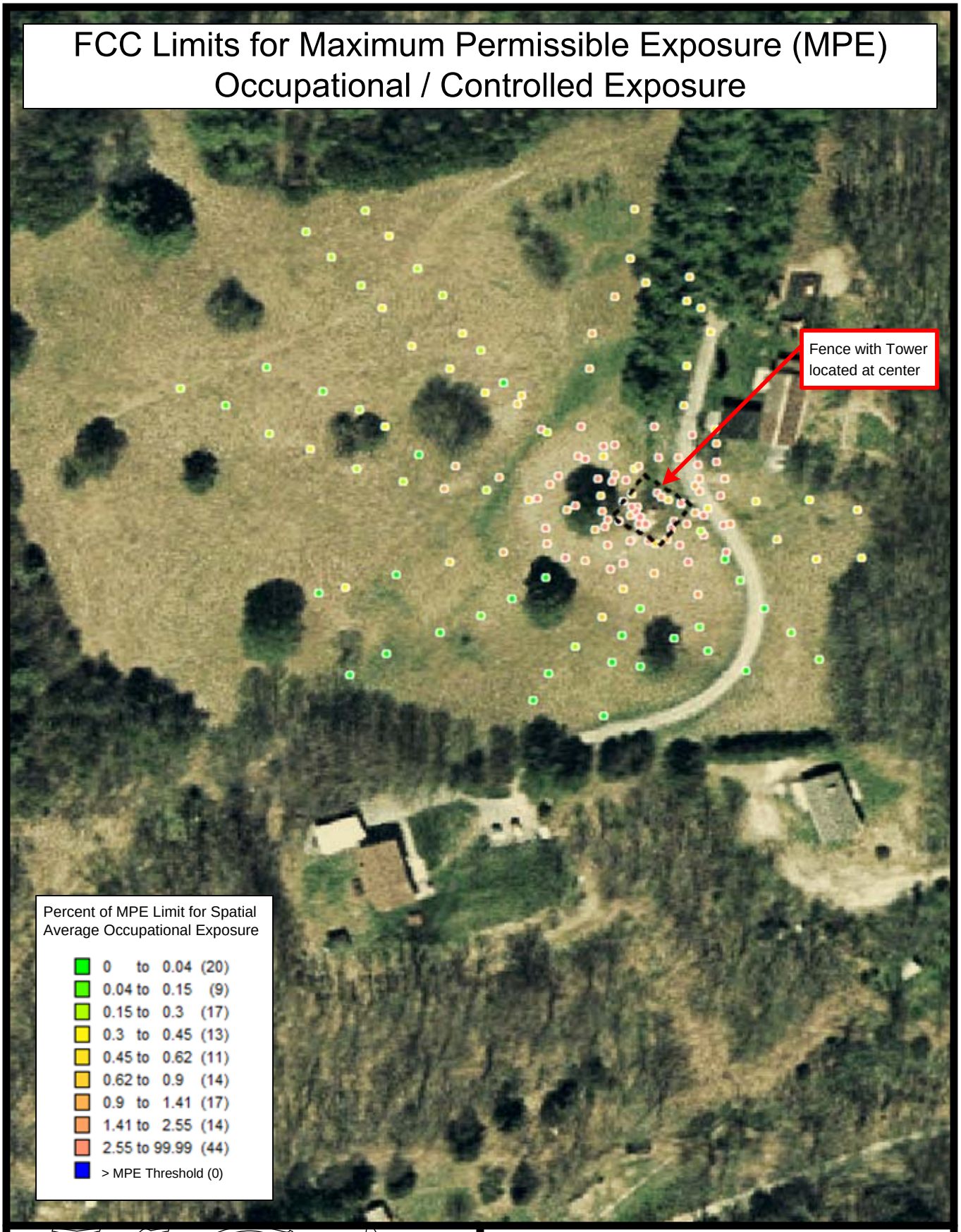
FCC Limits for Maximum Permissible Exposure (MPE)
Occupational / Controlled Exposure



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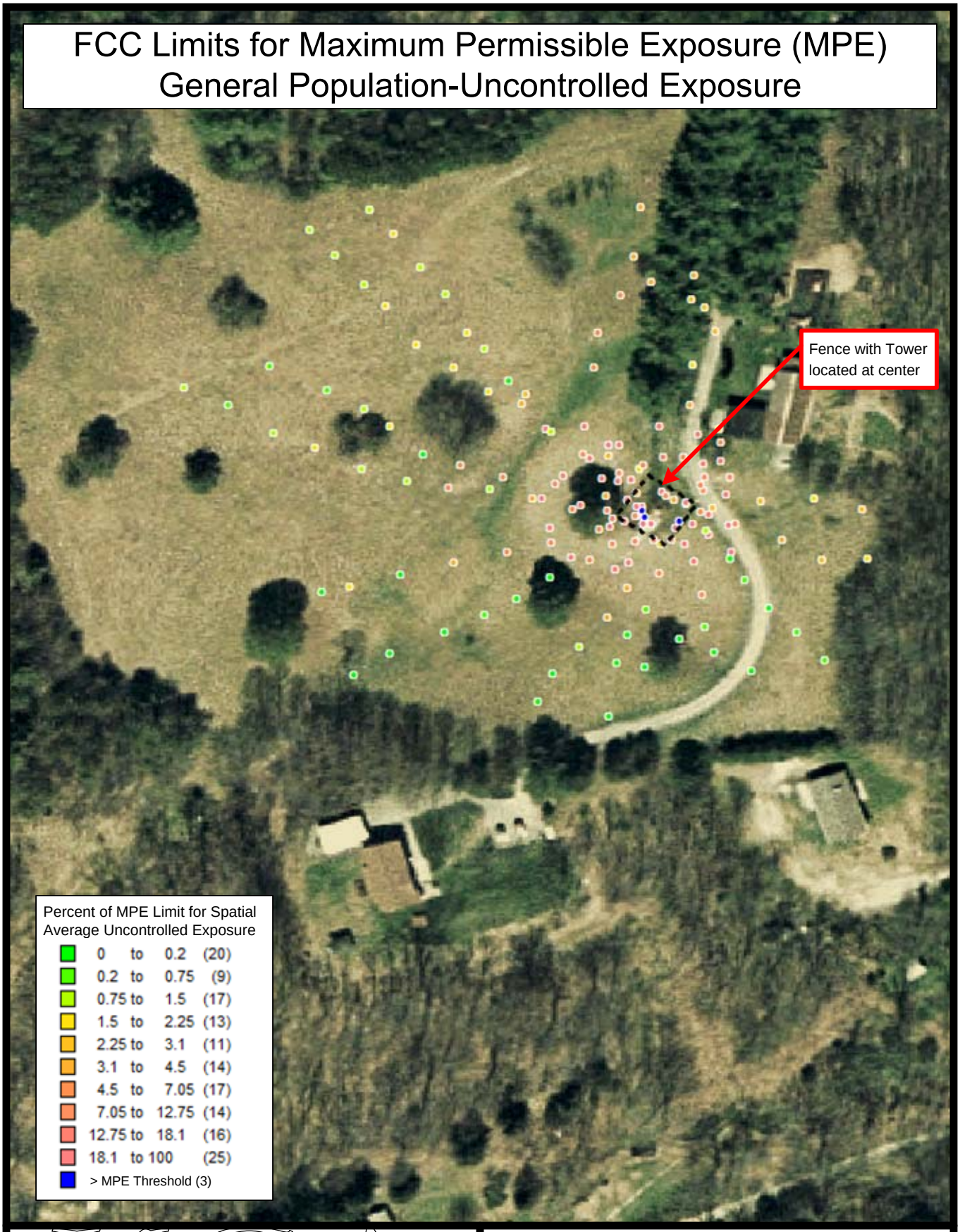
WVDM(FM)

BLUEFIELD, WEST VIRGINIA

20120418 EXHIBIT 10.9.4

FCC Limits for Maximum Permissible Exposure (MPE)
General Population-Uncontrolled Exposure



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WVDM(FM)

BLUEFIELD, WEST VIRGINIA

20120418 EXHIBIT 10.9.5