



**ENGINEERING EXHIBIT  
RADIOFREQUENCY ENERGY MEASUREMENT SURVEY  
AUXILIARY FM FACILITY  
ON TAJ MAHAL HOTEL AND CASINO ROOFTOP  
ATLANTIC CITY, NEW JERSEY  
AUXILIARY FACILITY 0.44 kW, 131 M HAAT  
JANUARY, 2008**

I am a Radio 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.

This office has been retained by the Applicant to measure the electric and magnetic fields of its auxiliary transmitter site atop the Taj Mahal Hotel and Casino in Atlantic City, New Jersey, and evaluate the site for compliance with Federal radiofrequency protection guidelines, as conditioned on auxiliary construction permits, FCC File No. BXPB-20060215AAS (WFPG), BXPB-20060215AAU (WXKW), BXPB-20060215AAW (WSJO), BXPB-20060215ADK (WPUR). As set forth in the auxiliary applications for construction permit, the Applicant uses a frequency agile transmitter and a broadband antenna which allows the auxiliary facility to be used for any one of the stations listed above at any given time.

The auxiliary antenna system consists of a single-bay antenna located on the middle or second level of the Taj Mahal Hotel and Casino rooftop. The Taj Mahal rooftop consists

of three levels. Access for the rooftop is located on the first or lowest level. The WPUR(FM) licensed main antenna (FCC File No. BLH-20050519AEJ) was located on the third or upper most level of the rooftop but was removed from the building in late December, 2007.<sup>1</sup> Low power TV Station W45CP employs a pole mounted UHF TV antenna located on the second level of the rooftop.

Comprehensive measurements were made by the undersigned during daylight hours on December 28, 2007, to determine the radiofrequency exposure levels at generally accessible locations on the rooftop. The auxiliary station was operating as authorized with an ERP of 440 watts and W45CP was also in operation while the measurements were being conducted. Equipment employed in the measurements is as follows:

<u>Type</u>	<u>Serial Number</u>	<u>Calibration Date</u>
Narda Electromagnetic Survey Meter Model 8718-10	1008	11-08-2007
Narda Shaped E-Field Probe Model A8742D	01030	11-08-2007

Measurements were made in accordance with the procedures described in OST Bulletin No. 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to

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<sup>1</sup> Radio station WPUR(FM) is now operating from a different transmitter site using another auxiliary antenna as authorized in auxiliary construction permit BXPB-20070227ACY (application for license to cover FCC File No. BXLH-20071231AAJ).

Radiofrequency Electromagnetic Fields.” Measurements were made under two conditions, the first with the auxiliary antenna operating with 440 watts ERP and the second with the auxiliary antenna OFF. In both cases, the UHF station was operating normally. Preliminary measurements were made at commonly accessed locations to determine the rooftop locations that warranted detailed measurements. Measurement points were selected at commonly accessed locations and those locations that were found to have the highest peak fields in order to define areas of the rooftop that exceeded the Controlled and/or Uncontrolled exposure limits. A total of 13 detailed measurement points were established.

The measurements were made at each of the 13 locations using the Narda Electromagnetic Survey Meter, Model 8718-10 in conjunction with the Narda A8742D isotropic broadband, electric field strength probe. The A8742D E-Field Probe exhibits a shaped frequency response such that the detected fields are weighted according to the frequency variation of the Maximum Permissible Exposure (MPE) Limit. Accordingly, the meter indication presents the measured field as a percentage of the FCC MPE limit for Occupational or Controlled Areas. For the frequencies involved in this study, the FCC MPE for Uncontrolled Environments, areas that are accessible to the general public, is 20 percent of the protection level for Controlled Environments. Measurements made with the Shaped E-Field Probe were increased by factor of five to convert the meter reference from a Controlled Environment to an Uncontrolled Environment.

Fields were measured by extending the probe outward away from the body and slowly moving the probe in a vertical motion from the roof to a height of approximately six feet. The scan time was typically 10 seconds. In an effort to minimize the disturbance of the fields caused by the observer and equipment, a total of four sequential scans were made by facing the measurement point from four different directions each 90 degrees apart. The peak fields and spatial averages from each of the four scans were averaged together to obtain a single average peak and single spatial value. These values are tabulated in Figure 1. E-Field measurements were also made on the first level of the rooftop. In all cases, the E-Field was well below the MPE Limit for Uncontrolled Environments.

#### MEASUREMENT POINT LOCATIONS

A diagram of the rooftop showing the measurement point locations is included herein as Figure 2. The numbered locations correspond to the measured data contained in Figure 1. Locations 1 through 7 are located on the third or upper most level of the rooftop in the vicinity of the auxiliary antenna. Location 8 is located at the top of the stairway landing which allows access to the third level from the second level. Locations 9 through 12 are located on the second rooftop level in the vicinity of the auxiliary antenna. Location 13 is located at the top of the stairway landing which allows access to the second level from the first level.

The main rooftop access door is located on the first level. This door is locked at all times. Keys to the access door are available only to authorized personnel through a sign-out procedure at the guard booth. The entire rooftop is technically considered to be a Controlled Environment. RFR warning signs and appropriate markings are present throughout the area.

Under normal conditions, the auxiliary antenna is OFF. For this reason, additional peak field measurements were made with the auxiliary antenna OFF. These peak field measurements were performed while walking all three levels of the roof in continuous fashion. The only area avoided during these peak field measurements was the area marked in the vicinity of the UHF antenna. In no instance was a peak measurement observed which exceeded the occupational guideline value. Therefore, with the auxiliary antenna OFF, the entire rooftop (except in the vicinity of the UHF antenna, which is marked) is a compliant controlled RFR environment.

## CONCLUSION

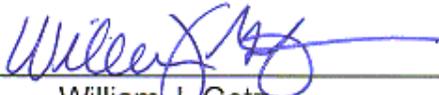
Access to the Taj Mahal rooftop is restricted to authorized personnel only. The results of the measurement survey indicate that other than the area immediately surrounding the auxiliary antenna, there were no locations that exceeded the MPE for Controlled Environments. The rooftop is properly marked and appropriately signed to

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insure that all of personnel with access to the Taj Mahal rooftop are aware of the RF Exposure areas.

This statement and the attached figures were prepared by me or under my direct supervision, and are believed to be true and correct.

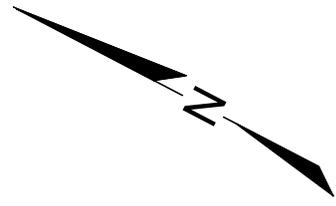
DATED: January 3, 2008

  
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William J. Getz

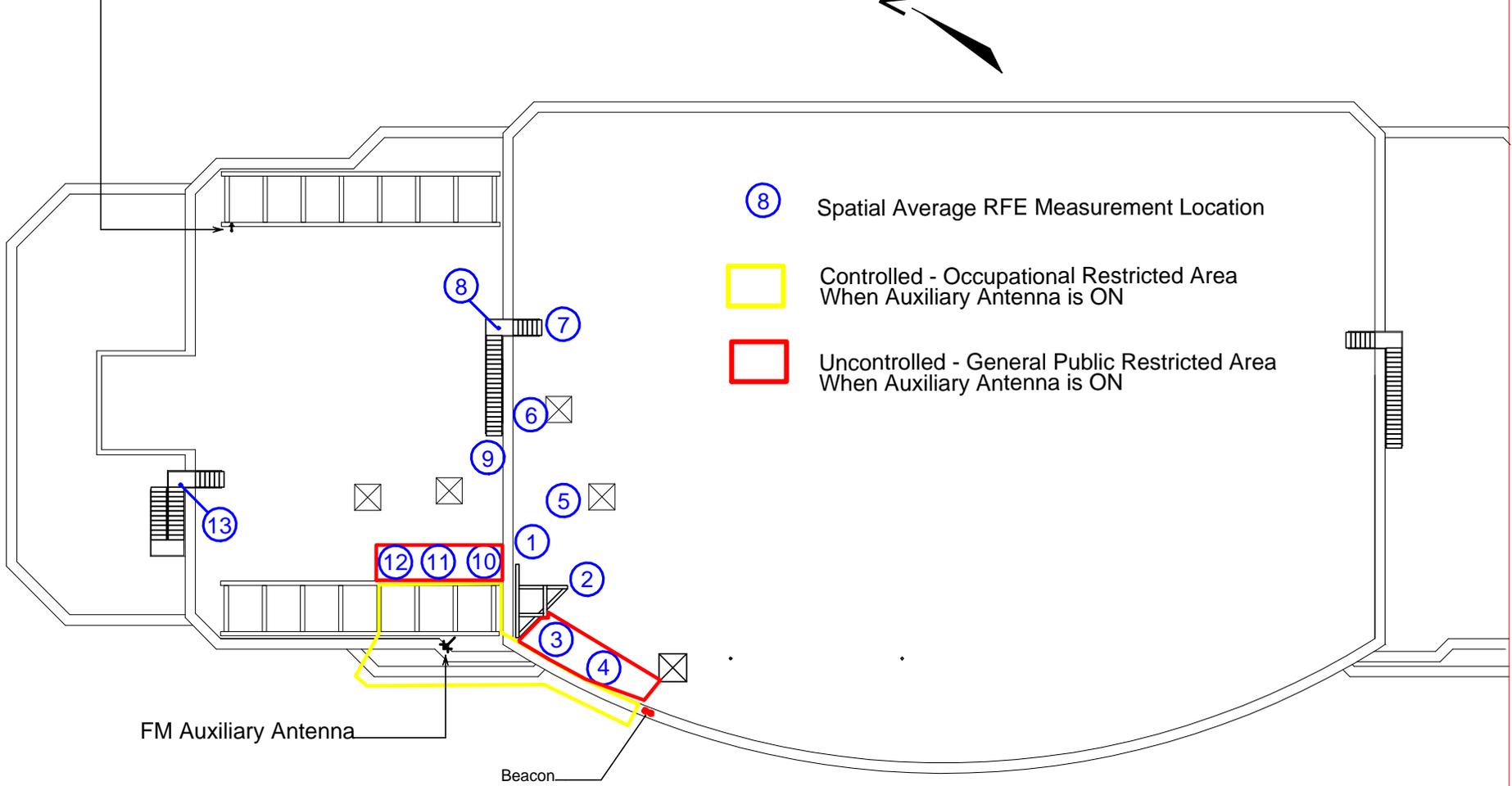
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DECEMBER, 2007**

E FIELD PROBE: NARDA A8742D SHAPED

Location Number	<u>Spatial Measurement - Percent of Controlled MPE</u>				Location Average	Location Average
	Facing NE (Average / Peak)	Facing SE (Average / Peak)	Facing SW (Average / Peak)	Facing NW (Average / Peak)	Percent of Controlled MPE (Average / Peak)	Percent of Uncontrolled MPE (Average / Peak)
1	3.8 / 6.2	3.26 / 4.2	4.7 / 6.1	6.8 / 11.9	4.7 / 7.1	23.3 / 35.4
2	1.6 / 2.7	1.26 / 1.8	0.3 / 1.0	0.9 / 1.9	1.0 / 1.9	5.0 / 9.3
3	20.0 / 26.0	17.62 / 46.8	50.0 / 61.8	30.9 / 52.0	29.6 / 46.7	148.2 / 233.3
4	15.8 / 24.5	10.20 / 19.0	29.2 / 39.7	40.0 / 59.9	23.8 / 35.8	119.0 / 178.9
5	1.7 / 2.8	0.75 / 1.5	1.5 / 1.9	0.9 / 2.1	1.2 / 2.1	6.1 / 10.3
6	1.2 / 3.3	0.36 / 1.5	1.5 / 3.4	5.5 / 10.6	2.1 / 4.7	10.7 / 23.6
7	0.0 / 0.0	0.00 / 0.0	0.0 / 0.0	0.0 / 0.0	0.0 / 0.0	0.0 / 0.0
8	12.1 / 19.9	14.53 / 22.3	13.1 / 17.3	26.7 / 46.8	16.6 / 26.6	83.1 / 132.9
9	13.8 / 20.5	4.40 / 16.8	13.4 / 28.8	22.7 / 32.0	13.6 / 24.5	67.9 / 122.5
10	25.8 / 47.9	10.12 / 25.0	34.6 / 79.0	32.5 / 62.9	25.7 / 53.7	128.7 / 268.5
11	33.2 / 63.2	27.97 / 50.7	17.3 / 51.9	19.3 / 46.8	24.4 / 53.1	122.2 / 265.6
12	23.8 / 33.3	15.48 / 34.0	38.4 / 70.3	19.4 / 35.8	24.2 / 43.4	121.2 / 216.8
13	20.3 / 50.8	13.93 / 42.3	11.8 / 22.0	10.6 / 25.8	14.2 / 35.2	70.8 / 176.1



W45CP Channel 45 TV Antenna



- ⑧ Spatial Average RFE Measurement Location
- Controlled - Occupational Restricted Area When Auxiliary Antenna is ON
- Uncontrolled - General Public Restricted Area When Auxiliary Antenna is ON

FM Auxiliary Antenna

Beacon

10 0 20 40 60 80 100 feet

TAJ MAHAL CASINO ROOFTOP RFE STUDY  
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Figure 2