

**EXHIBIT 30  
FM AUXILIARY ANTENNA  
WRKS(FM) 6.0 KW 408 M HAAT CH. 254B  
NEW YORK, NEW YORK**

**INTRODUCTION**

This application is prepared on behalf of Emmis Radio License, LLC, licensee of FM station WRKS(FM) at New York City, Facility ID No. 63781. It requests authority to employ a new auxiliary back-up antenna for FM broadcast station WRKS(FM), Channel 254B. The new auxiliary antenna is the FM "Mini-master" one layer wrap around antenna that is positioned below the main two layer "master" FM antenna on the Empire State Building, ASRN 1007048.

**TECHNICAL PROPOSAL**

WRKS presently operates with 6.0 kW Effective Radiated Power (ERP) from the Empire State Building master antenna at a height of 429m AMSL, 415m AAT. The proposed auxiliary facility that will operate at 6.0 kW ERP using the nondirectional Mini-master antenna on the same building at a radiation center height of 422m AMSL, 408m AAT, 7 meters less than the main licensed facility. The new auxiliary antenna will also be used for future IBOC transmissions pursuant to the provision in MM Docket No. 99-325. Accordingly, use of separate antennas for analog and digital signals is permissible provided the following requirements are met: 1) the hybrid system will involve a licensed auxiliary antenna (the subject of this engineering proposal) for digital transmission; 2) the auxiliary antenna location is within three seconds of latitude and longitude of the main facility; and, 3) the auxiliary antenna HAAT is between 70 and 100 percent of the HAAT

of the main antenna. The back-up facility will be constructed in compliance with this criteria and Special Temporary Authority (STA) will be requested to cover the implementation of the IBOC system.

### **60 dBu AUXILIARY ANTENNA PREDICTED CONTOUR**

The proposed auxiliary antenna will radiate the same ERP as the main antenna, in an omnidirectional pattern, from the same location, but at 7 meters less antenna height. It is apparent that the this auxiliary facility will not result in any extension of coverage beyond the 60 dBu (1.0 mV/m) contour of the main authorization as required in Section 73.1675(a) of the Commission's rules. A contour map demonstrating compliance is not necessary since the auxiliary and main antennas will be co-located and ERP and HAAT for the back-up proposal do not exceed the licensed operating parameters of the main station.

### **ENVIRONMENTAL EXCLUSION**

The new auxiliary antenna will not have a significant effect on the quality of the human environment and does not require an environmental assessment. It is categorically excluded from environmental processing by Section 1.1306 since the auxiliary antenna will be supported by an existing tower (ASRN 1007048) and does not exceed the standards for human exposure to radio-frequency (RF) energy in Section 1.1307(b) as described below.

### **R. F. EXPOSURE**

Operation of the new auxiliary antenna will not result in RF contributions exceeding

the *RF Exposure Limits* specified in Section 1.1310. The proposed back-up facility will transmit on FM Channel 254, 98.7 MHz, and the maximum permissible exposure (MPE) limits for this frequency are 200  $\mu\text{W}/\text{cm}^2$  for general (uncontrolled) exposure and 1,000  $\mu\text{W}/\text{cm}^2$  for occupational (controlled) exposure. Compliance with these limits will be established based on a calculation of power density levels accessible at locations two meters above access surfaces for various FM antenna types.

The applicant plans to operate into a one-bay, circularly polarized, ERI "Mini-master" antenna at an elevated location on the Empire State Building. The Mini-master antenna is manufactured by ERI and consists of its one layer of type COG4-60S-120-1 panels arrayed four around the supporting column. Vertical plane patterns supplied by ERI indicate the relative field from the antenna. The Empire State Building Mini-master antenna is located at an elevated position, approximately 88 meters above the highest generally accessible level, the 86<sup>th</sup> floor observation level of the building. The observation area extends approximately 17 meters out from the antenna centerline. The geometry of potential exposure areas is thus well defined with strictly controlled access. Within this controlled access area the depression angle from the antenna is approximately 79 degrees and the relative field at that angle does not exceed 28%.

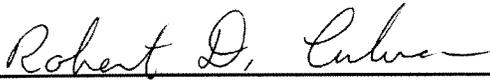
Based on the proposed ERP and the above geometry the maximum observation level power density is calculated to not exceed 4.1  $\mu\text{W}/\text{cm}^2$  at the perimeter of the observation deck. The uncontrolled exposure limit is 200  $\mu\text{W}/\text{cm}^2$  and the calculated exposure is 2.05% of this lower limit. Since this estimated level is less than 5% of the MPE limits for both uncontrolled and controlled exposure, the applicant is not required to further

evaluate the antenna location with respect to other RF contributors.

## **OCCUPATIONAL R.F. EXPOSURE**

It has been demonstrated that the proposal will comply with the uncontrolled, and thus the occupational exposure limit, at any observation-level location. At higher elevations on the building and antenna structure, however, workers will be protected from excessive exposure to RF fields in accordance with the methods recommended in *OET Bulletin No. 65, Version 97-01*. In regard to other site users, the applicant acknowledges their obligation to participate in the coordination of projects involving work at higher elevations. The Empire State Building has an active users group which tracks and controls all potential RF Exposure. Preventive steps to protect workers during such scheduled events shall include reducing power or shutting down facilities.

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