

**EXHIBIT 30  
FM AUXILIARY ANTENNA  
WQCD(FM) 6.2 KW 396 M HAAT CH. 270B  
NEW YORK, NEW YORK**

**INTRODUCTION**

This application is prepared on behalf of Emmis Radio License, LLC, licensee of FM station WQCD(FM) at New York City, Facility ID No. 67846. It requests authority to employ a new auxiliary back-up antenna for FM broadcast station WQCD(FM), Channel 270B. The new auxiliary antenna is the FM “Mini-master Backup” two layer wrap around antenna that is positioned above the top of the mooring mast and below the main two layer “master” FM antenna on the Empire State Building, ASRN 1007048.

**TECHNICAL PROPOSAL**

WQCD presently operates with 6.2 kW Effective Radiated Power (ERP) from the Empire State Building master antenna at a height of 413m AAT. The proposed auxiliary facility, that will also operate at 6.2 kW ERP using the existing nondirectional Mini-master Backup antenna on the same building, will be at the reduced radiation center height of 396m AAT, 17 meters less than the main licensed facility. The proposed antenna location, and the Empire State Building antenna mast in general, is shown in the attached sketch.

The Mini-master Backup auxiliary antenna will also be used for future IBOC portions of the WQCD transmissions pursuant to the provision in MM Docket No. 99-325. The 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, also in an omnidirectional pattern, from the same location, but at 17 meters less antenna height. It is apparent that 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 of the FCC Rules since the existing back-up auxiliary antenna is 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 operation in the existing back-up antenna will not result in RF contributions exceeding the *RF Exposure Limits* specified in Section 1.1310 of the FCC Rules. The proposed back-up facility will transmit on FM Channel 270, 101.9 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 at all accessible locations, calculated two meters above access surfaces.

The applicant plans to operate into a two-bay, circularly polarized, ERI “Mini-master Backup” antenna at an elevated location on the Empire State Building. The backup antenna is manufactured by ERI, Model 1084-2CP, consisting of 8 panels arrayed in two layers of four around the supporting column. The vertical plane pattern has been supplied by ERI and is attached to this statement. It indicates the relative that the relative field from the antenna does not exceed 33% of maximum for any angle exceeding 29 degrees below the horizontal plane.

The Empire State Building Mini-master antenna is located at an elevated position of 395 meters AGL. This is approximately 72 meters above the highest generally accessible level, the 86<sup>th</sup> floor observation level of the building, at 323 meters (1061 feet) AGL. The observation area is surrounded by a high fence and extends approximately 17 meters out from the antenna centerline. A detailed drawing of the top of the building, with antennas and the observation deck, is attached. The Mini-master Backup antenna is

shown on that drawing at the level marked “Triplexer antenna mini-master backup” and indicated by the two red diamonds in red squares on the antenna tower. The observation deck is indicated by the Level A-A label and the vertical green striping.

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 76 degrees and the relative field at that angle does not exceed 29% of the maximum.

Based on the proposed ERP and the above geometry the maximum observation level power density is calculated to not exceed  $6.7 \mu\text{W}/\text{cm}^2$  at the perimeter of the observation deck. The uncontrolled exposure limit is  $200 \mu\text{W}/\text{cm}^2$  and the calculated exposure is 3.4% of this 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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May, 2006