

# **INTERIM 4 TIMES SQUARE RF SAFETY PROGRAM**

## **4 TIMES SQUARE CONDE NAST BUILDING**

### **NEW YORK, NEW YORK**

**May 2004**

#### **INTRODUCTION**

Radiofrequency (RF) electromagnetic fields associated with broadcast and communications antennas present the possibility of hazards to personnel if exposures are not properly controlled. Broadcast and wireless communications tenants at 4 Times Square shall understand that it is the policy of the Durst organization that strict compliance with applicable Federal Communications Commission (FCC) regulations is required at all times. This means that any exposures of building maintenance, engineering, and security staff personnel caused by tenant's transmitting facilities shall comply with the FCC maximum permissible exposure (MPE) limits established for members of the general public. Tenants shall be subject to this **Interim 4 Times Square RF Safety Program** developed for the 4 Times Square building which includes restricted access to some roof areas during broadcast operations from the 'Construction' FM antenna. Other requirements of this interim program include the use of lockout/tagout procedures to prevent accidental exposure of personnel from active transmitters, the use of personal RF monitors, and appropriate RF safety awareness training of relevant broadcast and wireless operations personnel as well as building maintenance and security staff.

The interim RFR safety program described herein addresses procedures to be taken during operation of either the Shively 6016-3/4 'Special' antenna located on the antenna tower of the Conde Nast Building, New York, New York, or the 'Construction' antenna. This document pertains to the FM TV stations and maximum operating parameters given in Tables 1 and 2.

#### **RF FIELD STATUS FOR ALL ROOF AREAS**

Areas on the roof or on elevated roof structures in which RF fields may exceed the MPE limits specified by the FCC and for which access is required are to be identified, by measurement, prior to commencement of any work on the roof. Areas wherein the general public/uncontrolled exposure MPE limit for the VHF band of 200 microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ) and wherein the occupational/controlled exposure MPE limit for the VHF band of 1,000  $\mu\text{W}/\text{cm}^2$  may be exceeded are to be plainly marked.

## **RADIOFREQUENCY SAFETY OFFICER (RFSO)**

The Durst organization has identified John Lyons, CPBE, as the Radio-frequency Safety Officer (“**RFSO**”) in charge of determining that all FCC OET- 65 Guidelines are met concerning exposure of the general public and workers to radio-frequency radiation.

## **RFSO RESPONSIBILITY & ENFORCEMENT**

It is the responsibility of the **RFSO** to ensure that no RF transmissions (broadcasting) will occur from the Shively 6017-1 ‘Construction’ antenna without prior coordination with the **RFSO**. In the event of an emergency, the **RFSO** will not unreasonably withhold permission to broadcast from the Shively 6017-1 ‘Construction’ antenna with the understanding that reasonable time must be allowed for workers to evacuate to areas that do not exceed the MPE prior to commencement of broadcast operation.

## **LOCK OUT – TAG OUT POLICY**

As a matter of policy, the **RFSO** will establish the following procedures:

1. After commencement of broadcast operations on the Shively 6016-3/4 ‘Special’ antenna on the main 4 Times Square tower (March 2004), operations on the Shively 6017 –1 ‘Construction’ antenna will be unavailable until building operations personnel can effect a manual transfer to the Shively 6017-1 antenna. During operation from the ‘Construction’ antenna, the following observations and recommendations should be followed:
  - a) Simultaneous operation of all eight FM stations at full power of 10 kW each into the temporary antenna will result in spatially averaged RF fields that may be as great as 3.6 times the occupational/controlled MPE limit set by the FCC in the southeastern quadrant of the main roof level.
  - b) RF fields at elevated regions on the penthouse rooftop, the existing tower, on top of cooling towers and on top of the signs mounted to the east and south sides of the building would, during operation at full power from all eight stations, result in RF fields sufficiently intense to make it highly difficult to ensure compliance with the RF exposure rules.
  - c) Operation of the ‘Construction’ antenna with a total aggregate power of 8 kW or less of TPO from the FM stations is suggested as an interim upper operational power limit when personnel are present on the main or penthouse rooftops. **Personnel should, however, not access the top of the east side cooling towers without protective clothing or turning stations off.**
  - d) Flashing colored strobe lamps installed near the base of the access ladders on the two eastern cooling towers should be observed as indicators of potentially high intensity RF fields.

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- e) Individuals who have not received RF safety awareness training should not be permitted on the southeastern setback (48<sup>th</sup> floor) or on the main roof or higher.
  - f) Any operation of the 'Construction' antenna should be noted in a log book indicating the times and power levels of stations using the antenna.
  - g) All transmitters should be configured such that their high power mode can only be activated via on-site manual adjustment (i.e., defeat remote operation of all transmitters at any power greater than 1 kW TPO each).
2. Generally, access to the tower will not be permitted during normal broadcasting operations. Should there be a need for such access, stations operating from the tower will be required to reduce power significantly or terminate operation from the tower all together as determined by the RFSO. During this time, lock out procedures will be in force to avoid accidental reactivation of broadcast stations. Normal procedure for access of the tower under **ANY** circumstances requires that at least one of the tower crew wear an RF personal monitor and understand its proper operation.
3. During operation of the 'Special' antenna on the tower, with the FM and TV stations listed in Tables 1 and 2 operating at specified powers, access to the main roof level is not restricted.

**Table 1.** Summary of FM stations and maximum operating parameters relevant to this RF safety plan document.

Call	Freq (MHz)	Combiner & line losses (dB)	Switch loss (dB)	ERP (kW)	Ant power gain	TPO (kW)
WKCR	89.9	0.3546	0.1762	0.65	2.00	0.394
WPAT	93.1	0.3546	0.1762	7.50	2.113	4.250
WNYC	93.9	0.4673	0.1765	10.80	2.129	6.223
WSKQ	97.9	0.3975	0.1781	12.40	2.211	6.806
WHTZ	100.3	0.4638	0.1790	13.50	2.259	7.338
WKTU	103.5	0.5501	0.1803	13.50	2.324	7.203
WAXQ	104.3	0.5131	0.1806	13.50	2.341	6.844
WWPR	105.1	0.3892	0.1809	13.50	2.357	6.942
WLTW	106.7	0.4099	0.1815	13.50	2.390	6.669

<b>Table 2.</b> Summary of TV stations and maximum operating parameters relevant to this RF safety plan document.				
Call	Channel	Freq (MHz)	ERP (kW)	TPO (kW) Peak
WABC	7	174-180	205	50.0
WABC-DT	45	656-662	225 (STA)	13.8
WXTV	41	632-638	1,400	48.8
WFUT-DT	53	704-710	150	4.60 (STA) 9.69 (CP)
WFUT	68	794-800	3,000	80.4