

## EXHIBIT 29

### Compliance with Environmental Rules

The transmitting facilities for the proposed operation of WLKC(FM) do not fall into any of the categories listed in Sections 1.1307(a) (1) through 1.1307(a)(7) of the Commission's Rules, and will not involve utilization of high intensity white lights described in Section 1.1307(a)(8) of the Rules. This Exhibit demonstrates that the proposed operation of WLKC(FM) will conform substantially with the requirements of Section 1.1307(b) of the Rules and with the guidelines set forth in the Commission's "OET Bulletin 65 (Edition 97-01) (August 1997)" concerning exposure to radiofrequency radiation.

The proposed WLKC(FM) transmitting facilities will operate on Channel 277 (103.3 MHz) with 1.05 kW effective radiated power, employing a directional antenna system.

The antenna system for the proposed operation of WLKC(FM) is an Electronics Research Model LP-3E-DA-HW Antenna, which is comprised of three circularly polarized directional radiating elements mounted in a vertical line and spaced one-half wavelength between elements. The antenna system will be side-mounted on an existing tower that extends to an overall height of 27 meters above ground, with the antenna radiation center located 12 meters above ground, and with the lowest radiating element of the antenna system at a height of 11 meters above ground. An omnidirectional horizontal radiation pattern was assumed for each radiating element of the antenna system.

The proposed antenna system will be located at the Mount Mansfield "antenna farm." The utilization of this mountaintop site by broadcasters is an evolving coordinated effort that is presently in progress, and the applicant will cooperate fully with the other licensees to establish a safe environment for workers and the general public at the site.

Therefore, the analysis contained in this Exhibit should be viewed as preliminary, to establish that the proposed operation will have minimal effect on existing radio-frequency radiation levels at the "antenna farm." The applicant will prepare a more comprehensive analysis of the environmental effects of the proposed operation of WLKC(FM) as soon as additional information can be obtained, and will then promptly submit this information to the Commission as an amendment to this application.

For the proposed WLKC(FM) antenna system, the values of electric field strength in the "radiating near-field region" (and into the "radiating far-field region" beyond) of the antenna array were obtained by calculating at the observation point the electric field from each individual element of the array and then obtaining the vector sum of these fields. This method of computation was assumed to be valid for FM broadcast station antenna

## EXHIBIT 29 (continued)

### Compliance with Environmental Rules

arrays at points in the space where the distance to the nearest radiating element of the array is at least one wavelength. For these calculations, the vertical radiation pattern of each antenna element was assumed to be a cosine function modified to provide 15 percent of the horizontal radiation directly below (and also above) the radiating element, where a complete null would otherwise exist. In accordance with the procedures described in "OET Bulletin 65," a value of effective radiated power of 2.10 kW was assumed for the proposed WLKC(FM) antenna system, to take into account the circularly polarized radiation from the antenna system, and the calculated electric field strength was multiplied by 1.6 to approximate the effect of ground reflection. Plane-wave equivalent power density was then determined from this adjusted electric field strength value.

Computations of the values of adjusted electric field strength in the vicinity of the proposed WLKC(FM) antenna system, based upon the above described computing method, show that power density levels resulting from operation of the proposed antenna system would not exceed  $0.05 \text{ mW/cm}^2$ , or 25 percent of the Maximum Permissible Exposure value of  $0.2 \text{ mW/cm}^2$  for uncontrolled exposure situations at 103.3 MHz, at any point at a height of 2 meters or less above ground in the vicinity of the antenna supporting tower.

The base of the supporting tower for the proposed WLKC(FM) antenna system will be enclosed by a fence (at least 1.8 meters in height) with a locked gate, to prevent unauthorized access to the structure. One or more RF hazard warning signs will be posted near the base of the tower. At any time when it becomes necessary for workers to climb the supporting tower for maintenance work related to either the proposed WLKC(FM) antenna system or any other antenna system mounted on the tower, or to carry out work on other nearby tower structures at the "antenna farm," the station will operate at reduced power, or temporarily cease operation, as may be required to protect all workers from exposure to hazardous levels of radiofrequency radiation.

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