

EXHIBIT 29
FM AUXILIARY ANTENNA
WFIU 1.0 KW 75 M HAAT CH. 279
BLOOMINGTON, INDIANA

The applicant, The Trustees of Indiana University, requests authorization to employ an auxiliary antenna for FM broadcast station WFIU, Channel 279, Bloomington, IN. The instant application specifies an auxiliary antenna to be co-located on the WFIU tower at radiation center height well below the existing main antenna. Effective radiated power will be significantly less than the main facility and the specified combination of power and height will clearly not result in any extension the protected service contour of WFIU. Since the validity of this condition is so apparent, a map showing the locations of the main and auxiliary coverage contours is felt to be unnecessary.

The proposal will not to 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 Commission's rules since it specifies mounting an auxiliary antenna on an existing tower and does not exceed the safety standards for human exposure to radio-frequency (RF) energy in Section 1.1307(b) as described below.

The effective radiated power of 1.0 kW specified for the auxiliary facility will not result in RF contributions exceeding the *RF Radiation Exposure Limits* specified in Section 1.1310 of the Commission's rules. Accordingly, the maximum permissible exposure (MPE) limits for FM frequencies 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 was established based on a “worst case” estimation of ground level power density using the EPA prediction method adopted by the Commission. The “worst case” ground level power density contribution for the auxiliary facility, assuming 100% antenna field strength, is calculated to be less than $8 \mu\text{W}/\text{cm}^2$ at all locations 2 meters above ground. Since this estimated level is less than 5% of the guideline for both controlled and uncontrolled exposure, the applicant is not required to further evaluate the antenna location with respect to other RF contributors.

It has been demonstrated that the specified auxiliary facility will comply with the occupational exposure guideline at any ground level location. However, workers at higher elevations on the antenna structure, closer to the RF source, will be protected from excessive exposure to RF fields in accordance with the methods recommended in *OET Bulletin No. 65, Version 97-01*. The applicant has adopted a work policy designed in coordination with other users at the site to avoid harmful exposure when work is being done at higher elevations on the tower. Preventive steps to avoid excessive exposure during scheduled tower work includes operating the facility at reduced power or while the facility is shut down. A time averaging strategy may also be implemented.

Prepared by

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