NARRATIVE OF NIGHTTIME ALLOCATION

PROPOSED WXYT(AM)
DETROIT, MICHIGAN
1270 kHz - APRIL 2001

WXYT is a Class B station operating on 1270 kHz with two towers and 5 kilowatts at night. A nine-tower antenna is proposed which will operate at 48 kilowatts at night from a new location.

In an abundance of caution, clipping studies were performed on 8 stations. The clipping studies show that, even at the periphery of the protected contours of the 8 stations, protection is maintained.

Exhibit 15C compares the proposed standard fields to the maximum allowable fields. Those stations on which clipping studies were performed are shown first in Exhibit 15C. The stations which no clipping studied were performed are shown later in the file. Within the subgroups, the stations are listed in the order of ascending permissible field.

Exhibit 15C shows that, excepting for WKBF(AM), Rock Island, Illinois, each protected station would received less than 94% of the permissible value. Restated, a minimum additional safety margin of 6%, beyond the safety margin intrinsic in Part 73.150(b)(1)(i), is provided to all stations except WKBF.

Exhibit 15C shows that the WKBF clipping points at 0, 35, 80, 125 and 160 receive more than 94% of the maximum allowable field, but less than 100% of the allowable field. See map Exhibit 15E1 for the location of these points. The maximum allowable signal toward these points ranges from 71.3 mV/m to 76.0 mV/m. However, the large majority of the field toward these five points consists of the two safety factors in Part 73.150(b)(1)(i). It is not composed primarily of the "1-ohm" pattern.

For example, toward the WKBF 80 degree clipping point at the lower zenith, the field predicted by the 1-ohm pattern is only 2.2 mV/m. However, the Standard Pattern field is 70.28 mV/m. Using a Q value of 69.28 mV/m for 48 kilowatts and a $g(\theta)$ value of 0.9661 for 12.8 degrees of zenith, and using the form of Equation 2 from Part 73.150(b)(1)(i), the Standard Field is calculated as follows:

$$E_{STD}(\phi = 266.7, \theta = 12.8) = 1.05 \text{ X } [2.2^2 + (69.28 \text{ X } 0.9661)^2]^{½}$$

$$E_{STD}(\phi = 266.7, \theta = 12.8) = 70.28 \text{ mV/m}$$

It is impossible to manipulate the parameters of the proposed antenna design to provide a larger safety margin toward WKBF than is provided here, as the residual is in the construct of the computer model, not in the design. Nevertheless, the proposed pattern satisfies Part 73.182 and is entitled to grant.

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