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**NEW HAMPSHIRE PUBLIC RADIO
MODIFICATION OF CP FOR FM TRANSLATOR W290BK
F.C.C FILE NUMBER BNPFT-20030828AHF**

EXHIBIT 16 – ENVIRONMENTAL

The proposed antenna will be constructed on an existing tower with the equipment located in an existing building. No changes to the tower are required or proposed.

The proposed operation was examined for compliance with F.C.C. Guidelines on Human Exposure to Radiofrequency Electromagnetic Fields. The proposed operation will utilize a Scala CA5-FM/CP/RM antenna with a directional maximum ERP of 220 Watts at 15 meters above ground. The tower is located near the center of the Colebrook, NH landfill site with no occupied structures within 200 meters of the site.

Equation 9 from the F.C.C OET Bulletin 65 Edition 97-01 calculates the field density from a circular radiator and assumes the radiation toward the ground is equal to the maximum ERP.

Equation 9:
$$S = \frac{33.4 * ERP}{R^2}$$

Where: S = power density in $\mu\text{W}/\text{cm}^2$

ERP = power in Watts

R = distance in meters

Substituting the proposed parameters for ERP (220 Watts) and distance (13meters or two meters above ground) results in a worst-case field density of $43.5 \mu\text{W}/\text{cm}^2$. This field is less than 25% of the maximum allowable exposure level for the general population. Due to the directionality of the antenna in elevation as well as azimuth, the

actual fields will be far below the predicted level. No other broadcast or high power facilities are located on the tower.

The applicant understands that fields in excess of the Guidelines may be present on the tower in the vicinity of the antenna and will, in cooperation with any other users, protect workers on the tower from excessive exposure by reducing power or cessation of transmission as required.