

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING OF TEXAS, INC., licensee of full-power digital television station WMWC-DT, Channel 8 in Galesburg, Illinois, in support of its request for Special Temporary Authority to operate with a temporary antenna on Channel 8 while the main antenna is repaired. No change in transmitter site location is proposed herein.

It is proposed to mount the temporary SWR omnidirectional, circularly-polarized antenna at the 121.9-meter level of the existing 334.1-meter tower on which the present WMWC-DT antenna is mounted. The proposed effective radiated power for the facility will be 5.2 kW (H,V). Exhibit B is a map upon which the predicted service contours for the temporary facility are plotted. As shown, the community of Galesburg is completely encompassed by the proposed 43 dBu city-grade service contour. Exhibit C is a map on which the licensed main WMWC-DT contour is plotted in relation to that proposed for the temporary facility. From this map, it is clear that the service contour for the proposed temporary facility will lie completely within that of the present main WMWC-DT facility, as licensed in BLC DT-20120820AAQ.

Elevation pattern information for the proposed antenna is provided in Exhibit D. Since the facility proposed herein specifies a service contour that does not extend at any azimuth greater than that authorized to the main WMWC-DT station on Channel 8, no interference study is included herein. A power density calculation appears as Exhibit E.

Since no change in the overall height or location of the existing WMWC-DT tower is proposed herein, the Federal Aviation Administration has not been notified of this application.

EXHIBIT A

In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1225582 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read 'K. T. Fisher', with a stylized flourish at the end.

KEVIN T. FISHER

February 26, 2020

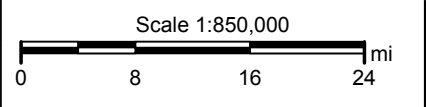
**CONTOUR POPULATION**  
**2018 U.S. CENSUS ESTIMATE**  
**CITY-GRADE (43 DBU) : 519,585 (234,662 HH)**  
**NOISE-LIMITED (36 DBU) : 589,691 (267,396 HH)**

**Smith and Fisher, LLC**

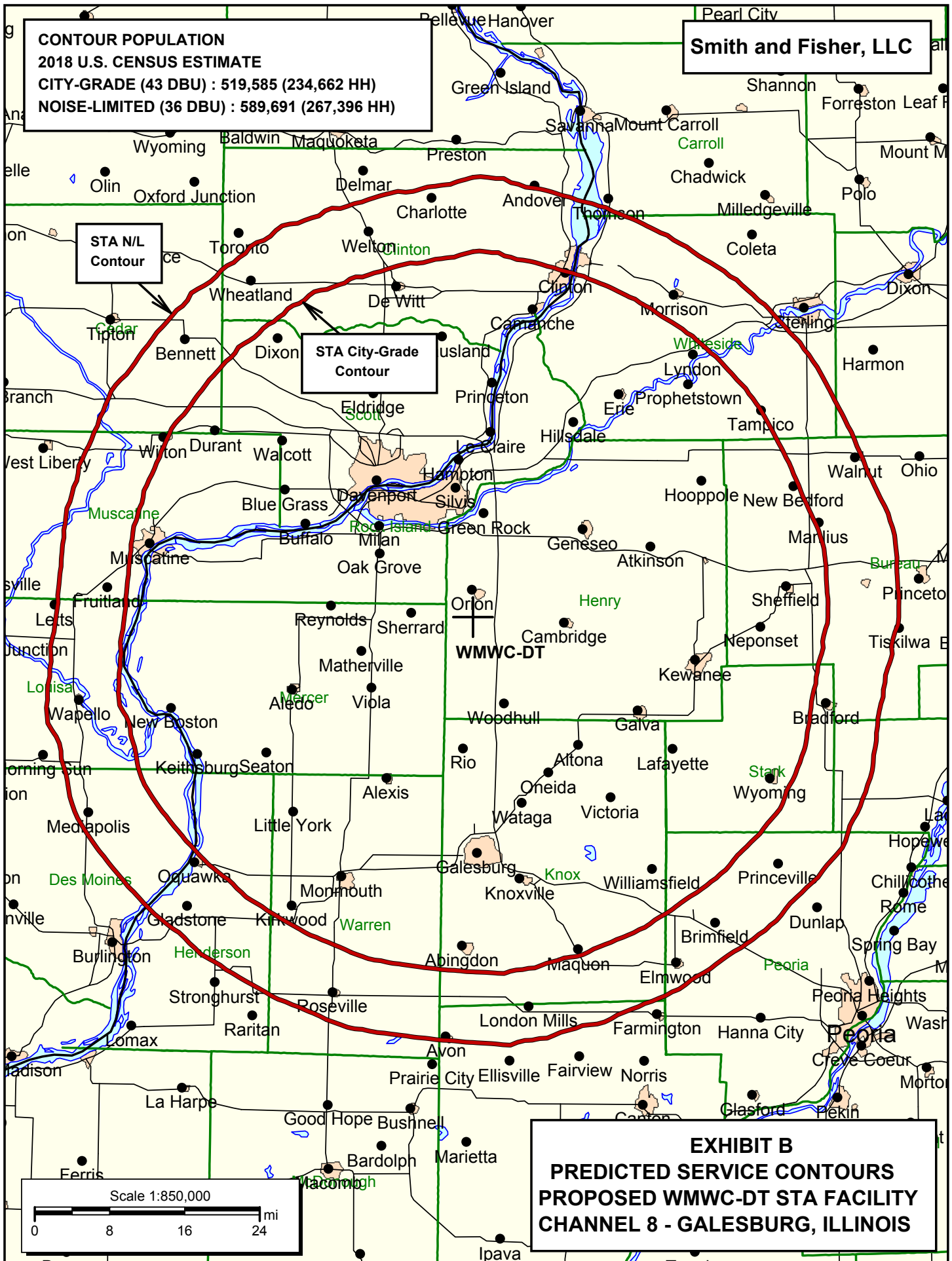
**STA N/L  
Contour**

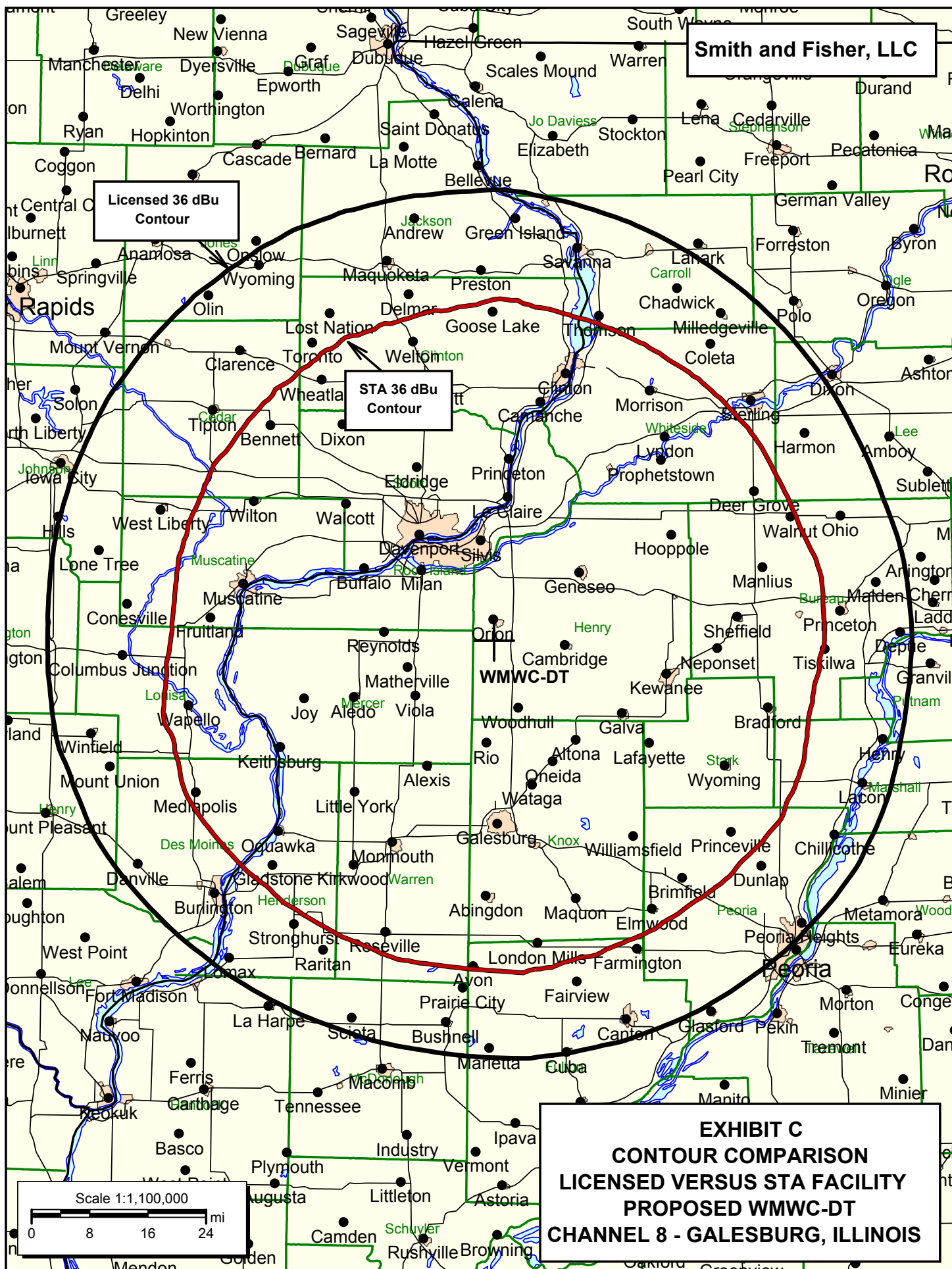
**STA City-Grade  
Contour**

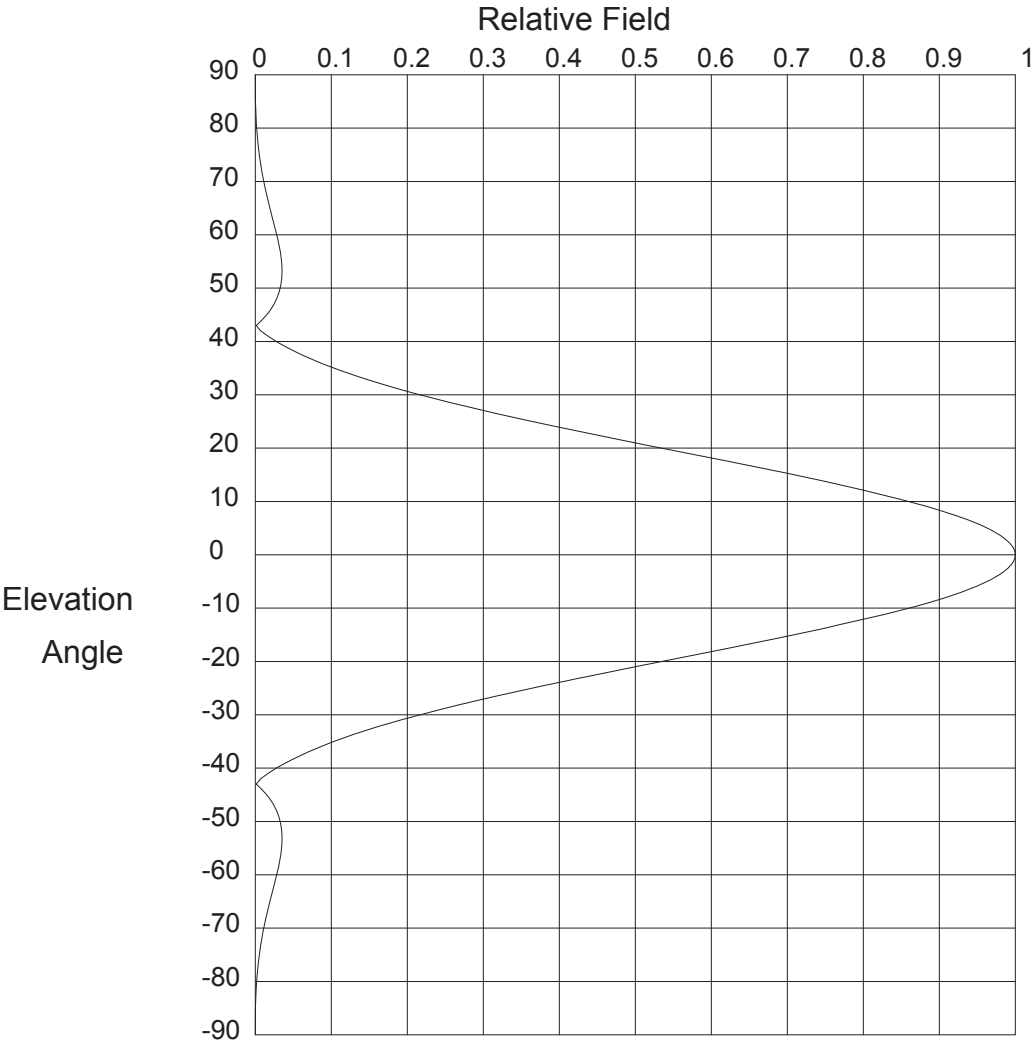
**WMWC-DT**



**EXHIBIT B**  
**PREDICTED SERVICE CONTOURS**  
**PROPOSED WMWC-DT STA FACILITY**  
**CHANNEL 8 - GALESBURG, ILLINOIS**







Elevation Pattern

Systems With Reliability

Scale: Linear  
Units: Field, Relative

CLIENT: <i>WUDT-LD</i>		Date: 2/04/2010
ANTENNA TYPE: SWCVL40I/8 Illumitron		
FREQUENCY: 183 MHz		
PATTERN POL.: Circular		
DIRECTIVITY(Peak): 2.289/3.596 dBd	Beam Tilt (Deg.) :	0
DIRECTIVITY(Horiz): 2.289/3.596 dBd	Null Fill(s)(%) :	-28, 0, 0

POWER DENSITY CALCULATION  
PROPOSED TEMPORARY WMWC-DT STA  
CHANNEL 8 – GALESBURG, ILLINOIS

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Galesburg facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 5.3 kW (H,V), an antenna radiation center 121.9 meters above ground, and the specific elevation pattern of the proposed SWR SWCVM4OI/8 antenna, maximum power density two meters above ground of  $0.00087 \text{ mW/cm}^2$  is calculated to occur 392 meters from the base of the tower. Since this value is only 0.4 percent of the  $0.20 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 8 (180-186 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.