

ENVIRONMENTAL STUDY

**WPXI-TV HOLDINGS, INC.
STATION WJAC-DT JOHNSTOWN, PENNSYLVANIA
CH 34 250 KW (MAX-DA, BT) 351 METERS**

WPXI-TV Holdings, Inc., (herein WPXI) proposes herein to operate the digital television (DTV) facilities of WJAC-DT, channel 34 (590 to 596 megahertz (MHz)), Johnstown, Pennsylvania, at a transmitter site located at geographic coordinates 40° 22' 17" North Latitude, 78° 58' 56" West Longitude (referenced to 1927 North American Datum), using a horizontally polarized directional antenna, 250 kilowatts (kW) maximum average effective radiated power (ERP), and 351 meters antenna radiation center height above average terrain. The proposed WJAC-DT antenna radiation center is 61 meters above ground level (AGL).

Public access to the WJAC-DT antenna and supporting structure will be restricted by a gated and locked, two-meter chain link fence topped with barbed

wire. There will be no casual or inadvertent access to the WJAC-DT transmitter site by the general public.

An analysis has been made of the human exposure to RFR using the calculation methodology described in *OET Bulletin 65, Edition 97-01*, prepared by the FCC Office of Engineering and Technology. A vertical plane relative field factor of 0.086, obtained from the manufacturer's theoretical vertical plane radiation pattern for the proposed WJAC-DT, Dielectric Communications, type TFU-24DCSR-C170, transmitting antenna, was used in the calculation of the WJAC-DT power density. The WJAC-DT maximum average ERP of 250 kW was used in the calculation of WJAC-DT power density. To account for ground reflections, a coefficient of 1.6 was included in the calculation. The WJAC-DT power density calculations reported herein were made at 590 MHz, the lower edge of the WJAC-DT channel.

The FCC maximum permissible exposure (MPE) limit for general population/uncontrolled exposure is 0.39 milliwatt-per-square-centimeter (mW/cm²) at 590 MHz. The FCC MPE limit for occupational/controlled exposure is 1.97 mW/cm² at 590 MHz. At a reference point two meters AGL at the base of the WJAC-DT supporting structure, the calculated WJAC-DT power density is 0.0177 mW/cm², which is 4.54 percent of the FCC MPE limit for general

population/uncontrolled exposure, and 0.90 percent of the FCC MPE limit for occupational/controlled exposure.

Pursuant to the provisions of *OET Bulletin 65, Edition 97-01*, at multiple-user transmitter sites, only those licensees whose transmitters produce power density levels in excess of 5.0 percent of the applicable exposure limit are considered “significant contributors” and share responsibility for actions necessary to bring the local RFR environment into compliance with FCC exposure limits. Since the WJAC-DT operation will contribute less than 5.0 percent of the most restrictive permissible exposure at any location on the ground at the multiple-user site, WJAC-DT is not considered a “significant contributor” to the local RF exposure environment and contributions to exposure from other sources in the vicinity of WJAC-DT were not taken into account in this analysis.

Additionally, the United States Forestry service has an observation tower 90 meters, along a bearing of approximately 270 degrees True from the proposed WJAC-DT site. The observation tower is located in an area of suppressed radiation from the directional antenna at a height of 23 meters AGL; this represents a depression angle of 23 degrees and a slant distance of 97.7 meters. The minor lobe of radiation in the horizontal plane at 270 degrees True has a relative field factor of 0.245. This relative field factor together with a conservative

relative field factor of 0.2 in the vertical plane at the specified depression angle has been used to calculate the power density of WJAC-DT in the observation tower to be 0.000005 mW/cm²; far less than calculations made for exposure levels on the ground. The contribution of the proposed WJAC-DT operation in the observation tower will be 0.0013 percent of the MPE for general population/uncontrolled exposures and will not be a “significant contributor” in the observation tower.

While not a “significant contributor” to the exposure levels at any location on the ground, or in the nearby observation tower the WJAC-DT operation will be a “significant contributor” to exposure at locations on the supporting structure near the WJAC-DT transmitting antenna. If work is done on the tower in an area where overexposure could occur, WPXI will take action necessary to prevent the overexposure of workers on the tower including reducing WJAC-DT transmitter power or ceasing WJAC-DT operation completely. Additionally, WPXI will cooperate with other site users to assure that work is performed at the site without exceeding the FCC MPEs for occupational/controlled exposure.

The instant proposal is categorically excluded from environmental processing since none of the conditions of Sections 1.1306(b)(1), (2), or (3) of the FCC Rules would be involved for the following reasons:

1. The WJAC-DT channel 34 DTV facility will utilize a supporting structure that is not in or near any location referenced in Section 1.1306(b)(1) of the FCC Rules as being of environmental interest.

2. The provision of Section 1.1306(b)(2) of the FCC Rules relating to the use of high-intensity strobe lighting does not apply since strobe lighting is not used on the WJAC-DT tower.

3. Finally, with regard to RFR exposure concerns, compliance with applicable FCC MPE limits would be achieved.