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ENGINEERING REPORT

WKPT-TV, Kingsport (TN) Minor Modification (Channel 32)

ENGINEERING STATEMENT

This is a minor change application to the CP facility of BLANK0000026140 to increase the service of WKPT-TV on its authorized channel 32. Figure EE1, attached, is a map showing the 41 dBu and 48 dBu F50,90 contours. (All contours are based on USGS three arc-second data and 72 evenly-spaced azimuths.)

The proposed maximum ERP of 265 kW is above the ERP allowed pursuant to Section 73.622(f)(6) for the proposed HAAT of 711 meters (243 kW) and is permitted by Section 73.622(f) of the FCC Rules in order to provide the same geographic coverage area as the largest station within the market. As demonstrated by Figure EE2, attached, the noise-limited contour of WCYB-DT (66,920 sq. km.; Channel 5, Bristol, VA) is larger than that of the proposed WKPT-TV noise-limited contour in all directions from the proposed site. The land area of the proposed WKPT-TV NL contour is 28,008 sq. km. While this area is significantly less than that of the WCYB-DT NL contour, it is believed that Section 73.622(f) should be interpreted to allow for the requested ERP.

The output from the FCC's current "TVStudy" software is attached (as edited to remove superfluous scenarios) that demonstrates full compliance with the FCC's protection requirements.

ENVIRONMENTAL STATEMENT

This proposal does not involve a site location specified under Section 1.1307(a) through (a)(8) of the FCC Rules.

The digital TV station of the Applicant at this location produces an ERP that is less than or equal to 265 kilowatts. Assuming: (a) a maximum ERP of 265 kilowatts; (b) a relative field of less than 0.2 in the critical downward angles; and (c) a distance of at least 55 meters from the lowest antenna element to 2 meters above ground level, the maximum power density is calculated as follows:

$$S = 33.4 \, (F)(F)(ERP) / [(R)(R)]$$

Where,   S equals power density in uW/cm2
            F equals the relative field factor
            ERP equals the effective radiate power in watts
            R equals the distance in meters

= 33.4 (0.2)(0.2)(265,000) / [(55)(55)]

= 117.0 uW/cm^2

117.0 uW/cm^2 represents less than the uncontrolled power density limit (315.3 uW/cm^2 for UHF; 200 uW/cm^2 for VHF).   The electromagnetic radiation from this proposed operation will not produce a value in excess of the radiation standard. The electromagnetic radiation from the proposed operation will not combine with other facilities on or near the structure to produce a significant change in value.

If this is a structure that may support various other operations, the applicant will cooperate with the other operators in establishing a plan for work done on the structure in close proximity to the existing antenna.
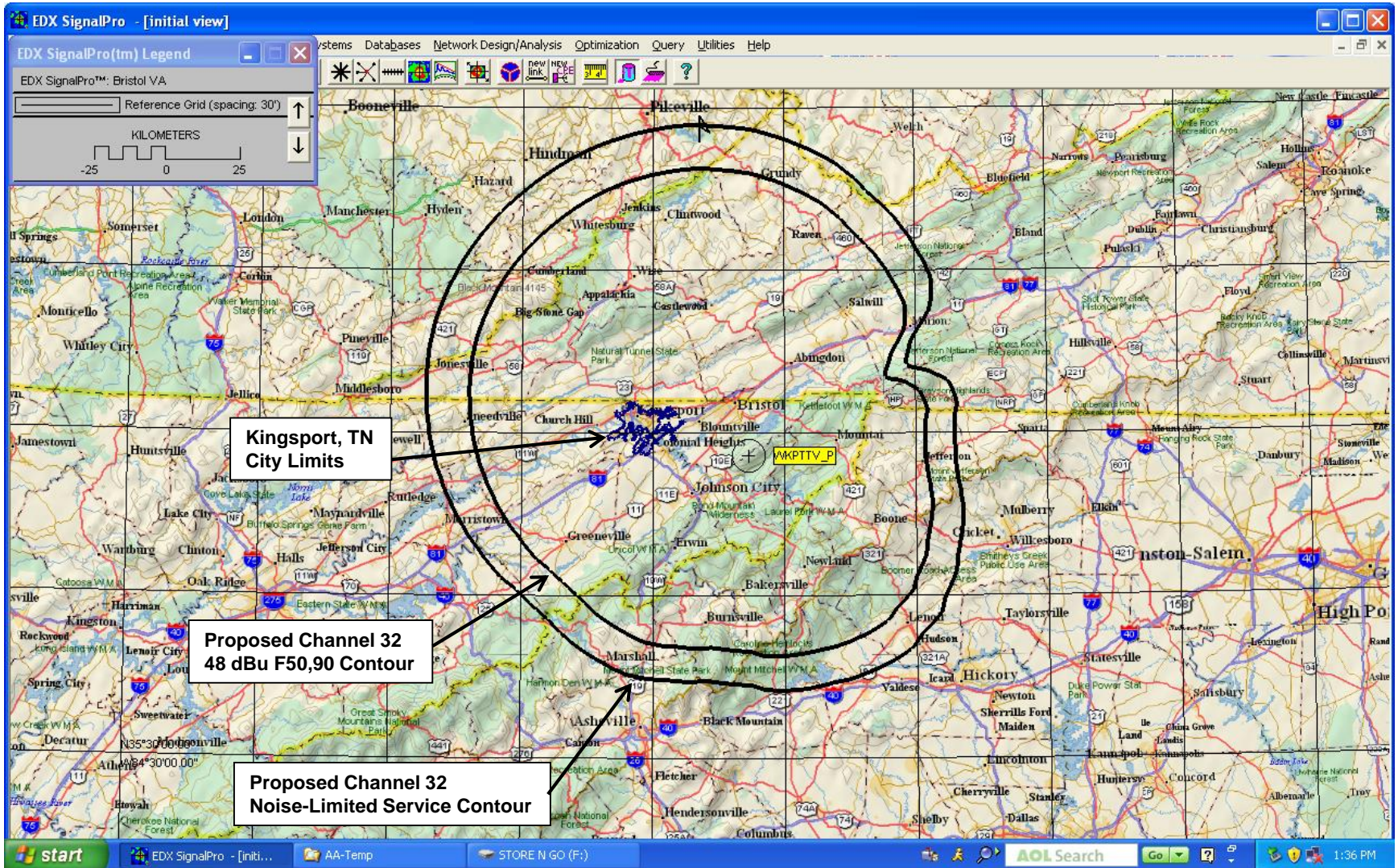
FIGURE EE1: PREDICTED COVERAGE CONTOURS

FIGURE EE2: SECTION 73.622(f)(5) COMPLIANCE SHOWING