

ENGINEERING STATEMENT

Request for Special Temporary Authorization prepared for

Gray Television Licensee, Inc.
WSAZ-DT Huntington, WV
Facility ID 36912

Gray Television Licensee, Inc. (“Gray”) is the licensee of television station WSAZ-TV, analog Channel 3 and digital Channel 23, Huntington, WV. This statement supports *Gray’s* request for Special Temporary Authority (“STA”) to initially operate the post-transition digital WSAZ-DT with a reduced facility. This statement supplies coverage and population data as specified in the Report and Order in the Third Periodic Review¹ for a phased implementation (alternative buildout) of the WSAZ-DT post-transition operation.

A construction permit (BMPCDT-20080414AAQ) authorizes WSAZ-DT to operate its post-transition digital facility on Channel 23, which is the same as the WSAZ-DT pre-transition channel. The authorized post-transition digital operation involves an effective radiated power (“ERP”) of 825 kW at 387 meters antenna height above average terrain (“HAAT”), with a top-mounted nondirectional antenna. WSAZ-DT is currently operating during the transition pursuant to STA with a side-mounted antenna at 724 kW ERP and an antenna HAAT of 364 meters. A “use or lose” waiver was previously granted for antenna top-mount / side-mount issues associated with the top-mounted analog WSAZ-TV Channel 3 antenna. *Gray* will replace the top-mounted WSAZ-TV analog Channel 3 antenna with a digital Channel 23 antenna following the transition date. Thus, continued operation with the current STA facility is necessary for a short time after the transition date.

¹*Third Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, MB Docket No. 07-91, FCC 07-228, released December 31, 2007.

The proposed STA facility will operate with 724 kW ERP and 364 meters antenna HAAT, which is the same facility currently employed in the pre-transition period. No interference study is necessary, since the STA parameters do not exceed the WSAZ-DT Appendix B facility (724 kW ERP at 402 meters HAAT).

A contour comparison map is supplied as **Figure 1**, showing the coverage contours associated with the STA digital Channel 23 and licensed analog Channel 3 facilities. Population counts using OET Bulletin 69² analysis for the transition period show that the licensed WSAZ-TV analog Channel 3 facility's service population is 1,003,602 persons and the WSAZ-DT STA Channel 23's service population is 1,118,889 persons. The proposed post-transition STA operation of WSAZ-DT with its pre-transition STA facility would serve 1,121,891 persons in the post-transition period. The digital service population increases slightly from pre-transition levels since incoming interference levels are changed with the elimination of nearby analog stations. The proposed STA facility would continue to provide service to all areas that presently receive analog and digital service from WSAZ-TV, as shown on **Figure 1**.

The proposed STA operation complies with the FCC's limits concerning human exposure to RF energy. Based on OET-65 equation (10), and considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 15 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $3.1 \mu\text{W}/\text{cm}^2$, which is 0.9 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent. The applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



Joseph M. Davis, P.E.
August 14, 2008

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List of Attachments

Figure 1 STA Coverage Contour Comparison

Figure 1
STA Coverage Contour Comparison
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