

ENGINEERING EXHIBIT

Application for Auxiliary Antenna License (Use a Former Main Facility as an Auxiliary)

prepared for

Gray Television Licensee, LLC

WNDU-TV South Bend, IN

Facility ID 41674

Gray Television Licensee, LLC (“Gray”) is the licensee of WNDU-TV, Facility ID 41674, Channel 42, South Bend, IN. WNDU-TV has recently commenced operation with a new main antenna pursuant to a Construction Permit (“CP” BMPCDT-20110809AAO) and a license application is pending (BLCDT-20120514ACQ) to cover the CP. The new main antenna is authorized to operate at 800 kW effective radiated power (“ERP”) with a nondirectional antenna 312 meters height above average terrain (“HAAT”). Pursuant to §73.1675(c)(1) *Gray* herein seeks to license the former WNDU-TV main antenna (BLCDT-20060717AAG) for use as an auxiliary antenna.

The former main antenna operated at 560 kW ERP nondirectional at 282 m HAAT on a separate tower structure located immediately adjacent to the new main antenna’s tower.¹ As proposed herein, the ERP is set to 631 kW which corresponds to the same transmitter power now utilized for the new main antenna. A coverage contour comparison map is attached as Figure 1 which shows compliance with §73.1675(a)(1).

¹ The new main antenna (BLCDT-20120514ACQ) is top-mounted on the tower structure associated with FCC Antenna Structure Registration number 1027596. The adjacent tower which supports the proposed auxiliary antenna (the former main antenna BLCDT-20060717AAG) is associated with ASR number 1027597.

Directional AM station WSBT (Facility ID 73985, DA-2, 960 kHz, South Bend, IN) is located 1.3 km from the WNDU-TV site. The WNDU-TV auxiliary antenna proposal specifies use of an existing antenna. No tower or antenna work is required to carry out this proposal. Therefore coordination with the nearby AM station is not necessary and it is requested that a condition requiring AM station pattern measurements not be placed on the WNDU-TV auxiliary antenna authorization.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. 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 0.7 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 general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposal involves use of an existing transmitting antenna. No antenna or tower work is required to carry out this proposal.

Certification

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.
May 22, 2012

Chesapeake RF Consultants, LLC
207 Old Dominion Road
Yorktown, VA 23692
703-650-9600

List of Attachments

Figure 1 Coverage Contour Comparison

