

ENGINEERING EXHIBIT

Request for Special Temporary Authorization prepared for

Gray Television Licensee, LLC
WMBP-LD Mobile, AL
Facility ID 186343

Gray Television Licensee, LLC (“Gray”), licensee of WMBP-LD (Channel 31, Facility ID 186343, Mobile AL) requests Special Temporary Authority (“STA”) to operate with parameters at variance. WMBP-LD is licensed (file# 0000199618) to operate with 4.1 kW effective radiated power (“ERP”) with a horizontally polarized nondirectional antenna at 318.5 meters height above ground level (“AGL”). A Construction Permit (“CP” file# 0000203283) authorizes WMBP-LD to utilize an elliptically polarized nondirectional antenna at increased ERP (no change to site location or antenna height).

Gray is working towards construction of the facilities authorized in the CP. As authorized, WMBP-LD will operate with 15 kW ERP with a nondirectional antenna centered 318.5 meters AGL. The CP facility’s site location is the same as that as licensed, which is the tower structure associated with FCC Antenna Structure Registration number 1059778. Delivery of the antenna authorized in the CP, a Dielectric model TLP-12A/VP-R, has been achieved and it is on site.

The required transmitter power output (“TPO”) for the 15 kW ERP operation is 2.97 kW. A new transmitter capable of that power level has been ordered with an estimated installation occurring mid to late January 2023. The existing transmitter can provide a maximum TPO of 2.24 kW, which would achieve an ERP of 11.3 kW with the authorized antenna. The STA sought herein is to operate WMBP-LD with the elliptically polarized nondirectional antenna and height as authorized in the CP at a reduced ERP of 11.3 kW. The proposed STA facility ERP is 11.3 kW horizontally polarized and 3.4 kW vertically polarized using a “full service” out of channel emission mask.

Figure 1 depicts the 51 dBμ coverage contour of the proposed STA operation (11.3 kW ERP) along with those of the authorized (15 kW) and licensed facilities (4.1 kW). The proposed STA operation will provide service improvement as the population within the 51 dBμ contour increases to 713,259 persons (2010 census), which is an 18.7 percent increase beyond the 600,856 persons within the licensed WMBP-LD facility's 51 dBμ contour.

Regarding RF exposure, calculations per FCC OET Bulletin Number 65 (considering 20 percent antenna relative field in downward elevations) show that the signal density near the tower at two meters above ground level attributable to the proposed facility is $0.2 \mu\text{W}/\text{cm}^2$, which is 0.05 percent of the general population/uncontrolled maximum permitted exposure limit. This is well 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 having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

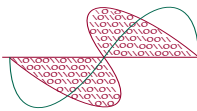
List of Attachments

Figure 1 Proposed STA Coverage Contours

Chesapeake RF Consultants, LLC

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Chesapeake RF Consultants, LLC
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Figure 1
Coverage Contour Comparison
WMBP-LD Mobile, AL
Facility ID 186343

prepared for
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November, 2022

