

Consolidated Technical Statement

prepared March 2024 for

Washington DC FCC License Sub, LLC

WBQH(AM) STA Silver Spring, Maryland



CAVELL
MERTZ
& Associates, Inc.

a division of



Capitol Airspace Group

Request for Special Temporary Authority for WBQH(AM)

This request for Special Temporary Authority (“STA”) is being made by *Washington DC FCC License Sub, LLC* (“Hubbard”) with regard to its authorized Class D AM facility, Station WBQH, 1050 kHz, Silver Spring, Maryland¹.

WBQH is presently licensed to operate non-directionally with 10 kW during daytime hours, 0.5 kW pre-sunrise, and 0.044 kW during nighttime hours. In January 2024, *Hubbard* received an FCC Construction Permit (“CP”) to relocate the WBQH facility to its co-owned WFED(AM) site using existing diplexing circuitry constructed for a prior STA test operation. The new parameters for WBQH at the WFED site include non-directional operation at 2 kW during daytime hours and 0.041 kW during nighttime hours².

It is herein respectfully requested to temporarily operate WBQH at 1 kW daytime and 0.040 kW nighttime, non-directionally, using one of the existing towers of WFED in the same fashion as was permitted in a previously granted STA for measurement tests (please see BSTA-20220407AAC). This is for the purpose of completing the equipment installation necessary to fulfill the CP, which requires the deconstruction of the present licensed facility to accomplish. A period of 120 days for this temporary operation is herein respectfully requested, which should allow for continued operation of WBQH while the completion of construction of the authorized CP facilities is undertaken.

In particular, the “Central Tower” (Tower Number 2) of the WFED three tower directional antenna array will again be used as the temporary WBQH radiator. The FCC Antenna Structure Registration (“ASR”) number for this tower is 1053550; the overall height above ground for this tower is 108.8 meters. It is not top loaded or sectionalized. The height above the base insulator is 102.71 meters, which translates into an electrical height of 129.5 degrees at the WBQH frequency of 1050 kHz. The theoretical RMS for the WBQH STA operation will be 331.61 mV/m per kW at 1 km. Customary diplexing equipment with the necessary filters, traps and detuning circuits will be employed for this STA operation.

As shown on the coverage map ([Figure 1](#)) on the last page of this document, the proposed STA 1 kW daytime power level would ensure that the proposed STA 0.5 mV/m contour would be entirely contained within the licensed (and authorized CP) WBQH 0.5 mV/m contour. The entirety of the WBQH principal community would continue to receive 5 mV/m daytime service from the STA operation.

As documented in the above referenced prior STA, the proposed nighttime STA operation, at a power level of 40 Watts would be permissible in that no adverse impact would be caused to other stations. Additional information in this regard will be provided upon request.

Environmental and RF Exposure Considerations

It is believed that the proposed STA facility may be excluded from environmental processing under 47 C.F.R. Section 1.1306 because the proposed STA facility would not have a significant environmental impact.

The STA facility would be located on an existing structure, the WFED central tower. No physical changes will be necessary for this structure, nor will any construction be required within its immediate area. As discussed in the Notes of FCC Rule Section 1.1306, the use of existing towers and sites has been deemed

¹ FCC Facility ID 8673, FCC License File Number BL-20110614ACT, FCC Construction Permit File Number 0000223655.

² A continuation of the existing pre-sunrise authority has been requested for the relocated WBQH operation.

by the FCC to be an environmentally preferable alternative to the construction of new sites or structures, and as such, this proposal is believed to be exempt from environmental processing.

Additionally, the proposed STA operation will comply with the maximum permissible radiofrequency electromagnetic exposure ("MPE") limits for controlled and uncontrolled environments. Specifically, the involved tower base is surrounded by a posted and locked fence that limits approach to any energized surface to distances greater than four meters (see following paragraph). Further, all of the towers at this site are enclosed by a locked perimeter fence. Beyond that, an additional fence is installed along the greater property boundary.

It has been calculated that RF exposure at locations beyond four meters from the proposed STA operation will not exceed the FCC's published guidelines. In particular, assuming a 'worst case' STA power level of 1 kW (1000 Watts) at the tower base for the involved antenna, the calculated exposure levels will be 41.9 V/m (or 0.47% of the electric MPE limit for uncontrolled/general population environments), and 0.132 A/m, (or 0.65% of the magnetic MPE limit for uncontrolled/general population environments) for the proposed WBQH STA operation. The proposed lesser powered (40 Watt) nighttime operation would create even less of an RF exposure concern.

The host station, WFED, operates into three towers with 50 kW (directional) both day and night. The proposed STA operation will employ one of the existing WFED towers. assuming an improbable 'worst case' value of WFED operating with 50 kW (50,000 Watts) at the tower base for the involved antenna, the calculated exposure levels from WFED at four meters from the tower will be 526.4 V/m (or 91.83% of the electric MPE limit for uncontrolled/general population environments), and 0.387 A/m, (or 7.01% of the magnetic MPE limit for uncontrolled/general population environments) for the WFED operation.

Combining the calculated exposure four meters away from the tower base for both WFED and the proposed WBQH STA 1 kW operation, the calculated exposure levels will be 92.3% of the electric MPE limit for uncontrolled/general population environments), and 7.66% of the magnetic MPE limit for uncontrolled/general population environments, or less than 100% of the limits.

Hubbard herein affirms that it will coordinate operations with co-owned WFED and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines. No one will be permitted to touch or work on an energized tower.

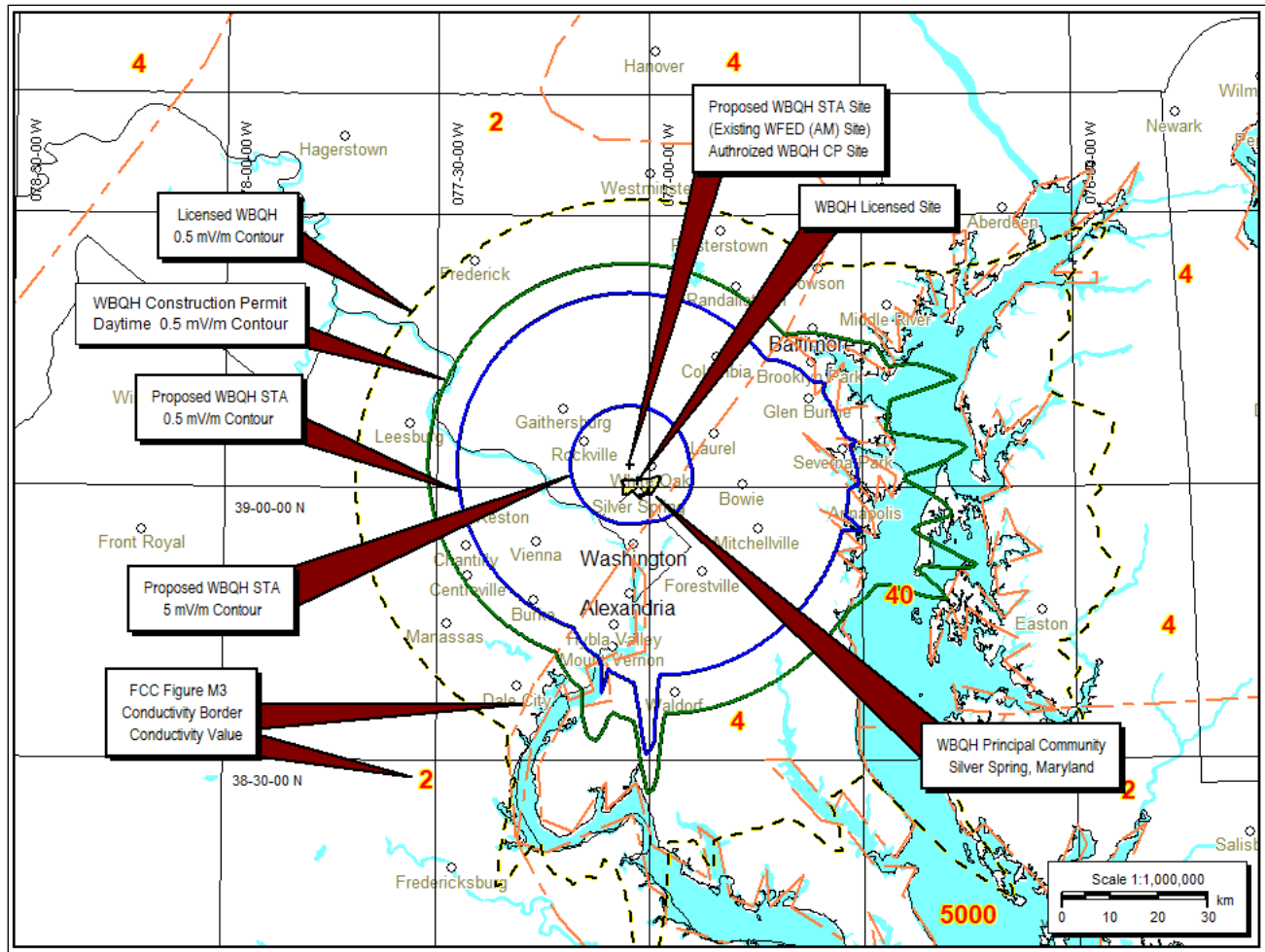


Figure 1: Predicted Licensed, Authorized, and Proposed STA Contours