Kessler and Gehman Associates
Consultants • Broadcast • Wireless

MINOR MODIFICATION TO A CONSTRUCTION PERMITTED TELEVISION BROADCAST STATION

CALL SIGN: WACS-TV
FACILITY ID: 23930
FCC FILE NO.: 0000034746
LOCATION: DAWSON, GA

Prepared For:

Georgia Public Telecommunications Commission
260 14th St NW
Atlanta, GA 30318

Prepared By:

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December 16, 2020

1.0 MINOR MODIFICATION APPLICATION

Georgia Public Telecommunications Commission is the licensee of a television broadcast station having call sign WACS-TV facility ID 23930. It is herein proposed to

- decrease the ERP from 31kW to 26.3kW,
- change the antenna from a Dielectric TF-6HT to a Jampro JSM-5 / 7 TETO-V-R,
- and change the electrical beam tilt from 0.75 degrees to 0.5.

No other changes are proposed. Pursuant to 47 CFR § 73.3572 the instant application is considered a minor modification since:

- No change in frequency is proposed
- No change in community of licensed is proposed

2.0 ALLOCATION ANALYSIS

Appendix A are the summarized results from TVStudy V2.2.5 which illustrates that 4.20% interference is predicted to WXGA-TV which is owned by the instant applicant and has previously consented to 4.38% interference caused by the grant of the underlying WACS-TV construction permit[1]. As demonstrated, the proposed facility reduces the interference from 4.38% to 4.20% which is a net reduction and is thus compliant.

3.0 § 73.625 PREDICTED CONTOURS

Appendix B illustrates the § 73.625 predicted F(50,90) 36.0 dBµV/m noise limited protected contour and the 43.0 dBµV/m principal community coverage contour.

[1] FCC File No.: 0000034746

As illustrated the 43 dBμV/m contour completely subsumes the principal community of license as required and the coverage loss is *de minimis.*

The Appendix B predicted coverage contours were generated using V-Soft Probe-5[2] software in accordance with § 73.625(b) methodology using F(50,90) propagation curves. The average terrain was extracted from three arc second terrain along eight equally spaced cardinal radials from 3 kilometers to 16 kilometers from the site and beginning from true north.

4.0 RADIO FREQUENCY RADIATION COMPLIANCE

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

> Terrain[3] extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

> Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001 mile increment, the value is

[2] Version 5.17
[3] Terrain extraction is based upon a 3 arc second point spacing terrain database.

then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix C demonstrates that the peak exposure is 0.051% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and is excluded from further environmental processing since no changes are proposed to the tower structure in order to accommodate the proposed antenna.

A chain link fence encloses the support structure, and the applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary, completely cutting it off to protect maintenance workers on the tower.

5.0 CERTIFICATION

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on December 16, 2020

Ryan Wilhour

Consulting Engineer

APPENDIX A – TVStudy V2.2.5 Allocation Analysis

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Study created: 2020.12.16 10:50:39

Study build station data: LMS TV Class A's Removed

    Proposal: WACS-TV D7 DT CP DAWSON, GA
 File number: WACS-TV Proposed
 Facility ID: 23930
Station data: User record
   Record ID: 457
     Country: U.S.
        Zone: III

Stations potentially affected by proposal:

IX   Call      Chan       Svc Status  City, State              File Number             Distance
Yes  WVTM-TV   D7         DT  LIC     BIRMINGHAM, AL           BLANK0000118122         271.7 km
Yes  WGTV      D7         DT  CP      ATHENS, GA               BLANK0000034195         211.1
Yes  WGTV      D7         DT  BL      ATHENS, GA               DTVBL23948              211.1
Yes  WXGA-TV   D7         DT  LIC     WAYCROSS, GA             BLANK0000113481         203.2
No   WDAM-TV   D7         DT  LIC     LAUREL, MS               BLCDT20100129ABY        450.6
No   WOLO-TV   D7         DT  LIC     COLUMBIA, SC             BLANK0000117301         428.2
No   WKNX-TV   D7         DT  LIC     KNOXVILLE, TN            BLCDT20040810ABE        456.3
Yes  WSFA      D8         DT  LIC     MONTGOMERY, AL           BLANK0000124224         151.8
No   WVAN-TV   D8         DT  LIC     SAVANNAH, GA             BLANK0000113482         277.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

    Channel: D7
   Latitude:  31 56 12.40 N (NAD83)
  Longitude:  84 33 12.80 W
Height AMSL: 468.6 m
       HAAT: 336.2 m
   Peak ERP: 26.3 kW
    Antenna: Omnidirectional
Elev Pattrn: Generic
  Elec Tilt: 0.50

36.0 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg   26.3 kW   335.9 m  102.7 km
 45.0       26.3      337.6    102.8
 90.0       26.3      355.0    104.2
135.0       26.3      339.9    103.0
180.0       26.3      344.7    103.4
225.0       26.3      334.3    102.5
270.0       26.3      325.5    101.8
315.0       26.3      316.9    101.1

Distance to Canadian border: 1095.3 km

Distance to Mexican border: 1372.1 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 355.8 degrees   Distance: 214.6 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 301.9 degrees   Distance: 2061.9 km


Study cell size: 2.00 km
Profile point spacing: 1.00 km
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Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

**IX check failure to BLANK0000113481 LIC scenario 1, 4.20% interference caused
**IX check failure to BLANK0000113481 LIC scenario 2, 4.20% interference caused

---- Below is IX received by proposal WACS-TV Proposed ----

Proposal receives 6.59% interference from scenario 1
Proposal receives 6.61% interference from scenario 2
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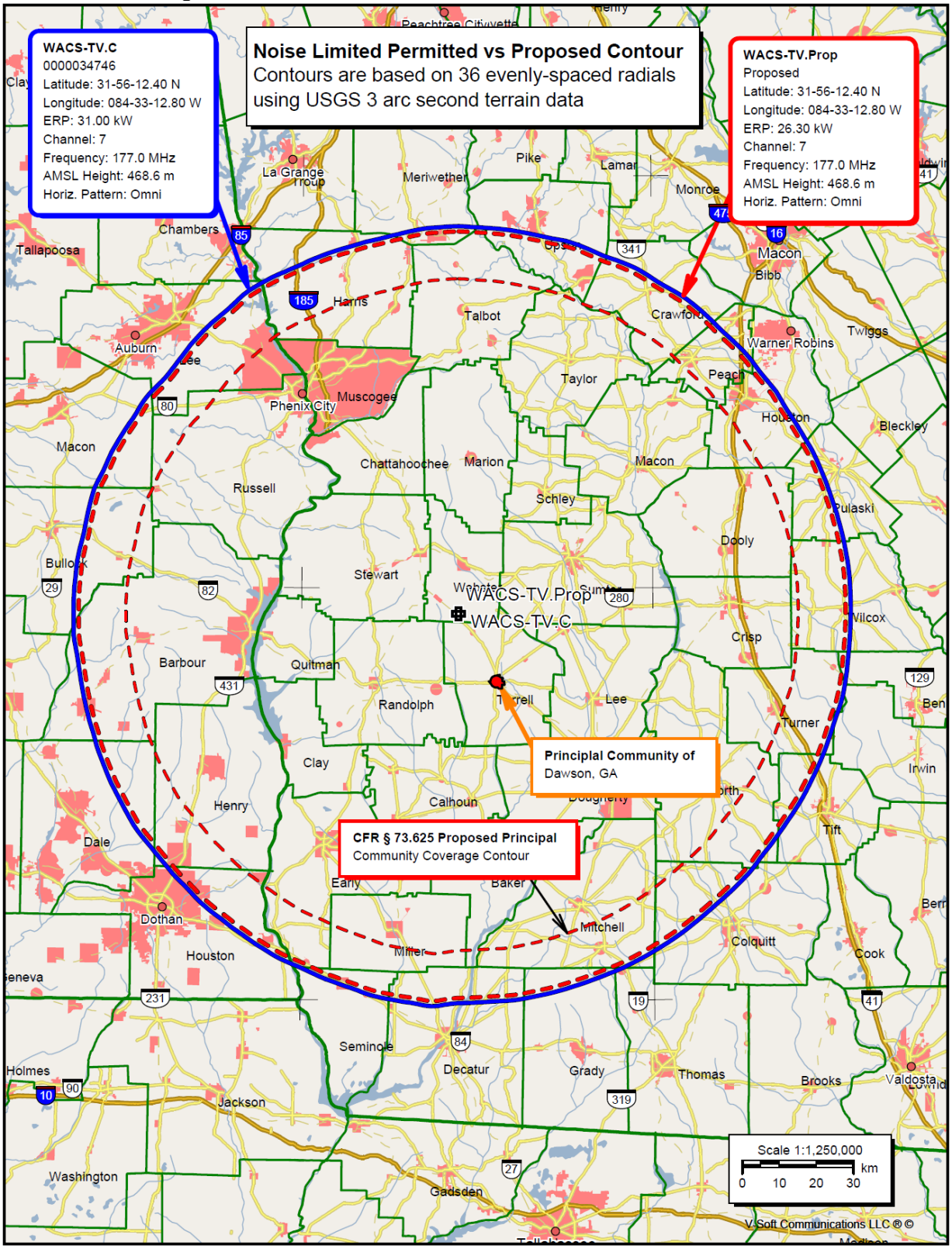
APPENDIX B – § 73.625 Predicted Contours



APPENDIX C – Far Field Exposure to RF Emissions