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MINOR MODIFICATION TO A CONSTRUCTION PERMITTED TELEVISION BROADCAST STATION

CALL SIGN: WNTV
FACILITY ID: 61010
FCC FILE NO.: 0000034598
LOCATION: GREENVILLE, SC

Prepared For:

South Carolina Educational TV
Commission
1041 George Rogers Boulevard
Columbia, SC 29201

Prepared By:

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1.0 MINOR MODIFICATION APPLICATION

South Carolina Educational TV Commission is the licensee of a television broadcast station having call sign WNTV facility ID 61010. It is herein proposed to modify the construction permitted facility as follows:

- Change the Antenna Structure Registration from 1059181 to 1323121
- Change the NAD 83 Site Coordinates from
 - 34° 56' 29.0" N 82° 24' 37.0" W to
 - 34° 56' 28.4" N 82° 24' 37.0" W
- Decrease the center of radiation height by
 - 79.9m to 78.4m above ground level
 - 697.7 m to 697.1m above mean sea level
 - 390.0 m to 389.3m above average terrain

Pursuant to 47 CFR § 73.3572 the instant application is considered a minor modification since no change in community of licensed or channel change is proposed.

2.0 ALLOCATION ANALYSIS

Appendix A are the summarized results from TVStudy V2.2.5 using a **modified cell size of 1.0km instead of the 2.0 default**. The study illustrates that the proposed facility causes no interference failures.

3.0 SECTION § 73.625 PREDICTED CONTOUR COMPLIANCE

Appendix B illustrates the § 73.625 predicted F(50,90) 36.0 dBµV/m noise limited protected contour and the F(50,90) 43.0 dBµV/m principal community coverage contour. As illustrated the 43 dBµV/m contour completely subsumes the principal community of license as required.

The Appendix B predicted coverage contours were generated using V-Soft Probe-5¹ 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 National Environmental Policy Act (NEPA)

4.1 General Environmental Requirements

The proposed antenna is to be top mounted to an existing tower which is registered with the FAA and FCC and will not require modification since there is no change in overall height. Since the existing structure has been previously accepted by the FAA and the FCC, it is thus presumed that the following screening criteria has already been mitigated:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation, or water diversion).

¹ Version 5.19

4.2 Radio Frequency Radiation (RFR) 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 extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using 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 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 B demonstrates that the peak exposure is 3.37% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitters that produce power density levels greater than 5.0% of the exposure limit are

considered significant contributors to RFR and require a cumulative study including all emitters in the proximity of the proposed transmitter site. The proposed facility is in a complex RF environment and is beyond the scope of theoretical calculations to formulate the cumulative effect. Individually the proposed facility has no significant effect on human exposure but cumulatively may and is thus not categorically excluded from environmental processing.

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 October 3, 2022

Ryan Wilhour



Consulting Engineer

WNTV – Minor Modification to a Construction Permitted Television Broadcast Station

Greenville, SC

APPENDIX A – WNTV Proposed TVStudy V2.2.5 Allocation Analysis

Study created: 2022.10.03 11:56:46

Study build station data: LMS TV 2022-10-03

Proposal: WNTV D8 DT CP GREENVILLE, SC
File number: WNTV on New Tower
Facility ID: 61010
Station data: User record
Record ID: 1167
Country: U.S.
Zone: II

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WGTV	D7	DT	LIC	ATHENS, GA	BLANK0000132560	203.1 km
Yes	WOLO-TV	D7	DT	LIC	COLUMBIA, SC	BLANK0000117301	176.5
Yes	WKXN-TV	D7	DT	LIC	KNOXVILLE, TN	BLCDT20040810ABE	181.9
No	WKIN-CD	D7	DC	LIC	WEBER CY,VA-KPT,TN, VA	BLANK0000001494	177.0
Yes	WVAN-TV	D8	DT	LIC	SAVANNAH, GA	BLANK0000113482	319.1
No	WBNA	D8	DT	CP	LOUISVILLE, KY	BLANK0000035747	455.4
No	WBNA	D8	DT	LIC	LOUISVILLE, KY	BLANK0000196975	455.4
Yes	WNCN	D8	DT	LIC	GOLDSBORO, NC	BLANK0000125308	361.5
No	WGSC-CD	D8	DC	LIC	MURRELLS INLET, SC	BLANK0000053146	343.3
No	WGSC-CD	D8	DC	LIC	MURRELLS INLET, SC	BLANK0000164787	344.4
Yes	WDEF-TV	D8	DT	LIC	CHATTANOOGA, TN	BLANK0000139132	266.0
Yes	WDEF-TV	D8	DT	CP	CHATTANOOGA, TN	BLANK0000184628	266.0
Yes	WSWP-TV	D8	DT	LIC	GRANDVIEW, WV	BLANK0000152886	352.2
Yes	WTVI	D9	DT	LIC	CHARLOTTE, NC	BLANK0000117588	160.6
No	WTVC	D9	DT	LIC	CHATTANOOGA, TN	BLCDT20090914ABU	265.7
No	WTVC	D9	DT	CP	CHATTANOOGA, TN	BLANK0000035651	265.7
Yes	WJHL-TV	D9	DT	LIC	JOHNSON CITY, TN	BLANK0000116747	167.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D8
Latitude: 34 56 28.40 N (NAD83)
Longitude: 82 24 37.00 W
Height AMSL: 697.1 m
HAAT: 389.3 m
Peak ERP: 180 kW
Antenna: Dielectric-THV-9A8/VP-R C160 SP (ID 1003897) 305.0 deg
Elev Pattern: Generic
Elec Tilt: 0.50

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	164 kW	369.4 m	122.4 km
45.0	176	398.9	126.2
90.0	168	389.7	124.6
135.0	179	391.4	125.5
180.0	149	400.5	124.4
225.0	61.0	402.5	115.4
270.0	37.5	392.9	110.2
315.0	77.0	369.1	114.7

ERP exceeds maximum

ERP: 180 kW ERP maximum: 95.4 kW

Distance to Canadian border: 748.6 km

Distance to Mexican border: 1707.7 km

Conditions at FCC monitoring station: Powder Springs GA

Bearing: 241.2 degrees Distance: 243.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 292.8 degrees Distance: 2085.1 km

Study cell size: 1.00 km

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Greenville, SC

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Proposal causes 0.21% interference to BLANK0000117301 LIC scenario 1
Proposal causes no interference to BLCDT20040810ABE LIC
Proposal causes 0.42% interference to BLANK0000113482 LIC scenario 1
Proposal causes 0.48% interference to BLANK0000125308 LIC scenario 1
Proposal causes no interference to BLANK0000139132 LIC
Proposal causes no interference to BLANK0000184628 CP
Proposal causes 0.07% interference to BLANK0000152886 LIC scenario 1
Proposal causes 0.02% interference to BLANK0000117588 LIC scenario 1
Proposal causes 0.01% interference to BLANK0000116747 LIC scenario 2

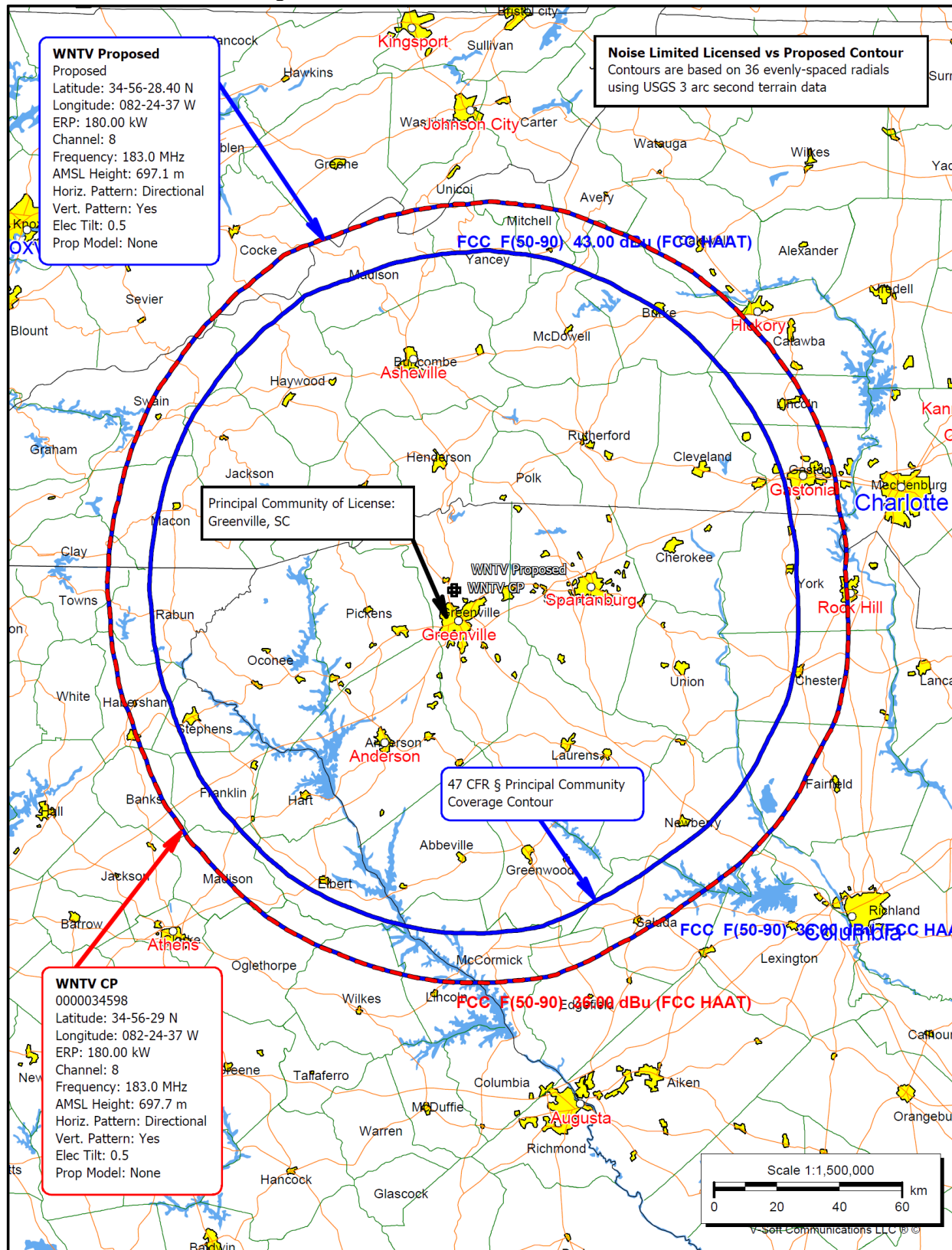
---- Below is IX received by proposal WNTV on New Tower ----

Proposal receives 0.78% interference from scenario 1

Proposal receives 0.79% interference from scenario 2

No IX check failures found.

APPENDIX B – 47 CFR § 73.625 Predicted Contours



APPENDIX C – Far Field Exposure to RF Emissions

FAR FIELD EXPOSURE TO RF EMISSIONS

