



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

**CLASS A TELEVISION  
BROADCAST STATION  
CONSTRUCTION  
PERMIT  
MINOR MODIFICATION  
APPLICATION**

**CALL SIGN: WYSJ-CD  
FACILITY ID: 35134  
LOCATION: YORKTOWN, VA**

***Prepared For:***

WVEC Television, LLC  
8350 Broad Street, Suite 2000  
Tysons, VA 22102

***Prepared By:***

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February 27, 2024

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## **1.0 EXECUTIVE SUMMARY**

WVEC Television, LLC, is the licensee of digital Class A television broadcast station WYSJ-CD (Facility ID 35134) which is permitted<sup>1</sup> to operate on channel 36 using an omni directional antenna with an ERP of 15kW at a height of 369.2 m AMSL on antenna structure number 1043102. It is herein proposed to modify the construction permit to

- replace the Dielectric TFU-35ETT O6 omni-directional antenna with a PSI PSILPD24OI-36 omni-directional antenna,
- change the polarity from elliptical to horizontal,
- change the electrical beam tilt from 0.75 to 0.5 degrees, and
- decrease the antenna height from 369.2m to 295.7m AGL.

The proposed modification is considered “minor” pursuant to 73.3572(a) since

- there is no change in frequency (output channel),
- there is no change in transmitting antenna location where the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station as demonstrated in Appendix B,
- there is no change in transmitting antenna location of greater than 30 miles (48 kilometers) from the reference coordinates of the existing station's antenna location.

## **2.0 ALLOCATION ANALYSIS**

Appendix A are the summarized results from TVStudy V2.2.5 which illustrate that there are no interference failures to other facilities.

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<sup>1</sup> FCC File No.: 0000188559

### **3.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

#### **3.1 General Environmental Requirements**

The existing support structure with the addition of the proposed antenna will not modify any of the following environmental considerations that trigger an environmental assessment:

- 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).

#### **3.2 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, pursuant to the following methodology:

Terrain<sup>2</sup> extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. In this case

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<sup>2</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.

flat terrain was used to simulate standing on the top floor of the building. 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.

Appendix C is the resulting RFR study demonstrating that the peak exposure is 0.0013%. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

#### **4.0 CERTIFICATION**

The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed February 27, 2024.

Kessler and Gehman Associates, Inc.



Ryan Wilhour  
Consulting Engineer

# WYSJ-CD – Construction Permit Minor Modification

Yorktown, VA

## APPENDIX A – TVStudy V2.2.5 Allocation Analysis

Study created: 2024.02.27 11:33:59

Study build station data: LMS TV 2024-02-26

Proposal: WYSJ-CD D36 DC CP YORKTOWN, VA  
File number: WYSJ-CD Proposed  
Facility ID: 35134  
Station data: User record  
Record ID: 1688  
Country: U.S.

Build options:  
Protect LPTV records from Class A

Search options:  
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	W35DW-D	D35	LD	LIC	GREENVILLE, NC	BLANK0000177044	172.6 km
No	WVIR-CD	D35	DC	LIC	CHARLOTTESVILLE, VA	BLANK0000091348	220.1
No	WVEC	D35	DT	CP	HAMPTON, VA	BLANK0000214052	0.0
No	WVEC	D35	DT	BL	HAMPTON, VA	DTVBL74167	0.0
No	WPXW-TV	D35	DT	LIC	MANASSAS, VA	BLANK0000098055	245.1
Yes	DWCTX-CD	D35	DC	BL	VIRGINIA BEACH, VA	DTVBL71130	30.0
Yes	WTG	D36	DT	LIC	WASHINGTON, DC	BLANK0000152125	245.1
No	W36FB-D	D36	LD	CP	BISCOE, NC	BLANK0000150304	347.5
No	W36FB-D	D36	LD	LIC	BISCOE, NC	BLANK0000158802	347.5
No	W24CP-D	D36	LD	CP	DURHAM, NC	BLANK0000197388	263.0
No	WEPX-TV	D36	DT	LIC	GREENVILLE, NC	BLANK0000090758	190.9
No	WBFT-CD	D36	DC	CP	SANFORD, NC	BLANK0000202593	293.6
No	WBFT-CD	D36	DC	LIC	SANFORD, NC	BLANK0000124673	283.7
No	WMGM-TV	D36	DT	LIC	WILDWOOD, NJ	BLANK0000035355	296.7
No	WITF-TV	D36	DT	LIC	HARRISBURG, PA	BLANK0000223452	393.8
No	WFXB	D36	DT	LIC	MYRTLE BEACH, SC	BLANK0000081825	381.6
No	WSVF-CD	D36	DC	LIC	HARRISONBURG, VA	BLANK0000120243	267.9
No	WPMC-CD	D36	DC	LIC	MAPPSVILLE, VA	BLANK0000001499	138.9
Yes	WRID-LD	D36	LD	LIC	RICHMOND, VA	BLANK0000190917	119.5
Yes	WFXR	D36	DT	LIC	ROANOKE, VA	BLANK0000080996	329.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D36  
Mask: Stringent  
Latitude: 36 49 0.00 N (NAD83)  
Longitude: 76 28 5.00 W  
Height AMSL: 303.0 m  
HAAT: 297.7 m  
Peak ERP: 15.0 kW  
Antenna: Omnidirectional  
Elev Pattrn: Generic  
Elec Tilt: 0.50

50.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	15.0 kW	301.3 m	55.7 km
45.0	15.0	299.4	55.5
90.0	15.0	299.8	55.6
135.0	15.0	299.0	55.5
180.0	15.0	296.3	55.4
225.0	15.0	294.6	55.3
270.0	15.0	293.7	55.2

## WYSJ-CD – Construction Permit Minor Modification

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Yorktown, VA

315.0          15.0          297.5          55.4

Distance to Canadian border: 692.6 km

Distance to Mexican border: 2276.8 km

Conditions at FCC monitoring station: Laurel MD  
Bearing: 353.4 degrees    Distance: 262.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 287.3 degrees    Distance: 2518.1 km

Study cell size: 1.00 km  
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 no interference to DTVBL71130 BL  
Proposal causes no interference to BLANK0000152125 LIC  
Proposal causes 0.06% interference to BLANK0000190917 LIC scenario 1  
Proposal causes no interference to BLANK0000080996 LIC

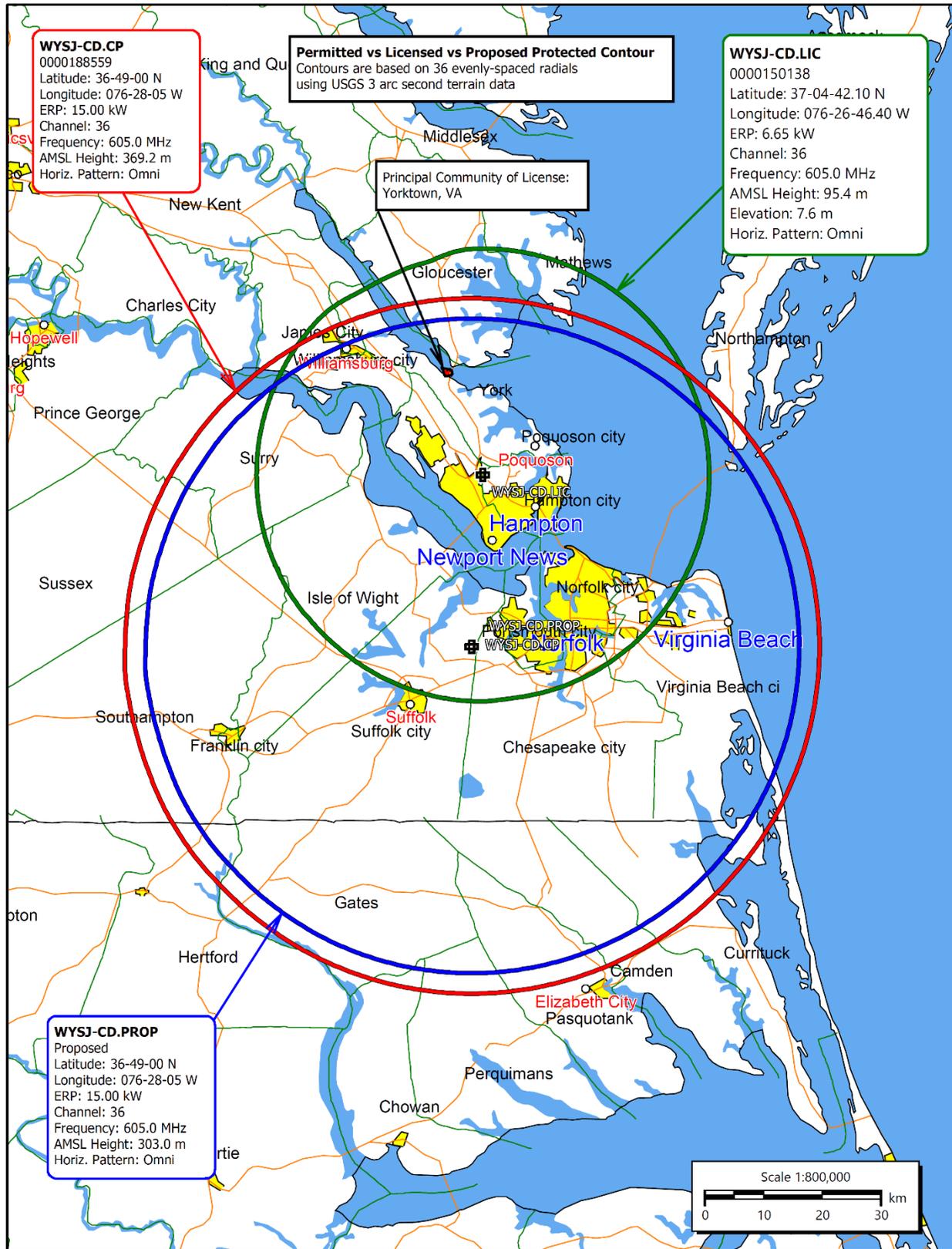
---- Below is IX received by proposal WYSJ-CD Proposed ----

Proposal receives 0.41% interference from scenario 1  
No IX check failures found.

# WYSJ-CD – Construction Permit Minor Modification

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## APPENDIX B – Licensed, Permitted, and Proposed Contour



APPENDIX C – Far Field Exposure to RF Emissions

