

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of THE UNION MISSION, licensee of Class A digital television station WJGN-CD, Channel 27 in Chesapeake, Virginia, in support of its Application for Construction Permit to correct the station's transmitter site coordinates based on the tower owner's revised FCC Antenna Structure Registration. No change in tower height, antenna azimuth pattern, effective radiated power or antenna height is proposed herein.

The licensed SWR omnidirectional antenna is mounted at the 111-meter level of the existing 152.1-meter tower located off Broadway Street, 0.12 miles west of State Route 164 in Portsmouth, Virginia. The corrected site is approximately 60 meters west-northwest of the licensed WJGN-CD transmitter site. The effective radiated power for the facility remains at 12.0 kW, as licensed. Exhibit B is a map upon which the predicted 51 dBu service contour is plotted. An elevation pattern for the licensed omnidirectional antenna is provided in Exhibit C.

Included, as Exhibit D, is a summary report from a TVStudy interference analysis for the corrected facility. Our study employed a cell size of 1.0 kilometer and an increment spacing of 1.0 kilometer. Further the applicant proposes use of a stringent mask filter. The results indicate that the proposed WJGN-CD facility meets the Commission's interference requirements to all full-power, Class A and low-power co-channel and adjacent-channel full-power television facilities.

A detailed power density calculation is provided in Exhibit E.

Since no change in the overall height or location of the existing WJGN-CD tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In

EXHIBIT A

addition, the Federal Communications Commission issued Antenna Structure Registration Number 1047304 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read 'K. T. Fisher', with a stylized flourish at the end.

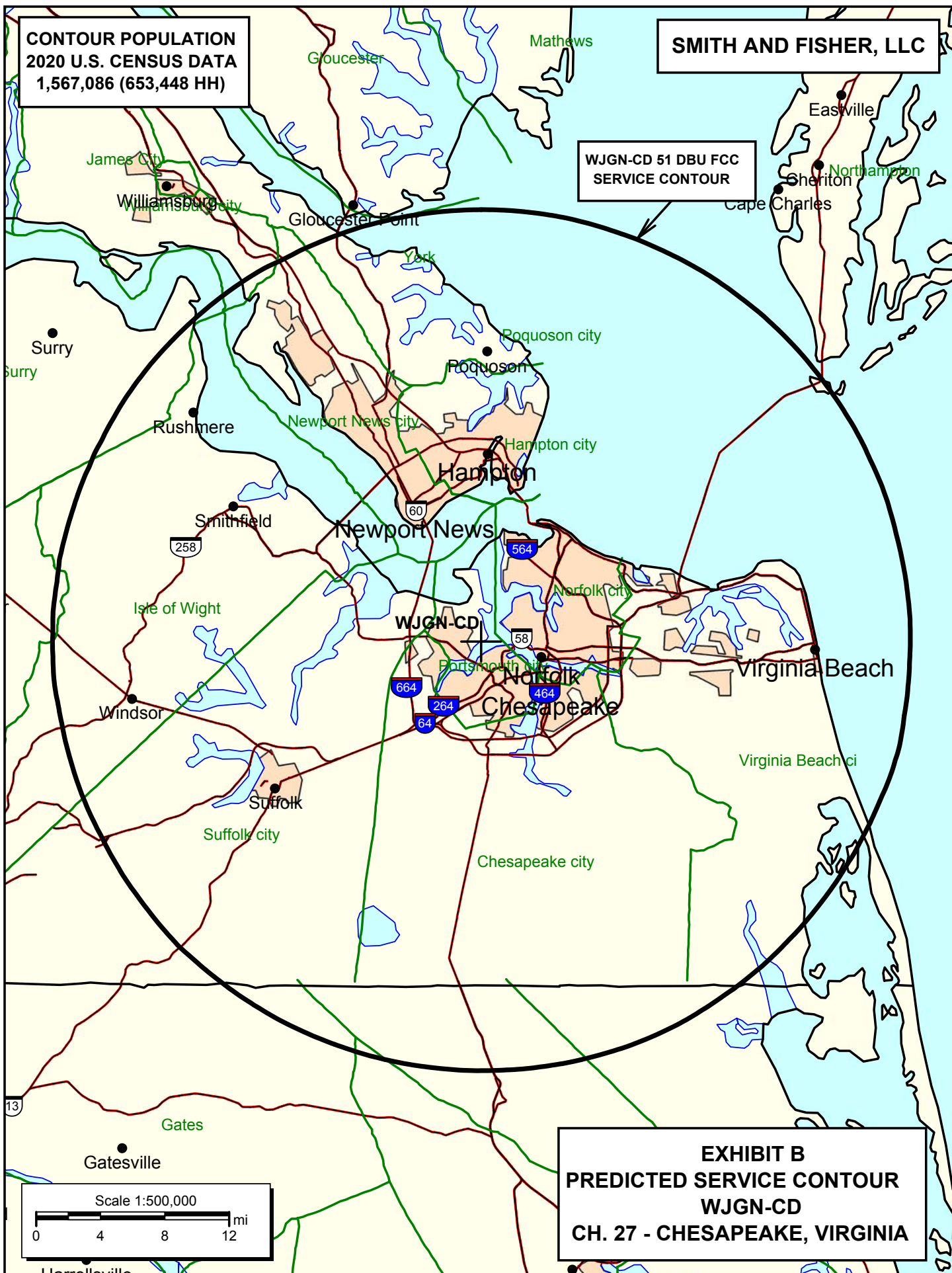
KEVIN T. FISHER

February 8, 2023

**CONTOUR POPULATION
2020 U.S. CENSUS DATA
1,567,086 (653,448 HH)**

SMITH AND FISHER, LLC

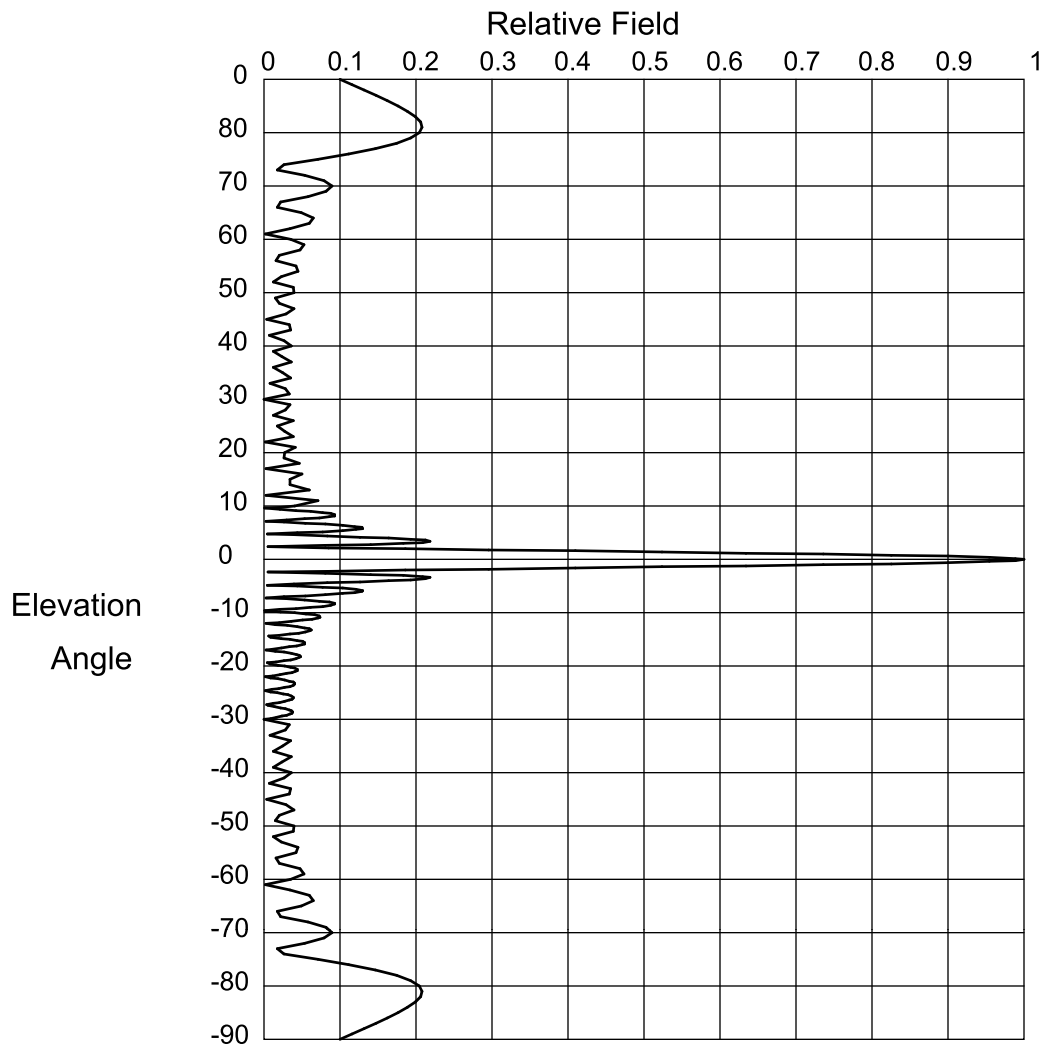
**WJGN-CD 51 DBU FCC
SERVICE CONTOUR**



**EXHIBIT B
PREDICTED SERVICE CONTOUR
WJGN-CD
CH. 27 - CHESAPEAKE, VIRGINIA**

24 Bay Elevation

EXHIBIT C



Elevation Pattern

Scale: Linear

Systems With Reliability (SWR)

Units: Field, Relative

CLIENT: *Test*

Date: 3/8/2021

ANTENNA TYPE: 24 Bay

FREQUENCY: 539

PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 27.293/14.36 dBd

Beam Tilt (Deg.) : 0

DIRECTIVITY(Horiz): 27.293/14.36 dBd

Null Fill(s)(%) : 0, 0, 0

TVSTUDY INTERFERENCE ANALYSIS RESULTS
PROPOSED WJGN-CD
CHANNEL 27 – CHESAPEAKE, VIRGINIA

Study created: 2023.02.08 14:08:06

Study build station data: LMS TV 2023-01-24
Proposal: WJGN-CD D27 DC LIC CHESAPEAKE, VA
File number: BLANK0000097777
Facility ID: 66549
Station data: User record
Record ID: 118
Country: U.S.

Build options:
Protect LPTV records from Class A

Stations potentially affected by proposal:

| IX | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-----|---------|------|-----|--------|-------------------------|------------------|----------|
| No | WBFF | D26 | DT | LIC | BALTIMORE, MD | BLANK0000136477 | 276.4 km |
| No | WRDE-LD | D26 | LD | LIC | Salisbury, MD | BLANK0000138066 | 193.1 |
| No | W26EY-D | D26 | LD | LIC | MANTEO, NC | BLANK0000144443 | 127.3 |
| No | WHTJ | D26 | DT | LIC | CHARLOTTESVILLE, VA | BLANK0000112378 | 225.7 |
| Yes | W26EV-D | D26 | LD | LIC | PORTSMOUTH, VA | BLANK0000093428 | 11.3 |
| Yes | WMAR-TV | D27 | DT | LIC | BALTIMORE, MD | BLANK0000136334 | 276.2 |
| No | W27DP-D | D27 | LD | LIC | NEW BERN, NC | BLANK0000190660 | 252.0 |
| No | W27DP-D | D27 | LD | CP | NEW BERN, NC | BLANK0000202220 | 252.0 |
| Yes | WUNP-TV | D27 | DT | LIC | ROANOKE RAPIDS, NC | BLANK0000121047 | 146.7 |
| No | WPSJ-CD | D27 | DC | LIC | HAMMONTON, NJ | BLANK0000194450 | 366.3 |
| No | WNYW | D27 | DT | LIC | NEW YORK, NY | BLANK0000079881 | 473.7 |
| No | WRZH-LD | N27+ | TX | LIC | RED LION-HARRISBURG, PA | BLTTL19870929IH | 269.2 |
| No | WPDE-TV | D27 | DT | LIC | FLORENCE, SC | BLANK0000120367 | 386.2 |
| Yes | WPXR-TV | D27 | DT | LIC | ROANOKE, VA | BLANK0000081460 | 339.0 |
| No | W27EE-D | D27 | LD | LIC | MARTINSBURG, WV | BLANK0000204148 | 325.2 |
| No | W27EI-D | D27 | LD | LIC | MOOREFIELD, WV | BLANK0000081243 | 325.3 |
| No | WGDV-LD | D28 | LD | LIC | SALISBURY, MD | BLANK0000125653 | 190.3 |
| No | WUNM-TV | D28 | DT | LIC | JACKSONVILLE, NC | BLANK0000094088 | 214.3 |
| No | W28CJ-D | D28 | LD | LIC | MANTEO, NC | BLDTL20150311AAM | 127.3 |

Yes WRIC-TV D28 DT LIC PETERSBURG, VA BLANK0000186787 132.2

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:

WGPL 1350 L DA2 D PORTSMOUTH, VA BL19810309AT

WGPL 1350 L DA2 N PORTSMOUTH, VA BL19810309AT

Record parameters as studied:

Channel: D27

Mask: Stringent

Latitude: 36 51 39.10 N (NAD83)

Longitude: 76 21 9.60 W

Height AMSL: 113.9 m

HAAT: 111.2 m

Peak ERP: 12.0 kW

Antenna: Omnidirectional

Elev Pattn: Generic

Elec Tilt: 0.75

50.0 dBu contour:

| Azimuth | ERP | HAAT | Distance |
|---------|---------|---------|----------|
| 0.0 deg | 12.0 kW | 113.6 m | 44.1 km |
| 45.0 | 12.0 | 112.1 | 44.0 |
| 90.0 | 12.0 | 110.5 | 43.8 |
| 135.0 | 12.0 | 109.9 | 43.8 |
| 180.0 | 12.0 | 110.3 | 43.8 |
| 225.0 | 12.0 | 110.5 | 43.8 |
| 270.0 | 12.0 | 110.0 | 43.8 |
| 315.0 | 12.0 | 113.1 | 44.1 |

Distance to Canadian border: 692.6 km

Distance to Mexican border: 2288.2 km

Conditions at FCC monitoring station: Laurel MD

Bearing: 351.0 degrees Distance: 259.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 287.2 degrees Distance: 2526.5 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%

No IX check failures found.

EXHIBIT E

POWER DENSITY CALCULATION

PROPOSED WJGN-CD
CHANNEL 27 – CHESAPEAKE, VIRGINIA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Chesapeake facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 12.0 kW, an antenna radiation center 111 meters above ground, and based on the specific elevation pattern for the proposed SWR antenna, maximum power density two meters above ground of 0.0021 mW/cm^2 is calculated to occur 53 meters from the base of the tower. Since this value is only 0.6 percent of the 0.37 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 27 (548-554 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.