

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRI-STATE CHRISTIAN TV., INC., licensee of television translator W18BG, Channel 18 in Danville, Virginia, in support of this Application for Construction Permit to specify digital operation on Channel 23 from the licensed W18BG site. This proposal is being submitted in response to the Commission's assignment of Channel 18 to WDBJ-DT in Roanoke, Virginia. The site of W18BG is located 85.2 kilometers from that of WDBJ-DT, thereby placing this translator in a displacement situation.

It is proposed to mount a standard MCI directional antenna at the authorized height on the side of the existing 99-meter communications tower. Exhibit B is a map upon which the predicted service contours are plotted. It is important to note that the newly proposed 51 dBu contour encompasses a significant portion of the Grade A contour that obtains from the licensed W18BG facility. Operating parameters for the proposed facility are tabulated in Exhibit C. An interference study is provided in Exhibit D, and a power density calculation follows as Exhibit E.

Because no change in the overall height or location of the existing tower is proposed, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1056422 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.

March 30, 2006

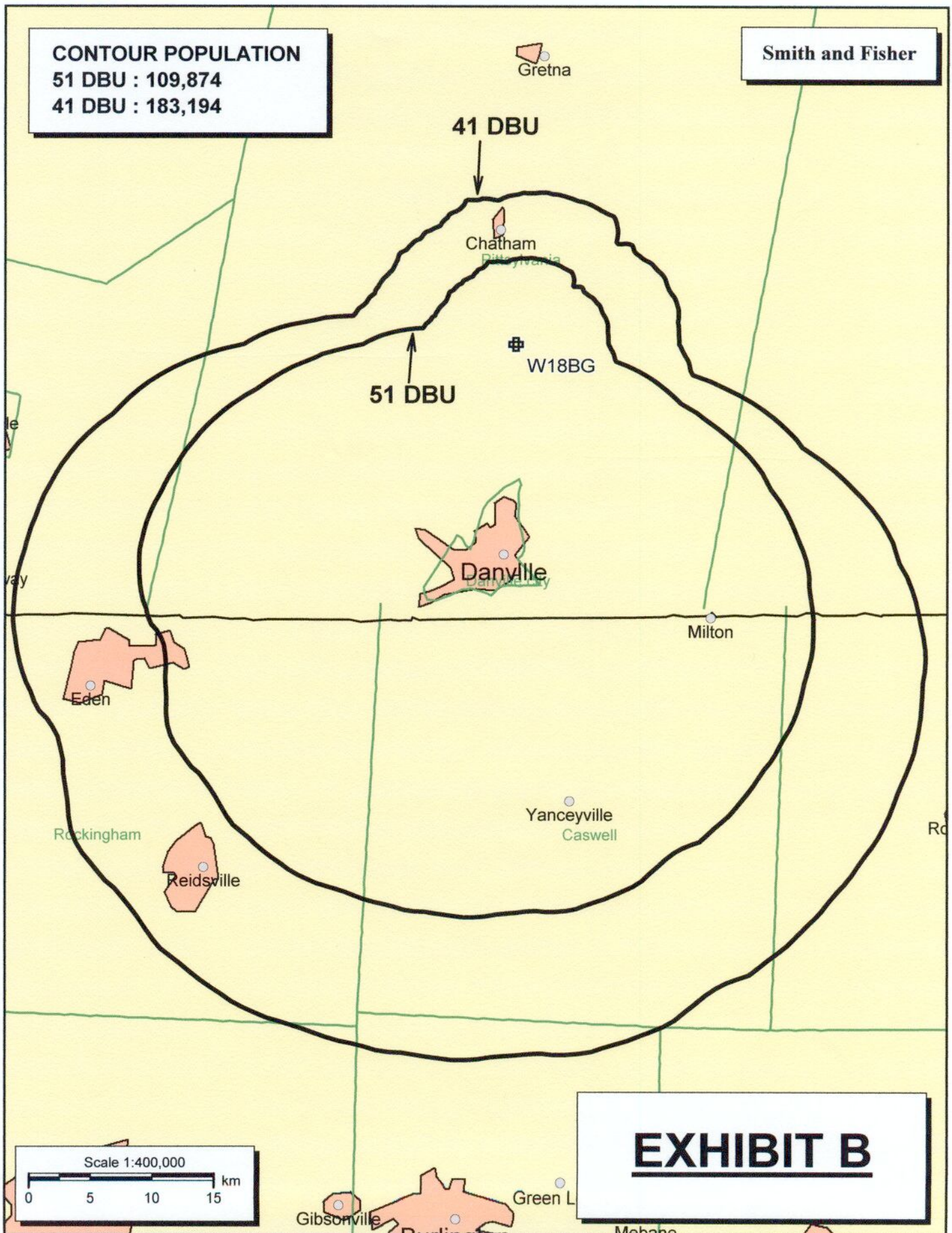
  
KYLE T. FISHER

**CONTOUR POPULATION**

51 DBU : 109,874

41 DBU : 183,194

Smith and Fisher



**EXHIBIT B**



EXHIBIT C

## PROPOSED OPERATING PARAMETERS

PROPOSED W18BG-D  
CHANNEL 23 – DANVILLE, VIRGINIA

|  |                    |
|--|--------------------|
| Transmitter Power Output:                  | 0.8 kw             |
| Transmission Line Efficiency:              | 77.5%              |
| Antenna Power Gain – Toward Horizon:       | 24.0               |
| Antenna Power Gain – Main Lobe:            | 24.0               |
| Effective Radiated Power – Toward Horizon: | 15 kw              |
| Effective Radiated Power – Main Lobe:      | 15 kw              |
| Transmitter Make and Model:                | Type-accepted      |
| Rated Output                               | 1.0 kw             |
| Transmission Line Make and Model:          | Andrew LDF7-50A    |
| Size and Type:                             | 1-5/8" foam heliax |
| Length:                                    | 225 feet           |
| Antenna Make and Model:                    | MCI 955512         |
| Orientation                                | 190 degrees true   |
| Beam Tilt                                  | None               |
| Radiation Center Above Ground:             | 61 meters          |
| Radiation Center Above Mean Sea Level:     | 393 meters         |

LONGLEY-RICE INTERFERENCE STUDIES  
PROPOSED W18BG-D  
CHANNEL 23 – DANVILLE, VIRGINIA

We conducted detailed interference studies using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to all facilities of concern. The software utilizes a 1-square kilometer cell size, calculates signal strength at 0.1 kilometer increments along each radial studied, and employs the 1990 U.S. Census to count population within cells. In addition, the program does not attribute interference to the proposed facility in cells within the protected contour of the station under study where interference from another source (other than proposed W18BG-D) already is predicted to exist (also known as "masking"). The results of these studies are provided in Exhibit D-2. They conclude that the facility proposed herein causes no significant new interference to any of the potentially affected stations.

As a result, it is believed that the proposed W18BG-D facility complies with the requirements of Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030 of the Commission's Rules.

## INTERFERENCE SUMMARY

PROPOSED W18BG-D  
CHANNEL 23 – DANVILLE, VIRGINIA

| <u>Call Sign</u>             | <u>Status</u> | <u>City, State</u> | <u>Ch.</u> | <u>Longley-Rice<br/>Service<br/>Population</u> | <u>Unmasked<br/>Interference From<br/>Proposed Facility</u> | <u>%</u> |
|------------------------------|---------------|--------------------|------------|--|---|----------|
| WDRL-TV<br>BLCT-19940818KF   | Lic.          | Danville, VA       | 24         | 304,634  | 1,411   | 0.46     |
| WJPR<br>BLCT-19930513KE      | Lic.          | Lynchburg, VA      | 21         | 655,256  | 1,864   | 0.3      |
| WBTV-DT<br>BLCDT-19991025AEB | Lic.          | Charlotte, NC      | 23         | 2,949,335                                      | 189   | <0.1     |
| WLFL<br>BLCT-19861113KR      | Lic.          | Raleigh, NC        | 22         | 2,110,597                                      | 3,674   | 0.2      |

EXHIBIT E

POWER DENSITY CALCULATION

PROPOSED W18BG-D  
CHANNEL 23 – DANVILLE, 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 Danville facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 9 kw, an antenna radiation center 61 meters above ground, and the vertical pattern of the MCI antenna, maximum power density two meters above ground of  $0.00083 \text{ mw/cm}^2$  is calculated to occur 40 meters south of the base of the tower. Since this is only 0.2 percent of the  $0.35 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 23 (524-530 MHz), this proposal may be excluded from consideration with respect to public exposure to nonionizing 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 nonionizing radiation.