

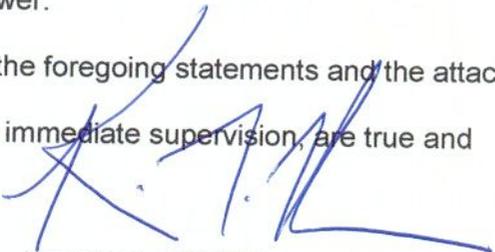
ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING NETWORK, licensee of television translator W51CW, Channel 51 in Wilmington, North Carolina, in support of this application for modification of Construction Permit BDFCDTT-20060327ACE, which authorizes digital operation on Channel 51 from the licensed W51CW site. The purpose of this modification is to specify the present analog antenna and reduced effective radiated power. No change in site location or antenna height is proposed herein.

It is proposed to utilize the present Andrew analog antenna at the 84-meter level of the existing 91-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 analog W51CW facility. Operating parameters for the proposed facility are tabulated in Exhibit C. A new interference study is provided in Exhibit D, and a revised 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 1065211 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.



KEVIN T. FISHER

May 28, 2008

CONTOUR POPULATION
51 DBU : 204,336
41 DBU : 237,551

SMITH and FISHER



PROPOSED OPERATING PARAMETERS

PROPOSED W51CW-D
CHANNEL 51 – WILMINGTON, NORTH CAROLINA
[MODIFICATION OF BDFCDTT-20060327ACE]

Transmitter Power Output:	0.4 kw
Transmission Line Efficiency:	67.4%
Antenna Power Gain – Toward Horizon:	25.88
Antenna Power Gain – Main Lobe:	25.88
Effective Radiated Power – Toward Horizon:	7.0 kw
Effective Radiated Power – Main Lobe:	7.0 kw
Transmitter Make and Model:	Type-accepted
Rated Output	0.4 kw
Transmission Line Make and Model:	Andrew HJ7-50A
Size and Type:	1-5/8" air heliax
Length:	300 feet
Antenna Make and Model:	Andrew ALP16L2-HSW
Orientation	45° T
Beam Tilt	0.5 degrees
Radiation Center Above Ground:	84 meters
Radiation Center Above Mean Sea Level:	87 meters

LONGLEY-RICE INTERFERENCE STUDIES
PROPOSED W51CW-D
CHANNEL 51 – WILMINGTON, NORTH CAROLINA
[MODIFICATION OF BDFCDTT-20060327ACE]

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 2-square kilometer cell size, calculates signal strength at 1.0 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 W51CW-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 W51CW-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 W51CW-D
CHANNEL 51 – WILMINGTON, NORTH CAROLINA
[MODIFICATION OF BDFCDTT-20060327ACE]

<u>Call Sign</u>	<u>Status</u>	<u>City, State</u>	<u>Ch.</u>	<u>Longley-Rice Service Population</u>	<u>Unmasked Interference From Proposed Facility</u>	<u>%</u>
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[NO STATIONS AFFECTED]

...ity, or the antenna are not exposed to excessive electromagnetic radiation.

POWER DENSITY CALCULATION

PROPOSED W51CW-D
CHANNEL 51 – WILMINGTON, NORTH CAROLINA
[MODIFICATION OF BDFCDTT-20060327ACE]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Wilmington facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 7.0 kw, an antenna radiation center 84 meters above ground, and the vertical pattern of the Andrew antenna, maximum power density two meters above ground of 0.0018 mw/cm^2 is calculated to occur 27 meters northeast of the base of the tower. Since this is only 0.4 percent of the 0.46 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 51 (692-698 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.