

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING NETWORK, licensee of television translator W52BI, Channel 52 in Sterling, Illinois, in support of this application for modification of Construction Permit BPTT-20030916ACI, a Channel 19 displacement authorization. It is proposed to simply reduce the authorized effective radiated power from 19.1 kw to 9.5 kw. No change in site location or effective antenna height is proposed herein.

It is proposed to mount a standard ERI omnidirectional antenna at the 91-meter level of the existing 130-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 74 dBu contour continues to encompass a significant portion of that which obtains from the licensed W52BI facility. Operating parameters for the proposed facility are tabulated in Exhibit C. A contour overlap analysis and interference study are 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 1009086 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.

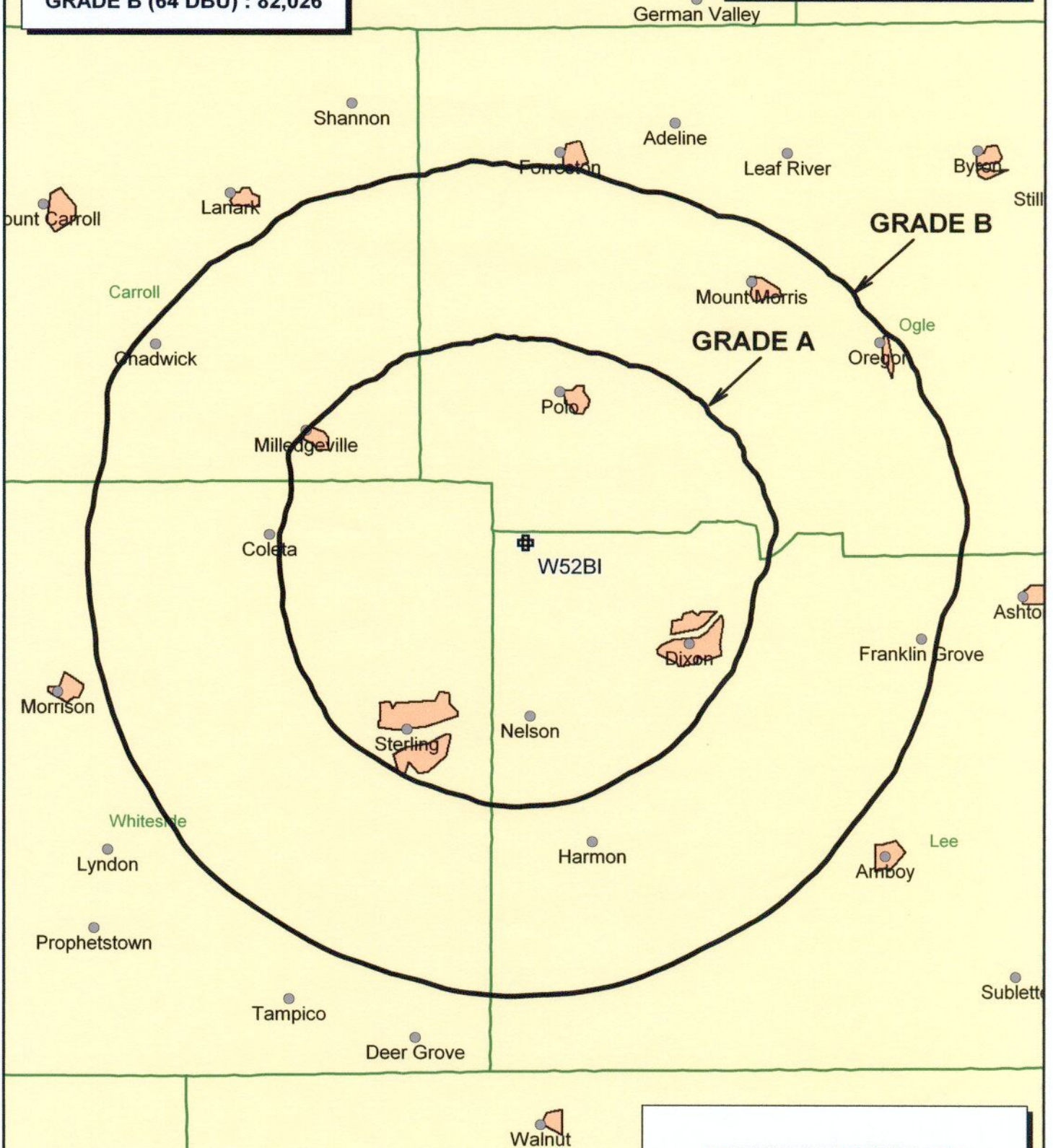


KEVIN T. FISHER

August 1, 2006

**CONTOUR POPULATION**  
**GRADE A (74 DBU) : 58,120**  
**GRADE B (64 DBU) : 82,026**

**SMITH and FISHER**



**EXHIBIT B**

EXHIBIT C

## PROPOSED OPERATING PARAMETERS

PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS  
[MODIFICATION OF BPTT-20030916ACI]

Transmitter Power Output:	1.0 kw
Transmission Line Efficiency:	67.6%
Antenna Power Gain – Toward Horizon:	14.06
Antenna Power Gain – Main Lobe:	14.06
Effective Radiated Power – Toward Horizon:	9.5 kw
Effective Radiated Power – Main Lobe:	9.5 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 dielectric
Length:	310 feet
Antenna Make and Model:	ERI AL8
Orientation	Omnidirectional
Beam Tilt	1.75 degrees
Effective Height Above Ground:	91 meters
Effective Height Above Mean Sea Level:	346 meters



CONTOUR OVERLAP AND  
LONGLEY-RICE INTERFERENCE STUDIES  
PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS  
[MODIFICATION OF BPTT-20030916ACI]

We conducted a computer analysis of the interference situation for the proposed facility, the results of which are shown in Exhibit D-2. The study is based on contour protection requirements of Sections 74.705, 74.706, and 74.707 of the FCC's Rules with respect to analog full-power, digital full-power, and low power television stations, respectively. It concludes that the facility proposed herein meets these requirements except to three stations: WMTV-DT, Channel 19 in Madison, Wisconsin; WGN-DT, Channel 19 in Chicago, Illinois; and, WHOI(TV), Channel 19 in Peoria, Illinois.

We then conducted detailed interference studies using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to these 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 Trinity's proposed W52BI) already is predicted to exist (also known as "masking"). The results of these studies are provided in Exhibit D-3. They conclude that

EXHIBIT D-1

the facility proposed herein causes no significant new interference to any of the potentially affected stations.

As a result, waivers of Section 74.705 of the Commission's Rules with respect to interference to WHOI(TV) and Section 74.706 with regard to WMTV-DT and WGN-DT, are requested and believed to be justified based on the aforementioned Longley-Rice studies.

SMITH AND FISHER

EXHIBIT D-2

PROPOSED W52BI

CH. 19 - STERLING/DIXON, IL

REFERENCE

41 53 52 N

89 36 20 W

LPTV Pwr = 9.5 kW, HAMS L COR= 346 M

DISPLAY DATES

DATA 07-26-06

SEARCH 08-01-06

..... Channel 19-, 500 MHz .....

Call	Channel	Location	Dist	Azi	FCC	Margin
WMTV-D LI	19	Madison	WI 128.45	4.3	> 267.25	-138.80
WGN-DT LI	19	Chicago	IL 163.47	90.1	> 293.49	-130.02
WHOI LI	19Z	Peoria	IL 138.24	179.4	> 169.23	-30.99
KLJBTV LI	18+	Davenport	IA 90.40	225.7	> 082.03	8.37
WHO-DT CP	19	Des Moines	IA 333.03	270.0	> 313.54	19.49
WHO-DT ST	19	Des Moines	IA 333.03	270.0	> 307.59	25.44
WHO-DT AP	19	Des Moines	IA 333.03	270.0	> 307.59	25.44
WHO-DT ST	19	Des Moines	IA 333.03	270.0	> 301.86	31.17
KGCWTV AP	26-	Burlington	IA 131.33	230.2	> 100.00	31.33
WHA-DT LI	20	Madison	WI 128.77	2.5	> 096.31	32.46
NEW AP	18	Plano	IL 89.39	106.5	> 046.28	43.11
KWKB LI	20-	Iowa City	IA 146.46	263.0	> 100.03	46.43
WXMI-D LI	19	Grand Rapids	MI 347.18	73.9	> 285.38	61.80
WCIUTV LI	26Z	Chicago	IL 163.47	90.1	> 100.00	63.47
WYCC LI	20Z	Chicago	IL 164.52	89.3	> 094.23	70.29

## INTERFERENCE SUMMARY

PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS  
[MODIFICATION OF BPTT-20030916ACI]

<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>
WMTV-DT BLCDT-20040823ABP	Lic.	Madison, WI	19	874,801	1,233	0.1
WGN-DT BLCDT-20040316ACQ	CP	Chicago, IL	19	8,607,666	1,908	< 0.1
WHOI(TV) BLCT-19880803KG	Lic.	Peoria, IL	19	569,249	1,420	0.2

EXHIBIT E

POWER DENSITY CALCULATION

PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS  
[MODIFICATION OF BPTT-20030916ACI]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Sterling facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 9.5 kw, an antenna radiation center 91 meters above ground, and the vertical pattern of the ERI antenna, maximum power density two meters above ground of  $0.00019 \text{ mw/cm}^2$  is calculated to occur 80 meters from the base of the tower. Since this is less than 0.1 percent of the  $0.33 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 19 (500-506 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.