

EXHIBIT A

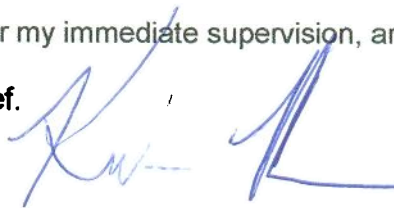
ENGINEERING STATEMENT

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 Construction Permit to specify operation on Channel 19 from the licensed W52BI site. This proposal is being submitted in response to the Commission's reclamation of Channel 52 spectrum for future auction, thereby placing this translator in a displacement situation.

It is proposed to mount a standard Andrew omnidirectional antenna at the authorized height on the side of an 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 encompasses 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.



KYLE T. FISHER

August 7, 2003

**CONTOUR POPULATION**  
**GRADE A (74 DBU) : 64,733**  
**GRADE B (64 DBU) : 98,779**

**Smith and Fisher**

**EXHIBIT B**

Scale 1:500,000  
 0 7 14 21 km

**Smith and Fisher**

## EXHIBIT B

EXHIBIT C

PROPOSED OPERATING PARAMETERS

PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS

Transmitter Power Output:	1.0 kw
Transmission Line Efficiency:	67.6%
Antenna Power Gain – Toward Horizon:	28.2
Antenna Power Gain – Main Lobe:	28.2
Effective Radiated Power – Toward Horizon:	19.1 kw
Effective Radiated Power – Main Lobe:	19.1 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:	Andrew ALP16L2-HSOC
Orientation	Omnidirectional
Beam Tilt	0.5 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

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 five stations: WMTV-DT, Channel 19 in Madison, Wisconsin; WGN-DT, Channel 19 in Chicago, Illinois; WHOI(TV), Channel 19 in Peoria, Illinois; WHO-DT, Channel 19 in Des Moines, Iowa; and, KLJB-TV, Channel 18 in Davenport, Iowa.

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 (except where noted), 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 KLJB-TV, Section 74.706 with regard to WMTV-DT, WGN-DT, and WHO-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 IL

REFERENCE  
41 53 52 N  
89 36 20 W

LPTV Pwr = 19.1 kW, HAMS L COR= 347 M

DISPLAY DATES  
DATA 07-22-03  
SEARCH 08-06-03

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

Call	Channel	Location	Dist	Azi	FCC	Margin
WMTV-D CP	19	Madison	WI 128.45	4.3	> 304.07	-175.62
WGN-DT AP	19	Chicago	IL 163.47	90.1	> 333.20	-169.73
WMTV-D ST	19	Madison	WI 128.45	4.3	> 297.08	-168.63
WGN-DT LI	19	Chicago	IL 163.47	90.1	> 330.06	-166.59
WHOI LI	19Z	Peoria	IL 138.24	179.4	> 189.06	-50.82
WHO-DT CP	19	Des Moines	IA 333.03	270.0	> 348.09	-15.06
WHO-DT BM	19	Des Moines	IA 333.03	270.0	> 342.06	-9.03
KLJBTV CP	18+	Davenport	IA 90.40	225.7	> 094.11	-3.71
WHO-DT ST	19	Des Moines	IA 333.03	270.0	> 336.26	-3.23
KLJBTV LI	18+	Davenport	IA 90.90	225.4	> 093.39	-2.49
WTHXTV ALD	19	MANITOWOC	WI 295.34	32.3	> 286.46	8.88
WXMI-D LI	19	Grand Rapids	MI 347.18	73.9	> 320.97	26.21
WHA-DT LI	20	Madison	WI 128.77	2.5	> 102.40	26.37
WHA-DT CP	20	Madison	WI 128.77	2.5	> 101.32	27.45
KGWBTB CP	26-	Burlington	IA 131.33	230.2	> 100.00	31.33
WHATV ALD	20	MADISON	WI 128.77	2.5	> 097.31	31.46
KWKB LI	20-	Iowa City	IA 146.46	263.0	> 110.56	35.90
WXMI ALD	19	GRAND RAPIDS	MI 347.18	73.9	> 302.60	44.58
WXMI-D ST	19	Grand Rapids	MI 347.18	73.9	> 301.92	45.26
WUSI-D CPM	19	Olney	IL 362.08	159.3	> 298.79	63.29
WCIUTV LI	26Z	Chicago	IL 163.47	90.1	> 100.00	63.47
WCIUTV CP	26Z	Chicago	IL 163.47	90.1	> 100.00	63.47
WXOWTV LI	19+	Lacrosse	WI 256.30	326.5	> 191.91	64.39
WUSITV ALD	19	OLNEY	IL 362.12	159.3	> 297.57	64.55
WUSI-D ST	19	Olney	IL 362.08	159.3	> 297.18	64.90
WYCC CP	20Z	Chicago	IL 164.52	89.3	> 098.67	65.85
WYCC LI	20Z	Chicago	IL 164.52	89.3	> 098.67	65.85



## INTERFERENCE SUMMARY

PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS

<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 BPCDT-19991028AEZ	CP	Madison, WI	19	874,801	2,154	0.2
WGN-DT BPCDT-20010504AAC	AP	Chicago, IL	19	8,607,666	2,808	< 0.1
WMTV-DT BDSTA-20020801ABM	STA	Madison, WI	19	789,825	443	0.1
WGN-DT BLCDT-20010312AAQ	Lic.	Chicago, IL	19	8,564,645	1,719	< 0.1
WHOI(TV) BLCT-19880803KG	Lic.	Peoria, IL	19	569,249	2,277	0.4
WHO-DT BPCDT-19990805LD	CP	Des Moines, IA	19	995,710	0	0
WHO-DT BMDSTA-20030127AET	STA	Des Moines, IA	19	915,666	0	0
WHO-DT BDSTA-20011218ABI	STA	Des Moines, IA	19	890,838	0	0
KLJB-TV BPCT-19990429KQ	CP	Davenport, IA	18	631,506	46	< 0.1
KLJB-TV BLCT-19850726KK	Lic.	Davenport, IA	18	625,683	68	< 0.1

EXHIBIT E

POWER DENSITY CALCULATION  
PROPOSED W52BI  
CHANNEL 19 - STERLING, ILLINOIS

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 19.1 kw, an effective antenna height of 91 meters above ground, and the vertical pattern of the Andrew antenna, maximum power density two meters above ground of  $0.00077 \text{ mw/cm}^2$  is calculated to occur 21 meters from the base of the tower. Since this is only 0.2 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.