

**FCC Form 340**  
**Application for a Construction Permit for**  
**a Noncommercial Educational FM Station**  
**in Austin, Minnesota**

**Minnesota Public Radio**

**EXHIBIT 4, Page 2**

**Refers to Section IV**

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6. To provide regular information at set times in network programs as part of the service for the audience.
7. To create a forum of ideas, opinion and talent from across the region and nation.
8. To open up access to radio as a medium of communication for ideas among people of the region, leading to more informed decision making.
9. To discuss the many aspects of the daily lives of residents in the region that are not newsworthy in the strictest of journalistic terms, but nevertheless are relevant to the understanding and appreciation of life itself.
10. To present established and new artists, performers, musicians and writers and their works.
11. To serve the general interests of the audience with basic regional and national consumer information; local, regional, national and international news; and interregional exchange items; all well integrated into the body of the program service.
12. To reflect social and political trends in the region.
13. To provide relevant, thought-provoking and balanced news and information that listeners trust and value.
14. To enhance listeners' understanding of the world.
15. To deal with significant issues that have a long-term impact on people's lives.

Prepared by  
Mitzi T Gramling

## Schedule of Program Sources

### National Public Radio

The following programs are produced and distributed by NPR in Washington, DC

Morning Edition and All Things Considered with regional segments from Minnesota Public Radio's News and Information Station staff.

Talk of the Nation, Weekend Edition, Weekend All Things Considered,

The following programs are distributed by National Public Radio and produced by the stations listed

Fresh Air and Fresh Air Weekend from WHYY, Philadelphia  
Car Talk from WBUR, Boston  
Only a Game from WBUR, Boston  
Selected Shorts from WNYC, New York

### Public Radio International

The following programs are distributed by Public Radio International and produced by the stations listed

Marketplace from KUSC, Los Angeles  
The World from WGBH, Boston and the British Broadcasting Corporation, London  
As it Happens from the Canadian Broadcasting Corporation, Toronto, Ontario  
The BBC World Service from the British Broadcasting Corporation, London  
The Savvy Traveler from KUSC, Los Angeles  
On Your Health from WHA/Wisconsin Public Radio, Madison, WI  
This American Life from WBEZ, Chicago  
Whad'Ya Know from WHA/Wisconsin Public Radio, Madison, WI  
This Morning from the Canadian Broadcasting Corporation, Toronto, Ontario

The following programs are produced by Minnesota Public Radio and distributed by Public Radio International

Sound Money from MPR  
The Splendid Table from MPR and Tom Voegeli Productions  
A Prairie Home Companion from MPR  
Future Tense from MPR

The following programs are produced by Minnesota Public Radio and only carried on the stations of MPR

Midmorning from MPR

Midday from MPR

# News & Information Schedule )))

KNOW 91.1fm Minneapolis/St. Paul

KNCM 88.5fm Appleton • KNBJ 91.3fm Bemidji/Grand Rapids • KLNJ 88.7fm Decorah, IA • WSCN 100.5fm Duluth/Superior  
 KCCD 90.3fm Fargo/Moorhead • KXLC 91.1fm La Crescent/La Crosse • KZSE 90.7fm Rochester • KNSR 88.9fm St. Cloud/Collegeville  
 KNGA 91.5fm St. Peter/Mankato • KNTN 102.7fm Thief River Falls • WIRN 92.5fm Virginia/Hibbing  
 KNSW 91.7fm Worthington/Marshall

	Weekdays	Saturday	Sunday			
5 AM				5 AM		
6 AM	<b>Morning Edition*</b> with Bob Potter in St. Paul and Bob Edwards in Washington, D.C.	<b>BBC World Service</b>	<b>BBC World Service</b>	6 AM		
7 AM				7 AM		
8 AM		<b>Weekend Edition*</b> with Maryann Sullivan in St. Paul and Scott Simon in Washington, D.C.	<b>Weekend Edition*</b> with Maryann Sullivan in St. Paul and Liane Hansen in Washington, D.C.	8 AM		
9 AM				9 AM		
10 AM	<b>Midmorning</b> with Katherine Lanpher			10 AM		
11 AM		<b>Sound Money*</b> with Bob Potter	<b>Fresh Air Weekend</b> with Terry Gross	11 AM		
NOON	<b>Midday</b> with Gary Eichten Noon Speeches, Features, Call-ins	<b>Car Talk</b> with Tom and Ray Magliozzi	<b>Car Talk</b> with Tom and Ray Magliozzi	NOON		
1 PM		<b>The Savvy Traveler</b> with Rudy Maxa	<b>A Prairie Home Companion*</b> with Garrison Keillor	1 PM		
2 PM	<b>Talk of the Nation</b> with Ray Suarez	<b>On Your Health</b> with Zorba Paster			2 PM	
3 PM		<b>The Splendid Table</b> with Lynne Rossetto Kasper	<b>Whad'Ya Know?</b> with Michael Feldman	3 PM		
4 PM	<b>All Things Considered*</b> with Lorna Benson in St. Paul, and Linda Wertheimer, Noah Adams and Robert Siegel in Washington, D.C.	<b>Only a Game</b> with Bill Littlefield			4 PM	
5 PM		<b>All Things Considered</b>	<b>All Things Considered*</b>	5 PM		
6 PM		<b>A Prairie Home Companion*</b> with Garrison Keillor	<b>Sound Money*</b> with Bob Potter		6 PM	
7 PM	<b>Marketplace</b> with David Brancaccio		<b>The Savvy Traveler</b> with Rudy Maxa	7 PM		
8 PM	<b>The World</b>	<b>This American Life</b> with Ira Glass	<b>The Splendid Table</b> with Lynne Rossetto Kasper	8 PM		
9 PM	<b>Fresh Air</b> with Terry Gross	<b>Fresh Air Weekend</b> with Terry Gross	<b>Wait, Wait...Don't Tell Me!</b> with Peter Sagal	9 PM		
10 PM	<b>Midday</b>	<b>Selected Shorts</b>	<b>This American Life</b> with Ira Glass	10 PM		
11 PM	<b>As It Happens</b> with Mary Lou Finlay and Barbara Budd			11 PM		
12 AM	<b>BBC Outlook</b>			12 AM		
1 AM				1 AM		
2 AM	<b>BBC World Service</b>	<b>BBC World Service</b>	<b>BBC World Service</b>	2 AM		
3 AM						3 AM
4 AM						4 AM
5 AM				5 AM		

WCCO-TV, Inc. is an Equal Opportunity Employer. All programs and services are provided on a non-discriminatory basis. For more information, call 651-222-1111.

Schedule subject to change. Local station schedules may vary.

inside mpr )))

**SECTION V-B - FM BROADCAST ENGINEERING DATA**

**FOR COMMISSION USE ONLY**

File No. \_\_\_\_\_  
 SSB Referral Date \_\_\_\_\_  
 Referred By \_\_\_\_\_

Name of Applicant  
 Minnesota Public Radio

Call Letters (if issued)  
 TBA

Is this application being filed in response to an application filing window?  Yes  No  
 If Yes, specify closing date: \_\_\_\_\_

Purpose of Application: (check appropriate boxes)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Construct a new (main) facility  | <input type="checkbox"/> Construct a new auxiliary backup facility                         |
| <input type="checkbox"/> *See Ex #E1, Engineering Statement, Modify existing construction permit for main facility | <input type="checkbox"/> Modify existing construction permit for auxiliary backup facility |
| <input type="checkbox"/> Modify licensed main facility   | <input type="checkbox"/> Modify licensed auxiliary backup facility                         |

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

- |   |  |
|---|--|
| <input type="checkbox"/> Antenna supporting structure height                      | <input type="checkbox"/> Effective radiated power  |
| <input type="checkbox"/> Antenna height above average terrain                     | <input type="checkbox"/> Frequency                 |
| <input type="checkbox"/> Antenna location   | <input type="checkbox"/> Class                     |
| <input type="checkbox"/> Main Studio location per 47 C.F.R. Section 73.1125(b)(2) | <input type="checkbox"/> One-Step processing       |
| <input type="checkbox"/> Directional Antenna                                      | <input type="checkbox"/> Other (summarize briefly) |

File Number(s) \_\_\_\_\_

**1. Allocation:**

Channel No.	Principal community to be served:		
	County	City or Town	State
202	Cass	Brainerd	MN

Class (check only one box below)  
 A  B1  B  C3  
 C2  C1  C

**2. Exact location of antenna.**

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

Northern Minnesota, 6.1 miles N of Pilliger and Rt. 210

(b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude and East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed. (The Commission requires coordinates based on NAD 27.)

Latitude	46 °	25 ·	21 "	Longitude	94 °	27 ·	41 "
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Section V-B - FM BROADCAST ENGINEERING DATA (Page 2)

3. Will the antenna be mounted on an antenna structure which has been registered with the Commission?  Yes  No

If Yes, provide the seven digit registration number and proceed to item 8.

1024194

4. Has the owner of the antenna structure filed an application for registration with the Commission?  Yes  No

If yes, provide the date FCC Form 854 was filed and proceed to item 8.

5. Applicant certifies that antenna structure meets 6.10 meter (20 feet) exception rule and therefore does not require registration. In other words, the overall height of the entire structure is not more than 6.10 meters (20 feet) above the ground or the antenna does not extend more than 6.10 meters (20 feet) above a man-made structure (structure built for a purpose other than mounting an antenna, i.e., building, water tank, silo, fire tower, etc.).  Yes  No

If yes, skip items 6 and 7.

6. Antenna structure will be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town or settlement where it is evident beyond all reasonable doubt that the structure is so shielded that it will not adversely affect safety in air navigation.  Yes  No

If yes, submit as an Exhibit a detailed explanation and/or diagram to support your claim and skip to item 8.

Exhibit No.

7. Antenna structure does not meet FAA notification criteria as defined under 47 C.F.R. Section 17.7 and therefore does not require registration.  Yes  No

8. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)?  Yes  No

If Yes, give call letter(s) or file number(s) or both. KAWETV, BLET800718KG KBPR, BLE880222KG

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any.

9. Does the application propose to correct previous site coordinates?  Yes  No

If Yes, list old coordinates.

Latitude	°	'	"	Longitude	°	'	"
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10. Has the FAA been notified of the proposed construction?  Yes  No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available.

Exhibit No.

Date \_\_\_\_\_ Office where filed \_\_\_\_\_

11. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

	Landing Area	Distance (km)	Bearing (degrees True)
(a)	None		
(b)			

Section V-B - FM BROADCAST ENGINEERING DATA (Page 3)

12. (a) Elevation: (to the nearest meter)

(1) Of the site above mean sea level; 418 meters

(2) Of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 206 meters

(3) Of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. 625\* meters

\*Figure from Vertical Sketch to prevent rounding error

(b) Height of radiation center: (to the nearest meter) H = Horizontal; V = Vertical

(1) Above ground; 179 meters (H)

179 meters (V)

(2) Above mean sea level [(a)(1) + (b)(1)]; and 597 meters (H)

597 meters (V)

(3) Above average terrain. 204 meters (H)

204 meters (V)

13. Attach as an Exhibit sketch(es) of the supporting structure, labeling all elevations required in Question 12 above, except item 12(b)(3). If mounted on an AM directional array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.  
E2

14. Effective Radiated Power:

(a) ERP in the horizontal plane 5.0 kw (H\*) 5.0 kw (V\*)

Is beam tilt proposed?  Yes  No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevation plot of radiated field.

Exhibit No.  
N/A

           kw (H\*)            kw (V\*)

\*Polarization

15. Is a directional antenna proposed?

Yes  No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s), and tabulations of horizontally and vertically polarized radiated components in terms of relative field.

Exhibit No.  
N/A

16. Will the main studio be located within the 70 dBu or 3.16 mV/m contour?

Yes  No

If No, attach as justification an Exhibit pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.  
E3

Section V-B - FM BROADCAST ENGINEERING DATA (Page 5)

22. For an application involving an auxiliary backup facility only, attach as an Exhibit a map (*Sectional Aeronautical Chart or equivalent*) which shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.  
N/A

- (a) the proposed auxiliary 1 mv/m contour; and
- (b) the 1 mv/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675.

File No. \_\_\_\_\_

23. Terrain and coverage data (*to be calculated in accordance with 47 C.F.R. Section 73.313*)

Source of terrain data: (*check only one box below*)

- Linearly interpolated 30-second database
- 7.5 minute topographic map

(Source: \_\_\_\_\_)

- Linearly interpolated 3-second database
- Other (summarize)

NGDC V-Soft Rom

Are more than eight radials being used to calculate HAAT?

Yes  No

If Yes, specify how many radials are being used. Please note the radials must be evenly spaced and start with the 0 degree radial. 36

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances to the 1 mV/m contour (kilometers)	If operating on Commercial Channel 3.16 mv/m contour (kilometers)
0	*	*	*
45	*See Ex #E1, Pg #4	*	*
90	*	*	*
135			
180			
225			
270			
315			

Allocation Studies

(See Subpart C of 47 C.F.R. Part 73)

24. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico?  Yes  No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No.  
N/A



Section V-B - FM BROADCAST ENGINEERING DATA (Page 6)

25. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada?  Yes  No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under the Canada-United States FM Agreement of 1947.

Exhibit No.  
E7\*

\*No relationships with Canadian stations or allotments

26. If the proposed operation is for a full service or Class D facility for a channel in the range from Channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a Class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:

Exhibit No.  
E7

- (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths;
- (b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused;
- (c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received;
- (d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference;
- (e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities;
- (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof;
- (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified; and
- (h) The name of the map(s) used in the Exhibit(s).

27. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz), attach as an Exhibit information required in 1/ (separation requirements involving intermediate frequency (i.f.) interference). \*No pertinent I.F. relationships

Exhibit No.  
E7\*

28. (a) Is the proposed operation on Channel 218, 219 or 220?  Yes  No
- (b) If the answer to (a) is Yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207?  Yes  No N/A

- (c) If the answer to (b) is Yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223.

Exhibit No.  
N/A

- (d) If the answer to (b) is No, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.  
N/A

1/ A showing that the proposed operation meets the minimum distance separation requirements of 47 C.F.R. Section 73.507. Include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna

Exhibit No.  
N/A

(c) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

- (1) Protected and interfering contours, in all directions (360 degrees), for the proposed operation;
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location;
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur;
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s) (Sufficient lines should be shown so that the location of the sites may be verified.); and
- (5) The official title(s) of the map(s) used in the Exhibit(s).

29. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?  Yes  No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.

Exhibit No.  
E8

30. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1 through 107.9 MHz)?  Yes  No

If Yes, attach as an Exhibit information required in 1/. (Except for Class D (secondary) proposals.)

Exhibit No.  
N/A

31. Environmental Statement. (See 47 C.F.R. Section 1.1301 et seq.)

(a) Would a Commission grant of this application come within 47 C.F.R. Section 1.1307, such that it may have a significant environmental impact?  Yes  No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by 47 C.F.R. Section 1.1311.

Exhibit No.

(b) If No, explain briefly why not. Existing authorized tower.

(c) Pursuant to OST/OET Bulletin No. 65, the applicant must explain in an Exhibit what steps will be taken to limit the RF radiation exposure to the public and to persons authorized access to the tower site. In addition, where there are multiple contributors to radiofrequency radiation, you must certify that the established RF radiation exposure procedures will be coordinated with all stations. See Ex #E9 for RF compliance statement.

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed) Douglas L. Vernier	Relationship to Applicant (e.g., Consulting Engineer) Technical Consultant
Signature <i>Douglas L. Vernier</i>	Address (include ZIP Code) 1600 Picturesque Dr., Cedar Falls, IA 50613
Date October 26, 1998	Telephone No. (include Area Code) 319 266-8402

**FCC Form 340  
Application for Authority to Construct a  
Noncommercial Educational FM Station  
for Brainerd, MN**

**Minnesota Public Radio**

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**CERTIFICATION OF SITE AVAILABILITY**

The applicant certified that it has reasonable assurance in good faith that the site of structure proposed in Section V-B, Item 2, FCC Form 340, as the location of its transmitting antenna, will be available to the applicant's intended purpose. Applicant will be leasing the site.

Yes   X   No           

Thomas J Kuhn  
Applicant's Signature

98-11-12  
Date

**EXHIBIT #E1**  
**ENGINEERING STATEMENT**

Concerning the Application of  
Minnesota Public Radio  
To Construct a New Non-Commercial Educational Radio Station  
To Serve Brainerd, Minnesota

October 1998

**Channel 202 C3**

**5.0 kW**

This engineering statement supports the application filed by Minnesota Public Radio to build a new non-commercial educational FM radio station to serve Brainerd, Minnesota and the surrounding area.

Under this proposal, a type approved, FM transmitter generates an output power of 3.44 kilowatts. The power is fed through a diplex filter assembly having an approximate efficiency of 89.1 percent. The 3" Andrew HJ8-50, 50-ohm air Heliax transmission line, has an efficiency for its 183 meter length of 83.4 percent. Therefore, the proposed 8-bay, circularly polarized antenna has at its input 1.136 kilowatts of power. The proposed antenna has a maximum power gain of 4.4 resulting in a maximum effective radiated power of 5.0 kW.

**Tower Vertical Sketch:**

Exhibit #E2 is a vertical sketch of the existing authorized tower showing the proposed 206.4 meter tower and the proposed side mounted 8-bay circularly polarized antenna.

**Studio Exhibit:**

Exhibit #E3 is a studio exhibit which requests waiver of the main studio rule, (Sec 73.1125.)

**Inter-modulation and blanketing:**

Exhibit #E4 is an exhibit describing the possible effects of inter-modulation and blanketing.

**Site Map:**

Exhibit #E5 is full scale section of a 1:24,000 scale U.S. Geological Survey topographic quadrangle map (Wilson Bay Quadrangle) showing the exact transmitter location.

**Coverage Map**

Exhibit #E6 is a map of the proposed one mV/m (60 dBu) signal contour. Brainerd, Minnesota, the city of licensee, is shown to be fully encompassed by the proposed 60 dBu city service contour. The coverage map was computer generated using U.S. Geological Survey Digital Line Graph data, which was originally digitized from 1:2,000,000 scale maps. Three hundred and sixty evenly spaced radials were used to plot the 60 dBu contour. The area within the proposed one mV/m contour amount 4,444 square kilometers. This figure was determined using numerical calculus. The distance to the one mV/m signal contour along each of 360 evenly spaced radial azimuths was squared and then the average of the sum of these distances was calculated. The resulting average radius squared was then multiplied by  $\pi$  to determine the area within the contour: The population within the 60 dBu service contour was determined to be 54,628 people through the use of a computer program which extracts a population count based on population centroids defined by U.S. Census 1990 (PL-94-171) digital census data. This program draws data from the following summary level: State-County-Voting District/Remainder-County Subdivision, Place/Remainder-Census Tract/Block Numbering Area-Block Group.

Thirty-six evenly spaced radials were used to determine the antenna height above average terrain. The N.G.D.C. 03 arc-second terrain database was used to determine the radial elevations at .1 kilometer increments from 3 to 16 kilometers. The elevation points were averaged using the required four-point interpolation method and then the average was employed to project antenna heights above average terrain and the consequent distances to signal contours along the pertinent radials. (See a tabular listing of these contour distances on page #4 of this exhibit.)

**Allocation Study:**

Exhibit #E7, is a single channel, contour to contour, allocation study showing that interference is neither caused nor received by an FM radio station or construction permit. Page # 2 of this exhibit is a narrative explaining the procedures and conventions used in the study. Page # 3-7 compose an allocation study map and an FMOVER tabulation showing the relationship between the applicant's proposal and stations KVSC, St. Cloud and KCRB, Bemidji, Minnesota.

**Channel-Six Television Protection:**

Exhibit #E8 is a map of the 47 dBu, Grade B, protected signal contours of WDAYTV, Fargo, North Dakota and WBJRTV, Superior, Wisconsin. The map also contains a plot of the proposed facility's 56.8 dBu F(50-10) interference signal contour. There is no interference caused either channel-six TV stations. There are no other full-service channel-six television stations within the cutoff distance. Pages #2 - 4 are a tabular printouts of the predicted distances to the relevant contours used in the study.

**R.F. Hazard compliance:**

Exhibit #E9 shows compliance with the Commission's R.F. emission's standards.

Page #5 of this exhibit (Ex. # E1) is a declaration made by the preparer, Doug Vernier, attesting to his qualifications.

ERP = 5 kW  
Channel = 202

Azimuth Deg.T.	Ave. Elev. 3 to 16 km Meters AMSL	Effective Antenna Height Meters AAT	ERP (dBk)	F(50-50) Distance to 60 dBu Contour km
0	396.1	200.9	6.990	37.42
10	400.0	197.0	6.990	37.11
20	394.5	202.5	6.990	37.54
30	387.2	209.8	6.990	38.11
40	374.6	222.4	6.990	39.03
50	376.9	220.1	6.990	38.87
60	374.5	222.5	6.990	39.04
70	378.0	219.0	6.990	38.79
80	372.7	224.3	6.990	39.16
90	369.0	228.0	6.990	39.42
100	367.7	229.3	6.990	39.51
110	368.0	229.0	6.990	39.49
120	371.1	225.9	6.990	39.28
130	372.8	224.2	6.990	39.16
140	377.2	219.8	6.990	38.84
150	381.4	215.6	6.990	38.54
160	385.1	211.9	6.990	38.26
170	403.0	194.0	6.990	36.86
180	391.5	205.5	6.990	37.78
190	379.3	217.7	6.990	38.69
200	376.8	220.2	6.990	38.87
210	380.2	216.8	6.990	38.63
220	390.9	206.1	6.990	37.82
230	395.9	201.1	6.990	37.43
240	401.2	195.8	6.990	37.01
250	403.6	193.4	6.990	36.82
260	408.6	188.4	6.990	36.41
270	412.1	184.9	6.990	36.11
280	411.0	186.0	6.990	36.21
290	416.5	180.5	6.990	35.74
300	420.2	176.8	6.990	35.41
310	425.0	172.0	6.990	34.95
320	431.0	166.0	6.990	34.34
330	431.9	165.1	6.990	34.25
340	418.0	179.0	6.990	35.61
350	406.3	190.7	6.990	36.60
Ave. =	393.1 M	204. M		

Antenna Radiation Center AMSL =597 M  
NGDC 03 Arc Sec.

Geographic Coordinates:

N. Lat. 46 25 21  
W. Lng. 94 27 41



**Declaration:**

I, Doug Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 25 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

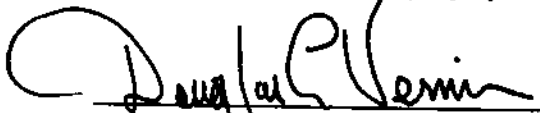
That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 11/95.)

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by Minnesota Public Radio of St. Paul, Minnesota, and as such have prepared the engineering showings appended hereto;

That, I have prepared these engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.

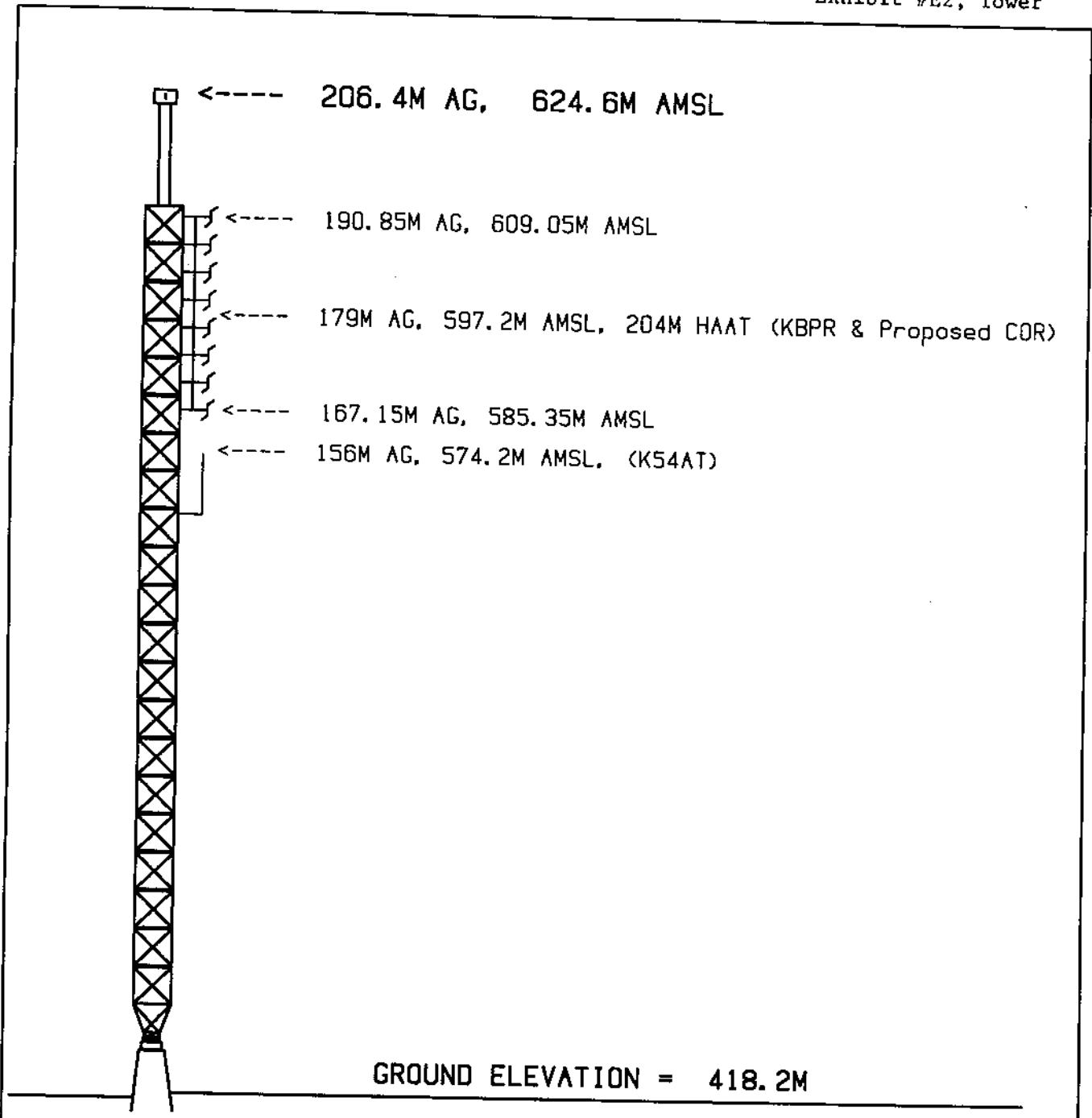
 Douglas L. Vernier

Executed on October 26, 1998

Subscribed and sworn before me this 26<sup>th</sup> day of October, 1998.

  
Notary Public in and for the State of Iowa

My Commission Expires August 10, 2001



VERTICAL SKETCH

EXHIBIT #E2

N. Lat. 46 25 21  
 W. Lng. 94 27 41

CH 202 - 5 kW - 202 M HAAT  
 Brainerd, Minnesota

Existing Authorized Tower

Minnesota Public Radio  
 Oct. '98

(Not to Scale)

DOUG VERNIER  
 BROADCAST CONSULTANT  
 1600 PICTURESQUE DR.  
 CEDAR FALLS, IA 50613  
 319 266-8402

**Exhibit #E3, Page 1**  
**Studio Exhibit for Brainerd, Minnesota**

**Minnesota Public Radio**

**November, 1998**

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Minnesota Public Radio ("MPR") proposes to construct and operate a new noncommercial educational FM station to serve the Brainerd, MN and surrounding area. Its studios will be co-located with those of KNOW (FM) for which MPR is the licensee. That studio is located at 45 East Seventh Street, Saint Paul, MN 55101.

MPR is a nonprofit corporation formed for the purpose of providing noncommercial educational radio service to listeners in Minnesota and surrounding states. MPR's current 29 FM and one AM operating facilities provide 24 hours-per-day quality programming accessible to 98% of Minnesota's citizens, as well as to substantial numbers of listeners in North and South Dakota, Iowa, Wisconsin, Michigan, Idaho and southern Ontario. MPR provides programming to its network of stations from its primary Minneapolis/Saint Paul stations - KSJN (FM), Minneapolis, Minnesota, and KNOW (FM), Saint Paul, Minnesota, and from many of its network stations throughout the region. KNOW (FM) is an all news/information station and KSJN(FM) is a classical music station. The proposed station will be operated as a "news/information service" station in that it will primarily broadcast KNOW (FM).

MPR currently holds a licenses for and operates KBPR (FM) in Brainerd, MN. KBPR (FM) is a classical music service station.

MPR therefore requests a waiver of Section 73.1125 of the Commission's Rules to permit MPR to operate its proposed noncommercial educational FM station on Channel 202 at Brainerd, MN, as a satellite station without a main studio in the community of license. As demonstrated below, grant of the instant waiver request would be in the public interest.

The Commission has issued decisions stating that the "main studio must, at a minimum, maintain full-time managerial and full-time staff personnel." Jones Eastern of the Outer Banks, Inc., FCC 91-175, released June 19, 1991, at ¶ 9; see also Salem Broadcasting, Inc., DA 91-804, released July 2, 1991.

Grant of this requested waiver is necessary to permit MPR to operate the proposed Brainerd station as a "satellite" because the Brainerd area could not otherwise support another wholly independent non-commercial educational FM station. The population of Brainerd is only about 13,000. Because of this area's limited economic base, it is highly unlikely that a station with separate staff and studio could provide the same high quality public radio service that MPR proposes. Therefore, waiver of Section 73.1125 is necessary in this case to ensure that the residents of Brainerd area receive the diverse and important programming MPR will provide.

The Commission has recognized the advantages accruing to noncommercial broadcasters from consolidated operations:

In the past, we have recognized the benefits of centralized

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operations for noncommercial educational stations, given the limited funding available to these stations, and we have granted waivers to state and regional public television and radio networks to operate "satellite" stations that do not necessarily meet the requirements of a main studio.

Main Studio Program Origination Rules, 3 FCC Red. 5024, 5027 (1988) (citing Nebraska Educational Television Commission, 4 R.R.2d 771 (1965)). Indeed, the Commission has previously determined that waiver of the main studio rule for other stations in the MPR network serves the public interest. See Letter from Linda Blair, Chief, Audio Services Division to Todd M. Stansbury, dated May 31, 1996 (attached hereto); see also Letter from Dennis Williams, Assistant Chief, Audio Services Division to Todd M. Stansbury, dated November 6, 1995, File No. BPED-9508101A.

Upon grant of this request, MPR will satisfy the public needs and interests of residents of Brainerd by the following means:

- MPR maintains a toll-free telephone line by which the residents of the Brainerd area can reach MPR management to express concerns about the station operations. This toll-free telephone number goes into MPR's Member Listener Services (MLS) Department. MPR currently has 6 live phone lines and 7 full-time employees who answer the phones and emails. In the past year, MLS has handled about 60,000 incoming calls on every subject you can think of related to MPR, including comments and questions about programming on both services. In addition, MLS has handled about 9,000 email messages in the past year. While the number of phone lines and employees may change with time, MPR's commitment to maintain easy access is strong.
- MPR currently has one person in Saint Paul who is responsible for the final decisions on all programming on MPR stations. MPR has a news director and a classical music director who report to this person. Listener comments from MLS go to this person, who then distributes comments about the music service to the music programming people, and comments about news programming to the news programming director. Summaries of comments about both services are widely distributed throughout the company and to the Board. The current organizational structure may change with time, but the commitment to maintain control of programming and circulate listener opinions will not change.
- MPR has established a site on the World Wide Web (<http://www.mpr.org>) that enables local residents to receive extensive information regarding MPR's programming and provides a link for local residents to email concerns about the station operations to MPR management. The site contains descriptions of special reports, schedules for news and classical music programming, and on-line audio sources for MPR programming, including its radio series *A Prairie Home Companion*®. In addition, MPR has established home pages on the MPR Web Site for its network stations. When the proposed station is constructed, MPR will add the proposed station

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to the Web Site list.

- MPR has an existing relationship with the Brainerd area through its 300 currently active members in the Brainerd area, all of whom identify themselves as listeners of MPR's KBPR (FM) in Brainerd (out of a total MPR membership of about 85,000). MPR actively solicits comments from its members concerning programming and station operation and ensures that member requests and recommendations are thoughtfully considered in making programming decisions.
- MPR operates the largest news organization of any radio service in the Midwest. With this extensive news resource, MPR is able to produce news programming from throughout MPR's service area and distribute it to all stations in the network. In fact, MPR currently maintains a small news room with two *Main Street Radio*® reporters (see below) in Brainerd who produce stories for broadcast on MPR's news and information station network. Both the reporters in Brainerd and the newsroom staff in Saint Paul subscribe to the local and area publications and maintain ongoing relationships with community residents and leaders, who are periodically contacted regarding local events and developments. MPR's reporters use information provided by these contacts to investigate events and to file news stories for broadcast by MPR either regionally or throughout the MPR multi-state network. If MPR at some point decides to change the location of the Main Street Radio reporters, MPR will nevertheless commit to maintaining contact with the community of Brainerd.
- MPR operates a traveling *Mainstreet Radio*® crew of four persons, which gathers and produces programming material from rural and small city locations such as the Brainerd area throughout MPR's service area for broadcast through the network. As described above, two of the *Mainstreet Radio*® reporters work out of a small studio that MPR maintains in Brainerd.

All four Mainstreet reporters live and work outside of the Twin Cities of Minneapolis and Saint Paul, giving their stories a perspective that reflects their rural and small-town lifestyles - a perspective that is consciously not "metrocentric." *Mainstreet Radio*® has four goals:

- To provide listeners throughout Minnesota with compelling stories, insights and perspectives from rural people and places,
- To link the state in common understanding of rural issues and foster a sense of the shared destiny of all Minnesota
- To provide a local and regional context for issues that are global and universal
- To create a body of work that will help rural communities deal effectively with their issues

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- MPR has received a grant from the Corporation for Public Broadcasting that has been used to test a pilot program called "Local Link" <sup>TM</sup>. The purpose of Local Link is to enhance local news coverage in rural and small communities. This program, which is unique in public broadcasting, is currently in the implementation and testing stages and has recently been installed at several of MPR's stations. Local Link is enabling MPR to improve news programming in its small city markets, including Brainerd. For example, one of the goals of Local Link is to allow reporters located at stations in the areas of the state outside of Minneapolis and Saint Paul to spend less time on-air reading the news and more time getting out in the region they cover working with their contacts and covering local and regional news.

For the foregoing reasons, MPR submits that it will be able to ascertain and satisfy the interests and need of residents of the Brainerd area and, therefore, respectfully requests that the Commission grant this waiver of the main studio rule for the proposed station.

Prepared 11/12/98  
Mitzi T Gramling

FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D. C. 20554

1996

IN REPLY REFER TO  
180083-ALM

Todd M. Stansbury, Esq.  
Wiley, Rein & Fielding  
1776 K Street, N.W.  
Washington, D. C. 20006

Re: New FM Service in Appleton, Minnesota. File No. BPED-941108MB

Dear Mr. Stansbury:

The staff has under consideration the application of Minnesota Public Radio ("MPR") to construct a new noncommercial educational ("NCE") FM station in Appleton, Minnesota (File No. BPED-941108MB). MPR requests waiver of the Commission's main studio requirement, see 47 C.F.R. § 73.1125,<sup>1</sup> in order to operate the Appleton station as a satellite of its NCE station KNOW(FM), St. Paul, Minnesota. For the reasons set forth below, we will waive 47 C.F.R § 73.1125 and grant MPR's application for a construction permit.

Section 73.1125(a) requires each broadcast station to maintain a main studio within the station's principal community contour to ensure that the station will serve the needs and interests of the residents of its community of license. Amendment of Sections 73.1125 and 73.1130, 3 FCC Rcd 5024, 5027 (1988). However, under Section 73.1125(a)(4), the Commission will waive this requirement where "good cause" exists to do so and where the proposed studio location "would be consistent with the operation of the station in the public interest." Each waiver request by an NCE station seeking to operate as the satellite of another NCE station is considered on a case-by-case basis. The Commission has recognized the benefits of centralized operations for NCE stations, given their limited funding, and thus found "good cause" exists to waive the main studio location requirement where satellite operations are proposed. Id. A satellite station must, however, demonstrate that it will meet its local service obligation to satisfy the Section 73.1125 "public interest" standard. Id.

MPR's request is based on the economies of scale which would be realized by grant of its waiver. We agree and conclude that there is "good cause" to waive 47 C.F.R. § 73.1125(a)(4) in these circumstances. MPR proposes to operate the Appleton station as a satellite of KNOW(FM), St. Paul, Minnesota, approximately 110 miles from Appleton. Where there is a great distance between parent and satellite stations, as here, we are particularly concerned that the licensee take adequate measures to maintain its awareness of the satellite community's needs and interests. To that end, MPR has pledged to: (1) continue its policy that residents of each service area participate on a regional advisory council which

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<sup>1</sup>In relevant part, Section 73.1125 requires each broadcast station to maintain a main studio within the station's principal community contour.

provides input to management on programming issues of interest to the residents throughout MPR's service area, including Appleton; (2) continue its existing relationship with the community of Appleton which has been established by means of its existing station KRSU(FM), Appleton, Minnesota; (3) solicit comments from MPR members in Appleton concerning programming and station operation; (4) base a "beat" reporter in Appleton who will subscribe to local and area publications and maintain ongoing relationships with community residents and leaders, who will be periodically contacted regarding local events and developments; (5) maintain a toll-free telephone number for residents of Appleton to contact MPR management in accordance with 47 C.F.R. § 73.1125(c); and (6) operate a site on the World Wide Web which enables local residents to receive extensive information and comment on MPR's programming. We also remind MPR that it must maintain a public file for the new station in Appleton, as required by 47 C.F.R. § 73.3527(d). In these circumstances, we are persuaded that MPR will meet its local service obligations and thus, that grant of the requested waiver is consistent with the public interest.

Accordingly, the application of Minnesota Public Radio for a new noncommercial educational FM station in Appleton, Minnesota (File No. BPED-941108MB) and its request for waiver of 47 C.F.R. § 73.1125 ARE GRANTED. The authorization will be forwarded under separate cover.

Sincerely,

*Lisa Scanlan*

Linda Blair, Chief *for*  
Audio Services Division  
Mass Media Bureau