

**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<br>See Ex #E1, Engineering Statement | <input type="checkbox"/> Construct a new auxiliary backup facility                         |
| <input type="checkbox"/> 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 checked="" 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	Koochiching	International Falls	MN

**Class (check only one box below)**

- A  BI  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.

3909 County Road 98 South, International Falls,  
 Koochiching County, Minnesota

(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	48 °	28 ' 24 "	Longitude	93 °	20 ' 00 "
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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. \_\_\_\_\_

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.  
N/A

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. Pending MPR Ch. 209

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	o	.	-	Longitude	o	.	-
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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)	_____	_____	_____

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

- (1) Of the site above mean sea level; 342 meters
- (2) Of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 61 meters
- (3) Of the top of supporting structure above mean sea level [(a)(1) + (a)(2)]. 403 meters

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

- (1) Above ground; 55 meters (H)  
55 meters (V)
- (2) Above mean sea level [(a)(1) + (b)(1)]; and 396\* meters (H)  
396\* meters (V)
- \*Figure from vertical sketch to avoid rounding error.
- (3) Above average terrain. 47 meters (H)  
47 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 5.75 kw (H\*) 5.75 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

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17. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast (*except citizens band or amateur*) radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any protected or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?  Yes  No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Section 73.315(b), 73.316(d) and 73.318.)

Exhibit No.  
N/A

18. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.  
E4

19. Attach as an Exhibit (name the source) a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.  
E5

- (a) The proposed transmitter location, and the radials along with profile graphs have been prepared;
- (b) The 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mv/m contour; and
- (c) The legal boundaries of the principal community to which the station is or will be licensed.

20. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mv/m contour.

Area 1,011\* sq. km.      Population 13,545  
\*US Land Area

21. Attach as an Exhibit a map (*Sectional Aeronautical charts where obtainable*) showing the present and proposed 1 mv/m (60 dbu) contours.

Enter the following from Exhibit above:

Gain Area N/A sq. km.  
Loss Area \_\_\_\_\_ sq. km.  
Present Area \_\_\_\_\_ sq. km.

Percent change (gain area plus loss area as divided by present area times 100%) \_\_\_\_\_ New station

If 50% or more, this constitutes a major change. Indicate in question 2(c), Section 1, accordingly. See 47 C.F.R. Section 73.3573(a)(1).)

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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)

USGS V-Soft Communications 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 #3	*	*
90	*	*	*
135			
180			
225			
270			
315			

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

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

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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.  
E6

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).

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

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

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- (e) 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:

Exhibit No.  
N/A

- (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.  
N/A

- (b) If No, explain briefly why not.

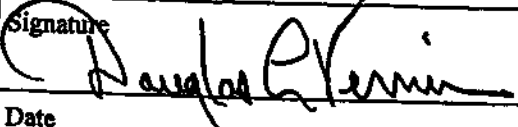
Tower height 200 ft. or less.

- (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 hazard 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 	Address (include ZIP Code) 1600 Picturesque Drive Cedar Falls, IA 50613
Date January 5, 2000	Telephone No. (include Area Code) 319 266-8402



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

Concerning the Application of  
Minnesota Public Radio  
To Construct a New Non-Commercial FM Station to Serve  
International Falls, MN

January, 2000

Channel 202A

5.75 kW

This engineering statement supports the application of Minnesota Public Radio of St. Paul, Minnesota to build a new non-commercial educational FM station on channel 202 to serve International Falls, Minnesota.

Under this proposal, an FM transmitter generates an output power of 3.429 kilowatts on 88.1 MHz. The 50 ohm Andrew HJ5-50a, 1 5/8" Heliax, air copper, coaxial transmission line, has a loss for its 57 meter length of .363 dB, and the proposed diplexer has and a loss of .5 dB. The combined system efficiency is 78 percent. Therefore, the proposed 4-bay circularly polarized antenna has at its input 2.6746 kilowatts of power. The antenna has a power gain of 2.15 resulting in an effective radiated power of 5.75 kW.

The RF output from this transmitter will be combined with the output from another proposed MPR transmitter for Channel 209 for delivery to a common antenna. The proposed diplexer and transmission system will be designed to exhibit broadband impedance and bandpass characteristics such that the carriers and sidebands of both FM channels will be properly transferred to the antenna.

**Exhibit #E2** is a vertical sketch of the tower depicting the proposed antenna.

**Exhibit #E3** is a request for waiver of Section 73.1125, requesting permission for the main studio to be located outside of the 60 dBu contour.

**Exhibit #E4** is a full scale section of a 1:24,000 scale U.S. Geological Survey topographic quadrangle map (Ericzburg Quadrangle) showing the exact transmitter location. Page #2 of this exhibit is a photo reduction of the map, showing the proposed transmitter location in relationship to the map's edge markings.

**Exhibit #E5** is a Digital Line Graph map (U.S.G.S.) of the proposed one mV/m F(50-50) contour. International Falls, the city of license, 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. The U.S. land area within the proposed one mV/m contour amounts 1,007 square kilometers. This figure was determined by using a compensating polar-planimeter. The population within the 60 dBu service contour was determined to be 12,346 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.

A total of 36 evenly spaced radials were used to determine the antenna height above average terrain. The N.G.D.C. 03 arc second database was employed 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. A tabular listing of the distance to the one mV/m contour can be found on page #3 of this exhibit. The base elevation was determined by a survey performed by Murray Surveying, Inc. of Bemidji, Minnesota.

**Exhibit #E6** is a minimum distance spacings table showing that, although the proposed station is within 320 kilometers of the US-Canadian border, all US-Canada Working Arrangement treaty spacings are met.

**Exhibit #E7**, is an **Allocation Report** showing that no interference will be caused to any existing licenses, construction permits or allocations. The first page is a computer channel study of all stations having a frequency and distance relationship. The exhibit gives current operating powers, HAAT's, bearings and distances. (All distances were computed according to the method described under Section 73.208 of the Commission's Rules.) The second page is a narrative of the methods and conventions used in the report. Pages 3-5 is a map and tabular printout of the proposed station's relationship with first adjacent KCRBFM in Bemidji, Minnesota.

**Exhibit #E8** is a channel six TV study. The section 73.525 cutoff distance for stations on channel 202 is 257 kilometers. The closest U.S. channel-six TV station is KBJRTV. This station is located at a distance of 208.47 kilometers. The facility proposed herein is located outside KBJRTV's Grade B contour. As shown in this exhibit, the proposed 50.8 dBu interference contour does not cross that Grade B. Page #2 is an FMOVER study, showing KBJRTV's actual signal strength at the proposed facility's 50.8 dBu interfering contour.

**Exhibit #E9** is an RF hazard study.

Page #4 of **Exhibit #E1** is a statement of the qualifications of the preparer.

Doug Vernier Telecommunications Consultants  
 Minnesota Public Radio, International Falls, MN Channel 202  
 ERP = 5.75 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	350.5	45.9	7.597	19.47
10	348.3	48.1	7.597	19.96
20	347.2	49.2	7.597	20.20
30	349.9	46.5	7.597	19.60
40	341.7	54.7	7.597	21.31
50	342.3	54.1	7.597	21.19
60	348.3	48.1	7.597	19.96
70	348.5	47.9	7.597	19.91
80	348.7	47.7	7.597	19.87
90	350.7	45.7	7.597	19.42
100	357.7	38.7	7.597	17.75
110	357.3	39.1	7.597	17.85
120	356.2	40.2	7.597	18.12
130	356.1	40.3	7.597	18.14
140	353.7	42.7	7.597	18.72
150	354.0	42.4	7.597	18.65
160	351.5	44.9	7.597	19.24
170	351.9	44.5	7.597	19.14
180	353.2	43.2	7.597	18.84
190	351.9	44.5	7.597	19.14
200	353.3	43.1	7.597	18.82
210	352.3	44.1	7.597	19.05
220	355.1	41.3	7.597	18.39
230	353.7	42.7	7.597	18.72
240	351.8	44.6	7.597	19.17
250	347.0	49.4	7.597	20.24
260	345.6	50.8	7.597	20.53
270	344.5	51.9	7.597	20.76
280	345.5	50.9	7.597	20.55
290	346.9	49.5	7.597	20.26
300	346.1	50.3	7.597	20.43
310	344.9	51.5	7.597	20.68
320	343.7	52.7	7.597	20.92
330	346.5	49.9	7.597	20.35
340	349.3	47.1	7.597	19.74
350	349.3	47.1	7.597	19.74
Ave. =	349.9 M	46.5 M		

Antenna Radiation Center AMSL =396.4 M  
 NGDC 03 Arc Sec.

Geographic Coordinates:

N. Lat. 48 28 24  
 W. Lng. 93 20 00

**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.)

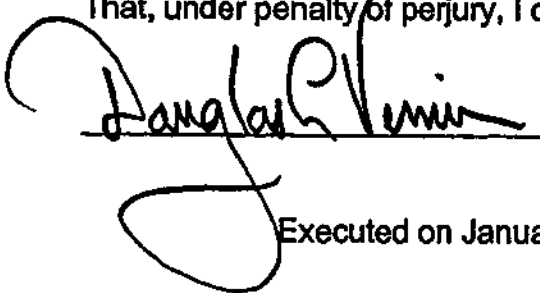
That, my qualifications are a matter of record with the Federal Communications Commission;

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

That, a portion of the exhibits contained herein were prepared under my supervision by Kate Michler, Associate;

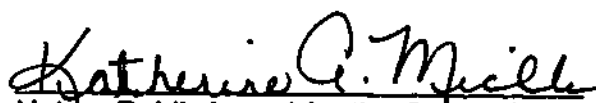
That, I have prepared these engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

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

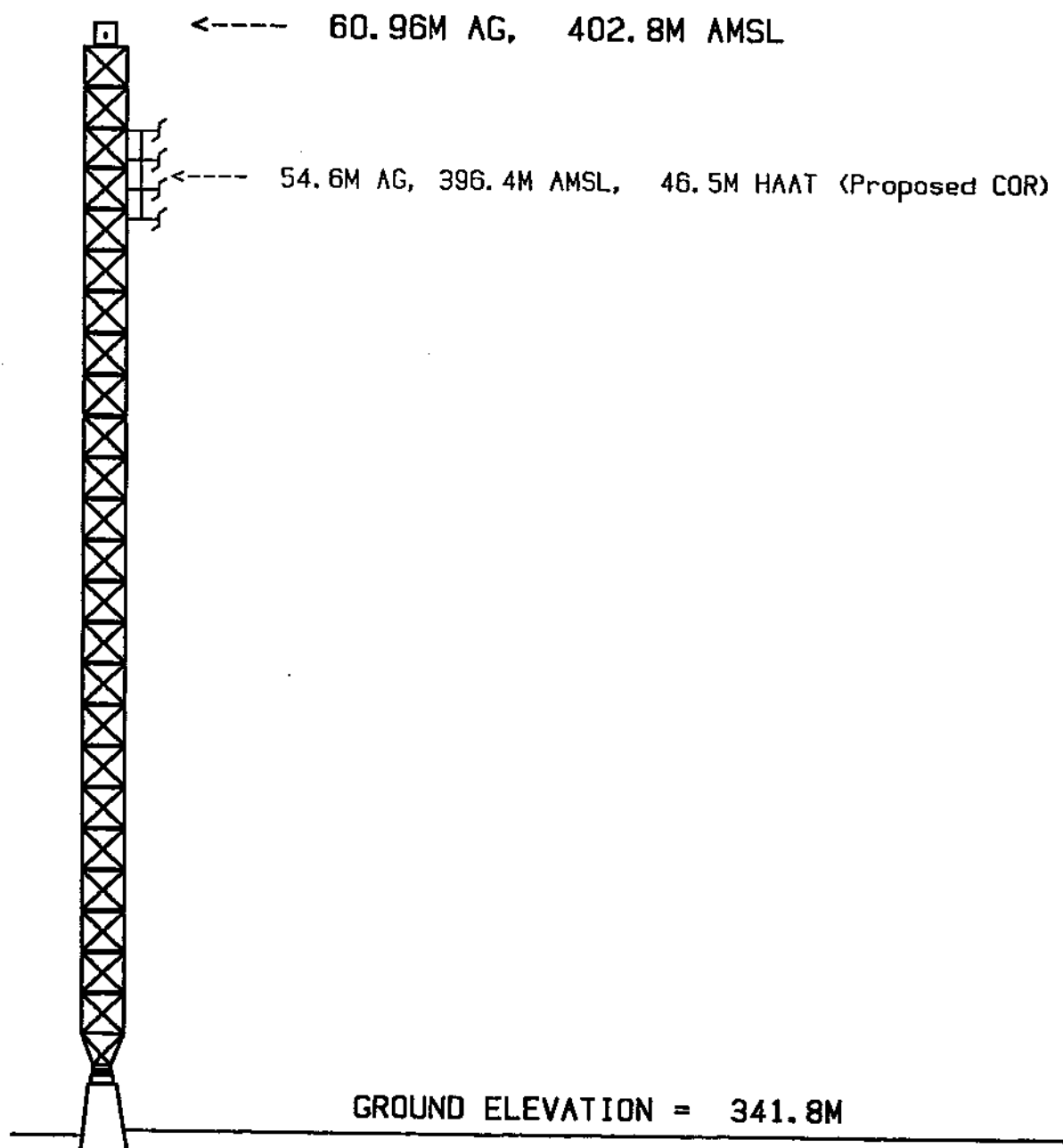
  
\_\_\_\_\_  
Douglas L. Vernier

Executed on January 5, 2000

Subscribed and sworn before me this 5th day of January, 2000.

  
\_\_\_\_\_  
Notary Public in and for the State of Iowa

My Commission Expires August 10, 2001



VERTICAL SKETCH

N. Lat. 48 28 24  
 W. Lng. 93 20 00

-----  
 (Not to Scale)  
 -----

EXHIBIT #E2

Ch 202 46.5M HAAT 5.75kW  
 Minnesota Public Radio  
 International Falls, MN

Jan. 2000

DOUG VERNIER  
 BROADCAST CONSULTANTS  
 1600 PICTURESQUE DRIVE  
 CEDAR FALLS, IA 50613  
 319 266-8402

Minnesota Public Radio

---

Minnesota Public Radio ("MPR") proposes to construct and operate a new noncommercial educational FM station to serve International Falls, MN and the surrounding area. Its studios will be co-located with those of KSJN (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 "classical music " station in that it will primarily broadcast KSJN (FM).

MPR currently operates two FM translators in International Falls. One translator, at 97.7, rebroadcasts the signal of KCRB, MPR's classical music service station in Bemidji, MN. The other FM translator, at 88.1, rebroadcasts the signal of KNBJ, MPR's News & Information Service station in Bemidj. MPR expects to replace its translator at 97.1 with the proposed station once it is built.

MPR currently has about 140 members in International Falls who make financial contributions to MPR.

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 International Falls, 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 International Falls station as a "satellite" because the International Falls area could not otherwise support another wholly independent non-commercial educational FM station. The population of International Falls is only about 12,000. 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 International Falls area receive the diverse and important programming MPR will provide.

The Commission has recognized the advantages accruing to noncommercial broadcasters from

Minnesota Public Radio

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consolidated operations:

In the past, we have recognized the benefits of centralized 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 Rcd. 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 International Falls by the following means:

- MPR maintains a toll-free telephone line by which the residents of the International Falls 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,

Minnesota Public Radio

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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 to the Web Site list.

- MPR operates the largest news organization of any radio service in the Midwest. With this extensive news resource, MPR is able to produce news, arts and cultural programming from throughout MPR's service area and distribute it to all stations in the network. MPR's staff located in nearby Bemidji, MN and the staff in Saint Paul already 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, including local arts and cultural events. MPR's staff uses information provided by these contacts to keep the communities it is involved in informed about local and regional arts and cultural events and to keep classical music hosts informed about these events for broadcast by MPR either regionally or throughout the MPR multi-state network. In addition, MPR broadcasts news reports on its classical music service.

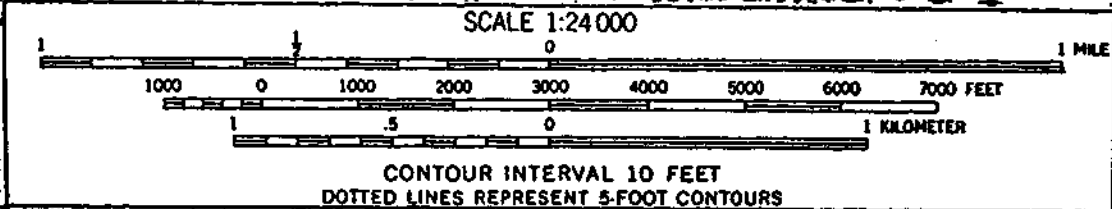
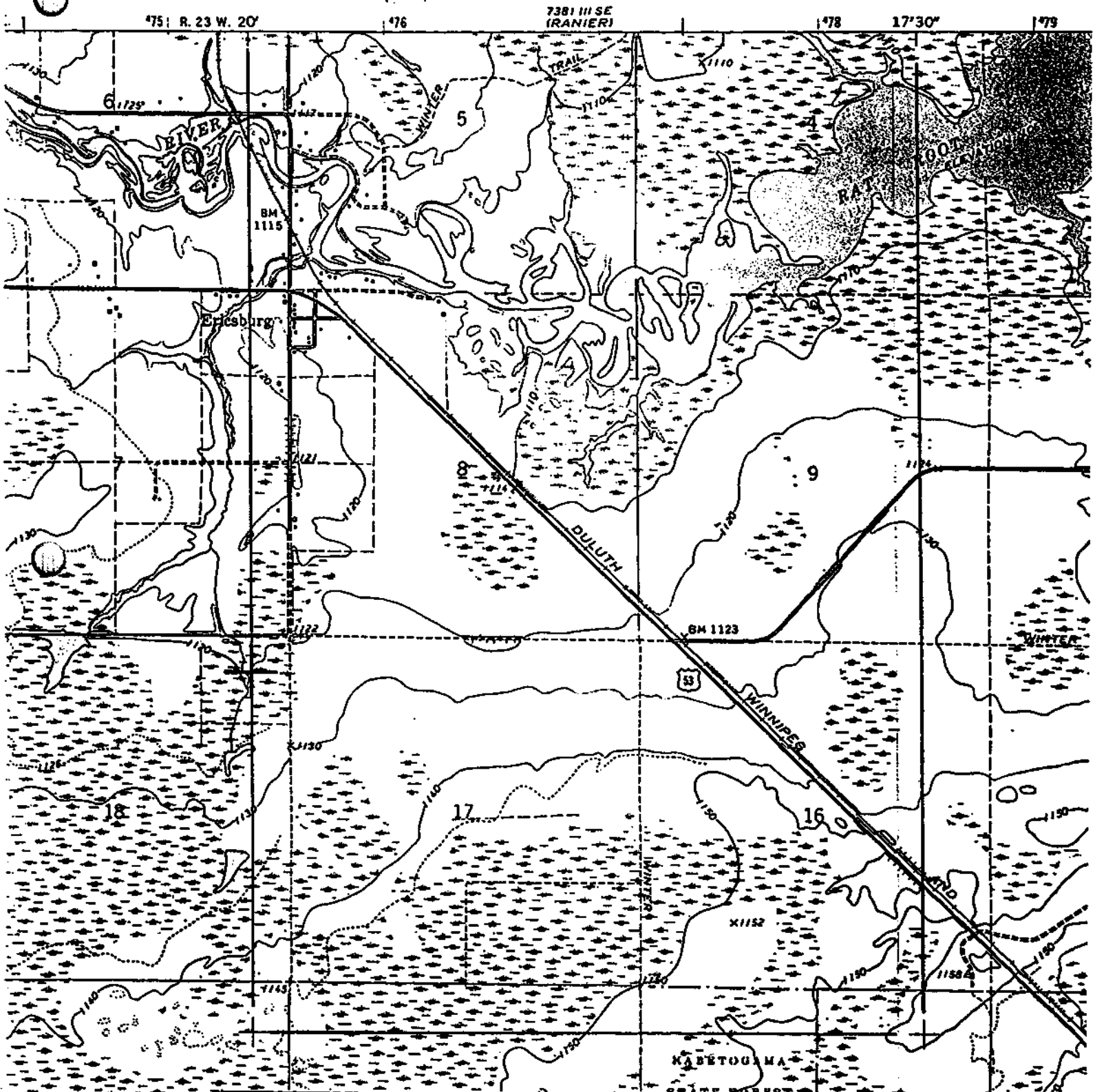
The Commission has relied on substantially similar representations by MPR in finding that waivers of the main studio rule for other stations served the public interest. Thus, the Commission has held that where MPR has pledged to (1) continue its policy for local residents to serve on a RDAC; (2) continue the relationship with the local community through membership; (3) solicit comment from residents regarding station operation and programming; (4) maintaining a local toll-free telephone number; and (5) operating a site on the world wide web, a waiver is warranted. See Letter from Linda Blair, Chief, Audio Services Division, Mass Media Bureau, to Todd M. Stansbury, Ref. No. 1800B3-ALM (Oct. 16, 1998) (waiving the main studio rule for KNGA(FM), St. Peter, MN). MPR is making the same pledges with respect to the International Falls stations.

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

Mitzi T Gramling



ERICSBURG QUADRANGLE  
MINNESOTA-KOOCHICHING CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

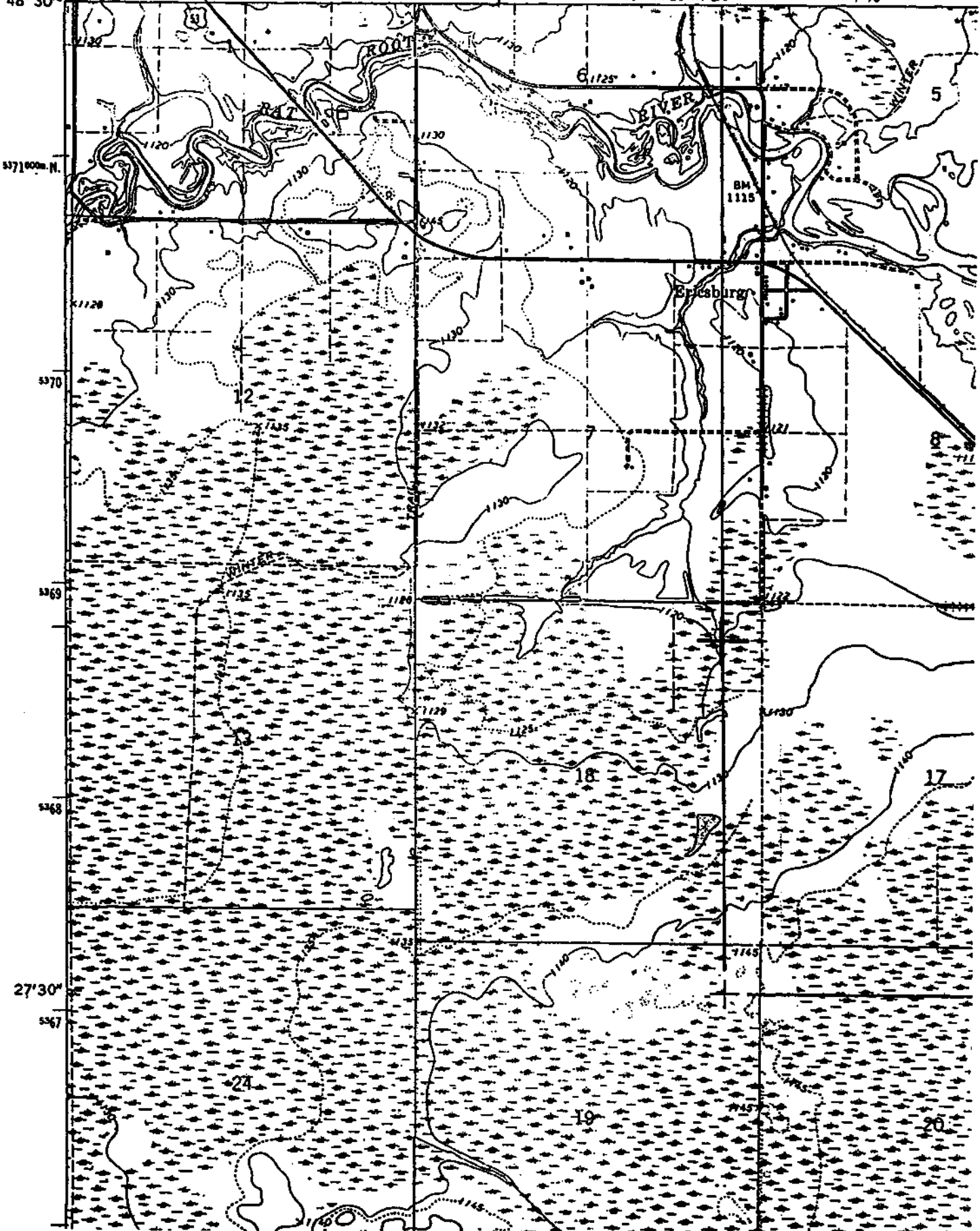


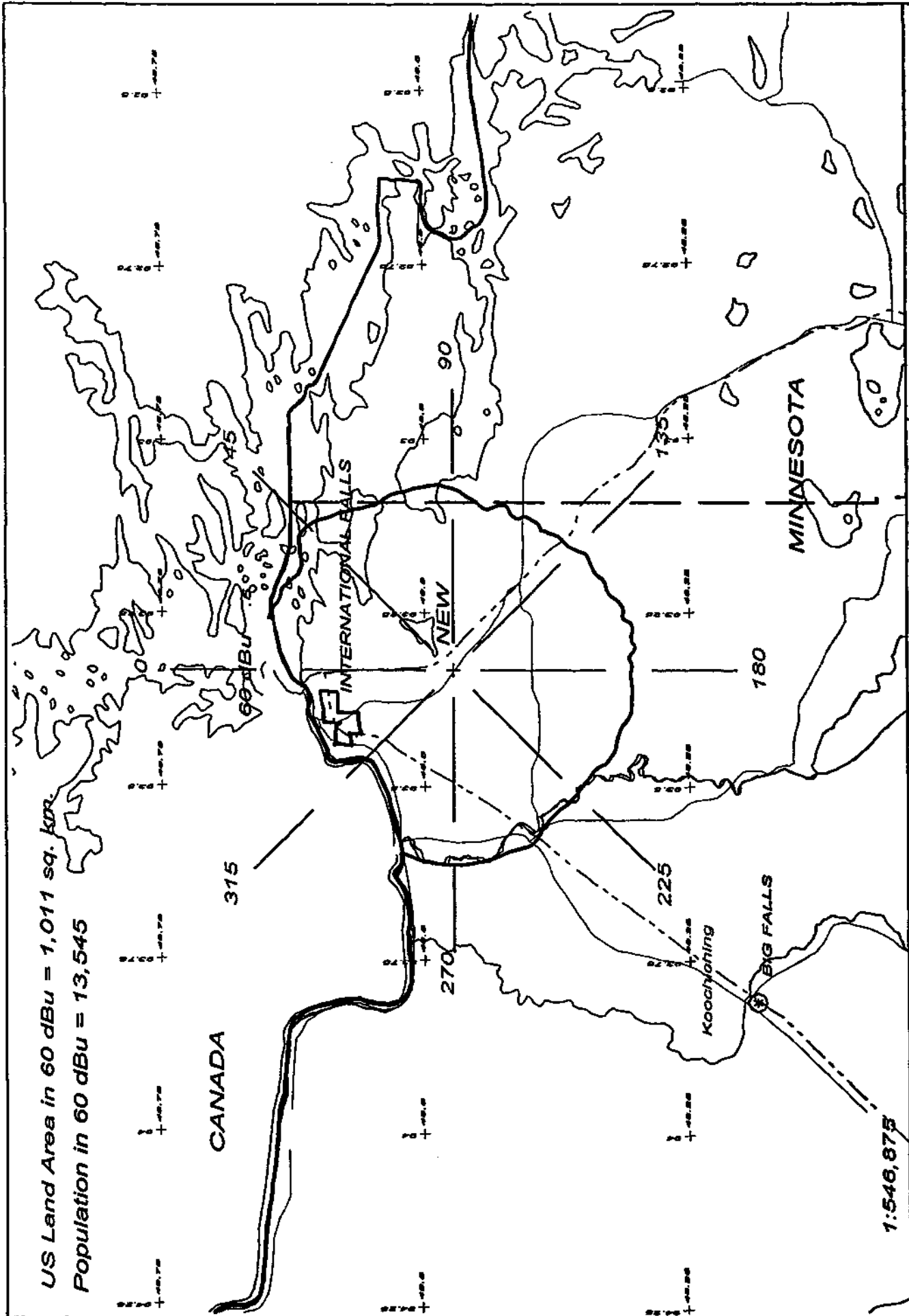
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

STAT  
DEPTM

INTERNATIONAL FALLS  
7381 IN SW FALLS

93° 22' 30" 48° 30' R. 24 W. INTERNATIONAL FALLS 7 MI. 474000m E. 751 R. 23 W. 20' 476





US Land Area in 60 dBu = 1,011 sq. km.  
 Population in 60 dBu = 13,545

CANADA

INTERNATIONAL FALLS

NEW

MINNESOTA

Koochiching

BIG FALLS

315

270

225

180

135

90

1:546,875

Scale in km



NEW 202A 5.75kW 396.4M AMSL

N. Lat. 48 28 24 W. Lng. 93 20 00

NEW202

K Michler - 01/00

Doug Vernier Telecommunications Consultants  
 1600 Picturesque Dr. Cedar Falls IA 50613  
 Minnesota Public Radio  
 International Falls Canadian Exhibit

Ex #E6, Canadian  
 Exhibit

REFERENCE  
 48 28 24 N  
 93 20 00 W

CLASS = A  
 Current Spacings

DISPLAY DATES  
 DATA 12-31-99  
 SEARCH 01-04-00

----- Channel 202 - 88.3 MHz -----

Call	Channel	Location	Dist	Azi	FCC	Margin
KCRBFM LI	203C1	Bemidji	MN	121.54	225.4	133.0 -11.46
AL201 AL	201A	Atikokan	ON	130.08	76.9	98.0 32.08
AP202 AP	202C2	Baxter	MN	241.59	195.1	166.0 75.59
AL205 AL	205A	Atikokan	ON	130.08	76.9	42.0 88.08
AL201 AL	201A	Cat Hills	MB	187.01	290.9	98.0 89.01
AP202 AP	202C3	Brainerd	MN	243.37	200.8	142.0 101.37
AL202 AL	202A	Lac Du Bonnet	MB	274.60	317.1	151.0 123.60
AP202 AP	202A	Brainerd	MN	240.68	197.4	115.0 125.68
AP203 AP	203A	Superior	WI	208.47	153.5	72.0 136.47
AP201 AP	201C2	Wentworth	WI	242.73	156.1	106.0 136.73
AL256 AL	256B	Dryden	ON	150.46	14.3	12.0 138.46
AL205 AL	205A	Cat Hills	MB	187.01	290.9	42.0 145.01

Minnesota Public Radio  
International Falls Channel 202

REFERENCE  
48 28 24 N  
20 00 W

CH# 202A - 88.3 MHz, Pwr= 5.75 kW, HAAT=46.5 M, COR= 396 M  
Average Protected F(50-50)= 19.6 km  
Ave. F(50-10) 40 dBu= 74.5 54 dBu= 28.8 80 dBu= 6.1 100 dBu= 2.0

DISPLAY DATES  
DATA 12-31-99  
SEARCH 01-04-00

CH CITY	CALL	TYPE STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	COR(M) INT(km)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
203C1 Bemidji > Reference HAAT at	*KCRBFM	LI CN MN	225.4 45.4	121.54 BLED940711KA	47 42 03 94 29 15	95.000 280	717 102.4	70.2 Minnesota Public Radio, In	0.57	23.96
Pwr= 5.75 kW, Pro. Dist. = 18.58 km, Int Dist. = 27.34 km										
201A > Reference HAAT at	*AL201	AL ON	76.9 256.9	130.08	48 43 28 91 36 38	6.000 -432	0 23.5	22.4	86.84	63.50
Pwr= 5.75 kW, Pro. Dist. = 19.76 km, Int Dist. = 44.15 km										
202C2 Baxter	AP202	AP CN MN	195.1 15.1	241.59 BPED990602MG	46 22 23 94 09 16	50.000 44	415 119.0	31.4 CSN International	103.01	135.66
205A Atikokan	AL205	AL ON	76.9 256.9	130.08	48 43 28 91 36 38	6.000 100	0 2.8	38.7	107.73	88.60
201A Cat Hills Accepted by Commission	AL201	AL MB	290.9 110.9	187.01	49 02 50 95 43 29	6.000 100	0 43.7	38.7	123.67	104.50
960401										
202C3 Brainerd Accepted by Canada on	AP202	AP CN MN	200.8 20.8	243.37 BPED981113MC	46 25 21 94 27 41	5.000 204	597 98.4	37.7 Minnesota Public Radio	125.34	131.19
990713 as a Class B1										
202A Lac Du Bonnet Accepted by Commission	AL202	AL MB	317.1 137.1	274.60	50 15 06 95 57 25	6.000 100	0 86.7	38.7	168.33	134.40
960401										
202A Brainerd	AP202	AP CN MN	197.4 17.4	240.68 BPED990528MD	46 24 15 94 16 16	5.000 79	448 79.9	24.3 Rochester Community Radio	141.14	141.85
203A Superior Vertical Polarization Only Accepted as Class A by Canada	AP203	AP VN WI	153.5 333.5	208.47 BPED971211MC	46 47 21 92 06 51	1.000 87	390 25.4	17.2 State of Wisconsin Educati	163.45	162.46
980513										
202C2 Wentworth Accepted as Class B by Canada	AP201	AP VN WI	156.1 336.1	242.73 BPED971211MN	46 28 14 92 03 06	25.000 109	460 61.8	40.5 American Family Associatio	161.33	173.42
980525										
256B Dryden	AL256	AL ON	14.3 194.3	150.46	49 47 00 92 49 00	50.000 150	0 0.0	65.1	12.0R	138.5M
205A Cat Hills	AL205	AL MB	290.9 110.9	187.01	49 02 50 95 43 29	6.000 100	0 2.8	38.7	164.66	145.53
06+2C SUPERIOR > Reference HAAT at	*KBJRTV	LI HN WI	153.5 333.5	208.47 BLCT2419	46 47 21 92 06 51	100.000 187	610 122.1	92.8 KBJR LICENSE, INC.	To Grd 8=	115.67
153.5°= 41.6 M, Pwr= 5.75 kW, Pro. Dist. = 240.86 km, Int Dist. = 301.43 km										

\* = ERP and HAAT on direct line to and from reference station.

## HOW TO READ THE FM COMPUTER PRINT-OUT

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table, while the 40, 54, 80 and 100 dBu contours are interference contours derived from the Commission's F(50-10) table. Contour distances are in kilometers and are predicted using spline interpolation from data points identical to those published in Report No. RS 76-01 by Gary C. Kalagian. Critical contour distances are determined using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

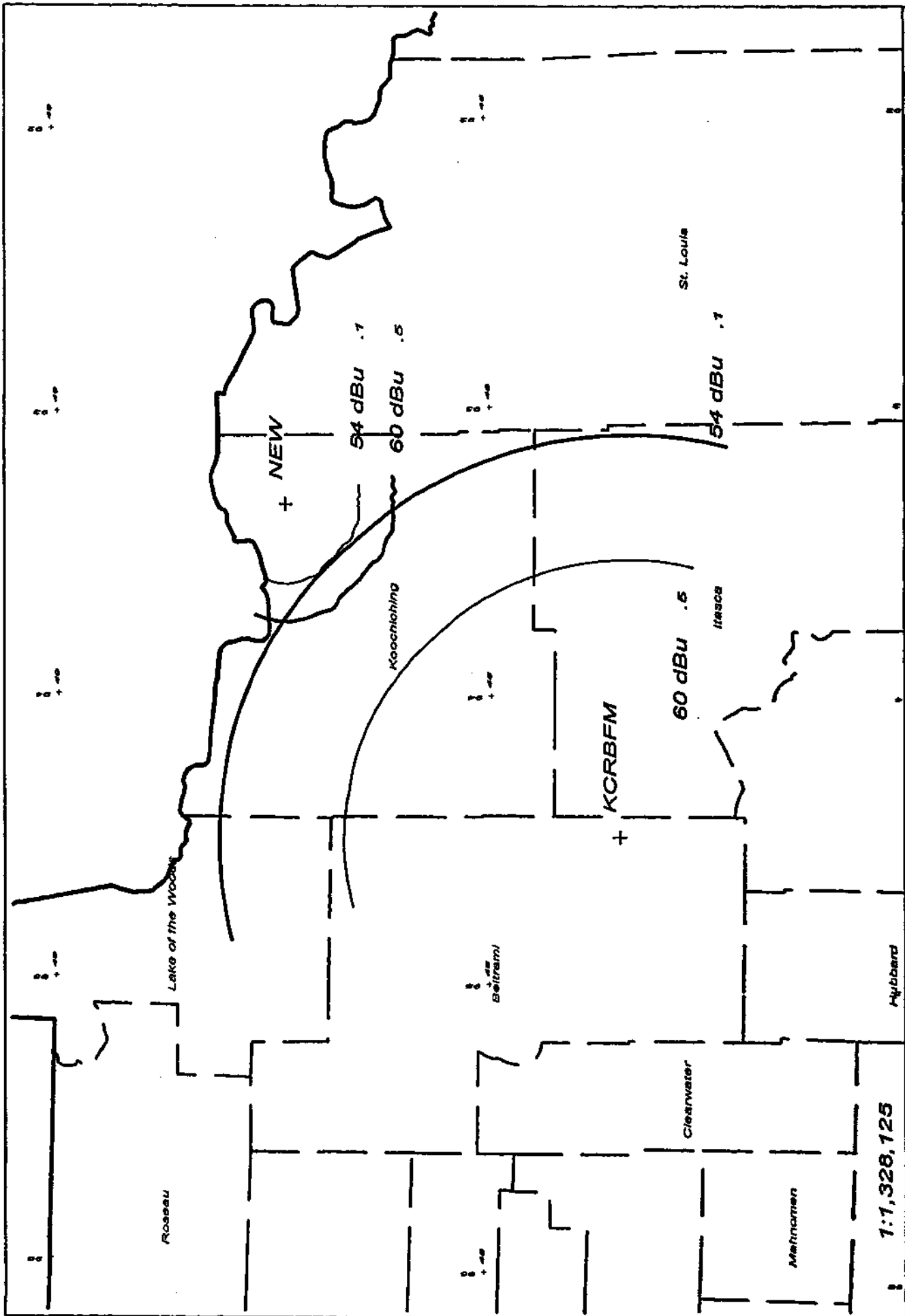
The column listed **"IN"** is the sum of the reference station's 60 dBu protected contour and the data file station's interference contour subtracted from the distance between the stations. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, the column is a measure of incoming interference. Negative distances in this column indicate the presence of interference. Listed antenna heights are the average heights of eight standard radials as found in the Commission's records unless otherwise noted, in which case the specific antenna heights along the azimuths between the reference station and the database station are used and visa versa. The column labeled **"OUT"** shows the distance of kilometers of overlap or clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing interference.

Under the **"AZIMUTH"** column, the first row of numbers indicate the bearings from true north of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station.

The columns labeled **"INT"** and **"PRO"** hold the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the **"IN"** and **"OUT"** columns change their significance. The letter **"R"** stands for the minimum required distance in kilometers, while the letter **"M"** in the next column follows the available clear space separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the **"TYPE"** column identify the current FCC status of the stations. The fourth letter will be a **"D"** or **"Z"** (Sec. 73.215) if the facility is directional. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a **"Y"** if the antenna uses beam tilt.



NEW202 vs KCRBFM  
K Michler - 01/00

NEW 202A 5.75kW 396.4M AMSL  
KCRBFM 203C1 95kW 717M AMSL

Scale in km  
0 10 20 30 40 50 60 70

Doug Vernier Telecom Consultants  
01-05-2000 03 Sec. Terrain Data

NEW  
Channel = 202A  
Max ERP = 5.75 kW  
RCAMSL = 396.4 M  
N. Lat = 482824  
W. Lng = 932000

KCRBFM BLED940711KA  
Channel = 203C1  
Max ERP = 95 kW  
RCAMSL = 717 M  
N. Lat = 47 42 03  
W. Lng = 94 29 15

Protected  
60 dBu

Interfering  
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
218.0	005.7500	0041.4	018.4	045.9	095.0000	0279.9	103.4	53.7
219.0	005.7500	0041.3	018.4	045.7	095.0000	0280.0	103.3	53.7
220.0	005.7500	0041.3	018.4	045.5	095.0000	0280.0	103.3	53.7
221.0	005.7500	0041.4	018.4	045.3	095.0000	0280.0	103.3	53.7
222.0	005.7500	0041.5	018.4	045.2	095.0000	0280.1	103.2	53.8
223.0	005.7500	0041.7	018.5	045.0	095.0000	0280.2	103.1	53.8
224.0	005.7500	0042.0	018.6	044.8	095.0000	0280.2	103.1	53.8
225.0	005.7500	0042.3	018.6	044.6	095.0000	0280.3	103.0	53.8
226.0	005.7500	0042.4	018.7	044.4	095.0000	0280.3	103.0	53.8
227.0	005.7500	0042.4	018.7	044.3	095.0000	0280.4	103.0	53.8
228.0	005.7500	0042.4	018.7	044.1	095.0000	0280.5	103.0	53.8
229.0	005.7500	0042.6	018.7	043.9	095.0000	0280.6	103.0	53.8
230.0	005.7500	0042.7	018.7	043.7	095.0000	0280.7	103.0	53.8
231.0	005.7500	0042.6	018.7	043.5	095.0000	0280.7	103.0	53.8
232.0	005.7500	0042.4	018.7	043.4	095.0000	0280.8	103.1	53.8
233.0	005.7500	0042.4	018.7	043.2	095.0000	0280.9	103.2	53.8
234.0	005.7500	0042.7	018.7	043.0	095.0000	0281.0	103.1	53.8
235.0	005.7500	0042.9	018.8	042.8	095.0000	0281.1	103.2	53.8
236.0	005.7500	0043.3	018.9	042.6	095.0000	0281.2	103.1	53.8
237.0	005.7500	0043.6	018.9	042.4	095.0000	0281.3	103.1	53.8
238.0	005.7500	0043.8	019.0	042.3	095.0000	0281.4	103.2	53.8
239.0	005.7500	0044.1	019.1	042.1	095.0000	0281.5	103.2	53.8
240.0	005.7500	0044.6	019.2	041.9	095.0000	0281.6	103.2	53.8
241.0	005.7500	0045.3	019.3	041.7	095.0000	0281.7	103.1	53.8
242.0	005.7500	0046.5	019.6	041.4	095.0000	0281.8	103.0	53.9
243.0	005.7500	0047.6	019.8	041.2	095.0000	0281.9	102.9	53.9
244.0	005.7500	0048.5	020.0	041.0	095.0000	0282.0	102.8	53.9
245.0	005.7500	0049.2	020.2	040.8	095.0000	0282.1	102.8	53.9
246.0	005.7500	0049.6	020.3	040.6	095.0000	0282.2	102.9	53.9
247.0	005.7500	0049.8	020.3	040.4	095.0000	0282.2	103.0	53.9
248.0	005.7500	0049.7	020.3	040.2	095.0000	0282.3	103.2	53.8
249.0	005.7500	0049.5	020.3	040.1	095.0000	0282.3	103.4	53.8
250.0	005.7500	0049.4	020.2	039.9	095.0000	0282.4	103.6	53.7
251.0	005.7500	0049.3	020.2	039.7	095.0000	0282.5	103.8	53.7
252.0	005.7500	0049.2	020.2	039.6	095.0000	0282.5	104.0	53.6



Doug Vernier Telecom Consultants  
01-05-2000 03 Sec. Terrain Data

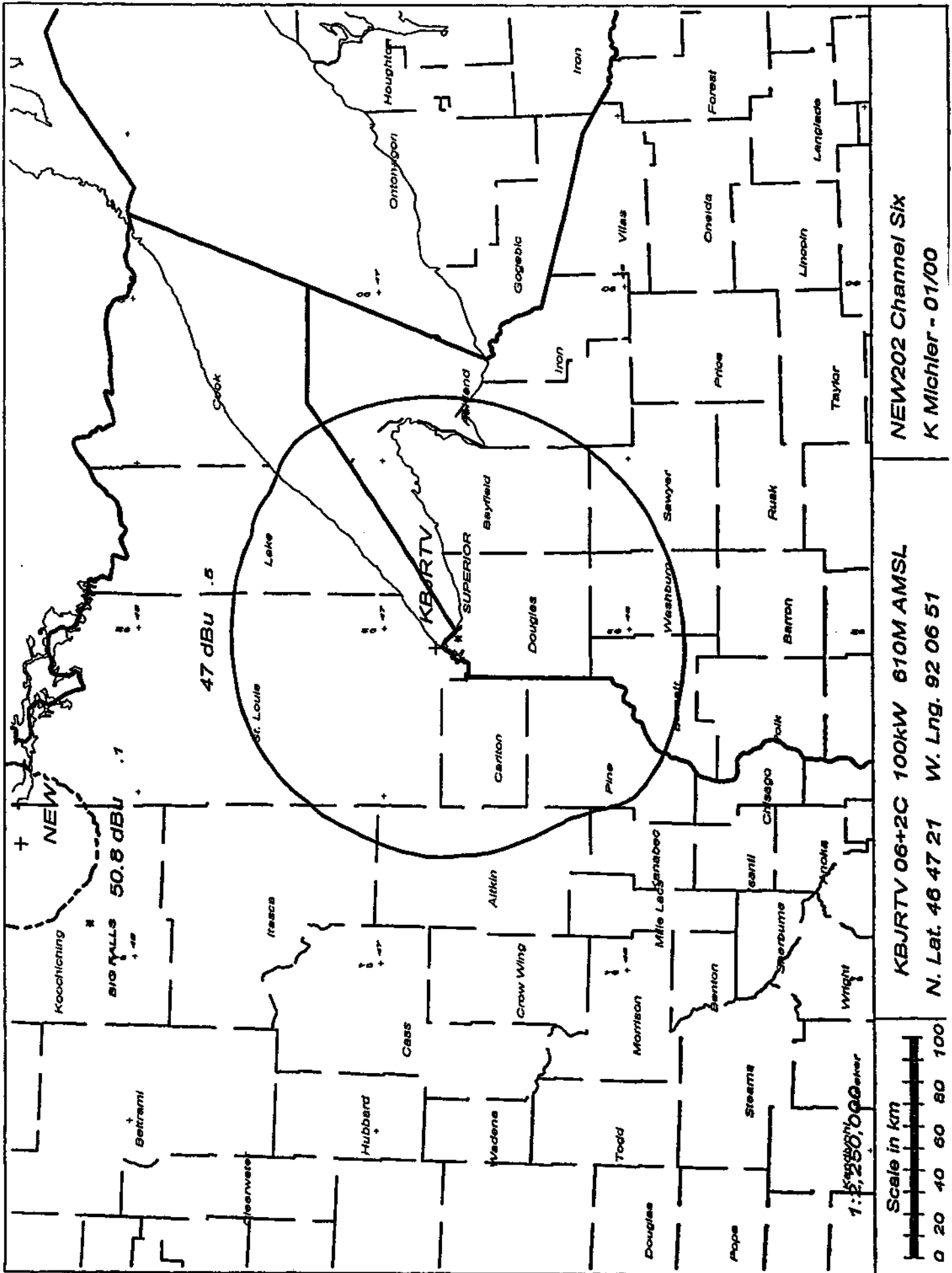
KCRBFM BLED940711KA  
Channel = 203C1  
Max ERP = 95 kW  
RCAMSL = 717 M  
N. Lat = 47 42 03  
W. Lng = 94 29 15

NEW  
Channel = 202A  
Max ERP = 5.75 kW  
RCAMSL = 396.4 M  
N. Lat = 482824  
W. Lng = 932000

Protected  
60 dBu

Interfering  
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
028.0	095.0000	0287.0	070.8	246.2	005.7500	0049.7	057.4	44.5
029.0	095.0000	0286.6	070.8	245.1	005.7500	0049.2	056.5	44.7
030.0	095.0000	0286.1	070.7	244.0	005.7500	0048.5	055.9	44.8
031.0	095.0000	0285.4	070.7	242.9	005.7500	0047.5	055.3	44.8
032.0	095.0000	0284.9	070.7	241.8	005.7500	0046.2	054.7	44.8
033.0	095.0000	0284.5	070.6	240.6	005.7500	0045.0	054.1	44.8
034.0	095.0000	0284.2	070.6	239.4	005.7500	0044.3	053.6	44.9
035.0	095.0000	0283.8	070.6	238.2	005.7500	0043.9	053.1	45.0
036.0	095.0000	0283.6	070.5	237.0	005.7500	0043.6	052.7	45.0
037.0	095.0000	0283.4	070.5	235.7	005.7500	0043.1	052.3	45.1
038.0	095.0000	0283.1	070.5	234.4	005.7500	0042.8	051.9	45.1
039.0	095.0000	0282.7	070.5	233.1	005.7500	0042.5	051.7	45.1
040.0	095.0000	0282.4	070.4	231.7	005.7500	0042.5	051.4	45.2
041.0	095.0000	0282.0	070.4	230.4	005.7500	0042.7	051.2	45.3
042.0	095.0000	0281.5	070.4	229.0	005.7500	0042.6	051.1	45.3
043.0	095.0000	0281.0	070.3	227.6	005.7500	0042.4	051.0	45.3
044.0	095.0000	0280.6	070.3	226.2	005.7500	0042.4	051.0	45.3
045.0	095.0000	0280.1	070.3	224.9	005.7500	0042.3	051.0	45.3
046.0	095.0000	0279.9	070.2	223.5	005.7500	0041.8	051.1	45.2
047.0	095.0000	0279.6	070.2	222.1	005.7500	0041.5	051.2	45.1
048.0	095.0000	0279.3	070.2	220.8	005.7500	0041.3	051.3	45.1
049.0	095.0000	0279.3	070.2	219.4	005.7500	0041.3	051.5	45.0
050.0	095.0000	0279.6	070.2	218.1	005.7500	0041.4	051.7	45.0
051.0	095.0000	0280.2	070.3	216.8	005.7500	0041.4	052.0	44.9
052.0	095.0000	0281.0	070.3	215.4	005.7500	0041.5	052.2	44.8
053.0	095.0000	0282.0	070.4	214.1	005.7500	0041.9	052.5	44.8
054.0	095.0000	0282.8	070.5	212.9	005.7500	0042.6	052.9	44.8
055.0	095.0000	0283.5	070.5	211.6	005.7500	0043.7	053.3	44.9
056.0	095.0000	0284.1	070.6	210.4	005.7500	0044.0	053.8	44.8
057.0	095.0000	0284.6	070.6	209.2	005.7500	0044.3	054.3	44.7
058.0	095.0000	0284.9	070.7	208.1	005.7500	0044.4	054.9	44.5
059.0	095.0000	0285.0	070.7	207.0	005.7500	0044.6	055.5	44.4
060.0	095.0000	0285.3	070.7	205.9	005.7500	0044.4	056.2	44.2
061.0	095.0000	0285.4	070.7	204.9	005.7500	0044.0	056.9	44.0
062.0	095.0000	0285.6	070.7	203.9	005.7500	0043.7	057.6	43.7



NEW202 Channel Six  
K Michler - 01/00

KBJR-TV 06+2C 100kW 610M AMSL  
N. Lat. 46 47 21 W. Long. 92 06 51

Scale in km  
0 20 40 60 80 100

1:5,250,000

Doug Vernier Telecom Consultants  
01-05-2000 03 Sec. Terrain Data

KBJRTV BLCT2419  
Channel = 06+2C  
Max ERP = 100 kW  
RCAMSL = 610 M  
N. Lat = 46 47 21  
W. Lng = 92 06 51

New202  
Channel = 202A  
Max ERP = 5.75 kW  
RCAMSL = 396.4 M  
N. Lat = 482824  
W. Lng = 932000

Protected  
47 dBu

Interfering  
50.8 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
317.0	100.0000	0181.6	092.2	166.5	005.7500	0046.0	123.2	29.9
318.0	100.0000	0181.9	092.2	166.0	005.7500	0046.1	122.3	30.1
319.0	100.0000	0182.0	092.3	165.3	005.7500	0046.3	121.5	30.3
320.0	100.0000	0182.0	092.3	164.6	005.7500	0045.4	120.8	30.3
321.0	100.0000	0182.2	092.3	163.9	005.7500	0044.7	120.2	30.4
322.0	100.0000	0182.4	092.3	163.2	005.7500	0043.6	119.5	30.5
323.0	100.0000	0182.5	092.3	162.5	005.7500	0043.3	119.0	30.6
324.0	100.0000	0182.7	092.3	161.8	005.7500	0043.8	118.4	30.7
325.0	100.0000	0183.2	092.4	161.0	005.7500	0044.5	117.9	30.8
326.0	100.0000	0184.3	092.5	160.3	005.7500	0044.8	117.4	30.9
327.0	100.0000	0184.7	092.5	159.5	005.7500	0045.0	116.9	31.0
328.0	100.0000	0184.9	092.6	158.8	005.7500	0044.9	116.6	31.1
329.0	100.0000	0185.2	092.6	158.0	005.7500	0044.6	116.3	31.1
330.0	100.0000	0185.8	092.7	157.2	005.7500	0044.2	116.0	31.2
331.0	100.0000	0186.4	092.7	156.4	005.7500	0043.8	115.7	31.2
332.0	100.0000	0186.6	092.7	155.6	005.7500	0043.0	115.6	31.2
333.0	100.0000	0187.0	092.8	154.8	005.7500	0042.2	115.4	31.2
334.0	100.0000	0187.4	092.8	154.0	005.7500	0041.7	115.4	31.2
335.0	100.0000	0187.6	092.8	153.2	005.7500	0041.6	115.4	31.2
336.0	100.0000	0187.6	092.8	152.4	005.7500	0041.5	115.4	31.1
337.0	100.0000	0187.4	092.8	151.6	005.7500	0041.7	115.6	31.1
338.0	100.0000	0186.9	092.8	150.8	005.7500	0042.0	115.8	31.1
339.0	100.0000	0186.5	092.7	150.0	005.7500	0042.4	116.1	31.1
340.0	100.0000	0186.4	092.7	149.2	005.7500	0042.4	116.3	31.0
341.0	100.0000	0186.4	092.7	148.4	005.7500	0042.3	116.7	30.9
342.0	100.0000	0186.3	092.7	147.6	005.7500	0042.1	117.0	30.9
343.0	100.0000	0186.0	092.7	146.9	005.7500	0041.9	117.5	30.8
344.0	100.0000	0185.6	092.6	146.1	005.7500	0041.6	118.0	30.7
345.0	100.0000	0184.9	092.6	145.4	005.7500	0041.4	118.6	30.5
346.0	100.0000	0184.7	092.5	144.6	005.7500	0041.4	119.2	30.4
347.0	100.0000	0184.7	092.5	143.9	005.7500	0041.5	119.8	30.3
348.0	100.0000	0184.4	092.5	143.2	005.7500	0041.7	120.4	30.2
349.0	100.0000	0183.5	092.4	142.5	005.7500	0041.9	121.2	30.1
350.0	100.0000	0182.9	092.4	141.8	005.7500	0042.0	122.0	29.9
351.0	100.0000	0183.3	092.4	141.2	005.7500	0042.2	122.7	29.8

**EXHIBIT # E8**

**R.F. RADIATION COMPLIANCE STATEMENT**

**Channel 202 – 5.75 kW H & V  
International Falls, Minnesota**

**January, 2000**

The proposed 4-bay antenna will be energized such that it produces 5.75 kW effective radiated power, circularly polarized, from a center of radiation of 54.6 meters above ground. Using the formulas expressed in the OET Bulletin, No. 65, August 1997, "Evaluating Compliance with F.C.C. Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", published by the Federal Communication Commission's Office of Science and Engineering, and then by applying a combination of the element and array pattern as defined in E.P.A. study PB85-245868 ("Engineering Assessment of the Potential Impact of the Federal Radiation Protection Guidance on the AM, FM and TV Broadcast Services".) the following table of exposure levels were developed for four common antennas.

Antenna Type	Level at 2 M above Ground at the tower base. microW/Sq cm	% controlled	% uncontrolled
Dielectric (Type #5)	9.026	.9026	4.5132
ERI (Type #3)	4.166	.4166	2.0830
Jampro (Type #2)	9.721	.9721	4.8600
Shively (Type #6)	.694	.0694	.3472

In a separate application, the applicant proposes to build an additional 6 kW station, using a common antenna. There are no other RF sources on the tower. The RF exposure levels will still be well within the allowable limits.

The applicant will protect workers on the tower by either reducing ERP or terminating transmission.

Consequently, it appears that the proposed FM station, when using one of the four common antenna listed above, will be in full compliance with the Commission's human exposure to radiofrequency electromagnetic field rules and regulations.

**SECTION VI - EQUAL EMPLOYMENT OPPORTUNITY PROGRAM**

Does the applicant propose to employ five or more full-time employees?

Yes  No

If Yes, the applicant must include an EEO program called for in the separate Broadcast Equal Employment Opportunity Program Report (FCC Form 396-A). (See also 47 C.F.R. Section 73.2080.)

**SECTION VII - CERTIFICATIONS**

1. Has or will the applicant comply with the public notice requirements of 47 C.F.R. Section 73.3580?

Yes  No  
 Not applicable (minor change)

2. By checking Yes, the applicant certifies that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

Yes  No

The APPLICANT hereby waives any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

The APPLICANT acknowledges that all the statements made in this application and attached Exhibits are considered material representations, and that all Exhibits are a material part hereof and incorporated herein.

The APPLICANT represents that this application is not filed for the purpose of impeding, obstructing, or delaying determination on any other application with which it may be in conflict.

In accordance with 47 C.F.R. Section 1.65, the APPLICANT has a continuing obligation to advise the Commission, through amendments, of any substantial and significant changes in information furnished.

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name MINNESOTA PUBLIC RADIO	Signature Thomas J Kigin
Title EXECUTIVE VICE PRESIDENT	Date 00-01-18
Typed or Printed Name of Person Signing THOMAS J KIGIN	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).