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January 30, 2002

Eve J. Klindera
202.719.7404
eklinder@wrf.com

VIA HAND DELIVERY

Magalie Roman Salas, Secretary
Federal Communications Commission
236 Massachusetts Avenue, NE
Suite 110
Washington, DC 20002

RECEIVED

JAN 30 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Re: KQMN, Thief River Falls, MN (Facility Id. 42974)
Application for Minor Change in Licensed Facility/FCC Form 340
Contingent Application Filed Pursuant to Section 73.3517**

Dear Ms. Salas:

Submitted herewith, in triplicate, on behalf of Minnesota Public Radio ("MPR"), the licensee of KQMN, Thief River Falls, Minnesota (Facility Id. No. 42974), is an application on FCC Form 340 for minor change in licensed facilities. Specifically, the application proposes to directionalize the station's antenna. MPR is a noncommercial educational licensee. Therefore, no fee is required for this filing.

As noted in Exhibit E1, MPR is concurrently filing an application to increase the power of KNBJ, Bemidji, Minnesota (Facility Id. No. 42966) to 100 kilowatts. The two applications are being filed as part of a related group of applications to make modifications to facilities, pursuant to Section 73.3517 of the Commission's rules. See 47 C.F.R. § 73.3517. For technical reasons, the grant of the KNBJ application is contingent upon a grant of the KQMN application. MPR is the licensee of both stations involved, and believes that it is desirable to undertake the coordinated facility modifications proposed in the applications. Accordingly, MPR requests that the two applications be processed and approved simultaneously.

Respectfully submitted,

Eve J. Klindera

WRPMAIN 1087180.1

FCC 340

APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL NONCOMMERCIAL EDUCATIONAL BROADCAST STATION

FOR
FCC
USE
ONLY

FOR COMMISSION USE ONLY
FILE NO.

Section I - General Information

1. Legal Name of the Licensee/Permittee Minnesota Public Radio		
Mailing Address 45 East Seventh Street		
City St. Paul	State or Country (if foreign address) MN	ZIP Code 55101
Telephone Number (include area code) 651 290-1500	E-Mail Address (if available) mgramling@mpr.org	
Call Sign KQMN	Facility Identifier 42974	

2. Contact Representative (if other than licensee/permittee) Todd Stansbury	Firm or Company Name Wiley Rein & Fielding
Telephone Number (include area code) 202-719-4948	E-Mail Address (if available) tstansbury@wrf.com

3. Is this application being filed in response to a window? Yes No

If Yes, specify closing date and/or window number: _____

4. Application Purpose.

- | | |
|--|--|
| <input type="checkbox"/> New station | <input type="checkbox"/> Major Modification of construction permit |
| <input type="checkbox"/> Major Change in licensed facility | <input type="checkbox"/> Minor Modification of construction permit |
| <input checked="" type="checkbox"/> Minor Change in licensed facility
See Ex #E1, Engineering Statement | <input type="checkbox"/> Major Amendment to pending application |
| | <input type="checkbox"/> Minor Amendment to pending application |

a. File number of original construction permit: BLED19901205KE N/A

b. Service Type: FM TV DTV

c. Community of License:

City Thief River Falls	State MN
---------------------------	-------------

d. Facility Type: Main Auxiliary

If an amendment, submit as an Exhibit a listing by Section and Question Number of the portions of the pending application that are being revised.

Exhibit No. N/A

This box is for FCC use only:

Technical Points:

- 0 points.
- 1 point. Applicant's proposal covers the largest area and population, and both area and population are 10% greater than next best proposal; or
- 2 points. Applicant's proposal covers the largest area and population, and both area and population are 25% greater than next best proposal.

POINTS CLAIMED BY APPLICANT (from Questions 1-3)

TECHNICAL POINTS? (from Question 4)

TOTAL POINTS

Section V -- Tie Breakers -- New and Major Change Applications Only (used to choose among competing radio and television applicants receiving the same number of points in Section IV)

1. **Existing Authorizations.** By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of relevant broadcast station authorizations. Radio applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV(2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial and TV translator stations other than fill-in stations or those identified in IV(2)(b) above.

(number of commercial and noncommercial licenses and construction permits)

2. **Pending Applications.** By placing a number in the box, the applicant certifies that it and other parties to the application have, as of the date of filing and pursuant to 47 C.F.R. Section 73.3555, attributable interests in the stated number of pending applications for new or major changes to relevant broadcast stations. Radio applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial, and FM translator stations other than fill-in stations or those identified in IV(2)(b) above. TV applicants should count all attributable full service TV stations, commercial and noncommercial, and TV translator stations other than fill-in stations or those identified in IV(2)(b) above.

(number of pending commercial and noncommercial applications)

Section VI -- Certification

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. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive 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 request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing THOMAS J Kigin	Typed or Printed Title of Person Signing Executive Vice President
Signature Thomas J Kigin	Date 2002-01-28

SECTION VII - FM Engineering on Channels 200-220

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel: 218
2. Class: D A B1 B C3 C2 C1 C
3. Antenna Location Coordinates: (NAD 27)
47 ° 58 ' 38 " N S Latitude
96 ° 36 ' 32 " E W Longitude
4. Antenna Structure Registration Number: 1024158
 Not applicable FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: 275 meters
6. Overall Tower Height Above Ground Level: 214 meters
7. Height of Radiation Center Above Ground Level: 198 meters (H) 198 meters (V)
8. Height of Radiation Center Above Average Terrain: 199 meters (H) 199 meters (V)
9. Effective Radiated Power: 84 kW (H) 84 kW (V)
10. Maximum Effective Radiated Power: Not applicable _____ kW (H) _____ kW (V)
 (Beam-Tilt Antenna ONLY)
11. Directional Antenna Relative Field Values: Not applicable (Nondirectional)
 Rotation: _____ ° No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	1.0	60	.818	120	.516	180	1.0	240	1.0	300	1.0
10	1.0	70	.650	130	.650	190	1.0	250	1.0	310	1.0
20	1.0	80	.516	140	.818	200	1.0	260	1.0	320	1.0
30	1.0	90	.423	150	1.0	210	1.0	270	1.0	330	1.0
40	1.0	100	.423	160	1.0	220	1.0	280	1.0	340	1.0
50	1.0	110	.423	170	1.0	230	1.0	290	1.0	350	1.0
Additional Azimuths											

See Ex #E2, Directional Antenna

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

AUXILIARY ANTENNA APPLICANTS ARE NOT REQUIRED TO RESPOND TO ITEMS 12-16.

12. **Main Studio Location.** The proposed main studio location complies with 47 C.F.R. Section 73.1125. Yes No See Explanation in Exhibit No. E3
13. **Interference.** The proposed facility complies with all of the following rule sections. Check all those that apply. Yes No See Explanation in Exhibit No. E4
- Contour Overlap Requirements.**
- a. 47 C.F.R. Section 73.509. **Exhibit Required.** Exhibit No. E4
- Spacing Requirements.**
- b. 47 C.F.R. Section 73.207 with respect to station(s): _____
- Grandfathered Short-Spaced.**
- c. 47 C.F.R. Section 73.213(a) with respect to station(s): _____ Exhibit No. N/A
- Contour Protection.**
- d. 47 C.F.R. Section 73.215 with respect to station(s): _____ Exhibit No. N/A
- Television Channel 6 Protection.**
- e. 47 C.F.R. Section 73.525 with respect to station(s): WDAYTV Exhibit No. E5
14. **Reserved Channels Above 220.**
- a. **Allotment.** The proposed facility complies with the allotment requirements of 47 C.F.R. Section 73.203. Yes No See Explanation in Exhibit No. N/A
- b. **Community Coverage.** The proposed facility complies with 47 C.F.R. Section 73.315. Yes No See Explanation in Exhibit No. N/A
15. **International Borders.** The proposed antenna location is not within 320 kilometers of the common border between the United States and Canada or Mexico. Yes No
- Canada Mexico
- Exhibit No. E4
- If "No," specify the country and provide an Exhibit of compliance with all provisions of the relevant International Agreement.

16. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Worksheet #7, an **Exhibit is required.**

Yes No

See Explanation
in Exhibit No.
E6

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

Section VII -- Preparer's Certification

I certify that I have prepared Section VII (Engineering Data) 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 Katherine A. Michler		Relationship to Applicant (e.g., Consulting Engineer) Technical Consultant	
Signature <i>Katherine A. Michler</i>		Date Jan. 22, 2002	
Mailing Address Doug Vernier Telecommunications Consultants, 1600 Picturesque Drive			
City Cedar Falls		State or Country (if foreign address) IA	ZIP Code 50613
Telephone Number (include area code) 319 266-8402		E-Mail Address (if available) kmichler@v-soft.com	

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).

EXHIBIT #E1
ENGINEERING STATEMENT

Concerning the Application of
Minnesota Public Radio
To Make a Minor Change to
KQMN
A Non-Commercial Educational FM Station
Serving Thief River Falls, Minnesota

BLED19901205KF

January 2002

Channel 218C1

84 kW H & V

This engineering statement supports the application filed by Minnesota Public Radio to make a minor change to KQMN, a non-commercial, educational FM station serving Thief River Falls, Minnesota.

Minnesota Public Radio (MPR) proposes to employ a directional antenna. No other changes are being proposed at this time.

Exhibit #E2 contains information regarding the proposed directional antenna.

Exhibit #E3 is a map of the proposed 1 mV/m (60 dBu) signal contour. Thief River Falls, Minnesota, the city of licensee, is shown to be fully encompassed by this contour. The main studio is located in Thief River Falls. The coverage map was computer generated using the U.S.G.S. World Map database. Three hundred and sixty evenly spaced radials were used to plot the 60 dBu contour. The area within the proposed one mV/m contour amounts to 11,218 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 π to determine the area within the contour. The population within the 60 dBu service contour was determined to be 112,316 people through the use of a computer program which extracts a population count based on population centroids defined by U.S. Census 2000 (PL-94-171) digital census block data.

Thirty-six evenly spaced radials were used to determine the antenna height above average terrain. The N.G.D.C. 30 arc-second terrain database was used to determine the radial elevations at 0.1 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 #3 of this exhibit.)

Exhibit #E4 is a single channel, contour-to-contour, allocation study showing that interference is neither caused nor received by an FM radio station, application for facilities or construction permit. Page #2 is a description of the methods used to prepare this study. Minnesota Public Radio proposes, under a separate application filed simultaneously, to increase power of its station KNBJ to 100 kW ERP . Page #3 is a map of the proposed contour relationship between the two modified facilities. Pages 4-6 are FMOVER tables depicting that relationship.

There are no I.F. relationships. The proposal is within 320 kilometers of the U.S. border with Canada, however all Working Agreement minimum separation spacings are met or exceeded.

Although the site for KQMN is inside the 166 kilometer cut-off distance for channel 218 from the closest channel-six TV station, WDAYTV, the applicant does not propose to increase power. Therefore, no further study is required.

Exhibit #E5 shows compliance with the Commission's R.F. emission's standards.

Page #4 of this exhibit (Ex. # E1) is a declaration made by the preparer, Kate Michler, attesting to her qualifications.

Doug Vernier Telecommunications Consultants
 N. Lat. = 47 58 38 W. Lng. = 96 36 32
 HAAT and Distance to Contour - FCC Method - 30 Arc. Sec.
 KQMN , Minnesota Public Radio , BLED19901205KF

Azi.	AV EL	HAAT	kw	dBk	Field	60 .5
000	273.9	200.1	84.0000	19.24	1.000	62.15
010	278.2	195.8	84.0000	19.24	1.000	61.75
020	280.3	193.7	84.0000	19.24	1.000	61.56
030	285.2	188.8	84.0000	19.24	1.000	61.11
040	287.9	186.1	84.0000	19.24	1.000	60.86
050	290.4	183.6	84.0000	19.24	1.000	60.63
060	293.6	180.4	56.2341	17.50	.818	56.69
070	295.0	179.0	35.4813	15.50	.650	52.45
080	296.8	177.2	22.3872	13.50	.516	48.18
090	294.5	179.5	15.0000	11.76	.423	44.87
100	293.1	180.9	15.0000	11.76	.423	44.99
110	291.9	182.1	15.0000	11.76	.423	45.10
120	291.1	182.9	22.3872	13.50	.516	48.69
130	287.2	186.8	35.4813	15.50	.650	53.13
140	286.3	187.7	56.2341	17.50	.818	57.33
150	282.5	191.5	84.0000	19.24	1.000	61.36
160	279.0	195.0	84.0000	19.24	1.000	61.68
170	275.8	198.2	84.0000	19.24	1.000	61.97
180	273.3	200.7	84.0000	19.24	1.000	62.21
190	270.2	203.8	84.0000	19.24	1.000	62.49
200	267.8	206.2	84.0000	19.24	1.000	62.72
210	265.7	208.3	84.0000	19.24	1.000	62.91
220	264.0	210.0	84.0000	19.24	1.000	63.07
230	261.7	212.3	84.0000	19.24	1.000	63.28
240	260.7	213.3	84.0000	19.24	1.000	63.38
250	258.8	215.2	84.0000	19.24	1.000	63.54
260	258.8	215.2	84.0000	19.24	1.000	63.54
270	258.5	215.5	84.0000	19.24	1.000	63.58
280	259.4	214.6	84.0000	19.24	1.000	63.49
290	260.7	213.3	84.0000	19.24	1.000	63.37
300	261.8	212.2	84.0000	19.24	1.000	63.27
310	262.6	211.4	84.0000	19.24	1.000	63.20
320	263.4	210.6	84.0000	19.24	1.000	63.13
330	263.9	210.1	84.0000	19.24	1.000	63.08
340	265.2	208.8	84.0000	19.24	1.000	62.96
350	268.3	205.7	84.0000	19.24	1.000	62.67

Ave E1= 275.20 M HAAT= 198.80 M AMSL= 474 M

Declaration:

I, Katherine A. Michler, have received a Bachelor of Science degree from the University of Northern Iowa, and;

That, I declare that I have received training as a technical consultant as a member of the staff of Doug Vernier Telecommunications Consultants, and;

That, I have apprenticed under Douglas Vernier for over four years, and;

That, he has been active in broadcast consulting for over 25 years, and;

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

That, I am an Associate Member (#20792) of the Society of Broadcast Engineers, Indianapolis, Indiana, and;

That, the consulting firm of Doug Vernier Telecommunications Consultants has been retained by Minnesota Public Radio, St. Paul, Minnesota;

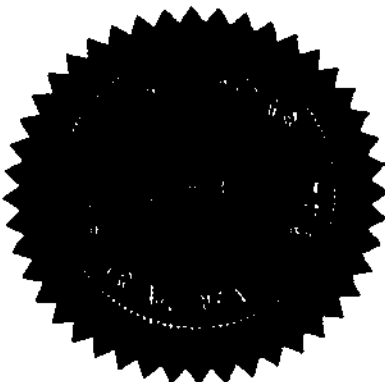
That, I have personally prepared these engineering showings, the technical information contained in same and the facts stated within are true to my knowledge, and;

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

Katherine Michler Katherine A. Michler

Executed on January 21, 2002

Subscribed and sworn before me this 21st day of January, 2002.



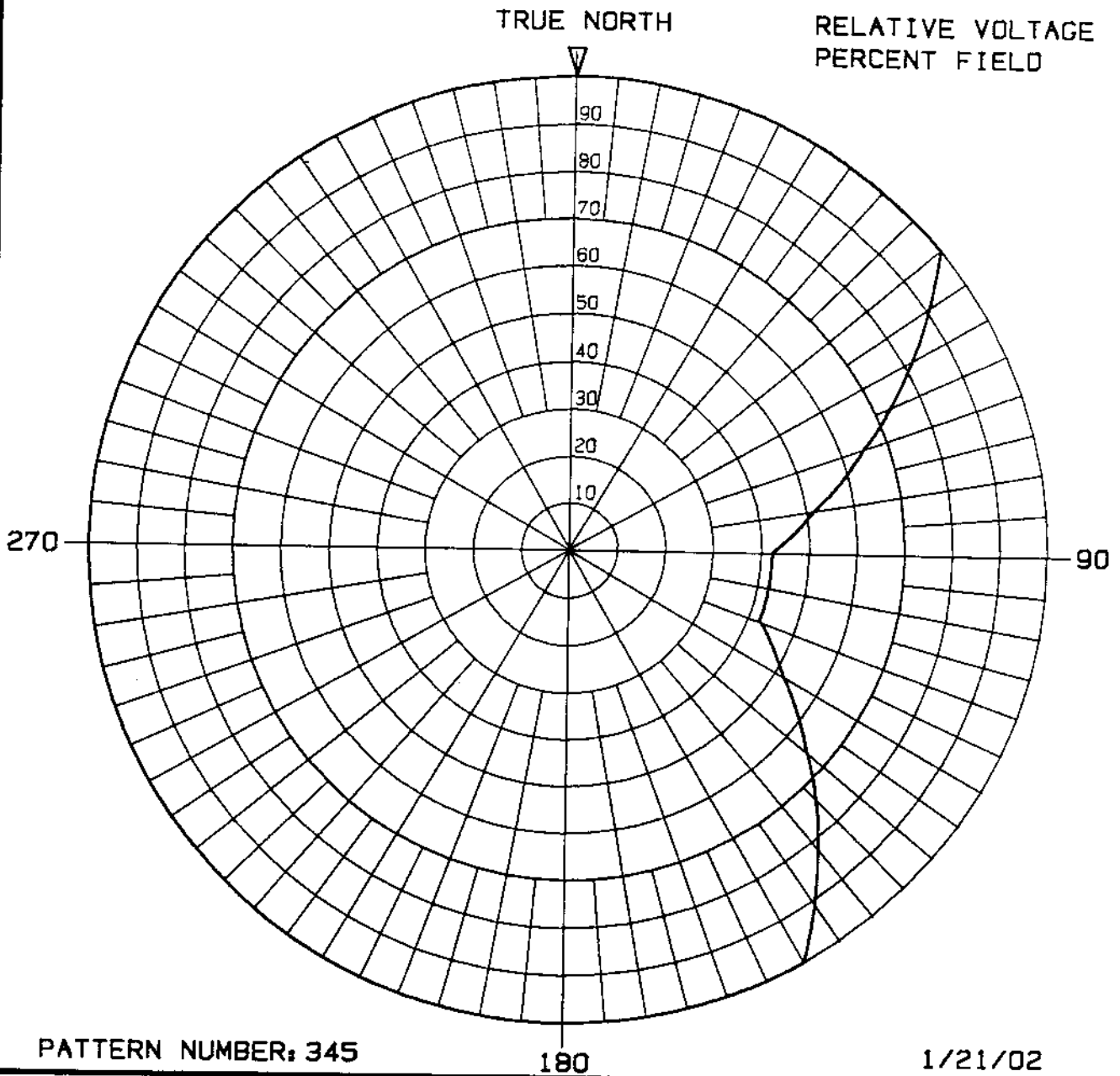
Paul J. Pynn
Notary Public in and for the State of Iowa

Exhibit # E2

Directional Antenna

The proposed custom directional antenna pattern meets the Commission's rules in that the radio frequency radiation does not change more than two dB for each ten degrees of azimuthal variation. Also, the maximum pattern attenuation in the deepest null is less than 15 dB. The pattern shown is a composite of the maximum field values in the horizontal and vertical planes.

The proposed antenna will be mounted on the sides of a tower that has been specified by the antenna manufacturer in accordance with the instructions provided by the manufacturer. The antenna will not be mounted on the top of a tower that includes a top mounted platform larger than the nominal cross-sectional area of the tower in the horizontal plane. No other antennas of any type will be mounted on the same tower level as the directional antenna nor within the horizontal or vertical distance specified by the manufacturer as being necessary to maintain proper directional operation. The antenna will be designed and tested by a major manufacturer of broadcast antennas known to the Commission. The pattern will be achieved through traditional methods including power-splitting, resonators and phasing.



PATTERN NUMBER: 345

180

1/21/02

Directional Antenna
Minnesota Public Radio
KQMN, Channel 218
Thief River Falls, MN

Doug Vernier Telecommunications Consultants
1600 Picturesque Drive
Cedar Falls, IA 50613
319 266-8402

Pattern #345

Directional Antenna
 Minnesota Public Radio
 KQMN, Channel 218
 Thief River Falls, MN

Doug Vernier Telecommunications Consultants
 1600 Picturesque Drive
 Cedar Falls, IA 50613
 319 266-8402

Azimuth	Relative Voltage	dBK	ERP
0	1.000	19.2	84.0kw
5	1.000	19.2	84.0kw
10	1.000	19.2	84.0kw
15	1.000	19.2	84.0kw
20	1.000	19.2	84.0kw
25	1.000	19.2	84.0kw
30	1.000	19.2	84.0kw
35	1.000	19.2	84.0kw
40	1.000	19.2	84.0kw
45	1.000	19.2	84.0kw
50	1.000	19.2	84.0kw
55	0.909	18.4	69.4kw
60	0.818	17.5	56.2kw
65	0.734	16.6	45.3kw
70	0.650	15.5	35.5kw
75	0.583	14.6	28.6kw
80	0.516	13.5	22.4kw
85	0.469	12.7	18.5kw
90	0.423	11.8	15.0kw
95	0.423	11.8	15.0kw
100	0.423	11.8	15.0kw
105	0.423	11.8	15.0kw
110	0.423	11.8	15.0kw
115	0.469	12.7	18.5kw
120	0.516	13.5	22.4kw
125	0.583	14.6	28.6kw
130	0.650	15.5	35.5kw
135	0.734	16.6	45.3kw
140	0.818	17.5	56.2kw
145	0.909	18.4	69.4kw
150	1.000	19.2	84.0kw
155	1.000	19.2	84.0kw
160	1.000	19.2	84.0kw
165	1.000	19.2	84.0kw
170	1.000	19.2	84.0kw
175	1.000	19.2	84.0kw

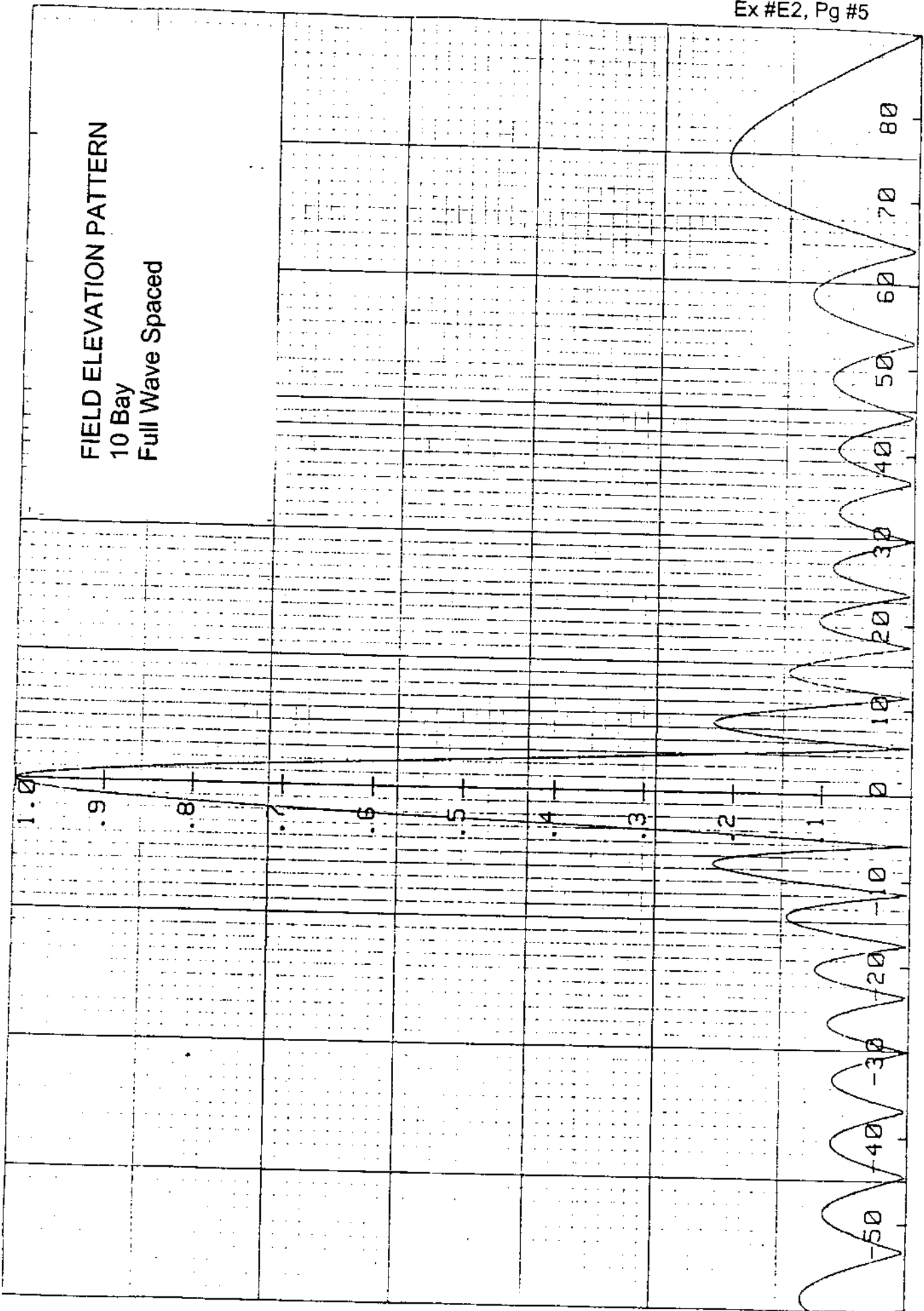
Pattern #345

Directional Antenna
 Minnesota Public Radio
 KQMN, Channel 218
 Thief River Falls, MN

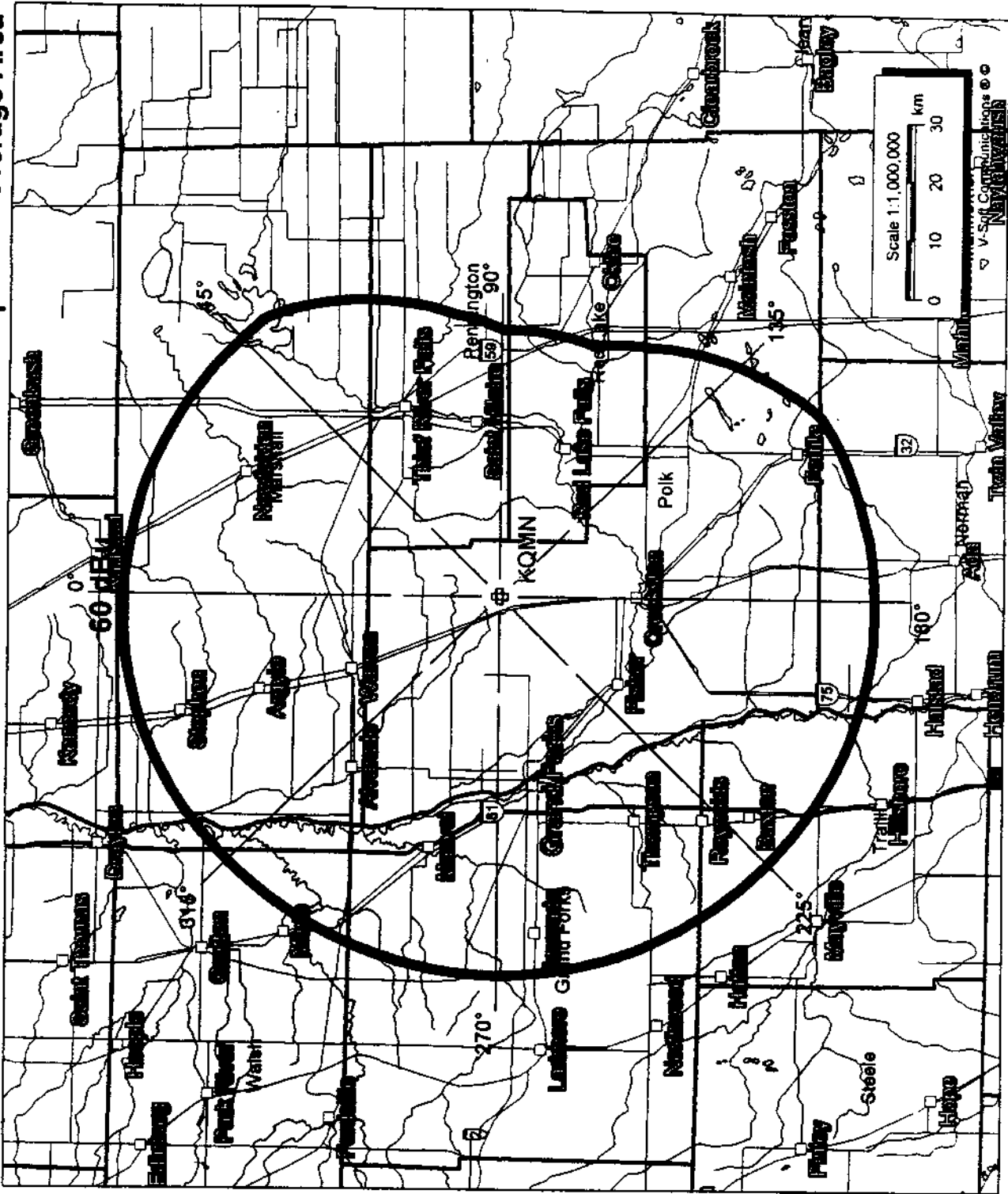
Doug Vernier Telecommunications Consultants
 1600 Picturesque Drive
 Cedar Falls, IA 50613
 319 266-8402

Azimuth	Relative Voltage	dBK	ERP
180	1.000	19.2	84.0kw
185	1.000	19.2	84.0kw
190	1.000	19.2	84.0kw
195	1.000	19.2	84.0kw
200	1.000	19.2	84.0kw
205	1.000	19.2	84.0kw
210	1.000	19.2	84.0kw
215	1.000	19.2	84.0kw
220	1.000	19.2	84.0kw
225	1.000	19.2	84.0kw
230	1.000	19.2	84.0kw
235	1.000	19.2	84.0kw
240	1.000	19.2	84.0kw
245	1.000	19.2	84.0kw
250	1.000	19.2	84.0kw
255	1.000	19.2	84.0kw
260	1.000	19.2	84.0kw
265	1.000	19.2	84.0kw
270	1.000	19.2	84.0kw
275	1.000	19.2	84.0kw
280	1.000	19.2	84.0kw
285	1.000	19.2	84.0kw
290	1.000	19.2	84.0kw
295	1.000	19.2	84.0kw
300	1.000	19.2	84.0kw
305	1.000	19.2	84.0kw
310	1.000	19.2	84.0kw
315	1.000	19.2	84.0kw
320	1.000	19.2	84.0kw
325	1.000	19.2	84.0kw
330	1.000	19.2	84.0kw
335	1.000	19.2	84.0kw
340	1.000	19.2	84.0kw
345	1.000	19.2	84.0kw
350	1.000	19.2	84.0kw
355	1.000	19.2	84.0kw

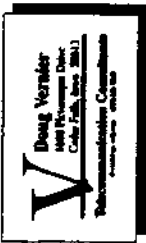
FIELD ELEVATION PATTERN
10 Bay
Full Wave Spaced



KQMN Proposed Coverage Area



KQMN - Modified
 BLED19901205KF
 Latitude: 47-58-38 N
 Longitude: 096-36-32 W
 Power: 84.00 KW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 474.0 m
 Elevation: 275.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Population = 112,316
 Area = 11,216 sq. km.



Ex #E4, Allocation

KQMN Directional Pattern
Minnesota Public Radio

REFERENCE CH# 218C1 - 91.5 MHz, Pwr= 84 kw, HAAT=199.0 M, COR= 474 M
47 58 38 N Average Protected F(50-50)= 62.05 km
96 36 32 W Ave. F(50-10) 40 dBu= 157.3 54 dBu= 91.9 80 dBu= 26.4 100 dBu= 7.8
DISPLAY DATES
DATA 01-18-02
SEARCH 01-18-02

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*
218C1 Thief River Falls	KQMN	LIC CN MN	0.0 180.0	0.00 BLED19901205KF	47 58 38 96 36 32	84.000 199	474 157.3	62.0 Minnesota Public Radio	-219.39<	-219.39<
218B1 Jamestown	*KPRJ	LIC CN ND	227.9 47.9	196.71 BLED19930617KB	46 46 36 98 31 20	18.500 105	549 107.7	37.5 Prairie Public Broadcastin	25.73	0.26< **
> Reference HAAT at 227.9°= 212.1 M, Pwr= 84.0 kw, Pro. Dist. = 63.26 km, Int Dist. = 158.9 km										
217C1 Bemidji	*KNBJ.A	APP CX MN	101.0 281.0	149.68 BMPE20011114ABR	47 42 16 94 39 03	100.000 288	713 103.9	71.4 Minnesota Public Radio	0.76	11.86
> Reference HAAT at 101.0°= 181.0 M, Pwr= 15.0 kw, Pro. Dist. = 45.0 km, Int Dist. = 66.39 km										
217C1 Bemidji	*KNBJ.C	CP CX MN	100.7 280.7	159.71 BPED20010208AAN	47 41 29 94 31 06	80.000 254	680 97.3	66.4 Minnesota Public Radio	17.36	26.95
> Reference HAAT at 100.7°= 181.0 M, Pwr= 15.0 kw, Pro. Dist. = 45.0 km, Int Dist. = 66.39 km										
217C1 Bemidji	*KNBJ	LIC CN MN	100.2 280.2	161.75 BLED19940711KY	47 42 03 94 29 15	60.000 299	717 97.8	67.1 Minnesota Public Radio	18.92	28.23
> Reference HAAT at 100.2°= 180.9 M, Pwr= 15.0 kw, Pro. Dist. = 44.99 km, Int Dist. = 66.38 km										
218A Fergus Falls	KNWF	CP CN MN	167.9 347.9	188.22 BPED19981120MC	46 19 16 96 05 36	0.100 69	445 28.4	8.6 Minnesota Public Radio	97.79	22.30
220C Fargo	KDSU	LIC CN ND	202.5 22.5	115.87 BLED19820621AB	47 00 48 97 11 37	100.000 302	593 10.2	72.5 North Dakota State Univers	43.66	35.51
216C1 Moorhead	KCCFMF	LIC CN MN	179.9 359.9	135.36 BLED19811119AL	46 45 35 96 36 26	67.000 201	486 7.4	60.1 Minnesota Public Radio	65.92	67.42
271C2 Roseau	KCAJFM	LIC CN MN	40.6 220.6	98.70 BLH19960626KA	48 38 50 95 44 10	50.000 87	429 0.0	42.3 Jack J. Swanson	27.0R	71.7M
221C Winnipeg	CITIFM	OPE CN MB	347.3 167.3	182.87	49 34 48 97 10 04	360.000 242	0 12.4	84.9	108.38	89.15
219C1 Grand Rapids	KAXE	LIC CN MN	107.5 287.5	251.83 BLED1533	47 15 17 93 26 03	100.000 140	546 86.6	57.1 Northern Community Radio	103.13	102.78
216C1 St. Boniface	R---	ADD MB	342.1 162.1	210.08	49 46 15 97 30 35	100.000 299	0 10.1	86.4	137.92	86.71
0622C Fargo	WDAYTV	LI HN ND	202.7 22.7	116.18 BMLCT624	47 00 43 97 11 58	100.000 351	643 0.0	107.4 Forum Communications Compa	To Grd B=	8.82

*** = ERP and HAAT on direct line to and from reference station. "<" = Contour Overlap

** Existing Overlap. Power along this azimuth has not been changed.

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 and the DA power, if applicable, along the straight line azimuths between the reference station and the database station are used and visa versa. The column labeled **"OUT"** shows the distance in 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 overlap interference.

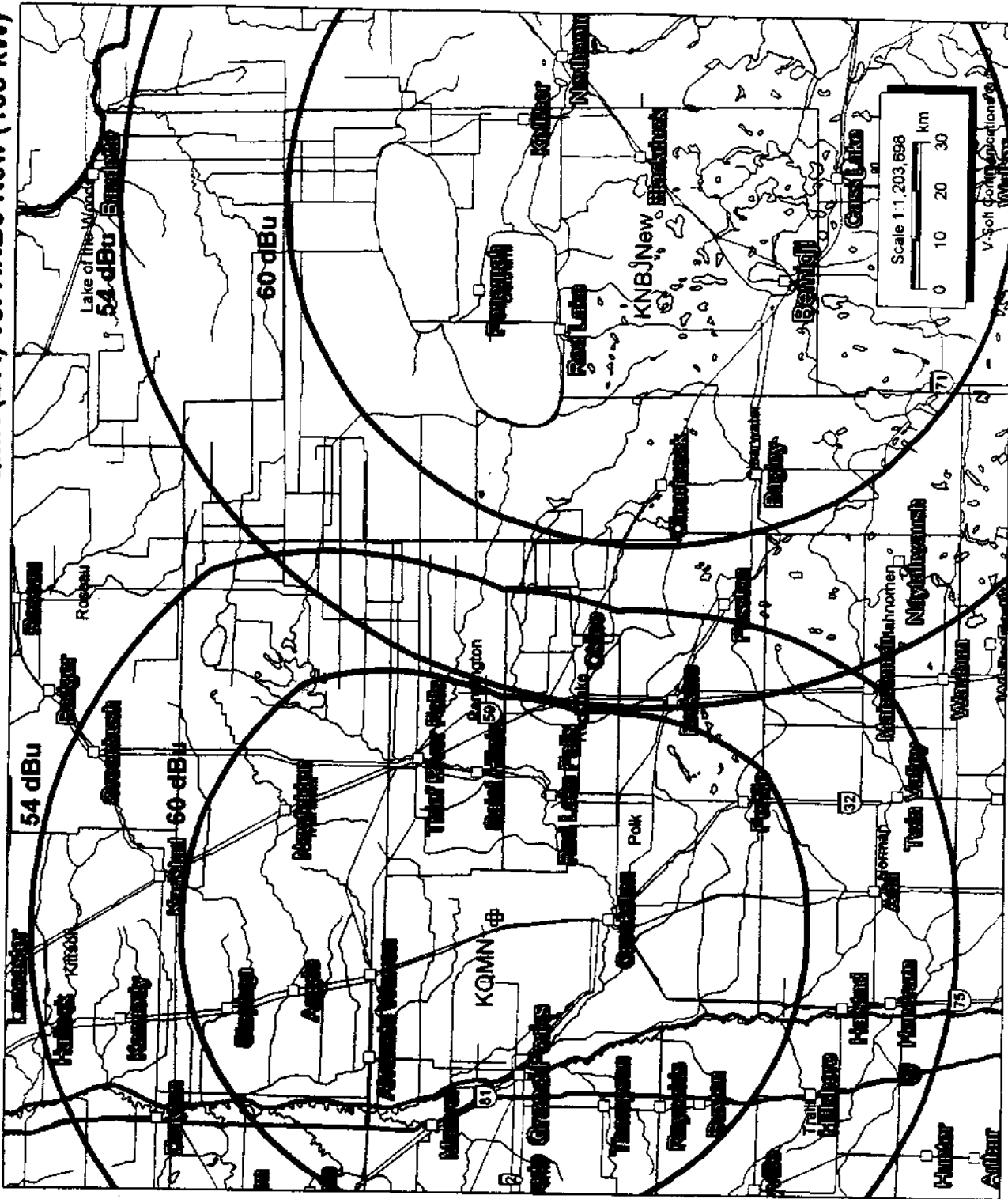
Under the **"AZIMUTH"** column, the first row of numbers indicate the bearings from True North of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station.

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.

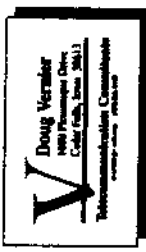
The first three letters of the **"TYPE"** column identify the current FCC status of the stations. The fourth letter will be a **"D"** or **"Z"** (Sec. 73.215) if the facility is directional. The fifth letter will be an **E**, **H** or **V** depending on the type of antenna polarization. The sixth letter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

KQMN (DA) vs. KNBJ New (100 kW)



KQMN - Modified
 BLED19901205KF
 Latitude: 47-58-38 N
 Longitude: 096-38-32 W
 Power: 84.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 474.0 m
 Elevation: 274.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No

KNBJ Amendment
 BPED20011114ABR
 Latitude: 47-42-16 N
 Longitude: 094-39-03 W
 Power: 100.00 kW
 Channel: 217
 Frequency: 91.3 MHz
 AMSL Height: 713.0 m
 Elevation: 427.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No



KQMN BLED19901205KF
 Channel = 218C1
 Max ERP = 84 kW
 RCAMSL = 474 M
 N. Lat = 47 58 38
 W. Lng = 96 36 32

KNBJ.A BMPED20011114ABR
 Channel = 217C1
 Max ERP = 100 kW
 RCAMSL = 713 M
 N. Lat = 47 42 16
 W. Lng = 94 39 03

Protected
 60 dBu

Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
071.0	034.0368	0178.7	052.1	296.5	100.0000	0296.7	108.1	53.0
072.0	032.6224	0178.4	051.7	296.0	100.0000	0296.7	107.7	53.1
073.0	031.2379	0178.0	051.2	295.5	100.0000	0295.5	107.4	53.2
074.0	029.8835	0177.7	050.8	295.0	100.0000	0295.5	107.2	53.3
075.0	028.5591	0177.6	050.4	294.5	100.0000	0294.2	106.9	53.3
076.0	027.2646	0177.4	050.0	294.0	100.0000	0294.2	106.7	53.3
077.0	026.0003	0177.3	049.5	293.5	100.0000	0293.1	106.6	53.4
078.0	024.7659	0177.3	049.1	292.9	100.0000	0293.1	106.4	53.4
079.0	023.5615	0177.2	048.6	292.4	100.0000	0292.2	106.4	53.4
080.0	022.3872	0177.2	048.2	291.9	100.0000	0292.2	106.3	53.4
081.0	021.5821	0177.4	047.9	291.4	100.0000	0291.4	106.2	53.4
082.0	020.7918	0177.7	047.6	290.9	100.0000	0291.4	106.0	53.5
083.0	020.0163	0178.2	047.3	290.5	100.0000	0290.8	105.9	53.5
084.0	019.2554	0178.6	047.0	290.0	100.0000	0290.8	105.8	53.5
085.0	018.5093	0178.8	046.6	289.5	100.0000	0290.8	105.8	53.5
086.0	017.7780	0179.0	046.3	289.0	100.0000	0290.4	105.8	53.5
087.0	017.0614	0179.3	046.0	288.6	100.0000	0290.4	105.8	53.5
088.0	016.3595	0179.3	045.6	288.1	100.0000	0289.9	105.9	53.5
089.0	015.6724	0179.4	045.2	287.6	100.0000	0289.9	106.0	53.4
090.0	015.0000	0179.5	044.9	287.2	100.0000	0289.4	106.1	53.4
091.0	015.0000	0179.6	044.9	286.7	100.0000	0289.4	105.9	53.4
092.0	015.0000	0179.7	044.9	286.3	100.0000	0289.1	105.7	53.5
093.0	015.0000	0179.9	044.9	285.9	100.0000	0289.1	105.5	53.5
094.0	015.0000	0180.1	044.9	285.5	100.0000	0289.1	105.4	53.6
095.0	015.0000	0180.3	044.9	285.1	100.0000	0288.9	105.2	53.6
096.0	015.0000	0180.5	045.0	284.7	100.0000	0288.9	105.1	53.7
097.0	015.0000	0180.7	045.0	284.2	100.0000	0288.5	105.0	53.7
098.0	015.0000	0180.7	045.0	283.8	100.0000	0288.5	104.9	53.7
099.0	015.0000	0180.8	045.0	283.4	100.0000	0288.3	104.9	53.7
100.0	015.0000	0180.9	045.0	282.9	100.0000	0288.3	104.8	53.7
101.0	015.0000	0181.0	045.0	282.5	100.0000	0288.3	104.8	53.7
102.0	015.0000	0181.2	045.0	282.1	100.0000	0288.2	104.8	53.7
103.0	015.0000	0181.3	045.0	281.7	100.0000	0288.2	104.8	53.7
104.0	015.0000	0181.3	045.0	281.2	100.0000	0288.1	104.8	53.7
105.0	015.0000	0181.4	045.0	280.8	100.0000	0288.1	104.9	53.7
106.0	015.0000	0181.5	045.0	280.4	100.0000	0287.9	105.0	53.7

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
107.0	015.0000	0181.7	045.1	279.9	100.0000	0287.9	105.1	53.7
108.0	015.0000	0181.8	045.1	279.5	100.0000	0287.9	105.2	53.6
109.0	015.0000	0181.9	045.1	279.1	100.0000	0287.6	105.3	53.6
110.0	015.0000	0182.1	045.1	278.7	100.0000	0287.6	105.4	53.5
111.0	015.6724	0182.4	045.5	278.2	100.0000	0287.3	105.2	53.6
112.0	016.3595	0182.7	045.9	277.7	100.0000	0287.3	105.1	53.6
113.0	017.0614	0182.9	046.3	277.2	100.0000	0286.9	104.9	53.7
114.0	017.7780	0183.0	046.6	276.8	100.0000	0286.9	104.8	53.7
115.0	018.5093	0182.9	047.0	276.3	100.0000	0286.5	104.7	53.7
116.0	019.2554	0182.9	047.3	275.8	100.0000	0286.5	104.7	53.7
117.0	020.0163	0182.8	047.7	275.3	100.0000	0286.2	104.7	53.7
118.0	020.7918	0182.8	048.0	274.8	100.0000	0286.2	104.7	53.7
119.0	021.5821	0182.8	048.4	274.3	100.0000	0285.9	104.8	53.7
120.0	022.3872	0182.9	048.7	273.8	100.0000	0285.9	104.9	53.6
121.0	023.5615	0183.0	049.2	273.3	100.0000	0285.5	104.9	53.6
122.0	024.7659	0183.1	049.6	272.7	100.0000	0285.5	104.9	53.6
123.0	026.0003	0183.3	050.1	272.2	100.0000	0285.2	105.0	53.6
124.0	027.2646	0183.5	050.5	271.7	100.0000	0285.2	105.1	53.6
125.0	028.5591	0183.8	050.9	271.1	100.0000	0285.0	105.2	53.5
126.0	029.8835	0184.2	051.4	270.6	100.0000	0285.0	105.4	53.5
127.0	031.2379	0184.8	051.8	270.1	100.0000	0284.8	105.6	53.4
128.0	032.6224	0185.6	052.3	269.5	100.0000	0284.8	105.8	53.3
129.0	034.0368	0186.3	052.7	269.0	100.0000	0284.6	106.1	53.3
130.0	035.4813	0186.8	053.1	268.5	100.0000	0284.4	106.4	53.2
131.0	037.3425	0187.0	053.6	267.9	100.0000	0284.4	106.7	53.1

KNBJ.A BMPED20011114ABR
 Channel = 217C1
 Max ERP = 100 kW
 RCAMSL = 713 M
 N. Lat = 47 42 16
 W. Lng = 94 39 03

KQMN BLED19901205KF
 Channel = 218C1
 Max ERP = 84 kW
 RCAMSL = 474 M
 N. Lat = 47 58 38
 W. Lng = 96 36 32

Protected
 60 dBu

Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
265.0	100.0000	0283.8	071.1	115.4	018.8193	0182.9	084.1	49.3
266.0	100.0000	0283.9	071.1	114.7	018.2707	0182.9	083.5	49.3
267.0	100.0000	0284.2	071.1	113.9	017.7293	0183.0	082.9	49.4
268.0	100.0000	0284.4	071.1	113.2	017.1822	0182.9	082.4	49.5
269.0	100.0000	0284.6	071.1	112.4	016.6313	0182.7	081.8	49.5
270.0	100.0000	0284.8	071.2	111.6	016.0778	0182.7	081.3	49.5
271.0	100.0000	0285.0	071.2	110.8	015.5227	0182.4	080.8	49.5
272.0	100.0000	0285.2	071.2	110.0	015.0000	0182.1	080.4	49.5
273.0	100.0000	0285.5	071.2	109.1	015.0000	0181.9	080.0	49.6
274.0	100.0000	0285.9	071.2	108.3	015.0000	0181.8	079.6	49.7
275.0	100.0000	0286.2	071.3	107.4	015.0000	0181.7	079.3	49.8
276.0	100.0000	0286.5	071.3	106.5	015.0000	0181.7	079.0	49.9
277.0	100.0000	0286.9	071.3	105.6	015.0000	0181.5	078.7	50.0
278.0	100.0000	0287.3	071.4	104.7	015.0000	0181.4	078.5	50.0
279.0	100.0000	0287.6	071.4	103.8	015.0000	0181.3	078.3	50.1
280.0	100.0000	0287.9	071.4	102.9	015.0000	0181.3	078.2	50.1
281.0	100.0000	0288.1	071.4	102.0	015.0000	0181.2	078.1	50.1
282.0	100.0000	0288.2	071.4	101.1	015.0000	0181.0	078.1	50.2
283.0	100.0000	0288.3	071.5	100.2	015.0000	0180.9	078.1	50.1
284.0	100.0000	0288.5	071.5	099.3	015.0000	0180.8	078.1	50.1
285.0	100.0000	0288.9	071.5	098.3	015.0000	0180.7	078.2	50.1
286.0	100.0000	0289.1	071.5	097.4	015.0000	0180.7	078.3	50.1
287.0	100.0000	0289.4	071.5	096.5	015.0000	0180.7	078.5	50.0
288.0	100.0000	0289.9	071.6	095.6	015.0000	0180.5	078.7	49.9
289.0	100.0000	0290.4	071.6	094.7	015.0000	0180.3	078.9	49.9
290.0	100.0000	0290.8	071.7	093.8	015.0000	0180.1	079.2	49.8
291.0	100.0000	0291.4	071.7	093.0	015.0000	0179.9	079.5	49.7
292.0	100.0000	0292.2	071.8	092.1	015.0000	0179.7	079.8	49.6
293.0	100.0000	0293.1	071.8	091.2	015.0000	0179.6	080.1	49.4
294.0	100.0000	0294.2	071.9	090.4	015.0000	0179.5	080.5	49.3
295.0	100.0000	0295.5	072.0	089.5	015.3220	0179.5	080.9	49.3
296.0	100.0000	0296.7	072.1	088.7	015.8875	0179.4	081.4	49.3
297.0	100.0000	0297.8	072.2	087.9	016.4502	0179.3	081.9	49.3
298.0	100.0000	0298.8	072.3	087.1	017.0089	0179.3	082.4	49.2
299.0	100.0000	0299.4	072.3	086.3	017.5594	0179.0	083.0	49.2

Exhibit #E5

R.F. RADIATION COMPLIANCE STATEMENT

Minnesota Public Radio
KQMN
Thief River Falls, Minnesota
BLED19901205KF

Channel 218 – 84 kW Directional

January 2002

Based on 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, the proposed facility is predicted to produce a worst-case maximum R.F. non-ionization radiation level at a position six feet above the tower base (head level - based on the C.O.R. of 198 meters above ground minus 2 meters) of 146.107 microwatts per square centimeter. This figure is without regard for the antenna's vertical elevation field value toward the nadir, which will cause a reduction in the predicted "worst case" calculations. 146.107 microwatts per square centimeter is 14.61 percent of the maximum standard value for the frequency in use for a controlled area. The tower location is fenced and locked, with warning signs restricting access to authorized personnel only.

There is one other radiator on this tower. KNTN operates 100 kW ERP from a height of 163 meters above ground. Using the same formulas as above, the maximum RF non-ionization radiation level at head-height is 216.537 microwatts per square centimeter, which is 21.65 percent of the maximum. The total of both radiators is 362.644 microwatts per square centimeter, or 36.26 percent of maximum.

Since "worst case" calculations were used and since it is well known that the actual RF power density level is considerably reduced at vertical angles toward the nadir the applicant is confident that there will be no exposure at the transmitter site greater than the maximum.

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

Consequently, it appears that the proposed FM station will be in full compliance with the Commission's human exposure to radiofrequency electromagnetic field rules and regulations.