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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Todd M. Stansbury
202.719.4948
tstansbu@wrf.com

November 14, 2001

Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals
445 Twelfth Street SW
12th Street Lobby, TW-A325
Washington DC 20554

Re: KNBJ(FM), Bemidji, MN
FCC File No. BPED-20010208AAN
Minnesota Public Radio
Application for Modification of Construction Permit

Dear Ms. Salas:

On behalf of Minnesota Public Radio ("MPR"), licensee of KNBJ(FM), Bemidji, Minnesota, enclosed filing, in triplicate, is an application on FCC Form 340 to make minor modifications to construction permit No. BPED-20010208AAN. MPR is a noncommercial educational licensee, therefore, no fee is required for this filing.

Please contact this office if there are any questions.

Respectfully submitted,

Todd M. Stansbury

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0034

FOR FCC USE ONLY

FCC 340

APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL NONCOMMERCIAL EDUCATIONAL BROADCAST STATION

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	State or Country (if foreign address)	ZIP Code
St. Paul	MN	55101

Telephone Number (include area code)	E-Mail Address (if available)
651-290-1500	mgramling@mpr.org

[redacted] Call Sign KNBJ | Facility Identifier 42966

2.

Contact Representative (if other than licensee/permittee)	Firm or Company Name
Todd Stansbury	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.**

☐ New station
☐ Major Change in licensed facility
☐ Minor Change in licensed facility
☐ Major Modification of construction permit
☒ Minor Modification of construction permit
See Ex #E1, Engineering Statement
☐ Major Amendment to pending application
☐ Minor Amendment to pending application

a. File number of original construction permit: BPED20010208AAN ☐ N/A

b. Service Type: ☒ FM ☐ TV ☐ DTV

c. Community of License: City Bemidji | 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

June 2000 edition useable.

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	Typed or Printed Title of Person Signing
Thomas J Kigin	Executive Vice President
Signature: Thomas J Kigin	Date: 2001.11.09

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: 217

2. Class: ☐ D ☐ A ☐ B1 ☐ B ☐ C3 ☐ C2 ☒ C1 ☐ C

3. Antenna Location Coordinates: (NAD 27)

   47 ° 42 ' 16 " ☒ N ☐ S Latitude

   94 ° 39 ' 03 " ☐ E ☒ W Longitude

4. Antenna Structure Registration Number: _____

   ☐ Not applicable ☒ FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: 426 meters

6. Overall Tower Height Above Ground Level: 306 meters

7. Height of Radiation Center Above Ground Level: 287 meters (H) 287 meters (V)

8. Height of Radiation Center Above Average Terrain: 298 meters (H) 298 meters (V)

9. Effective Radiated Power: 30 kW (H) 30 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		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

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. [X] Yes [ ] No — See Explanation in Exhibit No. E2

13. **Interference.** The proposed facility complies with all of the following rule sections. Check all those that apply. [X] Yes [ ] No — See Explanation in Exhibit No. E3

Contour Overlap Requirements.

a. [X] 47 C.F.R. Section 73.509. **Exhibit Required.** — Exhibit No. E3

Spacing Requirements.

b [ ] 47 C.F.R. Section 73.207 with respect to station(s): N/A

Grandfathered Short-Spaced.

c. [ ] 47 C.F.R. Section 73.213(a) with respect to station(s): _____ **Exhibit Required.** — Exhibit No. N/A

Contour Protection.

d. [ ] 47 C.F.R. Section 73.215 with respect to station(s): _____ **Exhibit Required.** — Exhibit No. N/A

Television Channel 6 Protection.

e. [ ] 47 C.F.R. Section 73.525 with respect to station(s): _____ **Exhibit Required.** — Exhibit No. N/A

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. [X] Yes [ ] No

[X] Canada [ ] Mexico

If "No," specify the country and provide an Exhibit of compliance with all provisions of the relevant International Agreement. — Exhibit No. E3

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.**

[X] Yes [ ] No

See Explanation in Exhibit No. E4

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 Katherine A. Michler		Date November 8, 2001
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).

Doug Vernier
1600 Picturesque Drive
Cedar Falls, Iowa 50613

Telecommunication Consultants
dvernier@v-soft.com (319) 266-8402

EXHIBIT #E1
ENGINEERING STATEMENT

Concerning the Application of
Minnesota Public Radio
To Make a Minor Modification to
The Construction Permit for KNBJ,
Serving Bemidji, Minnesota

BPED20010208AAN

November 2001

Channel 217C1

30 kW H & V

This engineering statement supports the application filed by Minnesota Public Radio to make a minor modification to the construction permit for KNBJ, a non-commercial, educational FM station serving Bemidji, Minnesota.

Minnesota Public Radio (MPR) proposes to change the antenna location, as the previously authorized site is no longer usable, and reduce power. No other changes are being proposed. The applicant has notified the Federal Aviation Administration office in Des Plaines, Illinois about this proposal. When the FAA has made its determination, MPR will apply to register the tower with the FCC.

Exhibit #E2 is a map of the proposed 1 mV/m (60 dBu) signal contour. Bemidji, Minnesota, the city of licensee, is shown to be fully encompassed by this contour. The main studio is located in Bemidji. 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 11,369.8 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 47,101 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 #E3 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. Pages 3-5 are a map and FMOVER tables of the relationship between the proposed KNBJ and KWMN, a first adjacent channel 218 station in Thief River Falls, MN. 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.

The proposed channel 217 facility will be outside the 174 kilometer cut-off distance with regard to protection to the closest channel-six TV station WDAYTV, therefore no channel-six TV exhibit is required for this proposal.

Exhibit #E4 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
KNBJ.C, Minnesota Public Radio , BPED20010208AAN
ERP = 30 kW
Channel = 217

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	397.9	315.0	14.771	61.40
10	402.6	310.3	14.771	61.07
20	405.6	307.3	14.771	60.86
30	407.2	305.7	14.771	60.74
40	411.6	301.3	14.771	60.44
50	415.8	297.1	14.771	60.14
60	419.1	293.8	14.771	59.91
70	420.9	292.0	14.771	59.78
80	428.2	284.7	14.771	59.26
90	426.9	286.0	14.771	59.35
100	422.9	290.0	14.771	59.63
110	419.8	293.1	14.771	59.86
120	419.7	293.2	14.771	59.87
130	417.6	295.3	14.771	60.01
140	412.6	300.3	14.771	60.37
150	411.4	301.5	14.771	60.45
160	416.1	296.8	14.771	60.12
170	415.8	297.1	14.771	60.14
180	417.5	295.4	14.771	60.02
190	419.6	293.3	14.771	59.87
200	416.5	296.4	14.771	60.09
210	418.8	294.1	14.771	59.93
220	421.4	291.5	14.771	59.74
230	418.9	294.0	14.771	59.92
240	423.3	289.6	14.771	59.61
250	429.6	283.3	14.771	59.16
260	430.7	282.2	14.771	59.08
270	428.2	284.7	14.771	59.26
280	425.1	287.8	14.771	59.48
290	422.2	290.7	14.771	59.69
300	413.1	299.8	14.771	60.33
310	409.8	303.1	14.771	60.56
320	404.2	308.7	14.771	60.95
330	397.3	315.6	14.771	61.44
340	392.7	320.2	14.771	61.77
350	394.0	318.9	14.771	61.68
Ave. =	415.4 M	297.5 M		

Antenna Radiation Center AMSL =712.9 M
NGDC 30 Arc Sec.

Geographic Coordinates:

N. Lat. 47 42 16
W. Lng. 94 39 03

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 three 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, and as such has prepared the engineering showings appended hereto, and;

That, I have 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 A. Michler

Executed on November 8, 2001

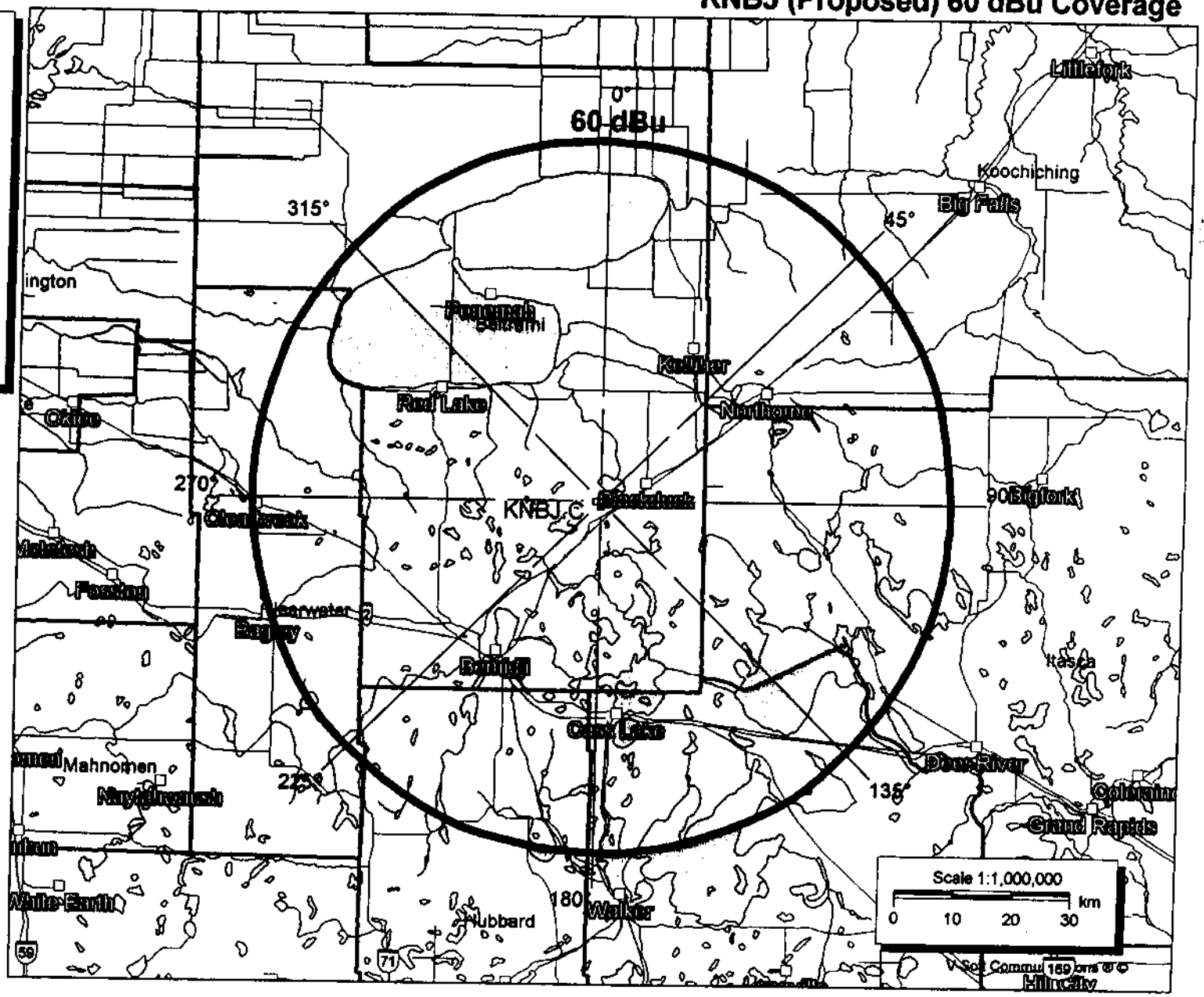
Subscribed and sworn before me this 8th day of November, 2001.

Notary Public in and for the State of Iowa

KNBJ (Proposed) 60 dBu Coverage

KNBJ.C
BPED20010208AAN
Latitude: 47-42-16 N
Longitude: 094-39-03 W
Power: 30.00 kW
Channel: 217
Frequency: 91.3 MHz
AMSL Height: 712.9 m
Elevation: 427.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Contour
Population = 47,101
Area = 11,369.8 sq km
November, 2001

Doug Vernier
Telecommunications Consultants



Ex #E2, Community Coverage

KNBJ Site Change
Minnesota Public Radio

REFERENCE
47 42 16 N
94 39 03 W

CH# 217C1 - 91.3 MHz, Pwr= 30 kW, HAAT=297.0 M, COR= 713 M
Average Protected F(50-50)= 60.13 km
Ave. F(50-10) 40 dBu= 142.8 54 dBu= 88.0 80 dBu= 24.8 100 dBu= 7.2

DISPLAY DATES
DATA 11-07-01
SEARCH 11-07-01

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*
217C1	KNBJ.C	CP CX	98.3	10.05	47 41 29	80.000	680	66.8	-212.63	-199.51
Bemidji		MN	278.3	BPED20010208AAN	94 31 06	259	162.5	Minnesota Public Radio		
217C1	KNBJ	LIC CN	91.8	12.27	47 42 03	60.000	717	67.0	-206.73	-197.49
Bemidji		MN	271.8	BLED19940711KY	94 29 15	297	158.9	Minnesota Public Radio		
217C1	*KUWS	LIC CN	117.1	217.34	46 47 21	83.000	501	42.6	20.81	32.25
Superior		WI	297.1	BLED19910122KA	92 06 51	69	136.6	Bd. Of Regents, Univ. Of W		
> Reference HAAT at 117.1°= 293.9 M, Pwr= 30.0 kW, Pro. Dist. = 59.92 km, Int Dist. = 142.45 km										
218C1	*KQMN	LIC CN	282.5	149.68	47 58 38	84.000	474	60.4	0.47	2.12
Thief River Falls		MN	102.5	BLED19901205KF	96 36 32	181	89.7	Minnesota Public Radio		
> Reference HAAT at 282.5°= 288.2 M, Pwr= 30.0 kW, Pro. Dist. = 59.51 km, Int Dist. = 87.16 km										
216C1	KCCMFM	LIC CN	235.3	181.61	46 45 35	67.000	486	60.1	32.49	33.47
Moorhead		MN	55.3	BLED19811119AL	96 36 26	201	89.0	Minnesota Public Radio		
219C1	KAXE	LIC CN	118.2	104.45	47 15 17	100.000	546	57.1	37.46	40.19
Grand Rapids		MN	298.2	BLED1533	93 26 03	140	6.9	Northern Community Radio		
217C	KRSU	LIC CN	200.6	300.48	45 10 03	75.000	648	72.5	70.33	85.21
Appleton		MN	20.6	BLED19891031KB	96 00 02	341	170.0	Minnesota Public Radio		
270C2	KQKK	LIC C	157.7	78.15	47 03 14	50.000	524	47.8	27.0R	51.2M
Walker		MN	337.7	BLH19990802KA	94 15 32	119	0.0	Carol J. Delahunt		
218A	KNWF	CP CN	215.9	188.90	46 19 16	0.100	445	8.6	116.68	92.31
Fergus Falls		MN	35.9	BPED19981120MC	96 05 36	69	12.1	Minnesota Public Radio		
220A	KXBR	LIC C	42.6	131.99	48 34 15	1.500	384	12.6	70.25	112.24
International Falls		MN	222.6	BLED20000626AEO	93 26 19	39	1.6	Heartland Christian Broadc		
214C1	KBPR	LIC CN	174.2	143.24	46 25 21	34.000	597	54.5	76.86	81.63
Brainerd		MN	354.2	BLED19880222KG	94 27 41	207	6.2	Minnesota Public Radio Inc		
215C2	WIRR	LIC CN	98.7	142.23	47 29 46	21.000	615	46.7	77.11	88.42
Virginia-hibbing		MN	278.7	BLED19850827KC	92 47 05	168	5.0	Minnesota Public Radio		
06Z2C	*WDAYTV	LI HN	249.1	207.37	47 00 43	100.000	643	108.2	To Grd B=	99.20
Fargo		ND	69.1	BMLCT624	97 11 58	362	142.3	Forum Communications Compa		
> Reference HAAT at 249.1°= 284.0 M, Pwr= 30.0 kW, Pro. Dist. = 0.0 km, Int Dist. = 397.26 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.

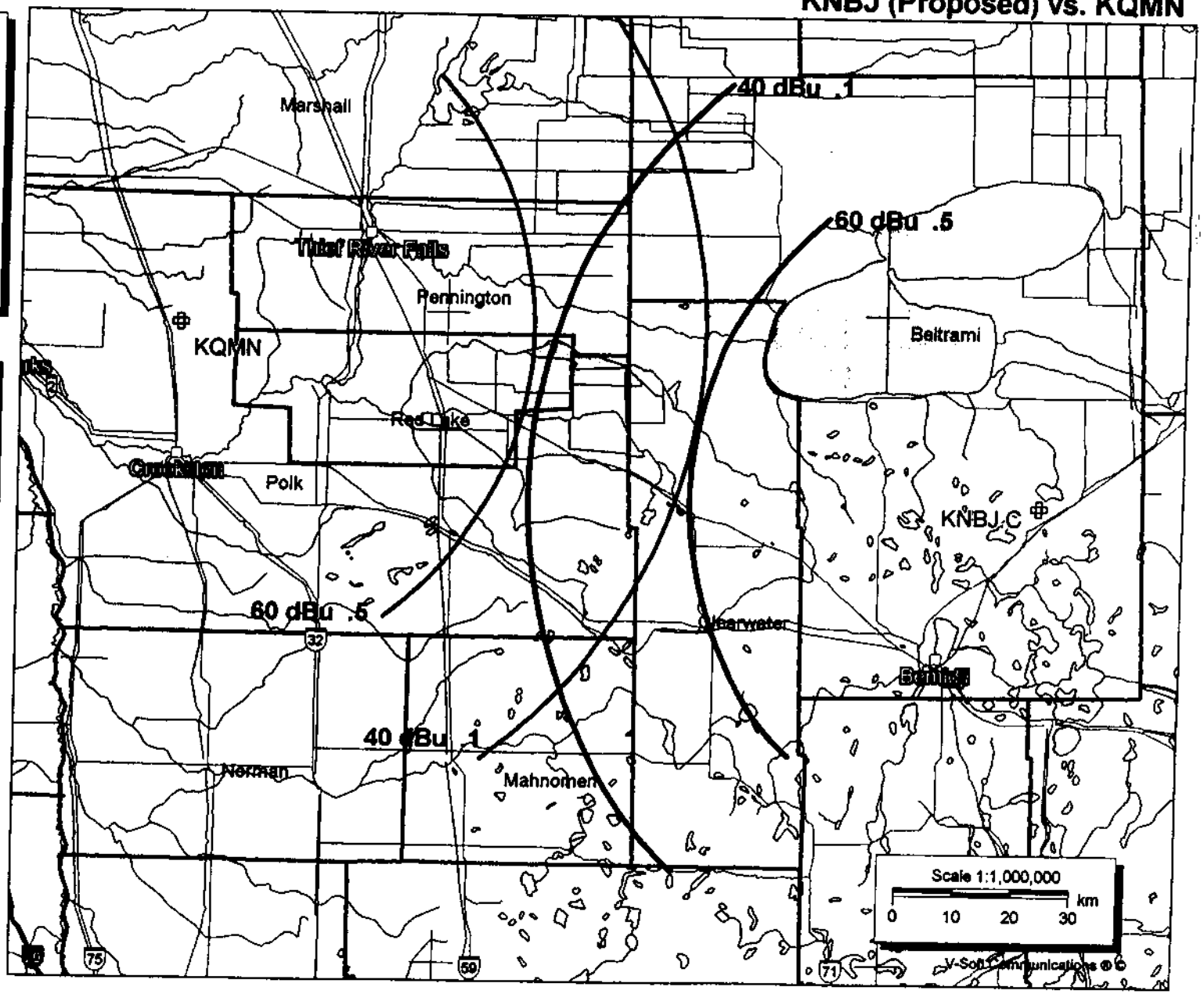
For I.F. relationships the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** separation in kilometers. Minimum separation distances when displayed are 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.

KNBJ (Proposed) vs. KQMN

KNBJ Prop
BPED20010208AAN
Latitude: 47-42-16 N
Longitude: 094-39-03 W
Power: 30.00 kW
Channel: 217
Frequency: 91.3 MHz
AMSL Height: 712.9 m
Elevation: 427.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Contour

KQMN
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: 274.0 m
Horiz. Pattern: Omni
Vert. Pattern: No



Doug Vernier
Telecommunication Consultants

V-Soft Communications
11-07-2001 30 Sec. Terrain Data

KNBJProp
Channel = 217C1
Max ERP = 30 kW
RCAMSL = 712.9 M
N. Lat = 474216
W. Lng = 943903

Protected
60 dBu

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

Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
265.0	030.0000	0283.7	059.2	111.7	084.0000	0182.7	094.6	52.6
266.0	030.0000	0283.8	059.2	111.1	084.0000	0182.4	094.1	52.7
267.0	030.0000	0284.1	059.2	110.5	084.0000	0182.4	093.7	52.9
268.0	030.0000	0284.3	059.2	110.0	084.0000	0182.1	093.2	53.0
269.0	030.0000	0284.5	059.2	109.4	084.0000	0181.9	092.8	53.1
270.0	030.0000	0284.7	059.3	108.8	084.0000	0181.9	092.4	53.2
271.0	030.0000	0284.9	059.3	108.2	084.0000	0181.8	092.1	53.3
272.0	030.0000	0285.1	059.3	107.6	084.0000	0181.8	091.8	53.4
273.0	030.0000	0285.4	059.3	106.9	084.0000	0181.7	091.5	53.5
274.0	030.0000	0285.8	059.3	106.3	084.0000	0181.5	091.2	53.6
275.0	030.0000	0286.1	059.4	105.7	084.0000	0181.5	090.9	53.6
276.0	030.0000	0286.4	059.4	105.0	084.0000	0181.4	090.7	53.7
277.0	030.0000	0286.8	059.4	104.4	084.0000	0181.3	090.5	53.8
278.0	030.0000	0287.2	059.4	103.7	084.0000	0181.3	090.4	53.8
279.0	030.0000	0287.5	059.5	103.1	084.0000	0181.3	090.2	53.8
280.0	030.0000	0287.8	059.5	102.4	084.0000	0181.2	090.1	53.9
281.0	030.0000	0288.0	059.5	101.8	084.0000	0181.2	090.1	53.9
282.0	030.0000	0288.1	059.5	101.1	084.0000	0181.0	090.0	53.9
283.0	030.0000	0288.2	059.5	100.4	084.0000	0180.9	090.0	53.9
284.0	030.0000	0288.4	059.5	099.8	084.0000	0180.9	090.1	53.9
285.0	030.0000	0288.8	059.5	099.1	084.0000	0180.8	090.1	53.9
286.0	030.0000	0289.0	059.6	098.5	084.0000	0180.7	090.2	53.8
287.0	030.0000	0289.3	059.6	097.8	084.0000	0180.7	090.3	53.8
288.0	030.0000	0289.8	059.6	097.1	084.0000	0180.7	090.4	53.8
289.0	030.0000	0290.3	059.7	096.5	084.0000	0180.5	090.6	53.7
290.0	030.0000	0290.7	059.7	095.8	084.0000	0180.5	090.8	53.7
291.0	030.0000	0291.3	059.7	095.2	084.0000	0180.3	091.0	53.6
292.0	030.0000	0292.1	059.8	094.6	084.0000	0180.3	091.2	53.5
293.0	030.0000	0293.0	059.9	093.9	084.0000	0180.1	091.5	53.4
294.0	030.0000	0294.1	059.9	093.3	084.0000	0179.9	091.7	53.3
295.0	030.0000	0295.4	060.0	092.6	084.0000	0179.9	092.0	53.3
296.0	030.0000	0296.6	060.1	092.0	084.0000	0179.7	092.3	53.2
297.0	030.0000	0297.7	060.2	091.4	084.0000	0179.6	092.7	53.1
298.0	030.0000	0298.7	060.3	090.8	084.0000	0179.6	093.0	52.9
299.0	030.0000	0299.3	060.3	090.2	084.0000	0179.5	093.5	52.8

V-Soft Communications
11-07-2001 30 Sec. Terrain Data

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

KNBJProp
Channel = 217C1
Max ERP = 30 kW
RCAMSL = 712.9 M
N. Lat = 474216
W. Lng = 943903

Protected
60 dBu

Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
084.0	084.0000	0178.6	060.2	293.4	030.0000	0293.0	094.1	52.0
085.0	084.0000	0178.8	060.2	292.8	030.0000	0293.0	093.6	52.1
086.0	084.0000	0179.0	060.2	292.3	030.0000	0292.1	093.1	52.2
087.0	084.0000	0179.3	060.2	291.7	030.0000	0292.1	092.7	52.4
088.0	084.0000	0179.3	060.2	291.1	030.0000	0291.3	092.2	52.5
089.0	084.0000	0179.4	060.2	290.5	030.0000	0290.7	091.9	52.6
090.0	084.0000	0179.5	060.2	289.8	030.0000	0290.7	091.5	52.7
091.0	084.0000	0179.6	060.2	289.2	030.0000	0290.3	091.2	52.8
092.0	084.0000	0179.7	060.3	288.6	030.0000	0290.3	090.9	52.9
093.0	084.0000	0179.9	060.3	287.9	030.0000	0289.8	090.6	53.0
094.0	084.0000	0180.1	060.3	287.3	030.0000	0289.3	090.3	53.0
095.0	084.0000	0180.3	060.3	286.6	030.0000	0289.3	090.1	53.1
096.0	084.0000	0180.5	060.3	286.0	030.0000	0289.0	089.9	53.2
097.0	084.0000	0180.7	060.4	285.3	030.0000	0288.8	089.7	53.2
098.0	084.0000	0180.7	060.4	284.6	030.0000	0288.8	089.6	53.2
099.0	084.0000	0180.8	060.4	284.0	030.0000	0288.4	089.5	53.3
100.0	084.0000	0180.9	060.4	283.3	030.0000	0288.2	089.5	53.3
101.0	084.0000	0181.0	060.4	282.6	030.0000	0288.2	089.4	53.3
102.0	084.0000	0181.2	060.4	281.9	030.0000	0288.1	089.4	53.3
103.0	084.0000	0181.3	060.4	281.3	030.0000	0288.0	089.5	53.3
104.0	084.0000	0181.3	060.4	280.6	030.0000	0288.0	089.5	53.2
105.0	084.0000	0181.4	060.4	279.9	030.0000	0287.8	089.6	53.2
106.0	084.0000	0181.5	060.4	279.2	030.0000	0287.5	089.7	53.2
107.0	084.0000	0181.7	060.4	278.6	030.0000	0287.5	089.9	53.1
108.0	084.0000	0181.8	060.5	277.9	030.0000	0287.2	090.1	53.1
109.0	084.0000	0181.9	060.5	277.2	030.0000	0286.8	090.3	53.0
110.0	084.0000	0182.1	060.5	276.6	030.0000	0286.8	090.5	52.9
111.0	084.0000	0182.4	060.5	275.9	030.0000	0286.4	090.8	52.8
112.0	084.0000	0182.7	060.5	275.3	030.0000	0286.1	091.0	52.7
113.0	084.0000	0182.9	060.6	274.6	030.0000	0286.1	091.4	52.6
114.0	084.0000	0183.0	060.6	274.0	030.0000	0285.8	091.7	52.5
115.0	084.0000	0182.9	060.6	273.4	030.0000	0285.4	092.1	52.4
116.0	084.0000	0182.9	060.6	272.8	030.0000	0285.4	092.6	52.2
117.0	084.0000	0182.8	060.6	272.2	030.0000	0285.1	093.0	52.1
118.0	084.0000	0182.8	060.6	271.6	030.0000	0285.1	093.5	51.9

EXHIBIT # E4

R.F. RADIATION COMPLIANCE STATEMENT

KNBJ
Channel 217 – 30 kW H & V
Bemidji, Minnesota

November 2001

The applicant's proposed power is 30 kW, however another application is being filed to use the same antenna in diplex that will raise the total ERP to 130 kW. The proposed antenna will have a center of radiation of 292.6 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, a total, head-height non-ionization radiation level of 102.86 microwatts per square centimeter was calculated. The proposed tower location will be within a controlled area having a fence and locked gate. The calculated value amounts to only 10.29 percent of the maximum for a controlled area. (1000 microwatts per centimeter maximum.) There will be no other sources of RF radiation on the proposed tower that will significantly add to this calculation.

The applicant will protect workers on the tower by either reducing ERP or terminating transmission. An agreement is in effect with the other users of this tower at this location to reduce power or to terminate operations to protect workers from receiving in excess of the Commission's standard.

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