



<p>1. <b>Certification.</b> Applicant certifies that it has answered each question in this application based on its review of the application instructions and worksheets. Applicant further certifies that where it has made an affirmative certification below, this certification constitutes its representation that the application satisfies each of the pertinent standards and criteria set forth in the application instructions and worksheets.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No									
<p>2. Applicant is:</p> <table border="1" style="width: 100%;"> <tr> <td><input type="radio"/> an individual</td> <td><input type="radio"/> a general partnership</td> <td><input type="radio"/> a for-profit corporation</td> </tr> <tr> <td><input type="radio"/> a limited partnership</td> <td><input checked="" type="radio"/> a not-for-profit corporation</td> <td><input type="radio"/> a limited liability company (LLC/LC)</td> </tr> <tr> <td colspan="3"><input type="radio"/> other</td> </tr> </table> <p>a. If "other", describe nature of applicant in an Exhibit. [Exhibit 2]</p>		<input type="radio"/> an individual	<input type="radio"/> a general partnership	<input type="radio"/> a for-profit corporation	<input type="radio"/> a limited partnership	<input checked="" type="radio"/> a not-for-profit corporation	<input type="radio"/> a limited liability company (LLC/LC)	<input type="radio"/> other		
<input type="radio"/> an individual	<input type="radio"/> a general partnership	<input type="radio"/> a for-profit corporation								
<input type="radio"/> a limited partnership	<input checked="" type="radio"/> a not-for-profit corporation	<input type="radio"/> a limited liability company (LLC/LC)								
<input type="radio"/> other										
<p>3. a. Applicant certifies that it is not the licensee or permittee of the commercial primary station being rebroadcast and that neither it nor any parties to the application have any interest in or connection with the commercial primary station being rebroadcast. See 47 C.F.R. Section 74.1232(d).</p>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A See Explanation in [Exhibit 3]									
<p>b. Applicant certifies that the FM translator's (a) coverage contour does not extend beyond the protected contour of the commercial FM primary station to be rebroadcast, or (b) entire 60 dBu contour is contained within the lesser of: (i) the 2 mV/m daytime contour of the AM primary station to be rebroadcast, or (ii) a 25-mile radius centered at the AM primary station's transmitter site.</p>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A See Explanation in [Exhibit 4]									
<p>NOTE: <b>If No to a. and b., and no waiver has been requested in an Exhibit, this application is unacceptable for filing.</b> See 47 C.F.R. Section 74.1232(d).</p> <p>If Yes to (a) and No to (b) applicant is prohibited from receiving any support, before or after construction, either directly or indirectly from the commercial primary station being rebroadcast or from any person or entity having any interest whatsoever, or any connection with the primary FM station. Interested and connected parties include group owners, corporate parents, shareholders, officers, directors, employees, general and limited partners, family members and business associates. See 47 C.F.R. Section 74.1232(e).</p>										
<p>4. The applicant, if for a commercial FM translator station with a coverage contour extending beyond the protected contour of the commercial primary station being rebroadcast, certifies that it has not received any support, before or after constructing, directly or indirectly, from the licensee/permittee of the primary station or any person with an interest in or connection with the licensee or permittee of the primary station, except for technical assistance as provided for under 47 C.F.R. Section 74.1232(e).</p>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A See Explanation in [Exhibit 5]									
<p>5. For applicants proposing translator rebroadcasts that are not the licensee of the primary station, the applicant certifies that written authority has been obtained from the licensee of the station whose programs are to be retransmitted. <b>If No, this application is unacceptable for filing.</b></p>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A									
<p>6. <b>Character Issues.</b> Applicant certifies that neither applicant nor any party to the application has or has had any interest in or connection with:</p> <p>a. any broadcast application in any proceeding where character issues were left unresolved or were resolved adversely against the applicant or party to the application; or</p> <p>b. any pending broadcast application in which character issues have been raised.</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 6]									
<p>7. <b>Adverse Findings.</b> Applicant certifies that, with respect to the applicant, any party to the application, and any non-party equity owner in the applicant, no adverse finding has been made, nor has an adverse final action been taken by any court or administrative body in a civil or criminal proceeding brought under the provisions of any law related to the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination.</p> <p>If the answer is "No," attach as an Exhibit a full disclosure concerning the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and a description of the disposition of the matter. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 C.F.R. Section 1.65, the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and date of</p>	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 7]									

	filing; and (ii) the disposition of the previously reported matter.	
8.	<b>Alien Ownership and Control.</b> Applicant certifies that it complies with the provisions of Section 310 of the Communications Act of 1934, as amended, relating to interests of aliens and foreign governments.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 8]
9.	<b>Program Service Certification.</b> Applicant certifies that it is cognizant of and will comply with its obligations as a Commission licensee to present a program service responsive to the issues of public concern facing the station's community of license and service area.	<input checked="" type="radio"/> Yes <input type="radio"/> No
10.	<b>Local Public Notice.</b> Applicant certifies compliance with the public notice requirements of 47 C.F.R. Section 73.3580.	<input checked="" type="radio"/> Yes <input type="radio"/> No
11.	<b>Auction Authorization.</b> If the application is being submitted to obtain a construction permit for which the applicant was the winning bidder in an auction, then the applicant certifies, pursuant to 47 C.F.R. Section 73.5005(a), that it has attached an exhibit containing the information required by 47 C.F.R. Sections 1.2107(d), 1.2110(i), 1.2112(a) and 1.2112(b), if applicable.  An exhibit is required unless this question is inapplicable.	<input type="radio"/> Yes <input type="radio"/> No  <input checked="" type="radio"/> N/A  See Explanation in [Exhibit 9]
12.	<b>Anti-Drug Abuse Act Certification.</b> Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.	<input checked="" type="radio"/> Yes <input type="radio"/> No
13.	<b>Equal Employment Opportunity (EEO).</b> If the applicant proposes to employ five or more full-time employees, applicant certifies that it is filing simultaneously with this application a Model EEO Program Report on FCC Form 396-A.	<input type="radio"/> Yes <input type="radio"/> No  <input checked="" type="radio"/> N/A

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	Date 10/7/2011

### SECTION III - PREPARER'S CERTIFICATION

I certify that I have prepared Section III (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 MICHAEL HENDRICKSON	Relationship to Applicant (e.g., Consulting Engineer) RADIO NETWORK ENGINEERING MANAGER	
Signature	Date 9/29/2011	
Mailing Address MINNESOTA PUBLIC RADIO 480 CEDAR STREET		
City ST. PAUL	State or Country (if foreign address) MN	Zip Code 55101 -
Telephone Number (include area code) 6512901500	E-Mail Address (if available) MHENDRICKSON@MPR.ORG	

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).

**Section III-A - Engineering**

**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: 211

2. Primary Station:

Facility ID Number	Call Sign	City	State
172758	WIRC	ELY	MN

3. Delivery Method (Select One):  
 Off-air  Microwave  Satellite  Via DIRECT  Other

4. Antenna Location Coordinates: (NAD 27)

Latitude:  
 Degrees 47 Minutes 53 Seconds 24  North  South

Longitude:  
 Degrees 91 Minutes 51 Seconds 59  West  East

5. Antenna Structure Registration Number:  
 Not Applicable  Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 469 meters

7. Overall Tower Height Above Ground Level: 60 meters

8. Height of Radiation Center Above Ground Level: 38 meters(H) 38 meters(V)

9. Effective Radiated Power: 0.25 kW(H) 0.25 kW(V)

10. Transmitting Antenna:  
 Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under [CDBS Public Access](http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm) (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs\_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.  
 Nondirectional  Directional "Off-the-shelf"  Directional composite  
 Manufacturer ERI Model 100A-2  
 Rotation:degrees  No Rotation

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

[Relative Field Polar Plot](#)

11. **For FM Boosters and Fill-in translators only.**

a. **FM Fill-in translators.** Applicant certifies that the FM translator's (a) coverage contour does not extend beyond the protected contour of the commercial FM primary station to be rebroadcast, or (b) entire 60 dBu contour is contained within the lesser of: (i) the 2 mV/m daytime contour of the AM primary station to be rebroadcast, or (ii) a 25-mile radius centered at the AM primary station's transmitter site.

Yes  No  
 N/A

See Explanation in [Exhibit 10]

b. **FM Boosters.** Applicant certifies that the FM Booster station's service contour is entirely within the primary station's protected coverage contour.

Yes  No  
 N/A

See Explanation in [Exhibit 11]

12.	<p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. Check all that apply:</p> <p><b>Overlap Requirements.</b>  <input checked="" type="checkbox"/> a) 47 C.F.R. Section 74.1204  <b>Exhibit Required.</b></p> <p><b>Television Channel 6 Protection.</b>  <input checked="" type="checkbox"/> b) 47 C.F.R. Section 74.1205 with respect to station(s)  <b>Exhibit Required.</b></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 12]</p> <p>[Exhibit 13]</p> <p>[Exhibit 14]</p>
13.	<p><b>Unattended operation.</b> Applicant certifies that unattended operation is not proposed, or if this application proposes unattended operation, the applicant certifies that it will comply with the requirements of 47 C.F.R. Section 74.1234.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 15]</p>
14.	<p><b>Multiple Translators.</b> Applicant certifies that it does not have any interest in an application or an authorization for an FM translator station that serves substantially the same area and rebroadcasts the same signal as the proposed FM translator station.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 16]</p>
15.	<p><b>Environmental Protection Act.</b> Applicant certifies that 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 Appendix A, an <b>Exhibit is required.</b></p> <p>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.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 17]</p>
<p><b>PREPARER'S CERTIFICATION ON PAGE 4 MUST BE COMPLETED AND SIGNED.</b></p>		

**Section IV -- Noncommercial Educational Point System Factors - -New and Major Change Applications on Reserved Channels Only** (used to select among mutually exclusive applications for new stations and major modifications) **NOTE:** Applicants will not received any additional points for amendments made after the close of the application filing window.

<b>Preliminary Matter:</b> Does this application provide fill-in service only?		<input type="radio"/> Yes <input type="radio"/> No
1.	<p><b>Established Local Applicant:</b> Applicant certifies that for at least the 24 months immediately prior to application, and continuing through the present, it qualifies as a local applicant pursuant to 47 C.F.R. Section 73.7000, that its governing documents require that such localism be maintained, and that it has placed documentation of its qualifications as an established local applicant in a local public inspection file and has submitted to the Commission copies of the documentation.</p>	<input type="radio"/> Yes <input type="radio"/> No
2.	<p><b>Diversity of Ownership:</b> Applicant certifies that the principal community (city grade) contour of the proposed station does not overlap the principal community contour of any other authorized radio station (including AM, FM, and non-fill-in FM translator stations, commercial or noncommercial) in which any party to the application has an attributable interest as defined in 47 C.F.R. Section 73.3555, that its governing documents require that such diversity qualification in a local public inspection file and has submitted to the Commission copies of the documentation.</p>	<input type="radio"/> Yes <input type="radio"/> No
3.	<p><b>State-wide Network:</b> Applicant certifies that (a) it has NOT claimed a credit for diversity of ownership above; (b) it is one of the three specific types of organizations described in 47 C.F.R. Section 73.7003(b)(3); and (c) it has placed documentation of its qualifications in a local public inspection file and has submitted to the Commission copies of the documentation.</p>	<input type="radio"/> Yes <input type="radio"/> No

4. <b>Technical Parameters:</b> Applicant certifies that the numbers in the boxes below accurately reflect the new (increased) area and population that its proposal would serve with a 60 dBu signal measured in accordance with the standard predicted contours in 47 C.F.R. Section 73.713(c) and that it has documented the basis for its calculations in the local public inspection file and has submitted copies to the Commission. Major modification applicants should include the area of proposed increase only (exclude the station's existing service area). (Points, if any, will be determined by FCC)	<input type="radio"/> Yes <input type="radio"/> No
New (increased) area served in square kilometers (excluding areas of water):	
Population served based on the most recent census block data from the United States Bureau of Census using the centroid method:	

**Tie Breakers**

5. <b>Existing Authorizations.</b> a. By placing a number in the box, the applicant certifies that it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date filing, existing authorizations for the following number of relevant broadcast stations. FM translator applicants should count all attributable full service radio stations, AM and FM, commercial and noncommercial and FM translator stations other than fill-in stations.  (number of attributable commercial and non-commercial licenses and construction permits)  b. (Fill-in Applicants Only.) By placing a number in the box, the applicant certifies that, in addition to the station identified in 5(a), it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date filing, existing authorizations for the following number of FM translators.
6. <b>Pending Applications.</b> a. By placing a number in the box, the applicant certifies that it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date filing, pending applications for new or major changes to the following number of relevant broadcast stations, AM and FM, commercial and non-commercial and FM translator stations other than fill-in stations.  (number of attributable commercial and non-commercial applications)  b. (Fill-in Applicants Only.) By placing a number in the box, the applicant certifies that, in addition to the station identified in 5(a), it and any persons and organizations with attributable interests in the applicant pursuant to 47 C.F.R. Section 73.3555 have, as of the date of filing, existing authorizations for the following number of FM translators.

**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	Date 9/22/2011

**Exhibits**

**Exhibit 10**

**Description:** COVERAGE CONTOUR OF WIRC-PRIMARY FOR K208CR/OVERALL TOWER HEIGHT ABOVE GROUND

THE ACTUAL TOWER HEIGHT IS 60.7 METERS, BUT THIS FORM DOES NOT ALLOW FOR DECIMAL POINTS AND AUTOMATICALLY ROUNDS UP. AT 60.7 METERS, NO ASR IS NECESSARY. HOWEVER, IF ONE ROUNDS UP TO 61 METERS, AN ASR IS NECESSARY. AT 60.7 METERS, THE TOWER THAT THIS FACILITY IS ON IS NOT REGISTERED.

**Attachment 10**

Description
<a href="#">WIRC and K208CR coverage contours</a>

**Exhibit 12**

**Description:** 34 DBU 50-10 CONTOUR

---

**Attachment 12**

Description
<a href="#">Channel study of channel 211 for K208CR</a>
<a href="#">Interference study for channel 211 for K208CR</a>
<a href="#">K208CR 34 dBu (50-10) interference contour map</a>
<a href="#">K208CR 34 dBu (50-10) distance to contour chart</a>
<a href="#">How to Read the Study</a>

---

**Exhibit 13**

**Description:** OVERLAP INFORMATION

SEE ATTACHED EXHIBIT. CHANNEL STUDY OF CHANNEL 211

---

**Attachment 13**

Description
<a href="#">Channel Study</a>
<a href="#">How to read study</a>

---

**Exhibit 14**

**Description:** TELEVISION CHANNEL 6 PROTECTION

THERE ARE NO TELEVISION CHANNEL 6 STATIONS WITHIN 135 KILOMETERS OF THE PROPOSED TRANSLATOR STATION. THUS NO SHOWING IS REQUIRED BY SECTION 74.1205(A) OF THE RULES.

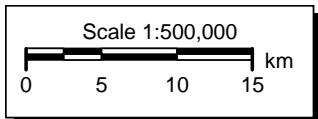
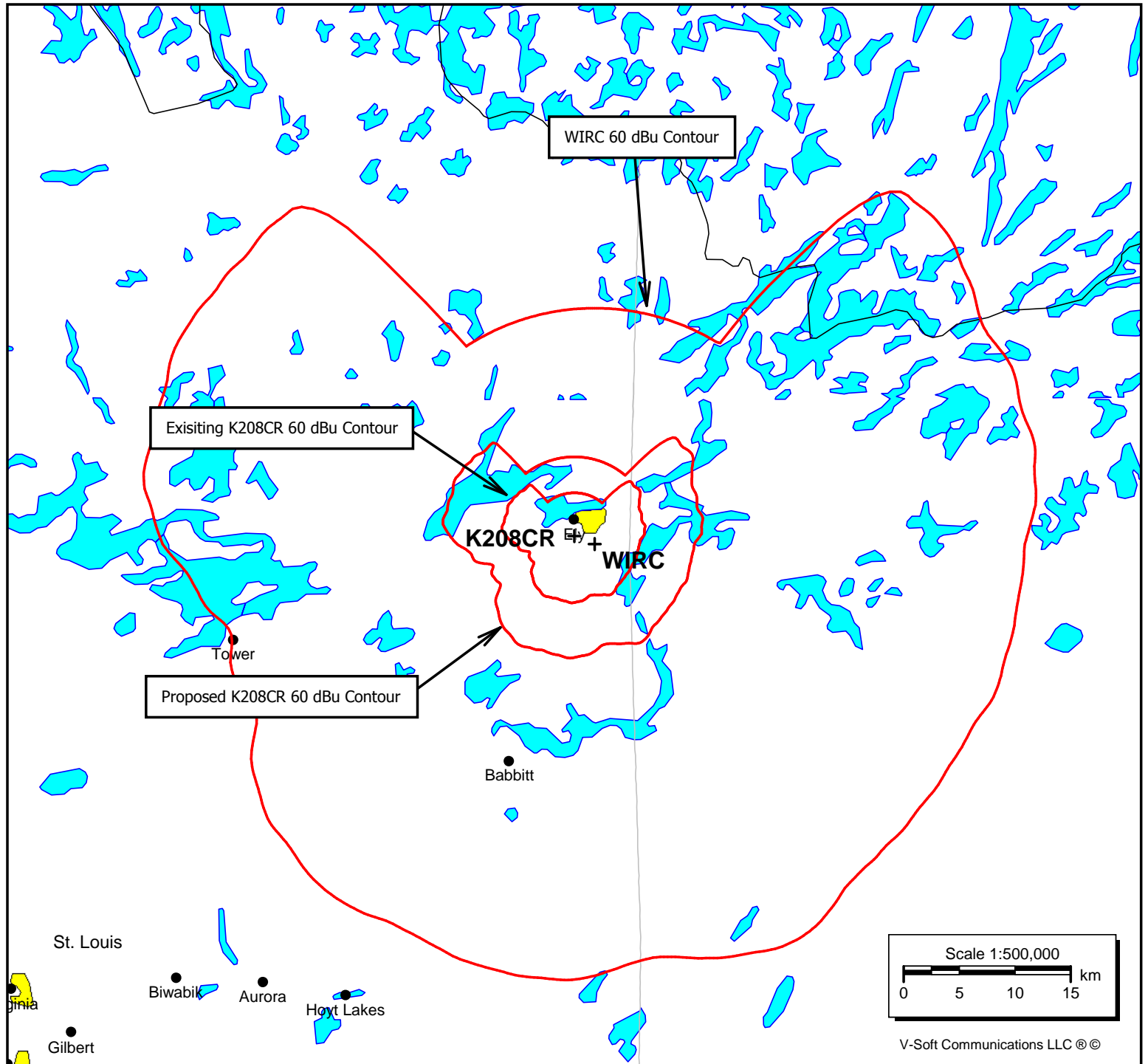
---

**Attachment 14**

---

**K208CR**

BLFT19971112TC  
Latitude: 47-53-24 N  
Longitude: 091-51-59 W  
ERP: 0.25 kW  
Channel: 211  
Frequency: 90.1 MHz  
AMSL Height: 507.0 m  
Elevation: 469.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None



K208CR move to Ch. 211  
 Minnesota Public Radio  
 Average Protected F(50-50)= 7.09 km  
 Omni-directional

REFERENCE  
 47 53 24.0 N.  
 91 51 59.0 W.

CH# 211D - 90.1 MHz, Pwr= 0.25 kW, HAAT= 9.7 M, COR= 507 M

DISPLAY DATES  
 DATA 09-24-11  
 SEARCH 09-28-11

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
208D Ely	K208CR	LIC _CN MN		0.0 0.0	0.0 BLFT19971112TC	47 53 24.0 91 51 59.0	0.023 14	0.3 507	3.9 Minnesota	-7.4*	-5.0*
211A Hibbing	KADU	LIC _CX MN		237.0 56.2	98.4 BLED20070629AAJ	47 24 10.0 92 57 50.0	1.500 103	65.5 540	20.5 Heartland	25.1 Christian	51.5 Broadc
211A Atikokan	CBLAFM	OPE _CN ON		10.8 191.0	100.0	48 46 23.0 91 36 38.0	2.900 81	59.6 1480	22.0	33.3	42.4

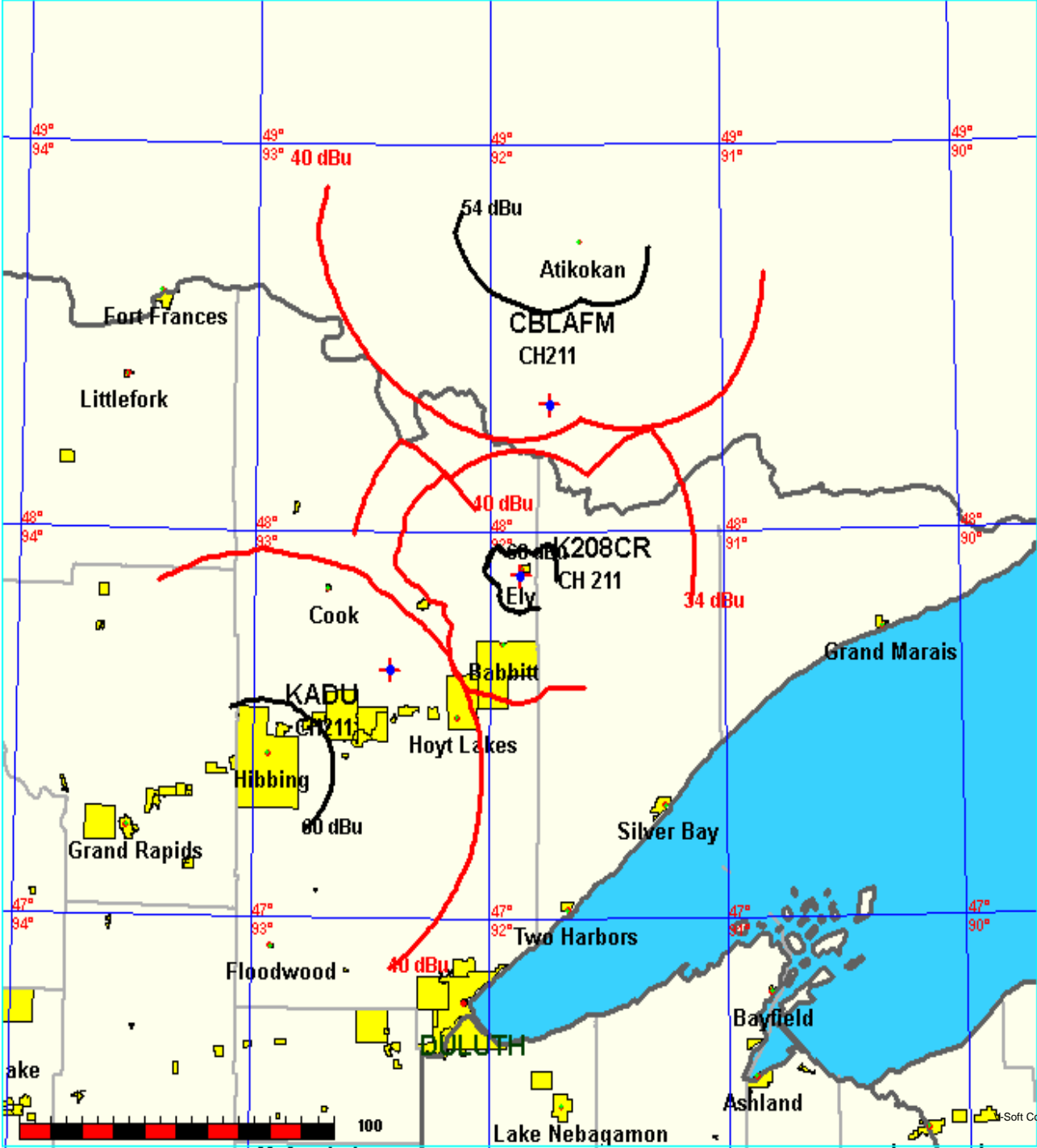
Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside protected contour.

K208CR move to Ch. 211  
Minnesota Public Radio

FMCommander Full Allocation Study - FCC NGDC 30 Sec

09-28-2011

K208CR CH 211 D  
Lat= 47 53 24.0, Lng= 91 51 59.0  
0.25 kW 9.73 M HAAT, 507 M COR



**K208CR**

BLFT19971112TC

Latitude: 47-53-24 N

Longitude: 091-51-59 W

ERP: 0.25 kW

Channel: 211

Frequency: 90.1 MHz

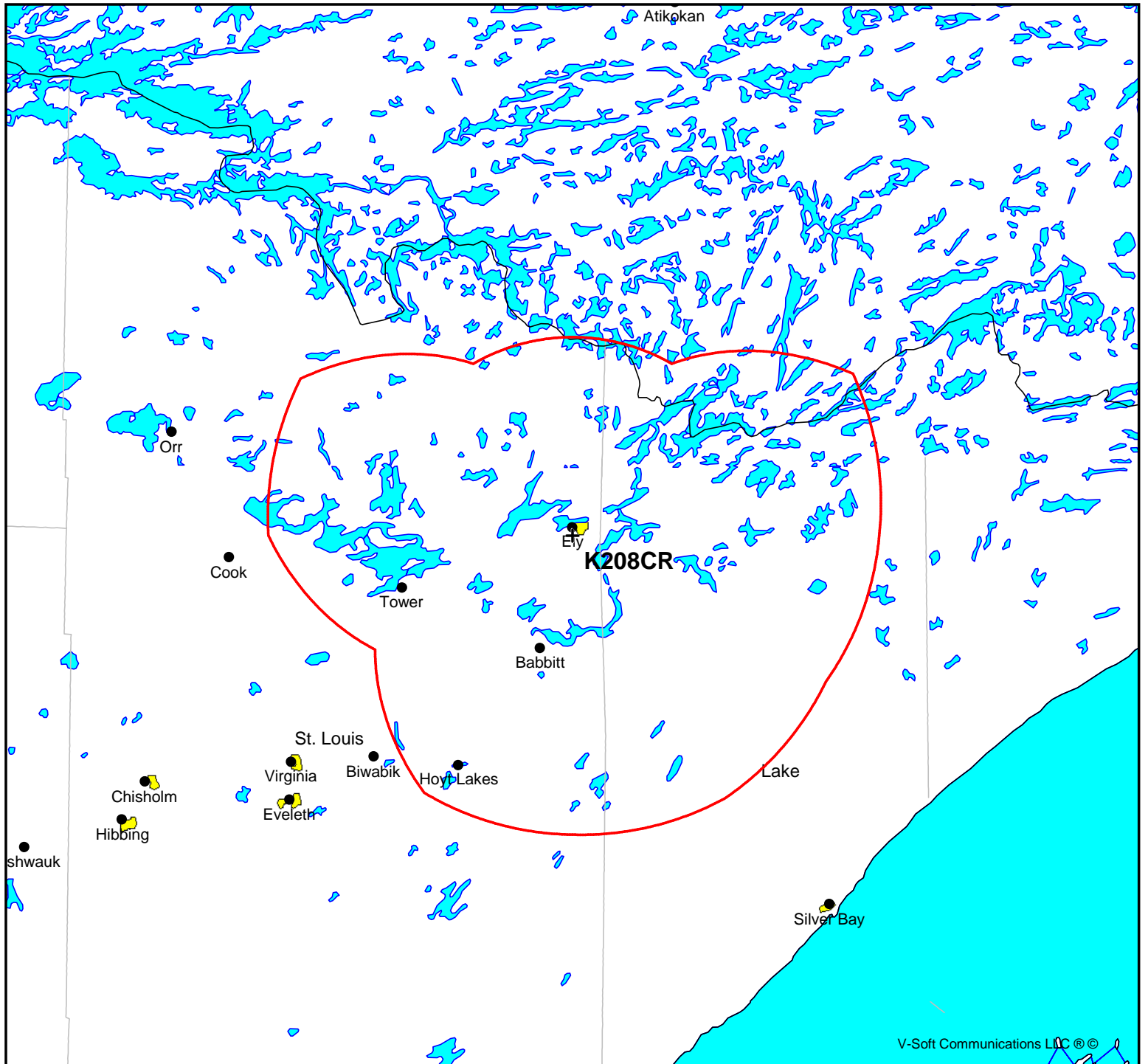
AMSL Height: 507.0 m

Elevation: 469.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None



Distance to Contour Report

Type of contour: FCC  
Location Variability: 50.0 %  
Time Variability: 10.0 %  
# of Radials Calculated: 360  
FCC Matching HAAT Calculation Used  
Field Strength: 34.00 dBuV/m

Primary Terrain: FCC 30 Second US Database

-----  
Transmitter Information:

Call Letters: K208CR  
File Number: BLFT19971112TC  
Latitude: 47-53-24 N  
Longitude: 091-51-59 W  
ERP: 0.25 kW  
Channel: 211  
Frequency: 90.1 MHz  
AMSL Height: 507.0 m  
Elevation: 469.0 m  
Horiz. Antenna Pattern: Omni  
Vert. Elevation Pattern: No  
-----

Azimuth (deg)	Distance (km)	HAAT (m)
0.0	35.6	-272.0
30.0	35.6	-114.4
60.0	58.1	89.2
90.0	55.0	75.4
120.0	52.4	65.6
150.0	54.4	73.2
180.0	53.6	69.9
210.0	53.2	68.4
240.0	40.9	38.9
270.0	54.5	73.5
300.0	56.3	81.0
330.0	35.6	-131.9

Average HAAT for radials shown: 9.7 m

## HOW TO READ THE FM COMPUTER PRINT-OUT

### Translator Reference Station

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. Contour distances are in kilometers and are predicted 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.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "\* OUT \*" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since translators are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

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

For I.F. relationships the minimum spacings 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" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. 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 or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

K208CR move to Ch. 211  
 Minnesota Public Radio  
 Average Protected F(50-50)= 7.09 km  
 Omni-directional

REFERENCE  
 47 53 24.0 N.  
 91 51 59.0 W.

CH# 211D - 90.1 MHz, Pwr= 0.25 kW, HAAT= 9.7 M, COR= 507 M

DISPLAY DATES  
 DATA 09-24-11  
 SEARCH 09-28-11

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
208D Ely	K208CR	LIC _CN MN		0.0 0.0	0.0 BLFT19971112TC	47 53 24.0 91 51 59.0	0.023 14	0.3 507	3.9 Minnesota	-7.4*	-5.0*
211A Hibbing	KADU	LIC _CX MN		237.0 56.2	98.4 BLED20070629AAJ	47 24 10.0 92 57 50.0	1.500 103	65.5 540	20.5 Heartland	25.1 Christian	51.5 Broadc
211A Atikokan	CBLAFM	OPE _CN ON		10.8 191.0	100.0	48 46 23.0 91 36 38.0	2.900 81	59.6 1480	22.0	33.3	42.4

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside protected contour.

## HOW TO READ THE FM COMPUTER PRINT-OUT

### Translator Reference Station

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. Contour distances are in kilometers and are predicted 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.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "\* OUT \*" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since translators are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

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

For I.F. relationships the minimum spacings 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" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. 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 or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.