



United States of America  
**FEDERAL COMMUNICATIONS COMMISSION**  
**AM BROADCAST STATION LICENSE**

Authorizing Official:

Official Mailing Address:

UNIVERSITY OF NORTHWESTERN-ST. PAUL  
3003 SNELLING AVE N  
SAINT PAUL MN 55113

Son Nguyen  
Supervisory Engineer  
Audio Division  
Media Bureau

Grant Date: June 29, 2016

Facility Id: 49774

Call Sign: KNWC

This license expires 3:00 a.m.  
local time, April 01, 2021.

License File Number: BMML-20160202ACM

This license covers Permit No.: BL-20041202AGN

Subject to the provisions of the Communications Act of 1934, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this license, the licensee is hereby authorized to use and operate the radio transmitting apparatus herein described.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve the public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by Section 606 of the Communications Act of 1934.

Hours of Operation: Unlimited

Average hours of sunrise and sunset:  
Local Standard Time (Non-Advanced)

Jan.	8:00 AM	5:15 PM	Jul.	5:00 AM	8:00 PM
Feb.	7:30 AM	6:00 PM	Aug.	5:30 AM	7:30 PM
Mar.	6:45 AM	6:30 PM	Sep.	6:00 AM	6:45 PM
Apr.	5:45 AM	7:15 PM	Oct.	6:45 AM	5:45 PM
May	5:00 AM	7:45 PM	Nov.	7:15 AM	5:00 PM
Jun.	4:45 AM	8:15 PM	Dec.	7:45 AM	4:45 PM

Callsign: KNWC

License No.: BMML-20160202ACM

Name of Licensee: UNIVERSITY OF NORTHWESTERN-ST. PAUL

Station Location: SIOUX FALLS, SD

Frequency (kHz): 1270

Station Class: B

Antenna Coordinates:

Day

Latitude: N 43 Deg 17 Min 07 Sec

Longitude: W 96 Deg 45 Min 53 Sec

Night

Latitude: N 43 Deg 17 Min 07 Sec

Longitude: W 96 Deg 45 Min 53 Sec

Transmitter(s): Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Nominal Power (kW): Day: 5.0 Night: 2.3

Antenna Input Power (kW): Day: 5.4 Night: 2.5

Antenna Mode: Day: DA Night: DA

(DA=Directional Antenna, ND=Non-directional Antenna; CH=Critical Hours)

Current (amperes): Day: 10.39 Night: 7.05

Resistance (ohms): Day: 50 Night: 50

Antenna Registration Number(s):

Day:

Tower No.	ASRN	
1	None	60.2
2	None	60.3

Night:

Tower No.	ASRN	
1	None	60.12
2	None	60.22
3	None	60.58
4	None	60.2

DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM

Theoretical RMS (mV/m/km): Day: 635.54 Night: 495.5  
 Standard RMS (mV/m/km): Day: 667.73 Night: 521.64  
 Augmented RMS (mV/m/km):  
 Q Factor: Day: Night:

Theoretical Parameters:

Day Directional Antenna:

Tower No.	Field Ratio	Phasing (Deg.)	Spacing (Deg.)	Orientation (Deg.)	Tower Ref Switch *	Height (Deg.)
1	1.0000	0.000	0.0000	0.000	0	89.0
2	0.7000	0.000	188.0000	282.000	0	89.0

\* Tower Reference Switch

0 = Spacing and orientation from reference tower  
 1 = Spacing and orientation from previous tower

Theoretical Parameters:

Night Directional Antenna:

Tower No.	Field Ratio	Phasing (Deg.)	Spacing (Deg.)	Orientation (Deg.)	Tower Ref Switch *	Height (Deg.)
1	0.4900	-39.400	0.0000	0.000	0	89.0
2	0.9550	158.300	90.0000	20.000	0	89.0
3	1.0000	0.000	90.0000	20.000	1	89.0
4	0.4910	-171.100	90.0000	20.000	1	89.0

\* Tower Reference Switch

0 = Spacing and orientation from reference tower  
 1 = Spacing and orientation from previous tower

Day Directional Operation:

Twr. No.	Phase (Deg.)	Antenna Monitor Sample Current Ratio
1		
2		
3		
4	0	1
5	-1.2	0.71

Night Directional Operation:

Twr. No.	Phase (Deg.)	Antenna Monitor Sample Current Ratio
1	-38.1	0.54
2	158	1.034
3	0	1
4	-176.7	0.538

Antenna Monitor: POTOMAC INSTUMENTS 1901

Sampling System Approved Under Section 73.68 of the Rules.

Special operating conditions or restrictions:

- 1 The ground system consists of 120 equally spaced, buried, copper radials about the base of each tower, each 59 meters in length except where radials are shortened and bonded to a transverse copper strap midway between adjacent towers.
- 2 The licensee shall perform the measurements described in 73.155 at least once within each 24-month period.

\*\*\* END OF AUTHORIZATION \*\*\*