

Wisconsin Public Service Corporation



GREEN BAY
WISCONSIN

June 19, 1947

Mr. John S. Penn
University of No. Dakota
University Station
Grand Forks, North Dakota

Dear Mr. Penn:

Attached is a little story on my recollections of the early period in the history of the University of Wisconsin radio station. Perhaps this does not cover all you want, and by direct questioning, I may be able to recall other facts which would be of interest. If so, I should be glad to try and answer them for you.

I hope the story you are writing up concerning this station turns out successfully, as my recollections and memories of that period are always pleasant to me and I feel a personal interest in it.

Yours very truly,

Frederick W. Nolte
Ass't. Distribution Engr.

FWNolte:MMK
Attach.

My contacts with the early development of W.H.A. or the predecessor experimental station which went on the air under the call letters 9XM began in 1918 in the First World War while the government had a training station at the University for technical branches of the army. Among those branches was the signal corps; and after a period of training, I was assigned to stay on as an instructor in the next class.

X "At the time ⁽¹⁹¹⁸⁾ I started working on the station the first transmitter had been built and was on the air. The aerial was strung between two wings of the Physics Building now Sterling Hall. Four small D.C. generators were mounted on a wooden framework and powered by an A.C. motor belted to all four generators. These supplied the plate current. Since no power tubes for the transmitter of suitable design and capacity were available, they were made in the department."

For that purpose, I was told that Prof. Terry had learned glass blowing and all the work was done in the laboratory. He would assemble the inner parts and insert them in the enclosing tube, and we would then exhaust the air from the interior. This was done with a series of vacuum pumps the final stage of which was a mercury vapor pump. In this way a very high vacuum was obtained.

X "In order to get all entrained air out of the glass and metal parts they were heated up by energizing the filament, and by causing to pass through the tubes a carefully controlled plate current using the same generators that were used in broadcasting. Sometimes through application of too much heat in this final exhaustion a tube would start to melt and the work would have to be done over. The assembly of the parts of the tube was not easy and much time and some ruined glass parts attested the job it was to bring one of these power tubes to completion. Prof. Terry and Mr. C. M. Jansky, Jr. did most of the glass blowing."

X "The transmitter was located in a basement room in the South wing; Prof. Terry's laboratory was across the hall. When we were on the air, not on regular schedule as I remember it, we used to play records, frequently repeating our station call letters

and sometimes counting. Periodically we would work with an army officer of the signal corps who would try to pick up our signal from various parts of the surrounding states. I do not now recall what range we were able to get. After various tests of this sort some rearrangement of the set would be made or new tubes would be inserted to try and increase the range of transmission."

X " There was also a receiving set (made in the laboratory) having several wave lengths, and we used to listen in on trans-Atlantic broadcasts and sometimes hear German propaganda broadcasts beamed from Nauen, Germany, and also our own long wave stations on the East Coast."