



The

Broadcasters' Desktop Resource

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... edited by Barry Mishkind – the Eclectic Engineer

High Powered History 90 Years Later: WGY

[February 2012] 2012 is a sort of milestone for some radio stations, as they reach their 90th anniversary of being licensed by the Department of Commerce. Many others went dark along the way – of first 50 stations licensed only a scant dozen or have survived to the present day. WGY was one of them.

The 40th license given out by the Department of Commerce (DOC) for broadcasting, carrying the serial #285 was issued on February 4, 1922 to the General Electric Company. It specified a 1500 Watt facility on 833 kHz at Schenectady, NY.

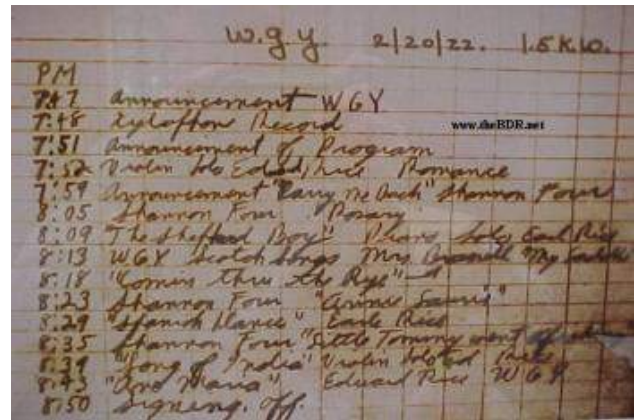
Of course, this was not the first license General Electric held. As the Schenectady plant was where GE made receivers and radio transmitters, it was natural for GE to build a station so they could demonstrate their wireless receivers, just like Westinghouse was doing with KDKA and WBZ. The experimental 2XI (License #115), which led to WGY forms the basis for WGY's claim as the first radio station in New York State.

ON THE AIR

It took just over two weeks from the time the DOC license was issued before General Electric organized the Grand Opening of the station on February 20, 1922.

It was 7:47 PM when the first announcement was made: *"This is Station WGY, W, the first letter in Wireless, G, the first letter in General Electric, and Y, the last letter in Schenectady."* Because "WGY" sounded so close to "WJY" in New York City this announcement was read at

the beginning of every program for several months.



WGY's Station Log for the opening day's events

The first evening's programming lasted just one hour and three minutes, but featured a variety of music and announcements.

CRANKING IT UP

As World War I developed, the government decided to nationalize broadcast technology. GE (which had bought American Marconi) was the key founder of the Radio Corporation of America (RCA). It was joined in the enterprise by Westinghouse, AT&T, and the United Fruit Company. This arrangement – where equipment designed by GE, Westinghouse, and AT&T was marketed by RCA – continued until 1930.

At the same time, in addition to providing gear for the Army and Navy, RCA's members sought to design and build high-power transmitters.

Meanwhile, WGY was the recipient of many of the advances, hosting the testing many of the transmitters, as better tubes were developed,

leading to higher powered units. WGY moved to 790 kHz in 1923, then 810 kHz in the Great Frequency Change of 1941.

According to the FCC license cards for the period, WGY worked with 30, 50 and 60 kW transmitters, running 50 kW as early as 1925. This was more than a full year before WLW ran the first Western Electric model 107A 50 kW transmitter in Cincinnati or RCA's 50A was put into operation in New York City.

In those records, the station was shown as holding a permit for 56 kW. There were even applications for operation at 150 kW and 200 kW for testing – or for competition with WLW.

CONSTRUCTION PERMIT AND LICENSE RECORD					
Appl. No.	Date Issued	Freq.	Power	Time Div.	PERIOD From To
1-S-B-2647	F. 4-19-27	790	56 KW	-	not stated
"	6-1-27	790	50 KW	WHAZ	6-1 7-31-27
Effec. date of previous lic. deferred by G.O. 13 6-15 8-15-27					
1-S-B-264 8-8-27 letter of extension 8-15 10-15-27					
1-S-B-264 9-15-27 790 50 KW WHAZ 9-15 10-15-27					
Extended by G.O. 15 10-15 11-1-27					
1-S-B-264 11-1-27 790 50 KW unlimited 11-1 1-1-28					
Extended by G.O. 21 1-1 2-1-28					
" " " 22 2-1 3-1-28					

FCC record cards from the period show 56 kW

STATION APPLICATION RECORD		CALL LETTERS	NOT
No. 1.	General Electric Company		
APPLICANT:	General Electric Company		
ADDRESS:	Marionville Road, So. Schenectady, N.Y.	FILE NO. 1-S-B-264	DATE: 4-14-27
Present:	790 Kc. 50 KW	T.F. 4-21-27, for 790 Kc. 56 KW.	
Assigned:	790 Kc. 50 KW		
Requested:	790 Kc. 200 KW	1-S-B-264 6-1-27, for 790 Kc. 30 Kw. + WHAZ. Period 6-1-27 to 7-31-27	

An application for 200 kW was not approved

It became clear, early on that transmitter power was limited largely by the tubes available at the time. As many of the stations that ceased operation could testify, in the early 1920s tubes were expensive and not entirely reliable. GE and Western Electric set out to change that.

Blessed with plenty of available resources, including more than 750 kW of DC power at 15 kV and quite a few available towers – three of them being 300 feet tall – GE kept designing higher powered tubes, including a 100 kW tube, five of which were used to develop a 100 kW transmitter said to be one-half the size of the previous 50 kW transmitter. Western Electric's

efforts led to the famous WLW 500 kW transmitter.

Of course, size was relative. In the 1920s, high powered transmitters were not delivered in a series of cabinets as we now know them. Rather they were set up in large rooms – sometimes with the transmitter building being put up *after* the transmitter was in place.

From pictures of the time, we can see how the transmitter sections, tubes and power supplies were laid out, often in a nicely symmetrical manner. To protect workers and visitors to the site, safety rails (or sometimes cages) were placed, surrounded each section. All is all, between the hum of the power and the glow of the tubes, it surely must have been quite a sight to behold



The transmitter viewed through the CR window

STILL MORE?

While there is no clear evidence in the FCC record cards that licensed operation did occur at 100 kW, according to *Wireless World* for October 5, 1927, GE did build a 100 kW model in 1926. It said the Federal Radio Commission (FRC) had granted WGY a special 30-day experimental license to operate the 100 kW facility between Midnight and 1 AM.

However, WGY was not just a test site. The station also was the site of many programming "Firsts."

For example, WGY claims include presenting the first radio drama *The Wolf*, in August 1922, the first use of a condenser microphone, the first station to help solve a crime – the kidnapping of Ernst Alexanderson’s six-year-old son – in 1923, among the first stations to affiliate in a network in 1925, an original NBC affiliate in 1926, and the first station to market its own food products – coffee, tea, sugar, oatmeal, spices, etc.

AND FM TOO

Along with AM, GE was also building FM transmitters. So, WGY was also placed in the forefront of FM operations.

The first iteration of WGY-FM was the experimental W2XDA. That became W85A, according to the calls given to the first FM stations.

Later it became WGFM, and now is known as WRVE, The River, at 99.5 MHz with 14.5 kW.



GE's 50 kW FM transmitter used in early WGY-FM operations

Today, WGY is owned by Clear Channel Media, and continues its longtime 50 kW operation on 810 kHz.

(Today's WGY-FM on 103.1 MHz with 5.6 kW at Albany, NY is not related to earlier WGY FM operations except by name.)

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