



NBC's East Coast transmitter building at Bound Brook, N. J., is surrounded by a forest of poles supporting the station's array of shortwave antennas.

## *"Voice of America" Carried to Europe, Africa and South America by NBC Shortwave Station*

**F**AR better known to radio listeners in foreign countries than to radio fans in America, are the programs broadcast from the NBC-operated shortwave station WRCA at Bound Brook, New Jersey. Each day this station transmits 17 hours of information programs for the Voice of America to peoples in Europe, Africa, South America and to clandestine listeners behind the Iron Curtain.

Although today, the Bound Brook station is dedicated to the broadcasting of America's message of freedom in many languages, its history dates back to 1925. In that year, Station WJZ, then owned by RCA, transferred operations from Aeolian Hall in New York City to its present site. The move to a less populated area was made necessary when the station began transmissions on high power. The WJZ transmitter remained at Bound Brook as long as it served as the key station of the NBC Blue Network. After this network was sold to the American Broadcasting Company in 1943, the WJZ equipment was moved to another location.

In 1930, the importance of Bound Brook increased when it was chosen as the location for experimental shortwave broadcasting by NBC. Under the call letters

W3XL and W3XAL, regular programs of the Blue Network were sent abroad to many lands. As a result of the foreign audience which was immediately attracted to these broadcasts, NBC in the late 1930's established its International Division, a unit of the company devoted to special shortwave programming. The major sponsor was the United Fruit Company, for whose programs a so-called "banana" antenna was later erected to improve signals beamed at South America.

With the outbreak of World War II, NBC turned over its Bound Brook shortwave facilities to the Office of War Information, primarily for European broadcasts. At that time, NBC built a new 50,000-watt transmitter which was added to the two already in operation. Seven new directional antennas and three additional RCA 50,000-watt shortwave transmitters were then installed by the OWI, giving the station the present complement of six transmitters.

Because of the government's decision to provide international shortwave programming via the Voice of America, the NBC International Division was not re-established after the war. Today, while NBC continues as owner, the property and the services of NBC personnel at Bound Brook are leased to the Voice of

America. Programs originating in the New York studios of the Voice of America reach the station over telephone lines.

The exterior of Station WRCA resembles a well-kept residential home with its trees, gardens, and neatly trimmed lawns. In this setting, the transmitter building and the graceful double-spray cooling system are surrounded by towers and antennas of varying sizes, scattered over NBC's 100-acre tract of land.

The building is divided into several sections which accommodate the station engineer's office, transmitting rooms and master control. Around the corner from the office is a long room which houses the three government-owned transmitters. In the center is a transmitter control console, manned by an NBC engineer. By flipping a switch the engineer can connect a monitor speaker with programs in French, English or any of the other languages that might be on the air. The program may be a newscast, music or even an afternoon ball game. Sports events are sent overseas by the Armed Forces Radio Service, for the benefit of American troops assigned to foreign camps.

#### *Technicians Watch Equipment Constantly*

To assure continuous satisfactory performance of the transmitters, technicians devote considerable time to the equipment. This includes continuous routine maintenance, replacement of parts and constant precautions to prevent the tubes from overheating.

From the room which houses the government transmitters it is only a few steps to the compartment containing the three NBC-owned transmitters. The two original shortwave transmitters with their old fashioned dials, knobs and large manually-operated switches pro-

vide a striking contrast to the more modern equipment. Nevertheless, both the new and old transmitters work side by side with equal efficiency to carry broadcasts of truth, liberty and education to the peoples of many nations.

In the master control room, all programs received on the telephone lines from the Voice of America studios are monitored and switched to the assigned transmitters. At the end of each program segment, the engineer on duty gives the WRCA station identification. This "break" is considerably more difficult to make than at a standard broadcast station since a separate switch must be made for each transmitter.

The operating schedule on the desk of the master control console indicates the complexity of the daily transmissions from Bound Brook. Programs in English, French, Finnish, Polish and other languages constitute a typical day. These are sent to Europe from 10 A.M. to 6 P.M. and from 10 P.M. to 3:15 A.M. The 6 to 10 P.M. hours are devoted mainly to Spanish and Portuguese broadcasts for South America.

The basement of the Bound Brook station houses power transformers and associated equipment. From copper tanks located there, distilled water used to cool the transmitter tubes is fed to the outside pond and then back to the tubes. The basement also contains a maintenance shop for repairs and numerous bins and shelves filled with replacement parts and tubes.

The NBC staff at Bound Brook consists of 15 men who perform a wide variety of tasks necessary to keep the station operating at peak efficiency. From the chief engineer to the antenna rigger, skilled team-work prevails to give WRCA an important role in telling the American Story to freedom loving people everywhere.

Operator at the master control console of transmitters at Bound Brook.

Three RCA transmitters line the walls of the main floor of NBC's International station.

