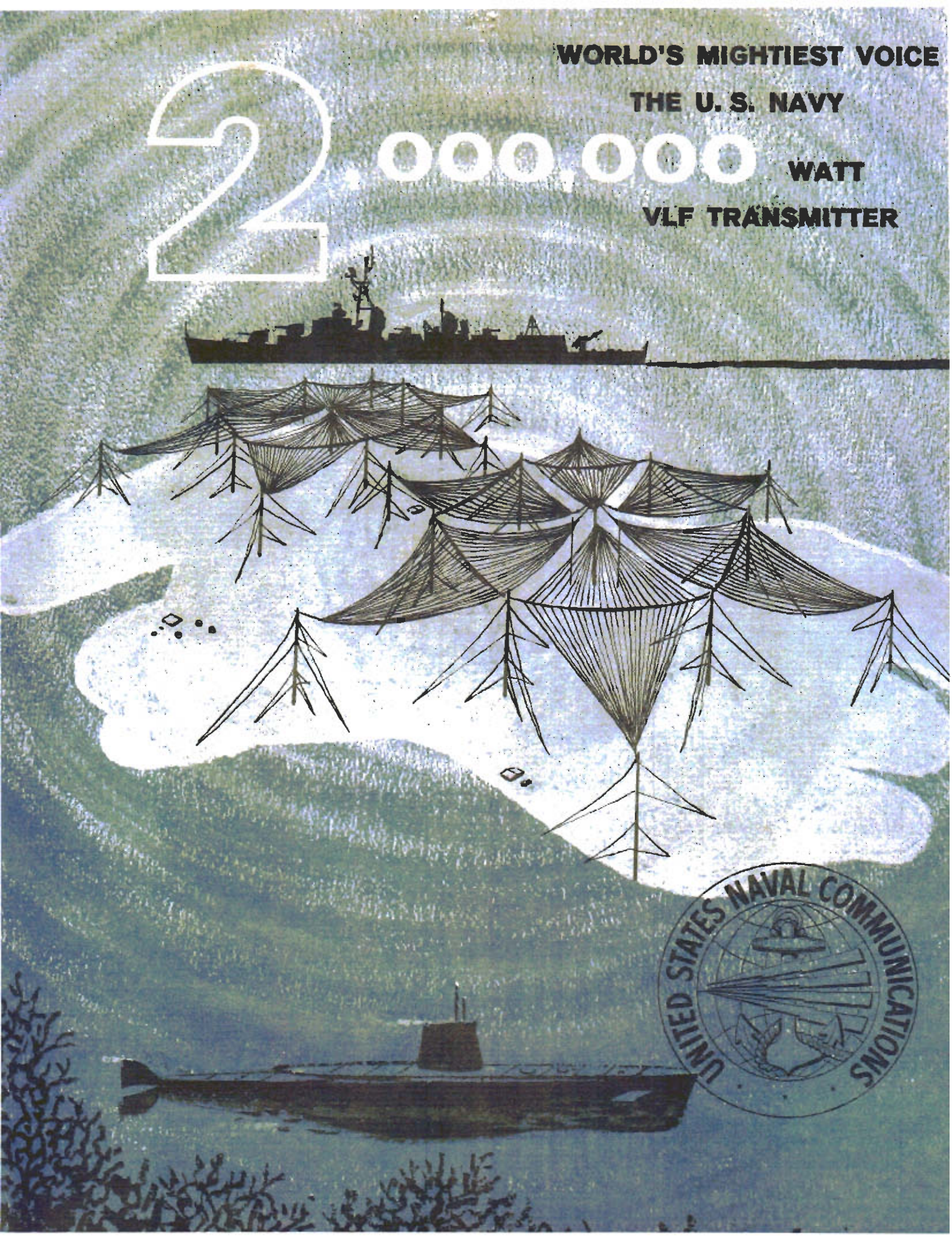

WORLD'S MIGHTIEST VOICE
THE U. S. NAVY
2,000,000
WATT
VLF TRANSMITTER
UNITED STATES NAVAL COMMUNICATIONS

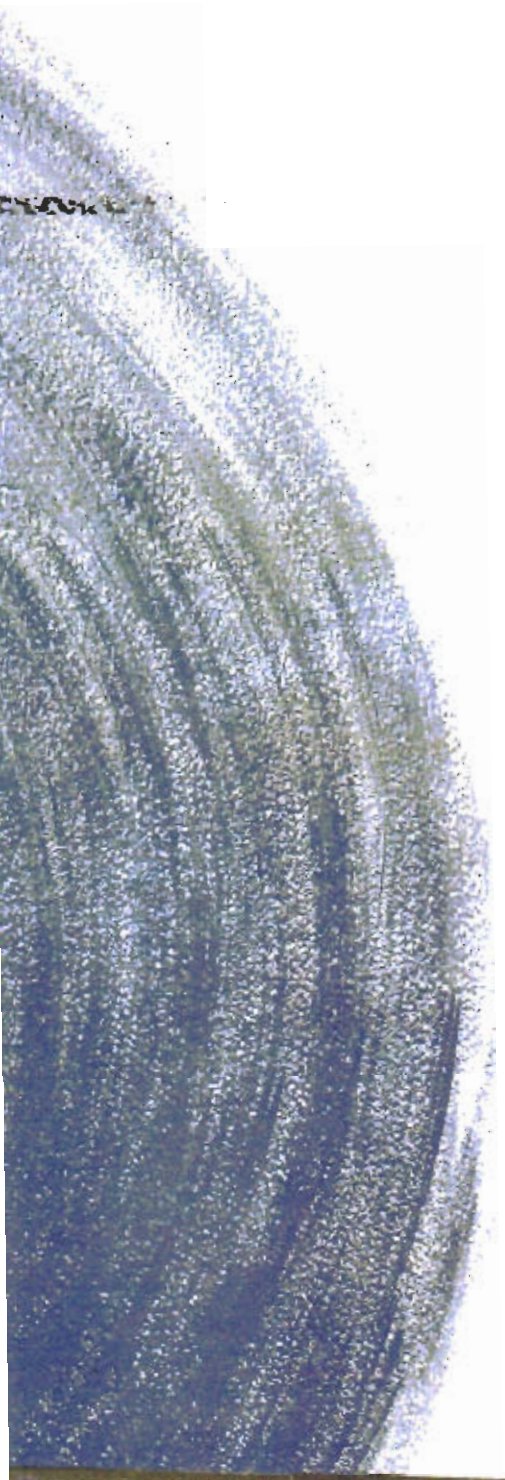
MESSAGE FROM THE COMMANDING OFFICER

In behalf of the U.S. Navy and Naval Communications, we proudly welcome you aboard the Navy's newest and most powerful radio station.

The pace of progress and developments—political, geographical, technological, and military—have broadened our commitments over a world wide area. New sea frontiers to the North of us have opened a four-million square-mile ice-covered ocean of strategic importance. Our requirement for positive control of our forces operating in new areas dictated an urgent need for additional communication capacity, range, and reliability for the Voice of Command. This need has been confirmed through fleet exercises. The need has been particularly great in the Northern Atlantic, and also the Arctic Ocean. The auroral effect in these Northern latitudes prevented reliable communications from existing U.S. Naval Radio Stations. VLF (very low frequency) provides a highly reliable path for communications in these Northern latitudes. Radio Cutler (NAA) was built to provide this Voice of Command to our surface ships and submarines operating in this area.

Completion of this unique station is an important step forward in the National Defense of the United States.

This amazing engineering achievement reflects the excellent team work of American industry and the military working together to strengthen our National Defense.



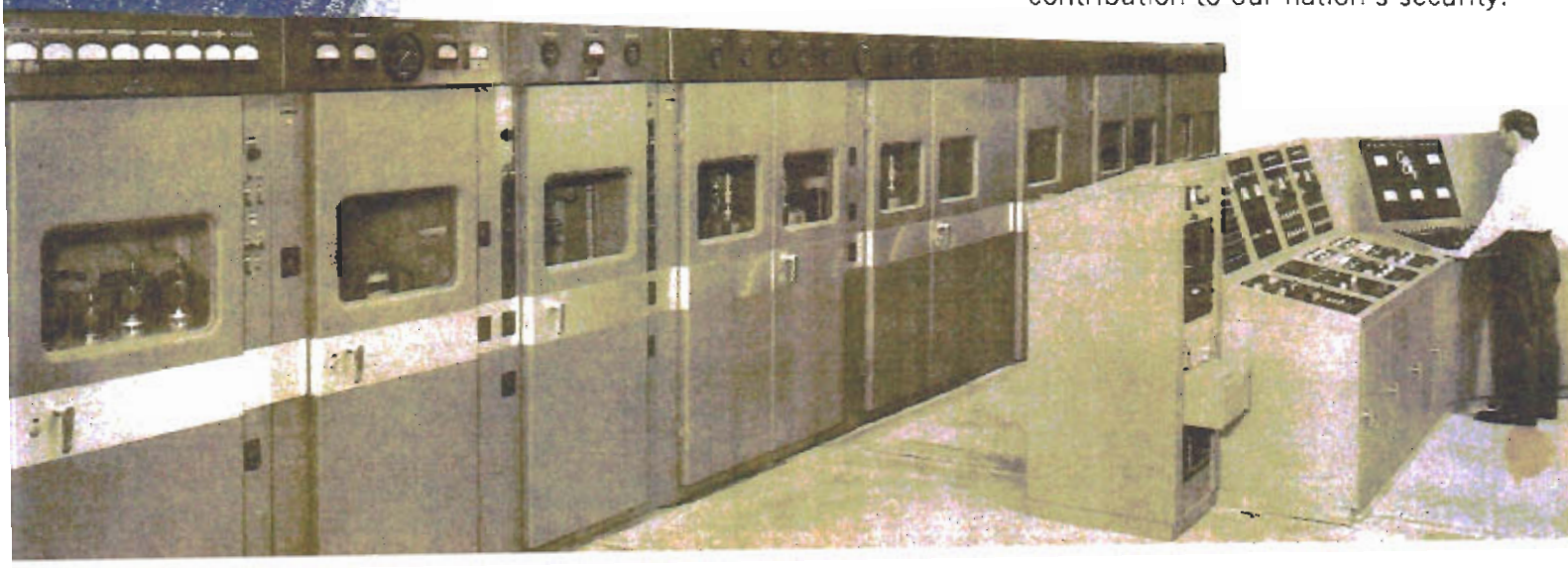
An unusual and gigantic transmitting station towers into the sky over the tiny town of Cutler, Maine, on the edge of Machias Bay. It is the most powerful radio station in the world. Extending the worldwide U.S. Naval Communication System, it will transmit to the Fleet—including the Polaris FBM system and other submerged submarines—with the power of two million watts on a Very Low Frequency transmission.

Scope and size of the project staggers the imagination. Naval Radio Station, Washington County, Maine, covers an entire peninsula of almost 3,000 acres. The antenna array is supported by 26 towers ranging from 800 to 980 feet in height. The smallest tower would dwarf both Bunker Hill and the Washington Monument placed one on top of the other. The two-square-mile area covered by the antenna system could accommodate 22 Pentagon Buildings with room to spare. The structures are designed to withstand winds of 150 knots; ice accumulation on antennas and towers to a radius of 3 inches.

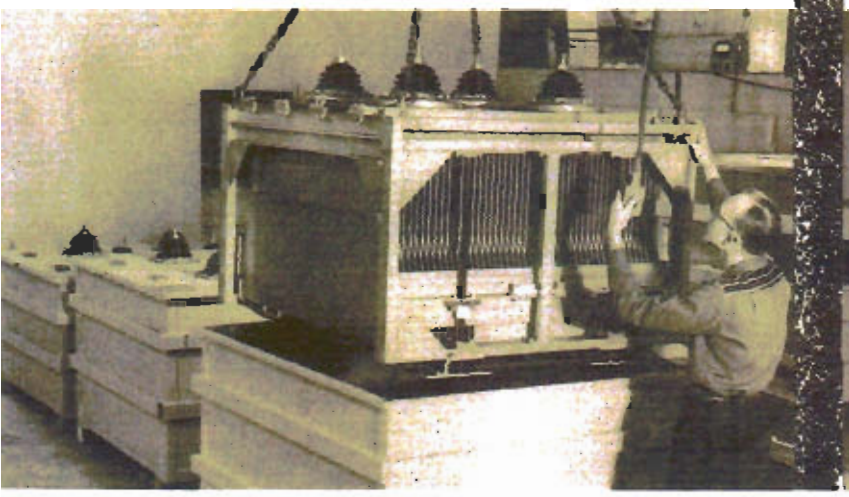
An elaborate system of buried ground wires will collect the RF displacement currents and return them to the helix houses. The ground system consists of buried copper wires radiating from the array centers to the sea water surrounding the peninsula on three sides. Over 2,000 miles of number 6 copper wire will be used, with as many as six radials per degree in some areas.

The entire project was accomplished under the technical and administrative supervision of the Navy Department, Bureau of Yards and Docks and the Bureau of Ships. Design and installation of the gigantic spider web antenna system, 11,000 KW power station and the two-million-watt VLF transmitter was accomplished under the supervision of Continental Electronics Manufacturing Company of Dallas, Texas, prime contractor of the facility.

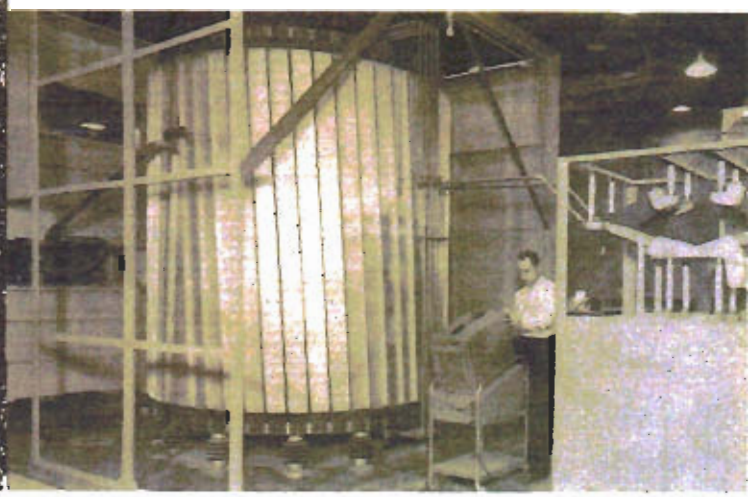
Completed in January 1961, VLF Maine is another contribution to our nation's security.



OIL FILLED VARIABLE CAPACITOR
One of the giant components developed for the Navy VLF Transmitter.

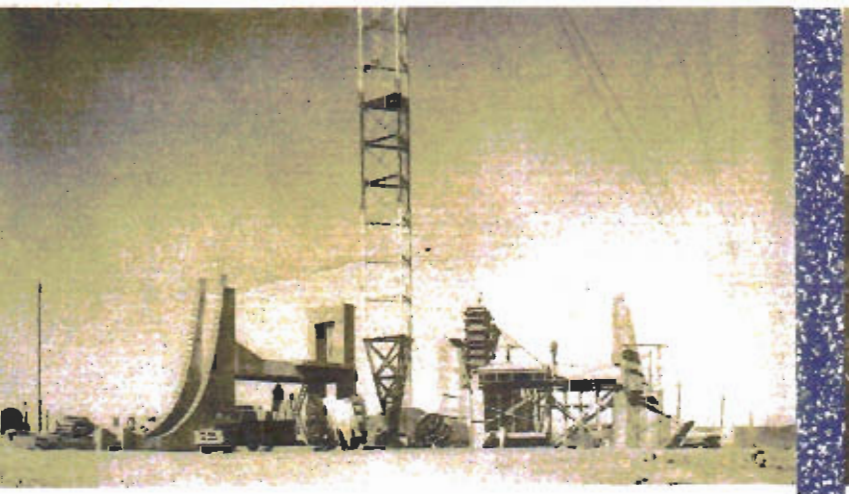


GIANT TOROID and RF SWITCH
Shown during factory test, toroid measures 11 feet high, 8 feet in diameter, is one of four in power amplifier section of transmitter.



IT'S A BIG ONE!

MORE FACTS AND FIGURES: 15,000 tons of structural steel . . . 90,000 cubic yards of concrete. . . A 440,000-pound drum rides on the tracks of each of thirty-six towers which rise 200 feet, for an aggregate of more than 1½ million pounds of counterweights which automatically lower antennas during heavy icing . . . 396,000 feet—75 miles—of one-inch phosphorous bronze wire is used in the antenna arrays above ground . . . Nearly 13 million feet—2,200 miles—of copper wire is buried a foot deep to ground the transmitter. . . Twelve miles of roads traverse the nearly 3,000-acre peninsula site of the mammoth station.



ANTENNA SYSTEM
In-progress photo shows tower base detail. System covers 2-square mile area, utilizes 26 towers ranging from 800 to 980 feet in height.

TRANSMITTER BUILDING
In-progress photo shows transmitter building.

Welcome to Naval Radio Station (T) Cutler

We of the Navy are proud of the teamwork within Defense, Industry, and the Congress which enabled this station to be created in record time. This station is another element of that strength by which the Nation promotes the keeping of the peace.

Your Navy is highly gratified to be able to present this new major element of command and control capability, Naval Radio Station (T) Cutler, and glad to have this powerful station located in the great State of Maine with which the U. S. Navy has had a very long and fruitful relationship.

Frank Drinkwater

Director, Naval Communications

ROAD LOCATIONS