

STANDARDS AND PLANS**1.1 STANDARDS**

High frequency (HF) radio antenna systems are used in naval shore communication installations to support many different types of circuits, including ship/shore/ship, broadcast, point-to-point, and ground/air/ground. These diverse applications require the use of various numbers and types of antennas at individual shore activities.

Some of the antenna systems are used primarily for the Navy's tactical requirements, whereas others are dedicated components of the Defense Communications System (DCS), and some are used alternately on Navy and DCS circuits. In order to provide for this versatility, a certain degree of standardization is required.

1.1.1 Navy Engineering-Installation Standards

Although there are detailed standard drawings for many types of antennas, detailed standards for engineering-installation of Navy antenna systems are not prescribed since each engineering and/or installation action is designed to meet specific requirements and each is submitted for separate approval. The technical information and reference data contained in this handbook provide broad guidance for Navy engineering-installation plans.

1.1.2 DCA Engineering-Installation Standards

Since many of the Navy HF antenna systems support DCS circuits, these systems must meet the antenna system standardization requirements set forth by the Defense Communications Agency (DCA). The need for communications systems engineering standards is stated in Chapter I of DCAC 330-175-1 (formerly 175-2A) — "DCS Engineering-Installation Standards" as follows:

1.1.3 Need for DCS Engineering-Installation Standards. Interoperability and uniform high quality performance of all DCS components requires that they be engineered to high universal standards. New requirements may be placed upon segments of DCS facilities formerly used by a single military service and not originally designated nor engineered for operation with other systems. These components of the DCS must be reengineered, where necessary, to meet these standards so that interoperability and uniform capability will be assured. Engineering of future DCS facilities must conform with these standards for the same reason.

1.2 PLANS AND SPECIFICATIONS

The Naval Electronic Systems Command (NAVELEX), or one of its designated field activities, is responsible for translating operational-communications requirements into engineering plans and specifications. Such requirements may be identified by any operational command and forwarded to the appropriate NAVELEX activity.

1.2.1 Detailed Planning

A Base Electronic System Engineering Plan (BESEP) is required for each engineering and installation action proposed. A BESEP translates a requirement concept into a statement of resource requirements, and it provides the detailed engineering plan for meeting the project objectives.

Normally, a BESEP is prepared by the Field Technical Authority (FTA), and is coordinated with the Naval Facilities Engineering Command (NAVFAC) Engineering Field Division (EFD). However, requirements for changes to existing antenna facilities may also be made known by an individual station when operational-communications requirements exceed the station's capability, or when antenna facilities need to be updated for other reasons.

Specific details of the content required in a BESEP are contained in NAVELEX Instruction 11000.1 — "The Base Electronic System Engineering Plan (BESEP)."

1.2.2 Implementation of Plans

Upon approval of the BESEP by NAVELEX, detailed specifications and engineering design are undertaken by the designated FTA or EFD as appropriate.

Normally, the design, procurement, construction, and installation of HF antennas are accomplished jointly by NAVELEX and NAVFAC. In certain cases however, e. g. , when antennas require large structural subsystems, design and procurement are under the cognizance of NAVFAC based on requirements stated by NAVELEX.