# Chapter 16
# Procedure for Powerhouse Design

## 16-1. Design Initiation

Design for a powerhouse is initiated during engineering and design activities supporting preconstruction planning studies. The planning studies accompany reports to Congress seeking initial authorization for a project. The accompanying studies are either reconnaissance reports or feasibility studies with an engineering appendix. If favorable congressional action is received as a result of initial authorization activities, further engineering and design activities are conducted including preparation of a General Design Memorandum (GDM). The GDM is incorporated into documentation submitted to higher authority seeking a construction start. ER 1105-2-100 provides further information on the contents of these reports. Chapter 17 describes requirements for the GDM. At each stage of the process, powerhouse design is further refined.

## 16-2. Design Process

After a project has been authorized and funds appropriated or allotted for design of the power plant, criteria outlined in Guide Specification CE 4000, Appendix A, should be followed regardless of the organization performing the design. The criteria outline a process of preparation of Feature Design Memorandums covering the design features of the power plant, preparation of plans and specifications, and other engineering activities involved in implementing design, construction, and commissioning of the power plant. The field operating activity (FOA) can utilize either the Hydroelectric Design Center (HDC) or an architect engineer (A-E) to provide the engineering and design services for developing powerhouse design, preparing plans and specifications, reviewing vendor drawings, assisting in preparation of operation and maintenance manuals, and providing record drawing documentation.