

1.7 COMPARISON OF PRINCIPAL DESIGN CHARACTERISTICS

This section highlights the principal design features of the plant and provides a comparison of the major features with other boiling water reactor facilities.

The design of this facility is based upon proven technology attained during the development, design, construction and operation of boiling water reactors of similar or identical types. The data, performance characteristics, and other information presented herein are historical and represent the plant as originally designed.

The parameter values presented in Tables 1.7-1 to 1.7-5 for the various nuclear plants are the values used in the design of these plants. Since the various owner-utilities were not contacted, no guarantee is given that these parameter values are current. The information contained in this section is, therefore, maintained for historical purpose only. More updated information can be found in the specific chapters dealing with specific topics.

1.7.1 Nuclear System Design Characteristics

Table 1.7-1 summarizes the design and operating characteristics for Browns Ferry Nuclear Plant. The same characteristics are presented for the nuclear system of Duane Arnold Energy Center, Cooper Nuclear Station, Vermont Yankee Nuclear Power Station, and Hatch Nuclear Plant Unit 1.

1.7.2 Power Conversion Systems Design Characteristics

Table 1.7-2 presents a summary of the power conversion systems design characteristics for the plant and compares these with Duane Arnold Energy Center, Cooper Nuclear Station, Vermont Yankee Nuclear Power Station, and Hatch Nuclear Plant Unit 1.

1.7.3 Electrical Power Systems Design Characteristics

Table 1.7-3 is a summary and comparison of the electrical power systems design characteristics of the plant and the same four similar facilities.

1.7.4 Containment Design Characteristics

Table 1.7-4 summarizes the design characteristics for the primary and secondary containments of the Browns Ferry Nuclear Plant. Design characteristics are also presented for the primary and secondary containment systems employed for Hatch Unit 1, Vermont Yankee Nuclear Power Station, Cooper Station, and Duane Arnold

Energy Center. In addition, data is given for the type, construction, and height of the elevated release point for the above plants.

1.7.5 Structural Design Characteristics

Table 1.7-5 is a summary and comparison of the seismic and wind design factors considered in the structural design of Browns Ferry Nuclear Plant and the above similar plants.

1.7.6 Discussion of Core Design Improvement

Numerous improvements have been made to the core design of Browns Ferry subsequent to receipt of the operating license for each of the three units. A general description of reload fuel designs presently used in Browns Ferry is given in Chapter 3. The specific fuel types loaded in each unit along with analytical results of the cycle-specific reload core design and licensing analyses are given in the applicable Supplemental Reload Licensing Report (SRLR). The current SRLR for each BFN unit is included in Appendix N of the FSAR.