

## 1.2 General Provisions

The following general provisions are applicable to the Design Descriptions and associated ITAAC:

### **Verifications for Basic Configuration for Systems**

Verifications for Basic Configuration of systems include and are limited to inspection of the system functional arrangement and the following inspections, tests, and analyses:

- (1) Inspections, including non-destructive examination (NDE), of the as-built, pressure boundary welds for ASME Code Class 1, 2, or 3 components identified in the Design Description to demonstrate that the requirements of ASME Code Section III for the quality of pressure boundary welds are met.
- (2) Type tests, analyses, or a combination of type tests and analyses of the Seismic Category I mechanical and electrical equipment (including connected instrumentation and controls) identified in the Design Description to demonstrate that the as-built equipment, including associated anchorage, is qualified to withstand design basis dynamic loads without loss of its safety function.
- (3) Type tests, or type tests and analyses, of the Class 1E electrical equipment identified in the Design Description (or on accompanying figures) to demonstrate that it is qualified to withstand the environmental conditions that would exist during and following a design basis accident without loss of its safety function for the time needed to be functional. These environmental conditions, as applicable to the bounding design basis accident(s), are as follows: expected time-dependent temperature and pressure profiles, humidity, chemical effects, radiation, aging, submergence, and their synergistic effects which have a significant effect on equipment performance. As used in this paragraph, the term “Class 1E electrical equipment” constitutes the equipment itself, connected instrumentation and controls, connected electrical components (such as cabling, wiring, and terminations), and the lubricants necessary to support performance of the safety functions of the Class 1E electrical components identified in the Design Description, to the extent such equipment is not located in a mild environment during or following a design basis accident.

Electrical equipment environmental qualification shall be demonstrated through analysis of the environmental conditions that would exist in the location of the equipment during and following a design basis accident and through a determination

that the equipment is qualified to withstand those conditions for the time needed to be functional. This determination may be demonstrated by:

- (a) Type testing of an identical item of equipment under identical or similar conditions with a supporting analysis to show that the equipment is qualified; or
  - (b) type testing of a similar item of equipment under identical or similar conditions with a supporting analysis to show that the equipment is qualified; or
  - (c) experience with identical or similar equipment under identical or similar conditions with supporting analysis to show that the equipment is qualified; or
  - (d) analysis in combination with partial type test data that supports the analytical assumptions and conclusions to show that the equipment is qualified.
- (4) Tests or type tests of active safety-related motor-operated valves (MOV) identified in the Design Description to demonstrate that the MOVs are qualified to perform their safety functions under design basis differential pressure, system pressure, fluid temperature, ambient temperature, minimum voltage, and minimum and/or maximum stroke times.

### **Treatment of Individual Items**

The absence of any discussion or depiction of an item in the Design Description or accompanying figures shall not be construed as prohibiting a licensee from utilizing such an item, unless it would prevent an item from performing its safety functions as discussed or depicted in the Design Description or accompanying figures.

When the term “operate”, “operates”, or “operation” is used with respect to an item discussed in the Acceptance Criteria, it refers to the actuation and running of the item. When the term “exist”, “exists”, or “existence” is used with respect to an item discussed in the Acceptance Criteria, it means that the item is present and meets the Design Description.

### **Implementation of ITAAC**

Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) are provided in tables with the following three-column format:

<b>Design Commitment</b>	<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
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Each Design Commitment in the left-hand column of the ITAAC tables has an associated Inspections, Tests, or Analyses (ITA) requirement specified in the middle column of the tables. The identification of a separate ITA entry for each Design Commitment shall not be construed to require that separate inspections, tests, or analyses must be performed for each Design Commitment. Instead, the activities associated with more than one ITA entry may be combined,

and a single inspection, test, or analysis may be sufficient to implement more than one ITA entry.

An ITA may be performed by the licensee of the plant, or by its authorized vendors, contractors, or consultants. Furthermore, an ITA may be performed by more than a single individual or group, may be implemented through discrete activities separated by time, and may be performed at any time prior to fuel load (including before issuance of the Combined Operating License for those ITAAC that do not necessarily pertain to as-installed equipment). Additionally, ITA may be performed as part of the activities that are required to be performed under 10CFR Part 50 (including, for example, the Quality Assurance (QA) program required under Appendix B to Part 50); therefore, an ITA need not be performed as a separate or discrete activity.

### **Discussion of Matters Related to Operations**

In some cases, the Design Descriptions in this document refer to matters that relate to operation, such as normal valve or breaker alignment during normal operation modes. Such discussions are provided solely to place the Design Description provisions in context (e.g., to explain automatic features for opening or closing valves or breakers upon off-normal conditions). Such discussions shall not be construed as requiring operators during operation to take any particular action (e.g., to maintain valves or breakers in a particular position during normal operation).

### **Interpretation of Figures**

In many but not all cases, the Design Descriptions in Section 2 include one or more figures, which may represent a functional diagram, general structural representation, or other general illustration. For I&C systems, the figures also represent aspects of the relevant logic of the system or part of the system. Unless specified explicitly, these Figures are not indicative of the scale, location, dimensions, shape, or spatial relationships of as-built structures, systems, or components. In particular, the as-built attributes of structures, systems, and components may vary from the attributes depicted on these figures, provided that those safety functions discussed in the Design Description pertaining to the figure are not adversely affected.

### **Rated Reactor Core Thermal Power**

The rated reactor core thermal power for the ABWR is 3926 Mw<sub>t</sub>.