

## **1.0 Introduction**

### **1.1 Purpose**

COLA Part 7 meets the requirements of 10 CFR 52 Appendix A, Section IV.A.2.b. Departures and exemptions from the reference ABWR DCD are identified and evaluated consistent with regulatory requirements and guidance.

Each departure and exemption is examined in accordance with 10 CFR 52 requirements.

COLA Part 7 departure evaluations considered all of the affected sections as listed in Section 5.0.

### **1.2 Organization**

Departures are proposed changes to the ABWR design certification as documented in 10 CFR 52 Appendix A “Design Certification Rule for the US ABWR.” Departures fall into three classes:

- Those that require prior NRC approval.
- Those that do not require prior NRC approval and are allowed by 10 CFR 52 following applicant review using the evaluation methodology in 10 CFR 52, Appendix A, Section VIII.B.5.
- Editorial and administrative corrections that are not material changes to the certified design. The minimum level of review is the same evaluation as above.

Departures in the first group include changes to Tier 1 and Tier 2\*, changes to the generic Technical Specifications in Tier 2 Chapter 16, other changes to “operational requirements,” and Tier 2 changes that require NRC approval under Section VIII.B.5 of the design certification rule. These are described in Section 2.0.

All changes to the Technical Specifications require prior NRC approval. These departures are categorized within Section 2 and grouped in subsections. Section 2.2.1 includes Tier 2 design changes that require prior NRC approval only because of a required change to a Technical Specification. Section 2.2.2 are those changes of intent to the Technical Specification that are not driven by an underlying design change. Section 2.2.3 are those changes that would otherwise be considered administrative departures but because the wording change is to a Technical Specification (any portion of Chapter 16) must receive prior NRC approval. Section 2.3 contains departures that incorporate a change in analysis methodology or analysis software from that used in the Certified Design.

Departures related to changes from Tier 2 design information do not require prior NRC approval under Section VIII.B.5 of the design certification rule. These are discussed in Section 3.0.

Changes from the DCD text that involve no material change in the technical intent or content of the certified design are generic administrative departures. These are listed in Section 4.0 in the table format and include the correction of internal references, consistency in nomenclature, and resolution of obvious technical misstatements such as wrong units.

Departures and exemptions can affect one or more sections of the COLA. Sectional changes are linked to a primary section. The primary section assigned is the highest in the change hierarchy, i.e. Tier 1 before T2\* before Tier 2. Each departure is assigned a primary section, and all secondary sections follow. A cross-tabulation of affected sections against the primary section is also provided.

Departures are also designated as either standard (prefixed as STD), applying to STP 3 & 4 and all subsequent applications that reference the ABWR, or site-specific, applying only to this STP 3 & 4 COLA (prefixed STP).

A separate table is provided in Section 5.0 for those drawings and figures transmitted in FSAR Chapter 21 that are changed as a result of a departure. These are organized both by departure vs. drawing and drawing vs. departure for reviewer convenience.

### **1.3 Report Format**

Section 2.0 is a compilation of those reports for departures that require prior NRC approval. Each report includes a description of the conceptual change that explains the reasoning for the change. The description explains both the primary affected section and all secondary affected sections. Each description includes the regulatory justification base(s) under which the Commission may grant the departure. A summary of the safety evaluation performed prior to application submittal is also provided as well as any references to, for example, submitted license topical reports or post-certification rulemaking actions.

Section 3.0 is the compilation of those reports for which prior NRC approval is not required per 10 CFR 52. These contain a description of the change and a summary of the written evaluation of the changes under Section X.A.3 of the design certification rule. These summary reports are similar in format and level of detail as reports submitted by operating reactors as required by 10 CFR 50.59. The written evaluations are performed per procedure and the final written evaluations are documented in the design record files and are retained for the life of the plant.

Section 4.0 is a tabulation of the administrative departures identified in developing the STP 3 & 4 COLA. These have been screened using the “50.59-like” process and do not require NRC approval under Section VIII.B.5 of the design certification rule because they do not impact:

- Any design function.
- Method of performing or controlling a design function.

- An evaluation for demonstrating that the intended design function will be accomplished.

Section 5.0 collects and summarizes information in the form of tables contained in Sections 2.0, 3.0 and 4.0.

## **1.4 Departure Designations**

Each departure is assigned a unique identifier (see below) and every changed section lists one or more departures using that identifier in the text. Rather than repeat a description of a departure within the text of the COLA in every occurrence of that departure, changed sections are grouped around a common concept and reported once.

The first three letters differentiate between standard departures ("STD") and site-specific departures ("STP") followed by "DEP" standing for "departure." Tier 1 departures have "T1" following the first six letters. The departures are then numbered within the primary chapter and top-level section so that a generic Tier 1 departure in Tier 1 Section 2.4.4 could have as an identifier:

STD DEP T1 2.4-1

The Tier 2 departure is numbered with STD followed by DEP and then Tier 2 section with an identifier:

STD DEP 5.4-1

A site-specific departure in Tier 1, Chapter 5, "Site Parameters," might be numbered:

STP DEP T1 5.0-1

The departure identifier for all administrative departures will be un-numbered and appear:

STD DEP Admin

Departures within a common FSAR chapter and section (the "X.Y" level) are identified based on the chronological order of development and are listed in no particular sequence. That is, STD DEP T1 2.4-2 is neither more nor less significant than STD DEP T1 2.4-3.

The departure identifier for departures that change the NSSS Vendor from GE to Toshiba, NSSS Vendor or Other are designated as:

STD DEP Vendor

### **1.5 Evaluation of Aircraft Impact Assessment (AIA) Key Design Features Relative to Departures**

All of the departures in Part 7 that relate to key design features credited for AIA as identified in Part 2, Tier 2, Section 19S.4 were identified. An evaluation was then performed of each departure to determine if that departure would have changed the information in Appendix 19S.

The results of the evaluation show that all of the key design features credited in Section 19S.4 are not diminished by the identified departures, and therefore, the information in Appendix 19S is unaffected by these departures. These departures do not adversely impact the basic design and physical separation of the ECCS, and do not affect the alternate feedwater injection (AFI) system. These departures do not adversely affect the location and design of the reactor building, control building, turbine building, or the spent fuel pool and its supporting structure that are credited in the AIA assessment. These departures do not affect the ability of the primary containment to protect components inside the containment from the impact of a postulated aircraft impact. These departures do not change the design and location of fire barriers (including doors) as described in FSAR Sections 9.5.1 and 9A.4 for the reactor building and control building to limit the effects of internal fires created by a postulated aircraft impact.