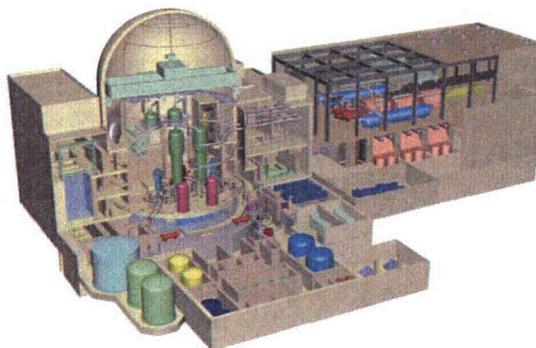




US-APWR DCWG Meeting Identification of CDI in the DCD



November 3, 2010

Agenda



- Introduction
- Background
- Definitions of CDI and Associated Terms
- CDI Identification in the DCD
- Impact of CDI Identification on COLAs
- Implementation Plan
- Summary

Introduction



- MHI received an RAI in May 2010 requesting that Conceptual Design Information (CDI) be identified in the DCD to distinguish certified standard plant design information from non-certified CDI.
- MHI's response to RAI 585 (ML 102720209) was submitted on 9/24/2010 to resolve the NRC's specific request for Chapter 9 (ESWS).
- RAI 585 requested that we look at the entire DCD. MHI concluded that the implementation of CDI should encompass the complete DCD as an enhancement which will help the NRC, the applicants and eventually licensees.

Background



US-APWR Approach in the current DCD

- COL items have been used to identify the site-specific action items including replacement of the CDI with site-specific design information.
- These COL items were intended to distinguish CDI and Standard Plant Design Information (SPDI) portions.

Observation:

Information for which MHI does not seek certification may be unclear in the DCD to some readers although applicable COL items exist.

Clarification of the interface between the DCD and COLAs is a useful enhancement.

Definitions of CDI and Associated Terms



Conceptual Design Information means a more comprehensive design perspective to support or facilitate the NRC's safety evaluation for the interface requirements within a certified design. This information is **not a part of the certified design and the information should be replaced** with an actual site-specific design in the final safety analysis report (FSAR) or explicitly incorporated into the FSAR as part of the site-specific design.

COL Action Item which is called a COL Item (or a COL information item) in the DCD, is DCD text which identifies certain matters that **must be addressed in the site-specific portion** of the final safety analysis report (FSAR) by an applicant who references the design certification rule. These items constitute information requirements but are not the only acceptable set of information in the FSAR. The COL Items for a section are listed at the end of the section.

Interface Requirements means requirements for completing site-specific designs for the facility, developing the operational programs for the facility, and verifying that the proposed site for the facility is in compliance with the site parameters upon which the referenced certified design is based. Compliance with the requirements must be addressed in the FSAR. This is a part of the certified design.

CDI Identification in the DCD



Improvement of US-APWR DCD

- CDI designator (e.g., double bracket "[[]]" and "cloud ☁") to specify the CDI
- Review and update Section 1.8 to be consistent with the CDI
- Retain the existing COL items associated with CDI

Example of Identified CDI in the DCD (ESWPT, PSFSV)



Details of the design and analysis of the east and west PS/Bs are provided in Subsection 3.8.4.4.

3.8.4.1.3 ESWPT, UHSRS, PSFSVs, and Other Site-Specific Structures

The ESWPT is an **underground** seismic category I structure constructed of reinforced concrete. Terminating in part under the T/B, the structure is isolated from other structures to prevent any seismic interaction. The other termination point is the UHSRS at the source of the ESWS. **The UHSRS consist of a cooling tower enclosure, ESWS pump houses, and the UHS basin.** The PSFSVs are **underground** structures which house the safety-related and non safety-related fuel oil tanks.

The design and analysis of the ESWPT, UHSRS, PSFSVs, and other site-specific structures are to be provided by the COL Applicant based on site-specific seismic criteria.

3.8.4.1.4 Heating, Ventilating and Air Conditioning Ducts and Duct Supports

Seismic category I HVAC ducts and duct supports are routed as necessary to supply safety-related functions of air distribution. Appendix 3A describes the qualification of HVAC ducts and duct supports.

3.8.4.1.5 Conduits and Conduit Supports

Example of Identified CDI in the DCD (Potable and Sanitary Water System)



Table 9.2.4-1 Potable and Sanitary Water System Component Data

Potable water storage tank	
Quantity	1
Capacity (gal)	25,000
Potable water pumps	
Quantity	2
Design Flow rate (gal/min)	50
Design head (ft)	220
Jockey pump	
Quantity	1
Design Flow rate (gal/min)	50
Design head (ft)	220
Potable water well pumps	
Quantity	2
Design Flow rate (gal/min)	50
Design head (ft)	220
Chlorine metering pump	
Quantity	1
Design Flow rate (gal/h)	2.9

Currently Identified CDI in the DCD



Systems, Structures, and Components include CDI	Affected DCD Sections/Chapters
Essential Service Water Pipe Tunnel (ESWPT)	Section 3.8.4.1.3 (Sections 1.2, 1.8, 11.5, 12.3) Tier 1 Section 2.2 [Note 1]
Power Source Fuel Storage Vaults (PSFSV)	Section 3.8.4.1.3 (Sections 1.2, 1.8, 8.3, 9.5.4, 16) Tier 1 Section 2.2 [Note 1]
Circulating Water System (CWS)	Section 10.4.5
Essential Service Water System and Ultimate Heat Sink (UHS)	Sections 9.2.1 and 9.2.5 [Note 2]
Electric Power	Sections 8.1, 8.2 and 8.3
Potable and Sanitary Water System (PSWS)	Section 9.2.4
SG Blowdown System	Section 10.4.8 (Section 1.8)
Waste Management System	Sections 11.2, 11.4

() : Associated sections or interface sections

Note 1: CDI portion of the design to be eliminated from Tier 1.

Note 2: DCD mark-up was submitted in responses to RAI 585.

Impact of CDI Identification on COLAs



- Current COLA design information is not expected to change due to identification of CDI.
- Existing left margin annotation (i.e., COL) will remain.
- Expected changes are:
 - Departure annotation for some identified CDI to be changed to CDI or COL annotation
 - Minor text modification to be made in Chapter 1 to reflect the DCD changes

Implementation Plan



DCD Changes:

- Mark-ups of DCD for CDI
 - Identifying CDI in the DCD using double bracket "[[]]" and cloud "☁".
 - Updates of Section 1.8 to match the identified CDI
- Submittal schedule of DCD Mark-ups

COLA Changes:

- COLAs will be revised to reflect the DCD changes as necessary

Summary



- "Conceptual Design Information (CDI)" designator and associated changes will be implemented in the DCD based on RAI 585 request.
- This identification effort will provide no additional technical changes for DCD and COLAs.
- The changes are clarifications which should confirm completed reviews, facilitate future reviews and avoid confusion in the future.
- The submittal schedule of DCD mark-ups under development.