
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 486-8597
SRP Section: 10.04.05 – Circulating Water System
Application Section: 10.04.05
Date of RAI Issue: 05/18/2016

Question No. 10.04.05-2

10 CFR 52.47(a)(24) requires the Design Certification applicant to provide, "A representative conceptual design for those portions of the plant for which the application does not seek certification, to aid the NRC in its review of the FSAR and to permit assessment of the adequacy of the interfact requirements in paragraph (a)(25) of this section."

DCD Tier 2, Section 10.4.5, "Circulating Water System," and Figure 10.4.5-1 show the circulating water pumps as conceptual design information. However, DCD Tier 2, Figure 3.2-1, "Classification of Structures, Systems, and Components," lists the circulating water pumps as non-conceptual.

The applicant is requested to clarify the conceptual design classification of the circulating water system (i.e., which portions and components are conceptual and which are non-conceptual part of the design certification). The applicant is also requested to modify the DCD for consistency with these clarifications.

Response

Since the COL applicant will provide the location and design of the cooling tower, basin, the CW pump house, and the Circulating Water System Design Parameters (Table 10.4.5-1) according to the site-specific design, the following is the breakdown of conceptual and non-conceptual design information for the circulating water system.

1. Conceptual Design Information

- Circulating Water Pumps (No. and capacity of CWP, Max./Min. System design pressure)
- Cooling towers and auxiliaries

- Cooling water makeup and blowdown system
- Cooling tower chemical injection system

2. Non-conceptual Design Information

- Condenser tube cleaning system components
- CW pump bearing lubrication system

In addition, the DCD Table 3.2-1 will be revised to clearly depict a consistent design.

Impact on DCD

DCD Tier 2, Table 3.2-1 will be revised as indicated on the attached markup.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical or Environmental Report.

APR1400 DCD TIER 2

Table 3.2-1 (19 of 86)

| Item No. / Principal SSCs | Location ⁽²⁾ | Safety Class | Quality Group | Codes and Standards | 10 CFR 50, App. B ⁽³⁾ | Seismic Category | Remarks |
|--|-------------------------|--------------|---------------|---|----------------------------------|------------------|----------------|
| 6) Boric acid supply (BAST to VCT/charging pump suction) | Yard, AB | SC-3 | C | ASME Sec. III ND-2007 with 2008 addenda | Yes | I | |
| 7) Reactor makeup water supply (RMWT to CV-186 inlet) | Yard, AB | NNS | D | ASME B31.1-2007 with 2008, 2009 addenda | A | II | (3)(d) |
| 8) BAMP to IRWST isolation valve CV-553 | AB, RCB | NNS | D | ASME B16.34 - 2009 | A | II | (3)(d), (3)(e) |
| 9) BABT to BAST isolation valve CV-126 | AB | NNS | D | ASME B16.34 - 2009 | A | III | (3)(e) |
| 21. CW – Circulating Water | | | | | | | |
| a. CW pumps | CWPH | NNS | D | HI Standards – 2010 | N/A | III | |
| b. Butterfly valves | TGB, CWPH | NNS | D | AWWA C504-2010 | N/A | III | |
| c. Condenser tube cleaning system components | TGB | NNS | D | ASME B31.1-2010 | N/A | III | |
| d. Circulating water pump lube water booster pumps | CWPH | NNS | D | HI Standards-2010 | N/A | III | |
| e. [[Makeup pumps]] | Yard | NNS | D | HI Standards-2010 | N/A | III | |
| f. [[Blowdown pumps]] | Yard | NNS | D | HI Standards-2010 | N/A | III | |
| g. [[Cooling towers (including cooling tower fans)]] | Yard | NNS | D | ASME PTC 23-2003 | N/A | III | |
| h. Piping and valves | TGB, CWPH, Yard | NNS | D | ASME B31.1-2010 | N/A | III | |