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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002997

August 3, 2010

Subject: AP1000 Response to Request for Additional Information (SRP 23)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 23. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in this response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following RAI(s):

RAI-DCP-CN55-SBP-01

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

for/ John T. DeBlasis
Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Strategy

/Enclosure

1. Response to Request for Additional Information on SRP Section 23

D063
NRO

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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 23

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-DCP-CN55-SBP-01
Revision: 0

Question:

The NRC has completed its review of the final information on proposed changes for the AP1000 Design Control Document (DCD), Revision 18, dated April 26, 2010. Based on a review of the information that was provided, additional information is needed to address the following considerations related to change number 55A/B for the spent fuel pool storage system:

a. The markup for Tier 2 Table 3.9-16 (Sheet 16-24), "Valve Inservice Test Requirements," shows the addition of SDS-PL-V001 and SDS-PL-V002 to the table. The addition of these valves to the table was not described as part of Change 55 A/B. The applicant is requested to provide justification for the addition of these valves to Tier 2 Table 3.9-16 (Sheet 16-24), "Valve Inservice Test Requirements."

b. The markup for Tier 2 Table 3.9-16 (Sheet 17-24), "Valve Inservice Test Requirements," shows the deletion of valves SFS-PL-V042, SFS-PL-V045, and SFS-PL-V049. The deletion of these valves from the table was not described as part of Change 55 A/B. The applicant is requested to provide justification for the deletion of these valves from Tier 2 Table 3.9-16 (Sheet 17-24), "Valve Inservice Test Requirements."

c. The staff verified that the functional diagram presented in Tier 1 Figure 2.3.7-1 does not show V075. Since valve V075 is needed during refueling to maintain the integrity of the refueling cavity and the spent fuel pool, the applicant is requested to update the functional diagram to include valve V075 and the associated piping segment.

d. DCD Tier 2 Section 9.1.3.3.5, "Spent Fuel Pool Cooling System Valves," provides a description of the valve arrangement needed for refueling. It is not clear to the staff if this description has been impacted by the proposed change. The applicant is requested to confirm that the configuration description provided in Tier 2 Section 9.1.3.3.5 is still valid and has not been impacted by the proposed change.

e. Tier 2 Figure 9.1-6 (Sheet 1 of 2) "Spent Fuel Pool Cooling System Piping and Instrumentation Diagram," shows additional possible refueling cavity drain paths (for example, the piping segment between the refueling cavity and valve V030 and the piping segment between the refueling cavity and valve V032). Additional information is needed to explain how the integrity of the refueling cavity is ensured during refueling operations for all other penetrations that exist, including confirmation that these penetrations and associated isolation valves are seismic Category 1. The applicant is also requested to confirm that all refueling cavity drain path isolation boundary piping and components are described in Tier 2 and included in the appropriate Tier 1 sections and tables.

Westinghouse Response:

a. The addition of these valves to the table is not part of CN55, but comes from RAI-SRP6.4-SPCV-03, R2. Westinghouse maintains a comprehensive version of DCD R18 draft. Please ignore these changes for purposes of the CN 55 review.

b. These valves are actually not being deleted, but are moved to the next page of the table. Please ignore these apparent changes for purposes of the CN 55 review.

c. The drawing will be revised to include SFS-PL-V075 per the attached mark-up.

d. The valve configuration descriptions provided in Tier 2 Section 9.1.3.3.5 is still valid and has not been impacted by the proposed change.

e. The spent fuel pool and refueling cavity are designed to limit exposure rates to personnel on the refueling machine to 2.5 millirem per hour per Tier 2 Section 9.1.3.1.5. All refueling cavity penetrations and associated isolation valves that are at elevations below the minimum safety level outlined in Tier 2, Chapter 16 Tech Spec 3.9.4 are designed as Seismic Category I, and will not fail during a design basis accident.

The Seismic Category I Valves and Lines are listed below and outlined in Figure 1, which is a portion of Tier 2, Figure 9.1-6.

Seismic Category I Valves: V075, V031, V032, V033, Fuel Transfer Tube Isolation Valve

Seismic Category I Piping: L030, L033, L036, L037, L044, L120, L121, Fuel Transfer Tube

The following DCD Tier 2 sections and tables describe the refueling cavity drain path isolation boundary piping and components.

Tier 2, Chapter 9, Section 9.1.3.3.5.1

Tier 2, Chapter 9, Section 9.1.3.3.8

Tier 2, Chapter 3, Table 3.2-3

Tier 2, Chapter 3, Table 3.9-16

Tier 2, Chapter 16, Table 3.9.4

The refueling cavity drain path (Seismic Category I) isolation boundary piping and components are included in the following DCD Tier 1 sections and tables.

Tier 1, Chapter 2, Section 2.3.7

Tier 1, Chapter 2, Table 2.3.7-1

Tier 1, Chapter 2, Table 2.3.7-2

Tier 1, Chapter 2, Table 2.3.7-4

All refueling cavity penetration lines and associated isolation valves that are not Seismic Category I are located at elevations that preclude the possibility of draining the refueling cavity below the minimum safe level for refueling operations. Theses Valves and Lines are listed below and outlined in Figure 2, which is a portion of Tier 2, Figure 9.1-6.

Non Seismic Valves: V030

Non Seismic Piping: L018, L031, L032A, L032B

Design Control Document (DCD) Revision:
(See revised Figure 2.3.7-1, attached)

PRA Revision:
None

Technical Report (TR) Revision:
None

Figure 1 Refueling Cavity Seismic Category Valve and Lines

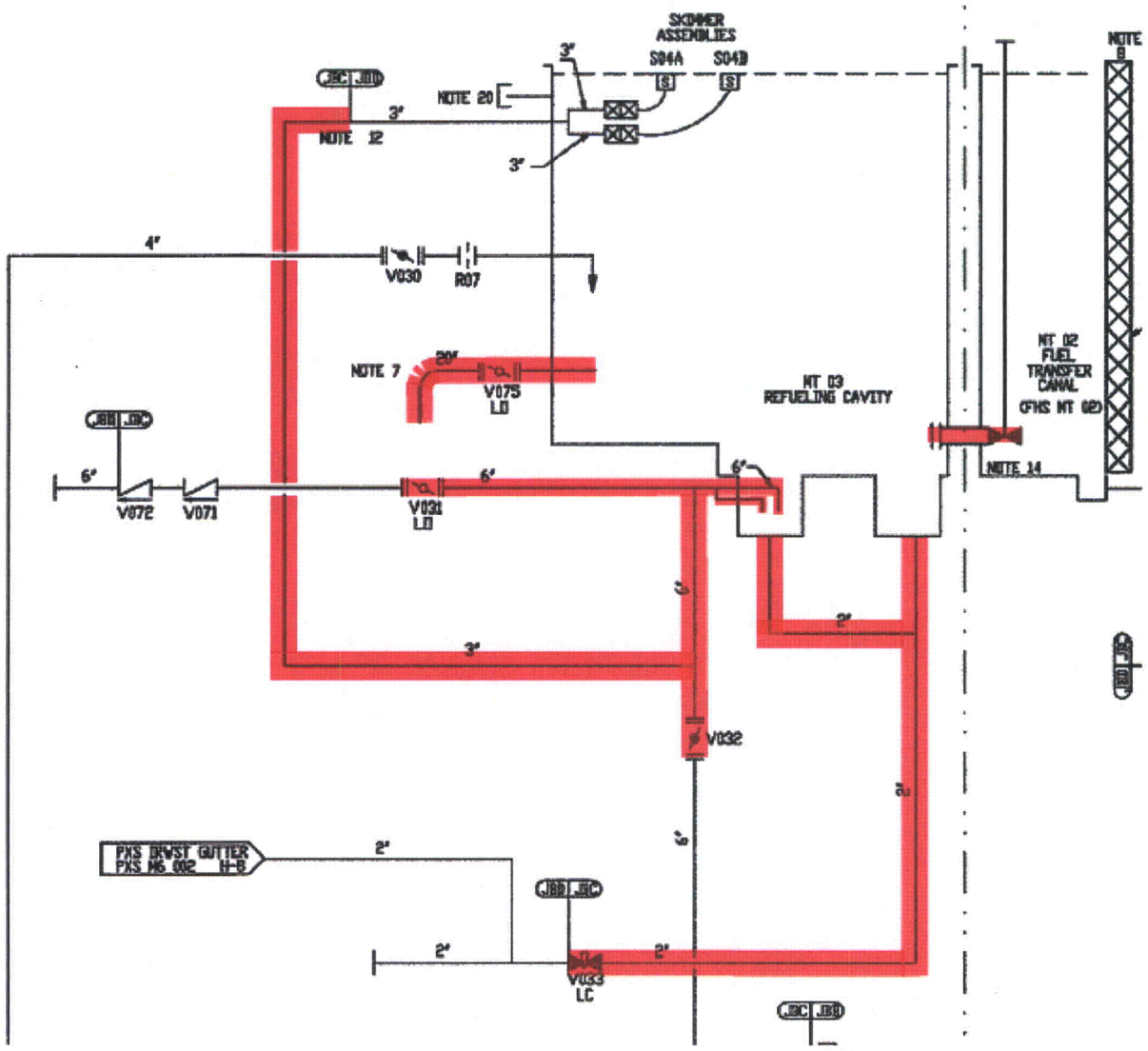
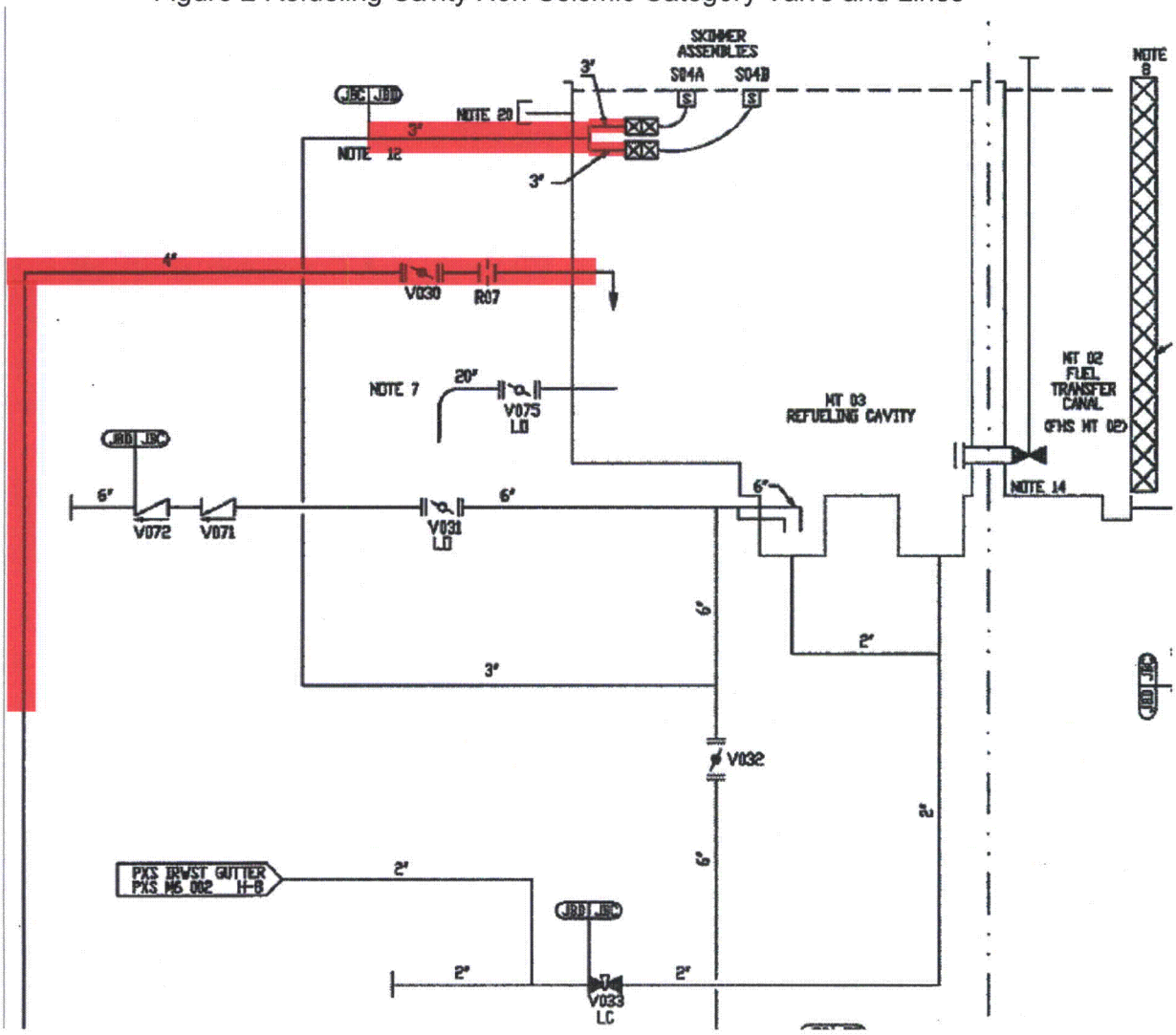


Figure 2 Refueling Cavity Non-Seismic Category Valve and Lines



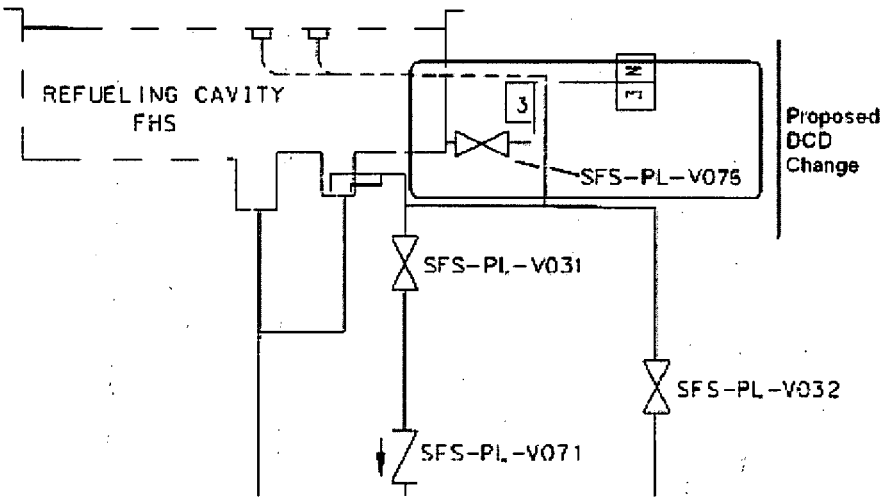


Figure 2.3.7-1
Spent Fuel Pool Cooling System