
SUPPLEMENTAL 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.: 29-7926
SRP Section: 03.02.01 – Seismic Classification
Application Section: 3.2.1
Date of RAI Issue: 06/15/2015

Question No. 03.02.01-4

In DCD Tier 2, Table 3.2-1, Remark (3)(d) is intended to designate seismic Category II SSCs. Table 3.2-1 contains several instances where this remark has been applied to SSCs that are not designated seismic Category II and other instances where this remark has not been applied to seismic Category II SSCs. Please clarify if the seismic classification or the remark is in error for each of the cases discussed above. A list of examples are provided below, but this list is not exhaustive:

1. Non-safety UPS in AB, CPB has a portion classified seismic Category II, but does not have this remark. Also see page 3.2-64 for additional examples.
2. Non-safety soft control (IFPD) (seismic Category III) and “Piping and valves on the SIS filling line from and including SI-700, 714, 701, 715 to the piping downstream of SI-476, 435, 478, 447” (seismic Category I).

Response

Remark (3)(d) for seismic Category II SSCs has been reviewed in DCD Tier 2, Table 3.2-1 and for those instances that did not include the remark (3)(d), it will be added appropriately. RAI 72-8020 was also received that pertains to issues identified in Table 3.2-1. Therefore, to address all issues associated with Table 3.2-1 in a single consolidated mark-up, updates to address the items identified in this RAI will be included in the response to Question 03.02.02-5 of RAI 72-8020 (ref. KHNP letter MKD/KW-15-0171L dated September 25, 2015).

Supplemental Response

An additional four items have been identified that require the remark (3)(d). Therefore, this response is being supplemented to add the remark to the appropriate SSCs identified in Table 3.2-1.

Impact on DCD

DCD Tier 2, Table 3.2-1(Pages 3.2-19, 3.2-24, 3.2-34, 3.2-46, [3.2-49](#), 3.2-51, [3.2-59](#), 3.2-52, 3.2-53, 3.2-62, 3.2-64, 3.2-65, 3.2-68, 3.2-71, 3.2-74, 3.2-75~77, [3.2-82](#), [3.2-83](#), 3.2-91, 3.2-92 and 3.2-109) will be revised as indicated on the Attachment to Question 03.02.02-5 of RAI 72-8020.

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.

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Table 3.2-1 (28 of 86)

Item No. / Principal SSCs SSC Identification	Location ⁽²⁾	Safety Class	Quality Group	Codes and Standards	10 CFR 50, App. B ⁽³⁾	Seismic Category	Remarks
n. Valves and piping of spent fuel pool external makeup and spray lines	AB	NNS	D	ASME B31.1-2010	A	I	(3)(b)
35. FD – Fire Detection and Alarm							
a. Fire control panels in safety-related areas	AB	NNS	N/A	NFPA 72- 2010 2013, NFPA 70-2008	A	II	(3)(c) (d)
b. Fire detector	ALL	NNS	N/A	NFPA 72- 2010 2013, NFPA 70-2008	N/A	III	
c. Notification and control equipment	ALL	NNS	N/A	NFPA 72- 2010 2013, NFPA 70-2008	N/A	III	
36. FH – Fuel Handling and Transfer							
a. New fuel storage racks	AB	NNS	N/A	ANS 57.3	Yes	I	
b. Spent fuel storage racks	AB	NNS	N/A	ANS 57.2	Yes	I	
c. Refueling machine	RCB	NNS	D	N/A	A	II	(3)(d)
d. Spent fuel handling machine	AB	NNS	D	N/A	A	II	(3)(d)
e. New fuel elevator	AB	NNS	D	N/A	A	II	(3)(d)
f. Fuel transfer system							
1) Transfer carriage	RCB, AB	NNS	D	N/A	A	II	(3)(d)
2) Upender	RCB, AB	NNS	D	N/A	A	II	(3)(d)
3) Hydraulic power unit	RCB, AB	NNS	D	N/A	A	II	(3)(d)
g. New fuel handling tool	AB	NNS	D	N/A	N/A	III	
h. Spent fuel handling tool	AB	NNS	D	N/A	N/A	III	
i. Fuel transfer tube valve and stand	AB	NNS	D	N/A	A	II	(3)(d)

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Item No. / Principal SSCs SSC Identification	Location ⁽²⁾	Safety Class	Quality Group	Codes and Standards	10 CFR 50, App. B ⁽³⁾	Seismic Category	Remarks
48. IC – In-core Monitoring							
a. In-core instrument	RCB	SC-1	A	IEEE-323-2003 IEEE-344-2004	Yes	I	Seal plug only
b. Cabling and cable tray system from seal table to pool-wall junction panel	RCB, AB	SC-3	C	IEEE-323-2003 IEEE-344-2004	Yes	I	
c. Cables and cable tray system from pool wall junction panel to containment penetration	RCB, AB	SC-3	N/A	IEEE-383-2003	Yes	I	
d. Cables and cable tray system from containment penetration to FIDAS cabinet	RCB, AB	NNS	N/A	IEEE-386-1992	Yes	II	(3)(d)
e. Cables and cable tray system from containment penetration to QIAS-P cabinet	RCB, AB	SC-3	N/A	IEEE-383-2003	Yes	I	
49. IP – Instrument and Control Power (Including Inverters)							
a. Safety inverter Safety-related inverters, regulating transformers, automatic transfer switches, manual transfer switches, and 120V AC distribution panels	AB	SC-3	N/A	IEEE 308-2001 IEEE 323-2003 IEEE 344-2004 IEEE 420- 2013 2001	Yes	I	
b. Non-safety inverter Safety-related inverters, regulating transformers, automatic transfer switches, manual transfer switches, and 120V AC distribution panels	AB	NNS	N/A	N/A	A	II	(3)(d)
c. Non-safety-related UPS	AAC GTGB	NNS	N/A	N/A	A	III	(3)(b)

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Item No. / Principal SSCs SSC Identification	Location ⁽²⁾	Safety Class	Quality Group	Codes and Standards	10 CFR 50, App. B ⁽³⁾	Seismic Category	Remarks
g. POSRV piping	RCB	SC-3/ NNS	C/D	ASME Sec. III ND-2007 with 2008 addenda /ASME B31.1-2007 with 2008, 2009 addenda	Yes/NA	I/H	
h. Piping							
1) Reactor coolant piping	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
2) Pressurizer surge line piping	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
3) Pressurizer spray line piping	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
4) Upstream of flow-restricting devices	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	(N-5)
5) Downstream of flow-restricting devices	RCB	SC-2	B	ASME Sec. III NC-2007 with 2008 addenda	Yes	I	(N-6)
i. Integrated head assembly							
1) IHA seismic support system	RCB	SC-1	A	ASME Sec. III, NF -2007 with 2008 addenda	Yes	I	
2) RCGVS flange support	RCB	SC-1	A	ASME Sec. III, NF -2007 with 2008 addenda	Yes	I	
3) Main columns and cooling shroud shells	RCB	SC-3	C	ASME Sec. III, NF -2007 with 2008 addenda	Yes	I	
4) Upper air plenum	RCB	NNS	D	ASME Sec. III, NF -2007 with 2008 addenda	A	II	(3)(d)
6) POSRV discharge piping upstream of 3-way valves	RCB	NNS	D	ASME B31.1-2007 with 2008, 2009 addenda	N/A	II	(3)(d)
7) POSRV discharge piping downstream of 3-way valves	RCB	SC-3	C	ASME Sec. III ND-2007 with 2008 addenda	Yes	I	

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4) 3-way valves of POSRV discharge piping	RCB	SC-3	C	ASME Sec. III ND-2007 with 2008 addenda	Yes	I	03.02.01-5
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Item No. / Principal SSCs SSC Identification	Location ⁽²⁾	Safety Class	Quality Group	Codes and Standards	10 CFR 50, App. B ⁽³⁾	Seismic Category	Remarks
j. Core support structures	RCB	SC-3	C	ASME III- NG -2007 with 2008 addenda	Yes	I	(N-2)
k. Valves							
1) Pressurizer spray control valves	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
2) Pressurizer spray isolation valves	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
3) Downstream of flow restricting devices	RCB	SC-2	B	ASME Sec. III NC-2007 with 2008 addenda	Yes	I	
l. Discharge piping vacuum breaker	RCB	SC-3	C	ASME Sec. III ND-2007 with 2008 addenda	Yes	I	
m. RCP lube oil collection tank	RCB	NNS	D	ASME Sec. VIII-2007 with 2008 addenda	N/A	II	(3)(d)
80. RG – Reactor Coolant Gas Vent							
a. Pressurizer gas vent piping upstream of and including the vent isolation valves V410 through 413	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
b. Reactor vessel upper head gas vent piping upstream of and including the vent isolation valves V414 through 417	RCB	SC-1	A	ASME Sec. III NB-2007 with 2008 addenda	Yes	I	
c. RCGVS gas vent piping to and including the vent isolation valves V412, 413, 416, 417 from downstream of the vent isolation valves V418, 419, 420	RCB	SC-2	B	ASME Sec. III NC-2007 with 2008 addenda	Yes	I	

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