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Your ref: Project Number 740
Our ref: DCP/NRC1949

July 18, 2007

Subject: AP1000 COL Standard Technical Report Submittal of APP-GW-GLN-132 (TR 132), Revision 0

In support of Combined License application pre-application activities, Westinghouse is submitting AP1000 Standard Combined License Technical Report Number 132. This report identifies and justifies standard changes to the AP1000 Design Control Document (DCD). Most of the changes to the DCD identified in Technical Report 132 are included in the proposed amendment to the AP1000 Design Certification Rule (DCD Revision 16). However, Westinghouse notes that Technical Report 132 also proposes changes to the DCD beyond those identified in DCD Revision 16. This report is submitted as part of the NuStart Bellefonte COL Project (NRC Project Number 740). The information included in this report is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification.

The purpose for submittal of this report was explained in a March 8, 2006 letter from NuStart to the NRC.

Pursuant to 10 CFR 50.30(b), APP-GW-GLN-132, Revision 0, "Changes to D-RAP Component List," (Technical Report Number 132), is submitted as Enclosure 1 under the attached Oath of Affirmation.

It is expected that when the NRC review of Technical Report Number 132 is complete, the changes to the DCD identified in Technical Report 132 will be considered approved generically for COL applicants referencing the AP1000 Design Certification.

Questions or requests for additional information related to content and preparation of this report should be directed to Westinghouse. Please send copies of such questions or requests for additional information 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.

Westinghouse requests the NRC to provide a schedule for review of the technical report within two weeks of its submittal.

D079
D063
NRO

Very truly yours,

D. F. Hutchings for

A. Sterdis, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Attachment

1. "Oath of Affirmation," dated July 18, 2007

/Enclosure

1. APP-GW-GLN-132, Revision 0, "Changes to D-RAP Component List," Technical Report Number 132

cc:	D. Jaffe	-	U.S. NRC	1E	1A
	E. McKenna	-	U.S. NRC	1E	1A
	S. Adams	-	Westinghouse	1E	1A
	G. Curtis	-	TVA	1E	1A
	P. Grendys	-	Westinghouse	1E	1A
	P. Hastings	-	Duke Power	1E	1A
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	E. Schmiech	-	Westinghouse	1E	1A
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	C. Steuck	-	Westinghouse	1E	1A

ATTACHMENT 1

"Oath of Affirmation"

ATTACHMENT 1

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of:	)
NuStart Bellefonte COL Project	)
NRC Project Number 740	)

APPLICATION FOR REVIEW OF
"AP1000 GENERAL COMBINED LICENSE INFORMATION"
FOR COL APPLICATION PRE-APPLICATION REVIEW

D. S. Lipman, being duly sworn, states that he is Senior Vice President, Nuclear Power Plants, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

D. S. Lipman
Senior Vice President
Nuclear Power Plants

Subscribed and sworn to
before me this 18th day
of July 2007.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Debra McCarthy, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Aug. 31, 2009
Member, Pennsylvania Association of Notaries

Debra McCarthy
Notary

ENCLOSURE 1

APP-GW-GLN-132, Revision 0

"Changes to D-RAP Component List"

Technical Report 132

AP1000 DOCUMENT COVER SHEET

TDC: _____ Permanent File: _____ APY: _____

RFS#: _____ RFS ITEM #: _____

AP1000 DOCUMENT NO.	REVISION NO.		ASSIGNED TO
APP-GW-GLN-132	0	Page 1 of 25	W - McGinnis

ALTERNATE DOCUMENT NUMBER: TR 132 WORK BREAKDOWN #:

ORIGINATING ORGANIZATION: Westinghouse

TITLE: Changes to D-RAP Component List

ATTACHMENTS:	DCP #/REV. INCORPORATED IN THIS DOCUMENT REVISION:
N/A	APP-GW-GEE- 100 / R0 DJH 7/18/07 278 / R1
CALCULATION/ANALYSIS REFERENCE: N/A	

ELECTRONIC FILENAME	ELECTRONIC FILE FORMAT	ELECTRONIC FILE DESCRIPTION
APP-GW-GLN-132 R0	Word	

☒ WESTINGHOUSE CLASS 3 (NON PROPRIETARY)

Class 3 Documents being transmitted to the NRC require the following two review signatures in lieu of a Form 36.

LEGAL REVIEW: J.C. VALENTINE	SIGNATURE/DATE: J.C. Valentine 7/11/2007
PATENT REVIEW: M.M. Corletti	SIGNATURE/DATE: 7/13/2007

☐ WESTINGHOUSE PROPRIETARY CLASS 2

ORIGINATOR C.M. Steuck	SIGNATURE/DATE	7/11/07
REVIEWERS T.L. Schulz	SIGNATURE/DATE T.L. Schulz	7/11/07
VERIFIER D.T. McLaughlin	SIGNATURE/DATE 7/11/07	VERIFICATION METHOD 3-PASS
AP1000 RESPONSIBLE MANAGER C.A. McGinnis	SIGNATURE* C.A. McGinnis	APPROVAL DATE 7-13-07

* Approval of the responsible manager signifies that document is complete, all required reviews are complete, electronic file is attached and document is released for use.

APP-GW-GLN-132
Revision 0

July 2007

AP1000 Standard Combined License Technical Report

Title: Changes to D-RAP Component List

Westinghouse Electric Company LLC
P.O. Box 355
Pittsburgh, PA 15230-0355

Document Number: APP-GW-GLN-132 **Revision Number:** 0

Title: Changes to D-RAP Component List

Brief Description of the change (what is being changed and why):

Section 17.4 - Design Reliability Assurance Program (D-RAP) - of the AP1000 DCD describes the process used to identify D-RAP components. This process includes both quantitative PRA importance measures and an expert panel review. DCD Table 17.4-1 contains a list of D-RAP components that were selected based on a preliminary determination of the PRA importance measures and the AP600 D-RAP expert panel review. The AP1000 PRA importance measures used for the D-RAP inputs have been determined and an AP1000 D-RAP expert panel review was performed. These activities have resulted in the need to revise the DCD D-RAP table.

I. APPLICABILITY DETERMINATION

This evaluation is prepared to document that the change described above is a departure from Tier 2 information of the AP1000 Design Control Document (DCD) that may be included in plant specific FSARs without prior NRC approval.

A.	Does the proposed change include a change to:		
	1. Tier 1 of the AP1000 Design Control Document APP-GW-GL-700	☐ NO ☒ YES	(If YES prepare a report for NRC review of the changes)
	2. Tier 2* of the AP1000 Design Control Document, APP-GW-GL-700	☒ NO ☐ YES	(If YES prepare a report for NRC review of the changes)
	3. Technical Specification in Chapter 16 of the AP1000 Design Control Document, APP-GW-GL-700	☒ NO ☐ YES	(If YES prepare a report for NRC review of the changes)
B.	Does the proposed change involve:		
	1. Closure of a Combined License Information Item identified in the AP1000 Design Control Document, APP-GW-GL-700	☒ NO ☐ YES	(If YES prepare a COL item closure report for NRC review.)
	2. Completion of an ITAAC item identified in Tier 1 of the AP1000 Design Control Document, APP-GW-GL-700	☒ NO ☐ YES	(If YES prepare an ITAAC completion report for NRC review.)

☐ The questions above are answered no, therefore the departure from the DCD in a COL application does not require prior NRC review unless review is required by the criteria of 10 CFR Part 52 Appendix D Section VIII B.5.b. or B.5c

II. TECHNICAL DESCRIPTION AND JUSTIFICATION

DCD R15 corrections

The AP1000 PRA importance measures used for the D-RAP inputs have been determined and an AP1000 D-RAP expert panel review was performed. These activities have resulted in the need to revise the DCD D-RAP table as follows:

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Title: Changes to D-RAP Component List

There are four additions to the DCD table based on quantitative PRA importance measures which are found in the following table.

Components	Quantitative Basis for Inclusion in AP1000 D-RAP per PRA Results
Containment Isolation AOV CVS-V045, -V047	CCF
ECS Bus ECS-ES-1, -2	PRA Level 1 RAW
RNS Stop Check Valves RNS-V007A/B, -V015A/B	CCF
RNS Check Valves RNS-V013, -V056	PRA Level 2 RAW

In addition, there were a number of components that were captured previously by quantitative PRA importance measures that are no longer captured by these measures. These components are retained in the D-RAP list but the "Rationale" for capture is changed to "EP" for expert panel. These components are listed below.

Components	Original Basis for Inclusion in AP1000 D-RAP (All of these become EP)
Makeup Pump Suction and Discharge Check Valves (CVS-PL-V113, -V160A/B)	RAW
Reactor Coolant Pump Switchgear (ECS-ES-31, -32, -41, -42, -51, -52, -61, -62)	RAW/CCF
High Pressure/DP Sensors - RCS Hot Leg Level (RCS-160A/B) - Pressurizer Pressure (RCS-191A/B/C/D) - Pressurizer Level (RCS-195A/B/C/D) - SG Narrow-Range Level (SGS-001, -002, -003, -004, -005, -006, -007, -008) - SG Wide-Range Level (SGS-011, -012, -013, -014, -015, -016, -017, -018) - Main Steamline Pressure (SGS-030, -031, -032, -033, -034, -035, -036, -037) - Main Feedwater Wide-Range Flow (SGS-050A/C/E, -051A/C/E) - Startup Feedwater Flow (SGS-055A/B, -056A/B)	RAW/CCF
125 Vdc 24-hour Batteries, Inverters, and Chargers (IDSA-DB-1A/B, IDSB-DB-1A/B, IDSC-DB-1A/B, IDSD-DB-1A/B, IDSA-DU-1, IDSB-DU-1, IDSC-DU-1, IDSD-DU-1, IDSA-DC-1, IDSB-DC-1, IDSC-DC-1, IDSD-DC-1)	RAW/CCF
IRWST Vents (PXS-MT-03)	RAW/CCF
ADS Stage 1/2/3 Valves (MOV) (RCS-PL-V001A/B, -V002A/B, -V003A/B,	RAW

-V011A/B, -V012A/B, -V013A/B)	
RNS Motor-Operated Valves (RNS-PL-V011, -V022, -V055, -V062)	RRW/FVW
Air Cooled Chillers and Pumps (VWS-MS-02, -03, VWS-MP-02, -03)	RAW/CCF

The markup of DCD R15 begins on page 6.

DCD R16 corrections

An evaluation of the DRAP component list revealed inconsistencies between the list and the DCD RNS P&IDs; therefore, corrections are being made to the RNS valves listed in DCD Table 3.7-1 in Tier 1 and Table 17.4-1 in Tier 2. The list has been revised to correctly identify the RNS valves as either stop check or check valves. The rationale for component selection has also been reviewed and updated as necessary.

The markup of DCD R16 begins on page 19.

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Title: Changes to D-RAP Component List

III. DCD MARK-UP

DCD Rev 15 markup

Tier 1 Changes:
Section 3.7

Table 3.7-1
Risk-Significant Components

Equipment Name	Tag No.
Component Cooling Water System (CCS)	
Component Cooling Water Pumps	CCS-MP-01A/B
Containment System (CNS)	
Containment Vessel	CNS-MV-01
Hydrogen Igniters	VLS-EH-1 through -64
Chemical and Volume Control System (CVS)	
Makeup Pumps	CVS-MP-01A/B
Makeup Pump Suction and Discharge Check Valves	CVS-PL-V113 CVS-PL-V160A/B
Diverse Actuation System (DAS)	
DAS Processor Cabinets and Control Panel (used to provide automatic and manual actuation)	DAS-JD-001 DAS-JD-002 DAS-JD-004 OCS-JC-020
Annex Building UPS Distribution Panels (provide power to DAS)	EDS1-EA-1, EDS1-EA-14, EDS2-EA-1, EDS2-EA-14

Table 3.7-1 (cont.)
Risk-Significant Components

Equipment Name	Tag No.
Rod Drive MG Sets (Field Breakers)	PLS-MG-01A/B
Containment Isolation Valves Controlled by DAS	Refer to Table 2.2.1-1
Main ac Power System (ECS)	
Reactor Coolant Pump Switchgear	ECS-ES-31, -32, -41, -42, -51, -52, -61, -62
Ancillary Diesel Generators	ECS-MS-01, -02
6900 Vac Buses	ECS-ES-1, -2
Main and Startup Feedwater System (FWS)	
Startup Feedwater Pumps	FWS-MP-03A/B
General I&C	
IRWST Level Sensors	PXS-045, -046, -047, -048
RCS Hot Leg Level Sensors	RCS-160A/B
Pressurizer Pressure Sensors	RCS-191A/B/C/D
Pressurizer Level Sensors	RCS-195A/B/C/D
Steam Generator Narrow-Range Level Sensors	SGS-001, -002, -003, -004, -005, -006, -007, -008
Steam Generator Wide-Range Level Sensors	SGS-011, -012, -013, -014, -015, -016, -017, -018
Main Steam Line Pressure Sensors	SGS-030, -031, -032, -033, -034, -035, -036, -037
Main Feedwater Wide-Range Flow Sensors	SGS-050A/C/E, -051A/C/E
Startup Feedwater Flow Sensors	SGS-055A/B, -056A/B
CMT Level Sensors	PXS-011A/B/C/D, -012A/B/C/D, -013A/B/C/D, -014A/B/C/D
Class 1E dc Power and Uninterruptible Power System (IDS)	
125 Vdc 24-Hour Batteries	IDSA-DB-1A/B, IDSB-DB-1A/B, IDSC-DB-1A/B, IDSD-DB-1A/B
125 Vdc 24-Hour Battery Chargers	IDSA-DC-1, IDSB-DC-1, IDSC-DC-1, IDSD-DC-1

Table 3.7-1 (cont.) Risk-Significant Components	
Equipment Name	**Tag No.**
125 Vdc and 120 Vac Distribution Panels	IDSA-DD-1, IDSA-EA-1/-2, IDSB-DD-1, IDSB-EA-1/-2/-3, IDSC-DD-1, IDSC-EA-1/-2/-3, IDSD-DD-1, IDSD-EA-1/-2
Fused Transfer Switch Boxes	IDSA-DF-1, IDSB-DF-1/-2, IDSC-DF-1/-2, IDSD-DF-1
125 Vdc Motor Control Centers	IDSA-DK-1, IDSB-DK-1, IDSC-DK-1, IDSD-DK-1
125 Vdc 24-Hour Inverters	IDSA-DU-1, IDSB-DU-1, IDSC-DU-1, IDSD-DU-1
Passive Containment Cooling System (PCS)	
Recirculation Pumps	PCS-MP-01A/B
PCCWST Drain Isolation Valves	PCS-PL-V001A/B/C
Plant Control System (PLS)	
PLS Actuation Software and Hardware (used to provide control functions)	Refer to Table 3.7-2
Protection and Monitoring System (PMS)	
PMS Actuation Software (used to provide automatic control functions)	Refer to Tables 2.5.2-2 and 2.5.2-3
PMS Actuation Hardware (used to provide automatic control functions)	Refer to Tables 2.5.2-2 and 2.5.2-3
MCR 1E Displays and System Level Controls	OCS-JC-010, -011
Reactor Trip Switchgear	PMS-JD-RTS A01/02, B01/02, C01/02, D01/02
Passive Core Cooling System (PXS)	
IRWST Vents	PXS-MT-03
IRWST Screens	PXS-MY-Y01A/B
Containment Recirculation Screens	PXS-MY-Y02A/B
CMT Discharge Isolation Valves	PXS-PL-V014A/B, -V015A/B
CMT Discharge Check Valves	PXS-PL-V016A/B, -V017A/B
Accumulator Discharge Check Valves	PXS-PL-V028A/B, -V029A/B

Table 3.7-1 (cont.) Risk-Significant Components	
Equipment Name	**Tag No.**
PRHR HX Control Valves	PXS-PL-V108A/B
Containment Recirculation Squib Valves	PXS-PL-V118A/B, -V120A/B
IRWST Injection Check Valves	PXS-PL-V122A/B, -V124A/B
IRWST Injection Squib Valves	PXS-PL-V123A/B, -V125A/B
IRWST Gutter Bypass Isolation Valves	PXS-PL-V130A/B
Reactor Coolant System (RCS)	
ADS Stage 1/2/3 Valves (MOVs)	RCS-PL-V001A/B, -V011A/B RCS-PL-V002A/B, -V012A/B RCS-PL-V003A/B, -V013A/B
ADS Stage 4 Valves (Squibs)	RCS-PL-V004A/B/C/D
Pressurizer Safety Valves	RCS-PL-V005A/B
Reactor Vessel Insulation Water Inlet and Steam Vent Devices	RCS-MN-01
Reactor Cavity Doorway Damper	–
Fuel Assemblies	157 assemblies with tag numbers beginning with RXS-FA
Normal Residual Heat Removal System (RNS)	
Residual Heat Removal Pumps	RNS-MP-01A/B
RNS Motor-Operated Valves	RNS-PL-V011, -V022, -V055, -V062
RNS Stop Check Valves	RNS-PL-V007A/B, -V015A/B
RNS Check Valves	RNS-PL-V013, -V056
Spent Fuel Cooling System (SFS)	
Spent Fuel Cooling Pumps	SFS-MP-01A/B
Steam Generator System (SGS)	
Main Steam Safety Valves	SGS-PL-V030A/B, -V031A/B, -V032A/B, -V033A/B, -V034A/B, -V035A/B
Main Steam Line Isolation Valves	SGS-PL-V040A/B
Main Feedwater Isolation Valves	SGS-PL-V057A/B

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Table 3.7-1 (cont.) Risk-Significant Components	
Equipment Name	**Tag No.**
Service Water System (SWS)	
Service Water Cooling Tower Fans	MA-01A/B
Service Water Pumps	SWS-MP-01A/B
Nuclear Island Nonradioactive Ventilation System (VBS)	
MCR Ancillary Fans	VBS-MA-10A/B
I&C Room B/C Ancillary Fans	VBS-MA-11, -12
Chilled Water System (VWS)	
Air Cooled Chiller Pumps	VWS-MP-02, -03
Air Cooled Chillers	VWS-MS-02, -03
Onsite Standby Power System (ZOS)	
Engine Room Exhaust Fans	VZS-MY-V01A/B, -V02A/B
Onsite Diesel Generators	ZOS-MS-05A/B

Note: Dash (-) indicates not applicable.

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Tier 2 Changes:
Section 17.4

DCD Table 17.4-1 (Sheet 1 of 8)

RISK-SIGNIFICANT SSCS WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
System: Component Cooling Water (CCS)		
Component Cooling Water Pumps (CCS-MP-01A/B)	EP	These pumps provide cooling of the normal residual heat removal system (RNS) and the spent fuel pool heat exchanger. Cooling the RNS heat exchanger is important to investment protection during shutdown reduced-inventory conditions. CCS valve realignment is not required for reduced-inventory conditions.
System: Containment System (CNS)		
Containment Vessel (CNS-MV-01)	EP, L2	The containment vessel provides a barrier to steam and radioactivity released to the atmosphere following accidents.
Hydrogen Igniters (VLS-EH-1 through -64)	EP, L2, Regulations	The hydrogen igniters provide a means to control H_2 concentration in the containment atmosphere, consistent with the hydrogen control requirements of 10 CFR 50.34f.
System: Chemical and Volume Control System (CVS)		
Makeup Pumps (CVS-MP-01A/B)	RAW/CCF	These pumps provide makeup to the RCS to accommodate leaks and to provide negative reactivity for shutdowns, steam line breaks, and ATWS.
Makeup Pump Suction and Discharge Check Valves (CVS-PL-V113, -V160A/B)	EP~~RAW~~	These CVS check valves are normally closed and have to open to allow makeup pump operation.
System: Diverse Actuation System (DAS)		
DAS Processor Cabinets and Control Panel (used to provide automatic and manual actuation) (DAS-JD-001, -002, -004, OCS-JC-020)	RAW	The DAS is diverse from the PMS and provides automatic and manual actuation of selected plant features including control rod insertion, turbine trip, passive residual heat removal (PRHR) heat exchanger actuation, core makeup tank actuation, isolation of critical containment lines, and passive containment cooling system (PCS) actuation.
Annex Building UPS Distribution Panels (EDS1-EA-1, EDS1-EA-14, EDS2-EA-1, EDS2-EA-14)	RAW	These panels distribute power to the DAS equipment.
Rod Drive MG Sets (Field Breakers) (PLS-MG-01A/B)	RAW	These breakers open on a DAS reactor trip signal demand to de-energize the control rod MG sets and allow the rods to drop.

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Title: Changes to D-RAP Component List

Table 17.4-1 (Sheet 2 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
Containment Isolation Valves Controlled by DAS (Note 5)	RAW	These containment isolation valves are important in limiting offsite releases following core melt accidents.
System: Main ac Power System (ECS)		
Reactor Coolant Pump Switchgear (ECS-ES-31, -32, -41, -42, -51, -52, -61, -62)	~~RAW/CCF~~EP	These breakers open automatically to allow core makeup tank operation.
Ancillary Diesel Generators (ECS-MS-01, -02)	EP	For post-72 hour actions, these generators are available to provide power for Class 1E monitoring, MCR lighting and for refilling the PCS water storage tank and spent fuel pool.
6900 Vac Buses (ECS-ES-1, -2)	RAW	These are AC power buses fed by the Onsite DGs and offsite power.
System: Main and Startup Feedwater System (FWS)		
Startup Feedwater Pumps (FWS-MP-03A/B)	EP	The startup feedwater system pumps provide feedwater to the steam generator. This capability provides an alternate core cooling mechanism to the PRHR heat exchangers for non-loss-of-coolant-accidents or steam generator tube ruptures.
System: General I&C[4]		
Low Pressure/DP Sensors - IRWST level sensors (PXS-045, -046, -047, -048)	RAW/CCF	The in-containment refueling water storage tank (IRWST) level sensors support PMS functions. They are used in automatic actuation, and they provide indications to the operator. IRWST level supports IRWST recirculation actions.
High Pressure/DP Sensors - RCS Hot Leg Level (RCS-160A/B) - Pressurizer Pressure (RCS-191A/B/C/D) - Pressurizer Level (RCS-195A/B/C/D) - SG Narrow-Range Level (SGS-001, -002, -003, -004, -005, -006, -007, -008) - SG Wide-Range Level (SGS-011, -012, -013, -014, -015, -016, -017, -018)	RAW/CCF/EP	The following sensors are included in this group. These sensors support PMS and PLS functions. They are used in reactor trip and ESF functions, and provide indications to the operator. Main feedwater flow sensors support startup feedwater actuation and startup feedwater flow sensors support PRHR actuation. The hot leg level sensors automatically actuate the IRWST injection and automatic depressurization system (ADS) valves during shutdown conditions.

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Title: Changes to D-RAP Component List

Table 17.4-1 (Sheet 3 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
- Main Steamline Pressure (SGS-030, -031, -032, -033, -034, -035, -036, -037) - Main Feedwater Wide-Range Flow (SGS-050A/C/E, -051A/C/E) - Startup Feedwater Flow (SGS-055A/B, -056A/B)		
CMT Level Sensors (PXS-011A/B/C/D, -012A/B/C/D, -013A/B/C/D, -014A/B/C/D)	RAW/CCF	These level sensors provide input for automatic actuation of the ADS. They also provide indications to the operator.
System: Class 1E DC Power and Uninterruptible Power System (IDS)		
125 Vdc 24-hour Batteries, Inverters, and Chargers (IDSA-DB-1A/B, IDSB-DB-1A/B, IDSC-DB-1A/B, IDSD-DB-1A/B, IDSA-DU-1, IDSB-DU-1, IDSC-DU-1, IDSD-DU-1, IDSA-DC-1, IDSB-DC-1, IDSC-DC-1, IDSD-DC-1)	~~RAW/CCF~~EP	The batteries provide power for the PMS and safety-related valves. The chargers are the preferred source of power for Class 1E dc loads and are the source of charging for the batteries. The inverters provide uninterruptible ac power to the I&C system.
125 Vdc and 120 Vac Distribution Panels (IDSA-DD-1, -EA-1/2, IDSB-DD-1, -EA-1/2/3, IDSC-DD-1, -EA-1/2/3, IDSD-DD-1, -EA-1/2)	RAW	These panels distribute power to components in the plant that require 1E power support.
Fused Transfer Switch Boxes (IDSA-DF-1, IDSB-DF-1, IDSC-DF-1, IDSD-DF-1)	RAW	The fused disconnect switches connect the different levels of Class 1E distribution panels.
125 Vac Motor Control Centers (IDSA-DK-1, IDSB-DK-1, IDSC-DK-1, IDSD-DK-1)	EP	These buses provide power for the PMS and safety-related valve operation.

Table 17.4-1 (Sheet 4 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
System: Passive Containment Cooling System (PCS)		
Recirculation Pumps (PCS-MP-01A/B)	EP	These pumps provide the motive force to refill the PCS water storage tank during post-72 hour support actions.
PCCWST Drain Isolation Valves (PCS-PL-V001A/B/C)	EP, L2	These valves (two AOVs and one MOV) open automatically to drain water from a water storage tank onto the outside surface of the containment shell. This water provides evaporative cooling of the containment shell following accidents.
System: Plant Control System (PLS)		
PLS Actuation Hardware (Control functions listed in Note 6)	RAW/CCF	This common cause failure event is assumed to disable all logic outputs from the PLS associated with CVS reactor makeup, RNS reactor injection, spent fuel cooling, component cooling of RNS SFS heat exchangers, service water cooling of CCS heat exchangers, standby diesel generators, and hydrogen igniters.
System: Protection and Safety Monitoring System (PMS)		
PMS Actuation Software	RAW/CCF	The PMS software provides the automatic reactor trip and ESF actuation functions listed in Tables 7.2-2 and 7.3-1.
PMS Actuation Hardware	RAW/CCF	The PMS hardware provides the automatic reactor trip and ESF actuation functions listed in Tables 7.2-2 and 7.3-1.
Main Control Room (MCR) 1E Displays and System Level Controls (OCS-JC-010, -011)	RAW/CCF	This includes the Class 1E PMS (QDPS) displays and controls. These displays and system level controls provide important plant indications to allow the operator to monitor and control the plant during accidents.
Reactor Trip Switchgear (PMS-JD-RTS A01/02, B01/02, C01/02, D01/02)	RAW/CCF	These breakers open automatically to allow insertion of the control rods.
System: Passive Core Cooling System (PXS)		
IRWST Vents (PXS-MT-03)	~~RAW/CCF~~EP	The IRWST vents provide a pathway to vent steam from the tank into the containment. The IRWST vents also have a severe accident function to prevent the formation of standing hydrogen flames close to the containment walls. This function is accomplished by designing the vents located further from the containment walls to open with less IRWST internal pressure than the other vents.

Table 17.4-1 (Sheet 5 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
IRWST Screens (PXS-MY-Y01A/B)	RAW/CCF	The IRWST injection lines provide long-term core cooling following a LOCA. These screens are located inside the IRWST and prevent large particles from being injected into the RCS. They are designed so that they will not become obstructed.
Containment Recirculation Screens (PXS-MY-Y02A/B)	RAW/CCF	The containment recirculation lines provide long-term core cooling following a LOCA. The screens are located in the containment and prevent large particles from being injected into the RCS. They are designed so that they will not become obstructed.
CMT Discharge Isolation Valves (PXS-PL-V014A/B, PXS-PL-V015A/B)	RAW/CCF	These air-operated valves automatically open to allow core makeup tank injection.
CMT Discharge Check Valves (PXS-PL-V016A/B, PXS-PL-V017A/B)		These check valves are normally open. They close during rapid accumulator injection.
Accumulator Discharge Check Valves (PXS-PL-V028A/B, -V029A/B)	RAW/CCF	These check valves open when the RCS pressure drops below the accumulator pressure to allow accumulator injection.
PRHR Heat Exchanger Control Valves (PXS-PL-V108A/B)	RAW/CCF	The PRHR heat exchangers provide core cooling following non-LOCAs, steam generator tube ruptures, and anticipated transients without scram. The air-operated valves automatically open to initiate PRHR heat exchanger operation.
Containment Recirculation Squib Valves (PXS-PL-V118A/B, PXS-PL-V120A/B)	RAW/CCF	The containment recirculation lines provide long-term core cooling following a LOCA. These squib valves open automatically to allow containment recirculation when the IRWST level is reduced to about the same level as the containment level. These squib valves can also allow long-term core cooling to be provided by the RNS pumps. These squib valves can provide a rapid flooding of the containment to support in-vessel retention during a severe accident.

Table 17.4-1 (Sheet 6 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
IRWST Injection Check Valves (PXS-PL-V122A/B, -V124A/B)	RAW/CCF	The containment recirculation lines provide long-term core cooling following a LOCA. These check valves open when the IRWST level is reduced to approximately the same level as the containment level.
IRWST Injection Squib Valves (PXS-PL-V123A/B, -V125A/B)	RAW/CCF	The IRWST injection lines provide long-term core cooling following a LOCA. These squib valves open automatically to allow injection when the RCS pressure is reduced to below the IRWST injection head.
IRWST Gutter Bypass Isolation Valves (PXS-PL-V130A/B)	RAW/CCF	These valves direct water collected in the IRWST gutter to the IRWST. This capability extends PRHR heat exchanger operation.
System: Reactor Coolant System (RCS)		
ADS Stage 1/2/3 Valves (MOV) (RCS-PL-V001A/B, -V002A/B, -V003A/B, -V011A/B, -V012A/B, -V013A/B)	~~RAW~~EP	The ADS provides a controlled depressurization of the RCS following LOCAs to allow core cooling from the accumulator, IRWST injection, and containment recirculation. The ADS provides "bleed" capability for feed/bleed cooling of the core. The ADS also provides depressurization of the RCS to prevent a high-pressure core melt sequence.
ADS Stage 4 Valves (Squib) (RCS-PL-V004A/B/C/D)	RAW/CCF	The ADS provides a controlled depressurization of the RCS following LOCAs to allow core cooling from the accumulator, IRWST injection, and containment recirculation. The ADS provides "bleed" capability for feed/bleed cooling of the core. The ADS also provides depressurization of the RCS to prevent a high-pressure core melt sequence.
Pressurizer Safety Valves (RCS-PL-V005A/B)	EP	These valves provide overpressure protection of the RCS.
Reactor Vessel Insulation Water Inlet and Steam Vent Devices (RCS-MN-01)	EP	These devices provide an engineered flow path to promote in-vessel retention of the core in a severe accident.
Reactor Cavity Doorway Damper	EP	This device provides a flow path to promote in-vessel retention of the core in a severe accident.
Fuel Assemblies (157 assemblies with tag numbers beginning with RXS-FA)	SMA	The nuclear fuel assembly includes the fuel pellets, fuel cladding, and associated support structures. This equipment, which provides a first barrier for release of radioactivity and allows for effective core cooling, had the least margin in the seismic margin analysis.

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Table 17.4-1 (Sheet 7 of 8)
RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
System: Normal Residual Heat Removal System (RNS)		
Residual Heat Removal Pumps (RNS-MP-01A/B)	RAW	These pumps provide shutdown cooling of the RCS. They also provide an alternate RCS lower pressure injection capability following actuation of the ADS. The operation of these pumps is important to investment protection during shutdown reduced-inventory conditions. RNS valve realignment is not required for reduced-inventory conditions.
RNS Motor-Operated Valves (RNS-PL-V011, -V022, -V055, -V062)	~~RRW/FV~~WEP	These MOVs align a flow path for nonsafety-related makeup to the RCS following ADS operation, initially from the cask loading pit and later from the containment.
RNS Stop Check Valves (RNS-PL-V007A/B, -V015A/B)	CCF	These stop check valves are on the discharge of the RNS pumps. They prevent backflow from the RCS.
RNS Check Valves (RNS-PL-V013, -V056)	L2 RAW	Check valve V013 provides a flowpath from the RNS pumps to the RCS. Failure of this valve to open will result in the loss of long term cooling from RNS. Check valve V056 provides a flowpath from the cask loading pit to the RNS pump inlet.
System: Spent Fuel Cooling System (SFS)		
Spent Fuel Cooling Pumps (SFS-MP-01A/B)	EP	These pumps provide flow to the heat exchangers for removal of the design basis heat load.
System: Steam Generator System (SGS)		
Main Steam Safety Valves (SGS-PL-V030A/B, -V031A/B, -V032A/B, -V033A/B, -V034A/B, -V035A/B)	EP	The steam generator main steam safety valves provide overpressure protection of the steam generator. They also provide core cooling by venting steam from the steam generator.
Main Steam and Feedwater Isolation Valves (SGS-PL-V040A/B, -V057A/B)	RAW	The steam generator main steam and feedwater isolation valves provide isolation of the steam generator following secondary line breaks and steam generator tube rupture.
System: Service Water System (SWS)		
Service Water Pumps and Cooling Tower Fans (SWS-MP-01A/B, SWS-MA-01A/B)	EP	These pumps and fans provide cooling of the CCS heat exchanger which is important to investment protection during shutdown reduced-inventory conditions. Service water system valve realignment is not required for reduced-inventory conditions.
System: Nuclear Island Nonradioactive Ventilation System (VBS)		
VBS MCR and I&C Rooms B/C Ancillary Fans (VBS-MA-10A/B, -11, -12)	EP	For post-72 hour actions, these fans are available to provide cooling of the MCR and the two I&C rooms (B/C) that provide post-accident monitoring.

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Table 17.4-1 (Sheet 8 of 8)

RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)[1]	Rationale[2]	Insights and Assumptions
System: Chilled Water System (VWS)		
Air Cooled Chillers and Pumps (VWS-MS-02, -03, VWS-MP-02, -03)	~~RAW/CCF~~EP	This VWS subsystem provides chilled cooling water to the CVS makeup pump room. The pumps and chillers are important components of the VWS.
System: Onsite Standby Power System (ZOS)		
Onsite Diesel Generators (ZOS-MS-05A/B)	EP	These diesel generators provide ac power to support operation of nonsafety-related equipment such as the startup feedwater pumps, CVS pumps, RNS pumps, CCS pumps, SWS pumps, and the PLS. Providing ac power to the RNS and the equipment necessary to support its operation is important to investment protection during reduced inventory conditions.
Engine Room Exhaust Fans (VZS-MY-V01A/B, -V02A/B)	EP	These fans provide ventilation of the rooms containing the onsite diesel generators.

Notes:

1. Only includes equipment at the **component** level. Other parts of the SSC or support systems are not included unless specifically listed.
2. Definition of Rationale Terms:
   - CCF = Common Cause Failure (for the SSCs whose inclusion rationale is RAW/CCF, the RAW is based on common cause failure of two or more of the specified SSCs.
   - EP = Expert Panel
   - RAW = Risk Achievement Worth
   - RRW = Risk Reduction Worth
   - SMA = Seismic Margin Analysis
3. Maintenance/surveillance recommendations for equipment are documented in each appropriate DCD section.
4. This category captures instrumentation and control equipment common cause failures across systems.
5. The following containment isolation valves are controlled by DAS:

Chemical & Volume Control Letdown Discharge IRC	CVS-PL-V045
Chemical & Volume Control Letdown Discharge ORC	CVS-PL-V047
Containment Purge Inlet Containment Isolation Valve ORC	VFS-PL-V003
Containment Purge Inlet Containment Isolation Valve IRC	VFS-PL-V004
Containment Purge Discharge Containment Isolation Valve IRC	VFS-PL-V009
Containment Purge Discharge Containment Isolation Valve ORC	VFS-PL-V010
Sump Discharge Containment Isolation Valve IRC	WLS-PL-V055
Sump Discharge Containment Isolation Valve ORC	WLS-PL-V057

6. The PLS provides control of the following functions:
   CVS Reactor Makeup
   RNS Reactor Injection from Cask Loading Pit
   Startup Feedwater from CST
   Spent Fuel Cooling
   Component Cooling of RNS and SFS Heat Exchangers
   Service Water Cooling of the CCS Heat Exchangers
   Onsite Diesel Generators
   Hydrogen Igniters

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Tier 1:

Table 3.7-1 (cont.) Risk-Significant Components	
Equipment Name	**Tag No.**
Containment Recirculation Squib Valves	PXS-PL-V118A/B, -V120A/B
IRWST Injection Check Valves	PXS-PL-V122A/B, -V124A/B
IRWST Injection Squib Valves	PXS-PL-V123A/B, -V125A/B
IRWST Gutter Bypass Isolation Valves	PXS-PL-V130A/B
Reactor Coolant System (RCS)	
ADS Stage 1/2/3 Valves (MOVs)	RCS-PL-V001A/B, -V011A/B RCS-PL-V002A/B, -V012A/B RCS-PL-V003A/B, -V013A/B
ADS Stage 4 Valves (Squibs)	RCS-PL-V004A/B/C/D
Pressurizer Safety Valves	RCS-PL-V005A/B
Reactor Vessel Insulation Water Inlet and Steam Vent Devices	RCS-MN-01
Reactor Cavity Doorway Damper	–
Fuel Assemblies	157 assemblies with tag numbers beginning with RXS-FA
Normal Residual Heat Removal System (RNS)	
Residual Heat Removal Pumps	RNS-MP-01A/B
RNS Motor-Operated Valves	RNS-PL-V011, -V022, -V023, -V055, ~~-V062~~
RNS Stop Check Valves RNS Check Valves	RNS-PL-~~V007A/B,~~ V015A/B RNS-PL-V017A/B
RNS Check Valves	RNS-PL-V007A/B, -V013, -V056
Spent Fuel Cooling System (SFS)	
Spent Fuel Cooling Pumps	SFS-MP-01A/B
Steam Generator System (SGS)	
Main Steam Safety Valves	SGS-PL-V030A/B, -V031A/B, -V032A/B, -V033A/B, -V034A/B, -V035A/B
Main Steam Line Isolation Valves	SGS-PL-V040A/B
Main Feedwater Isolation Valves	SGS-PL-V057A/B
Service Water System (SWS)	
Service Water Cooling Tower Fans	MA-01A/B

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Tier 2:

DCD Table 17.4-1 (Sheet 1 of 8)
RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)(1)	Rationale(2)	Insights and Assumptions
System: Component Cooling Water (CCS)		
Component Cooling Water Pumps (CCS-MP-01A/B)	EP	These pumps provide cooling of the normal residual heat removal system (RNS) and the spent fuel pool heat exchanger. Cooling the RNS heat exchanger is important to investment protection during shutdown reduced-inventory conditions. CCS valve realignment is not required for reduced-inventory conditions.
System: Containment System (CNS)		
Containment Vessel (CNS-MV-01)	EP, L2	The containment vessel provides a barrier to steam and radioactivity released to the atmosphere following accidents.
Hydrogen Igniters (VLS-EH-1 through -64)	EP, L2, Regulations	The hydrogen igniters provide a means to control H2 concentration in the containment atmosphere, consistent with the hydrogen control requirements of 10 CFR 50.34f.
System: Chemical and Volume Control System (CVS)		
Makeup Pumps (CVS-MP-01A/B)	EP ~~RAW/CCF~~	These pumps provide makeup to the RCS to accommodate leaks and to provide negative reactivity for shutdowns, steam line breaks, and ATWS.
Makeup Pump Suction and Discharge Check Valves (CVS-PL-V113, -V160A/B)	EP	These CVS check valves are normally closed and have to open to allow makeup pump operation.
System: Diverse Actuation System (DAS)		
DAS Processor Cabinets and Control Panel (used to provide automatic and manual actuation) (DAS-JD-001, -002, -004, OCS-JC-020)	RAW	The DAS is diverse from the PMS and provides automatic and manual actuation of selected plant features including control rod insertion, turbine trip, passive residual heat removal (PRHR) heat exchanger actuation, core makeup tank actuation, isolation of critical containment lines, and passive containment cooling system (PCS) actuation.
Annex Building UPS Distribution Panels (EDS1-EA-1, EDS1-EA-14, EDS2-EA-1, EDS2-EA-14)	RAW	These panels distribute power to the DAS equipment.
Rod Drive MG Sets (Field Breakers) (PLS-MG-01A/B)	RAW	These breakers open on a DAS reactor trip signal demand to de-energize the control rod MG sets and allow the rods to drop.

Table 17.4-1 (Sheet 5 of 8)
RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)(1)	Rationale(2)	Insights and Assumptions
IRWST Screens (PXS-MY-Y01A/B)	RAW/CCF	The IRWST injection lines provide long-term core cooling following a LOCA. These screens are located inside the IRWST and prevent large particles from being injected into the RCS. They are designed so that they will not become obstructed.
Containment Recirculation Screens (PXS-MY-Y02A/B)	RAW/CCF	The containment recirculation lines provide long-term core cooling following a LOCA. The screens are located in the containment and prevent large particles from being injected into the RCS. They are designed so that they will not become obstructed.
CMT Discharge Isolation Valves (PXS-PL-V014A/B, PXS-PL-V015A/B)	RAW/CCF	These air-operated valves automatically open to allow core makeup tank injection.
CMT Discharge Check Valves (PXS-PL-V016A/B, PXS-PL-V017A/B)	RAW/CCF	These check valves are normally open. They close during rapid accumulator injection.
Accumulator Discharge Check Valves (PXS-PL-V028A/B, -V029A/B)	RAW/CCF	These check valves open when the RCS pressure drops below the accumulator pressure to allow accumulator injection.
PRHR Heat Exchanger Control Valves (PXS-PL-V108A/B)	RAW/CCF	The PRHR heat exchangers provide core cooling following non-LOCAs, steam generator tube ruptures, and anticipated transients without scram. The air-operated valves automatically open to initiate PRHR heat exchanger operation.
Containment Recirculation Squib Valves (PXS-PL-V118A/B, PXS-PL-V120A/B)	RAW/CCF	The containment recirculation lines provide long-term core cooling following a LOCA. These squib valves open automatically to allow containment recirculation when the IRWST level is reduced to about the same level as the containment level. These squib valves can also allow long-term core cooling to be provided by the RNS pumps. These squib valves can provide a rapid flooding of the containment to support in-vessel retention during a severe accident.

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Table 17.4-1 (Sheet 7 of 8)
RISK-SIGNIFICANT SSCs WITHIN THE SCOPE OF D-RAP

System, Structure, or Component (SSC)(1)	Rationale(2)	Insights and Assumptions
System: Normal Residual Heat Removal System (RNS)		
Residual Heat Removal Pumps (RNS-MP-01A/B)	RAW/CCF	These pumps provide shutdown cooling of the RCS. They also provide an alternate RCS lower pressure injection capability following actuation of the ADS. The operation of these pumps is important to investment protection during shutdown reduced-inventory conditions. RNS valve realignment is not required for reduced-inventory conditions.
RNS Motor-Operated Valves (RNS-PL-V011, -V022, -V023, -V055 ~~-V062~~)	EP	These MOVs align a flow path for nonsafety-related makeup to the RCS following ADS operation, initially from the cask loading pit and later from the containment.
RNS Stop Check Valves (RNS-PL-~~V007A/B,~~ -V015A/B), RNS Check Valves (RNS-PL-V017A/B)	CCF/EP	These stop check valves and check valves are in ~~on~~ the discharge of the RNS pumps. They prevent backflow from the RCS.
RNS Check Valves (RNS-PL-V007A/B, -V013, -V056)	L2 RAW/EP	Check valves V007A/B and V013 provide~~s~~ a flow path from the RNS pumps to the RCS. Failure of ~~this~~ these valves to open will result in the loss of long-term cooling from the RNS. Check valve V056 provides a flow path from the cask loading pit to the RNS pump inlet.
System: Spent Fuel Cooling System (SFS)		
Spent Fuel Cooling Pumps (SFS-MP-01A/B)	EP	These pumps provide flow to the heat exchangers for removal of the design basis heat load.
System: Steam Generator System (SGS)		
Main Steam Safety Valves (SGS-PL-V030A/B, -V031A/B, -V032A/B, -V033A/B, -V034A/B, -V035A/B)	EP	The steam generator main steam safety valves provide overpressure protection of the steam generator. They also provide core cooling by venting steam from the steam generator.
Main Steam and Feedwater Isolation Valves (SGS-PL-V040A/B, -V057A/B)	RAW/EP	The steam generator main steam and feedwater isolation valves provide isolation of the steam generator following secondary line breaks and steam generator tube rupture.
System: Service Water System (SWS)		
Service Water Pumps and Cooling Tower Fans (SWS-MP-01A/B, SWS-MA-01A/B)	EP	These pumps and fans provide cooling of the CCS heat exchanger which is important to investment protection during shutdown reduced-inventory conditions. Service water system valve realignment is not required for reduced-inventory conditions.
System: Nuclear Island Nonradioactive Ventilation System (VBS)		
VBS MCR and I&C Rooms B/C Ancillary Fans (VBS-MA-10A/B, -11, -12)	EP	For post-72 hour actions, these fans are available to provide cooling of the MCR and the two I&C rooms (B/C) that provide post-accident monitoring.

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IV. REGULATORY IMPACT

A. FSER IMPACT

These changes have no impact on the text or conclusions of the AP1000 FSER.

B. SCREENING QUESTIONS (Check correct response and provide justification for that determination under each response)

1. Does the proposed change involve a change to an SSC that adversely affects a DCD described design function? ☐ YES ☒ NO

   The proposed changes do not involve a change to an SSC that adversely affects a DCD described design function.

2. Does the proposed change involve a change to a procedure that adversely affects how DCD described SSC design functions are performed or controlled? ☐ YES ☒ NO

   The proposed changes do not involve a change to a procedure that adversely affects how DCD described SSC design functions are performed or controlled.

3. Does the proposed activity involve revising or replacing a DCD described evaluation methodology that is used in establishing the design bases or used in the safety analyses? ☐ YES ☒ NO

   The proposed changes do not involve revising or replacing a DCD described evaluation methodology that is used in establishing the design bases or used in the safety analyses.

4. Does the proposed activity involve a test or experiment not described in the DCD, where an SSC is utilized or controlled in a manner that is outside the reference bounds of the design for that SSC or is inconsistent with analyses or descriptions in the DCD? ☐ YES ☒ NO

   The proposed changes do not involve a test or experiment not described in the DCD.

C. EVALUATION OF DEPARTURE FROM TIER 2 INFORMATION (Check correct response and provide justification for that determination under each response)

10 CFR Part 52, Appendix D, Section VIII. B.5.a. provides that an applicant for a combined licensee who references the AP1000 design certification may depart from Tier 2 information, without prior NRC approval, if it does not require a license amendment under paragraph B.5.b. The questions below address the criteria of B.5.b.

1. Does the proposed departure result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD? ☐ YES ☒ NO

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The changes described will not increase the frequency of occurrence of an accident because there is no significant increase in the probability of failure of the safety functions due to the changes.

2. Does the proposed departure result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD? ☐ YES ☒ NO

   There are no changes which will cause an increase in the probability of an occurrence of a malfunction of any SSC important to the safety and previously evaluated in the plant specific DCD.

3. Does the proposed departure Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD? ☐ YES ☒ NO

   The changes have no effect on the operation, performance, and pressure boundary integrity of the containment vessel. Therefore, there is no increase in the calculated release of radioactive material during postulated accident conditions.

4. Does the proposed departure result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD? ☐ YES ☒ NO

   The changes have no effect on the design functions or reliability of an SSC. Therefore there is no increase in the calculated release of radioactive material due to a malfunction of an SSC.

5. Does the proposed departure create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD? ☐ YES ☒ NO

   The changes have no effect on the operation, performance and pressure boundary integrity of the containment vessel. The changes do not introduce any additional failure modes. Therefore, these changes will not result in an accident of a type different than what has already been evaluated in the DCD.

6. Does the proposed departure create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD? ☐ YES ☒ NO

   The changes have no effect on the design functions of an SSC. Therefore, there are no additional failure modes or the possibility for a malfunction of an SSC important to safety with a different result than evaluated previously.

7. Does the proposed departure result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered? ☐ YES ☒ NO

   There is no change to the design function of an SSC. Therefore, the proposed departure result does not result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded.

8. Does the proposed departure result in a departure from a method of evaluation described in ☐ YES ☒ NO

the plant-specific DCD used in establishing the design bases or in the safety analyses?

The methods of evaluation for the SSCs described in the plant-specific DCD are not altered by the proposed departure.

☒ The answers to the evaluation questions above are "NO" and the proposed departure from Tier 2 does not require prior NRC review to be included in plant specific FSARs as provided in 10 CFR Part 52, Appendix D, Section VIII. B.5.b

☐ One or more of the answers to the evaluation questions above are "YES" and the proposed change requires NRC review.

D. IMPACT ON RESOLUTION OF A SEVERE ACCIDENT ISSUE

10 CFR Part 52, Appendix D, Section VIII. B.5.a. provides that an applicant for a combined licensee who references the AP1000 design certification may depart from Tier 2 information, without prior NRC approval, if it does not require a license amendment under paragraph B.5.c. The questions below address the criteria of B.5.c.

1. Does the proposed activity result in an impact to features that mitigate severe accidents. If the answer is Yes answer Questions 2 and 3 below. ☐ YES ☒ NO

2. Is there is a substantial increase in the probability of a severe accident such that a particular severe accident previously reviewed and determined to be not credible could become credible? ☐ YES ☐ NO ☒ N/A

3. Is there is a substantial increase in the consequences to the public of a particular severe accident previously reviewed? ☐ YES ☐ NO ☒ N/A

☒ The answers to the evaluation questions above are "NO" or are not applicable and the proposed departure from Tier 2 does not require prior NRC review to be included in plant specific FSARs as provided in 10 CFR Part 52, Appendix D, Section VIII. B.5.c

☐ One or more of the he answers to the evaluation questions above are "YES" and the proposed change requires NRC review.

E. SECURITY ASSESSMENT

1. Does the proposed change have an adverse impact on the security assessment of the AP1000. ☐ YES ☒ NO

The design changes will not alter barriers or alarms that control access to protected areas of the plant. The changes will not alter requirements for security personnel.