FORM APF-05D-001-02, REV. 11

CALCULATION CHANGE NOTICE

CCN NO. XX-E-013 - 004 - CN004

Base Calc No. | Rev No. | Sequence No.

CALCULATION TITLE – Enter this item in *CALCULATION TITLE* field in EIS:

Post-Fire Safe Shutdown (PFSSD) Analysis

COMPUTER CODE: **VERSION:**

Administrative? ☐ YES ☒ NO **ASSOCIATED CHANGE #:** 15070

REGULATORY REVIEWS:
☐ N/A - only if Administrative
☐ Attached
☒ Attached to: CP 15070 R0 Evaluation #

USAR STATEMENT:
☐ Requires a change to the USAR:
☒ Does not require a change to the USAR

ANY DOCUMENTS IMPACTED?
☐ YES If yes, enter: Work Management Tool #, SWO #,
☒ NO and/or Condition Report #, if applicable

Status: ☒ COMMITTED ☒ FINAL ☐ VOID ☐ SUPERSEDED

ORIG	DigsigOrg 2.8, 0.7 William M. Wilkins Printed Name	01/09/17 Date	ORIG	NA - Status Change Printed Name	Date
	Signature QUALIFICATION REQUIRED:	ES9280479		Signature QUALIFICATION REQUIRED:	ES9280479
VERF	DigsigVer 2.8, 0.7 George K. Boghosian Printed Name	01-18-2017 Date	VERF	Frank M Laflin 2018.05.15 06:45:49 -05'00' Signature	
	Signature QUALIFICATION REQUIRED:	ES9280479		QUALIFICATION REQUIRED:	ES9280479
APP	DigsigApp 2.8, 0.7 Jeff Suter Printed Name	01/23/2017 Date	APP	Jeff Suter Digitally signed by Jeff Suter DN: cn=Jeff Suter, o, ou, email=jesuter@wcnoc.com, c=US Date: 2018.06.05 13:23:25 -05'00' Signature	
	Signature				

FRANK M. LAFLIN LICENSED 17870 KANSAS PROFESSIONAL ENGINEER

Digitally signed by Frank M Laflin
Date: 2017.02.07 15:41:01 -06'00'

DigsigCert 3.5 1.75

RPE Certification (For ASME Section III Stress Reports/Design Reports, refer to AP 05D-001 for qualification requirements)

CALCULATION CHANGE NOTICE	Page 2 CCN NO. XX-E-013 - 004 - CN004 Base Calc No. Rev No. Sequence No.

CALCULATION SUBJECT (Statement Of Problem) - Enter this in *SUBJECT* field in EIS:

CP 15070 is changing the 120VAC source from system NG to NN for the control room A/C unit inlet and exhaust dampers GKHZ0029A/B (Train A) & GKHZ0040A/B (Train B).

CALCULATION DATABASE INPUT	Page 3 CCN NO. XX-E-013 - 004 - CN004 Base Calc No. Rev No. Sequence No.

Link systems to the calculation/CCN in EIS.	
Systems Affected:	NG, NN, GK
Develop relationships between interdependent calculations in EIS.	
Additional Calculations Providing Input to this calculation:	none
Additional Calculations Impacted by this calculation:	none
Develop relationships between the calculation/CCN and controlled reference documents in EIS.	
Additional Controlled Documents Inputs to this calculation:	E-13GK02C (When CCN is Final, update E-13GK02C revision for incorporation of WIP-E-13GK02C-002-A-1)
Additional Controlled Documents Impacted by this calculation:	none
The reference documents listed below are those that cannot be linked to the calculation/CCN and shall be entered in the INDUSTRY REFERENCE field in EIS, e.g., ASME Codes, ANSI Standards, letters, etc.	
Additional Other Reference Documents:	CP 15070
Link components to the calculation/CCN in EIS.	
Additional Components:	none

REFER TO DESKTOP GUIDE FOR PROCESSING CALCULATIONS IN EIS

LIST OF EFFECTIVE PAGES

CCN NO. XX-E-013 - 004 - CN004

Base Calc No. Rev No. Sequence No.

CCN Page No.	Calc. Page Affected DVR/SCRN/ Other	CCN Page No.	Calc. Page Affected /DVR/SCRN /Other	CCN Page No.	Calc. Page Affected /DVR/SCRN /Other	CCN Page No.	Calc. Page Affected /DVR/SCRN /Other
1-5	CCN						
6	App 3, page 61						
7	App 3, page 62						
8	App 3, page 89						
9	App 3, page 92						
10	App 3, page 103						
11	App 3, page 104						
12	App 4, page 17						
13	App 4, page 18						
	DVR						

DVR = Design Verification Report (if applicable)
SCRN = Regulatory Screening (if applicable)
AD = Applicability Determination

CALCULATION SHEET

CCN NO. XX-E-013 - 004 - CN004

Base Calc. No. Rev. No. Sequence No

XX-E-013-004-CN004 change summary:

CP 15070 is changing the 120VAC source from system NG to NN for the control room A/C unit inlet and exhaust dampers GKHZ0029A/B (Train A) & GKHZ0040A/B (Train B). This is to provide damper function to mitigate a radiological release scenario through the non-operation train with the loss of the EDG. This change is inconsequential to PFSSD. The PFSSD function to support one train of control room A/C cooling is maintained as a single fire scenario will not impact both NN sources. For PFSSD applicability, this will remove distribution panel breakers NG03CLF115 and NG04CLF121 and add fused disconnects NN0121 and NN0422.

XX-E-013 impact:

The Calculation Main Body is not affected by this change. (There are no changes to Results (2.A), Conclusions (2.B), Assumptions (3.A), Design Inputs (3.B), or Methodology, Nomenclature, & Computations (4)).

Appendix 1 is not affected by this change.

Appendix 2 is not affected by this change.

Appendix 3 is affected by this change as shown on the following pages.

Appendix 4 is affected by this change as shown on the following pages.

Appendix 5 is not affected by this change.

Appendix 6 is not affected by this change.

Attachment 1 is not affected by this change.

APPENDIX 3
PFSSD COMPONENT LIST

(Sorted by System / Component ID)

Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
GK196B	4	Class 1E Elec Equip A/C Unit SGK05B Power	3415	C-13	---	S	R, M, H	X	X	X	X	---	E-13GK13A	M-622.1A-00002	GK196C	Revised per CCN-XX-E-013-000-CN004	1
GK196C	4	Class 1E Elec Equip A/C Unit SGK05B Pwr/Ctrl	3415	C-13	---	S	R, M, H	X	X	X	X	---	E-13GK13A	M-622.1A-00002	NG02ABF4	Added per CCN-XX-E-013-000-CN004	1
GK198A	1	Control Room A/C Unit SGK04A Control Panel	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13GK02B	M-622.1A-00007	GK198C	Revised per CCN-XX-E-013-000-CN004	1
GK198B	1	Control Room A/C Unit SGK04A Power Panel	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13GK02B	M-622.1A-00007	GK198C	Revised per CCN-XX-E-013-000-CN004	1
GK198C	1	Control Room A/C Unit SGK04A Pwr/Ctrl	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13GK02B	M-622.1A-00007	NG0105	Added per CCN-XX-E-013-000-CN004	1
GK199A	4	Control Room A/C Unit SGK04B Control Panel	1501	A-21	---	S	R, M, H	X	X	X	---	---	E-13GK02D	M-622.1A-00007	GK199C	Revised per CCN-XX-E-013-000-CN004	1
GK199B	4	Control Room A/C Unit SGK04B Power Panel	1501	A-21	---	S	R, M, H	X	X	X	---	---	E-13GK02D	M-622.1A-00007	GK199C	Revised per CCN-XX-E-013-000-CN004	1
GK199C	4	Control Room A/C Unit SGK04B Pwr/Ctrl	1501	A-21	---	S	R, M, H	X	X	X	---	---	E-13GK02D	M-622.1A-00007	NG0205	Added per CCN-XX-E-013-000-CN004	1
GKHIS0029	1	Control Room A/C Unit SGK04A HIS	3605	C-27	RP068	S	R, M, H	X	X	X	---	M-12GK01	E-03GK02B	---	NG0105	---	0
GKHIS0040	4	Control Room A/C Unit SGK04B HIS	3605	C-27	RP068	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02D	---	NG0205	---	0
GKHIS0100	1	Class 1E Elec Equip A/C Unit SGK05A HIS	3605	C-27	RP068	S	R, M, H	X	X	X	---	M-12GK03	E-13GK13	---	NG01AAF4	---	0
GKHIS0103	4	Class 1E Elec Equip A/C Unit SGK05B HIS	3605	C-27	RP068	S	R, M, H	X	X	X	---	M-12GK03	E-13GK13A	---	NG02ABF4	---	0
GKHS0040	4	Control Room A/C Unit SGK04B Hand Switch	1501	A-21	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02D	---	NG0205	---	0
GKHS0101	1	Train A NORM-BYPASS switch for SGK05A	3605	C-27	RP068	S	R,M,H	X	X	X	---	M-12GK03	E-13GK13	---	NG01AAF4	DCP 12169, XX-E-013-001-CN003	2
GKHS0103	4	Class 1E Elec Equip A/C Unit SGK05B HS	1501	A-21	---	S	R, M, H	X	X	X	X	M-12GK03	E-13GK13A	---	NG02ABF4	---	0
GKHS0104	4	Train B NORM-BYPASS switch for SGK05B	3605	C-27	RP068	S	R,M,H	X	X	X	---	M-12GK03	E-13GK13A	---	NG02ABF4	DCP 12169, XX-E-013-001-CN003	2
GKHZ0029A	1	Control Room A/C Unit SGK04A Inlet Damper	1512	A-22	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02C E-13SA19	---	~~NG03CLF115~~ NN0121	---	0
GKHZ0029B	1	Control Room A/C Unit SGK04A Discharge Damper	1512	A-22	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02C E-13SA19	---	~~NG03CLF115~~ NN0121	---	0

APPENDIX 3
PFSSD COMPONENT LIST

(Sorted by System / Component ID)

Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
GKHZ0040A	4	Control Room A/C Unit SGK04B Inlet Damper	1501	A-21	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02C E-13SA20	---	~~NG04CLF121~~ NN0422	---	0
GKHZ0040B	4	Control Room A/C Unit SGK04B Discharge Damper	1501	A-21	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02C E-13SA20	---	~~NG04CLF121~~ NN0422	---	0
SGK04A	1	Control Room Air Conditioning Unit	1512	A-22	---	S	R, M, H	X	X	X	---	M-12GK01	E-03GK02B	M-622.1-00023	NG0105	---	0
SGK04B	4	Control Room Air Conditioning Unit	1501	A-21	---	S	R, M, H	X	X	X	---	M-12GK01	E-13GK02D	M-622.1-00023	NG0205	---	0
SGK05A	1	Class 1E Electrical Equipment A/C Unit	3416	C-14	---	S	R, M, H	X	X	X	---	M-12GK03	E-13GK13 E-13GK31	M-622.1-00039	NG01AAF4	---	0
SGK05B	4	Class 1E Electrical Equipment A/C Unit	3415	C-13	---	S	R, M, H	X	X	X	X	M-12GK03	E-13GK13A	M-622.1-00039	NG02ABF4	---	0
DSGL10A	1	RHR Pump Room Cooler Motor	1111	A-2	---	S	H	---	X	X	---	M-12GL01	E-13GL05 E-13EJ01	---	NG01ACF3	---	0
DSGL10B	4	RHR Pump Room Cooler Motor	1109	A-4	---	S	H	---	X	X	X	M-12GL02	E-13GL05 E-13EJ01	---	NG02ADF3	---	0
DSGL11A	1	CCW Pump Room Cooler Motor	1406	A-16	---	S	R, M, H	X	X	X	---	M-12GL01	E-13EG01A E-13EG01B E-13GL06	---	NG03CDF2	---	0
DSGL11B	4	CCW Pump Room Cooler Motor	1401	A-16	---	S	R, M, H	X	X	X	X	M-12GL02	E-13EG01C E-13EG01D E-13GL06	---	NG04CMF2	---	0
DSGL12A	1	Centrifugal Charging Pump Room Cooler Motor	1114	A-2	---	S	R, M	X	X	X	---	M-12GL01	E-13BG01 E-13GL05	---	NG01AGR1	---	0
DSGL12B	4	Centrifugal Charging Pump Room Cooler Motor	1107	A-4	---	S	R, M	X	X	X	X	M-12GL02	E-13BG01A E-13GL05	---	NG02ADR1	---	0
DSGL15A	1	Penetration Room Cooler Motor	1410	A-18	---	S	R, M, H	X	X	X	---	M-12GL01	E-13GL12	---	NG01BEF1	---	0
DSGL15B	4	Penetration Room Cooler Motor	1409	A-17	---	S	R, M, H	X	X	X	X	M-12GL03	E-13GL12A	---	NG02BAF2	---	0
GLHIS0002	1	CCW Pump Room Cooler DSGL11A HIS	1406	A-16	---	S	R, M, H	X	X	X	---	M-12GL01	E-13EG01A E-13EG01B E-13GL06	---	NG03CDF2	---	0
GLHIS0023	4	CCW Pump Room Cooler DSGL11B HIS	1401	A-16	---	S	R, M, H	X	X	X	X	M-12GL02	E-13EG01C E-13EG01D E-13GL06	---	NG04CMF2	---	0

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Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
NG03CCF4	1	TDAFWP Suction from ESW A Valve (ALHV0032)	1512	A-22	---	S	H	X	X	X	---	---	E-13AL04A E-11NG20	---	NG03C	---	0
NG03CDF2	1	CCW Pump Room Cooler Motor (DSGL11A)	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13GL06 E-11NG20	---	NG03C	---	0
NG03CDF4	1	RCP A Thermal Barrier Iso Valve (BBHV0013)	1512	A-22	---	S	M	X	X	X	---	---	E-11NG20 E-13BB03	---	NG03C	XX-E-013-001-CN013	2
NG03CEF4	1	TDAFWP Suction from CTS Valve (ALHV0036)	1512	A-22	---	S	H	X	X	X	X	---	E-13AL02A E-11NG20	---	NG03C	---	0
NG03CGF4	1	Terminal Board Section	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13GK02C E-11NG20	---	NG03C	---	0
NG03CHF1	1	RCP B Thermal Barrier Iso Valve (BBHV0014)	1512	A-22	---	S	M	X	X	X	---	---	E-11NG20 E-13BB03	---	NG03C	XX-E-013-001-CN013	2
NG03CHF3	1	CCW A from Nuclear Aux Components Iso Vlv (EGHV0015)	1512	A-22	---	S	R, M, H	X	X	X	X	---	E-13EG05C E-11NG20	---	NG03C	XX-E-013-001-CN010	2
NG03CJF1	1	CCW to RHR HX A Isolation Valve (EGHV0101)	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13EG07 E-11NG20	---	NG03C	---	0
NG03CJF2	1	ESW to CCW Train A Pump suction Isolation Valve EGHV0011	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13EG04 E-11NG20	---	NG03C	---	0
NG03CJF3	1	CCW To Nuclear Auxiliary Components (EGHV0053)	1512	A-22	---	S	R, M, H	X	X	X	X	---	E-13EG05B E-11NG20	---	NG03C	XX-E-013-001-CN004	2
~~NG03CLF1~~	~~1~~	~~480VAC Distribution Panel~~	~~1512~~	~~A-22~~	~~---~~	~~S~~	~~R, M, H~~	~~X~~	~~X~~	~~X~~	~~---~~	~~---~~	~~E-11NG21~~	~~---~~	~~NG03C~~	~~---~~	~~0~~
NG03CLF2	1	RCP D Thermal Barrier Iso Valve (BBHV0016)	1512	A-22	---	S	M	X	X	X	---	---	E-11NG20 E-13BB03	---	NG03C	XX-E-013-001-CN013	2
NG03CMF1	1	ESW A to CCW HX A Isolation Valve (EFHV0051)	1512	A-22	---	S	R, M, H	X	X	X	---	---	E-13EF05 E-11NG20	---	NG03C	---	0
NG03CMF4	1	RHR A to CVCS CCP Isolation Vlv (EJHV8804A)	1512	A-22	---	S	H	---	X	X	---	---	E-13EJ04A E-11NG20	---	NG03C	---	0
NG03D	1	480V Class 1E Diesel Generator Room MCC	5203	D-1	---	S	R, M, H	X	X	X	---	---	E-03NG01 E-11NG01	---	NG0307	---	0
NG03DAF1	1	Incoming Line from Load Center NG03	5203	D-1	---	S	R, M, H	X	X	X	---	---	E-03NG01 E-11NG20	---	NG03	---	0
NG03DBF6	1	Train A Diesel Generator Ventilation Supply Fan	5203	D-1	---	S	R, M, H	X	X	X	---	---	E-13GM01 E-11NG20	---	NG03	XX-E-013-003-CN004	4
NG03DEF1	1	Distribution Panel	5203	D-1	---	S	R, M, H	X	X	X	---	---	E-11NG21	---	NG03D	XX-E-013-003-CN006	4

APPENDIX 3
PFSSD COMPONENT LIST

(Sorted by System / Component ID)

Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
NG04CKF2	4	Charging Pump Disch Hdr to BIT Iso (EMHV8803B)	1501	A-21	---	S	M	X	X	X	X	---	E-13EM02B E-11NG20	---	NG04C	XX-E-013-001-CN007	2
NG04CKF3	4	BIT Outlet Isolation Vlv to RCS (EMHV8801B)	1501	A-21	---	S	M	X	X	X	X	---	E-13EM02 E-11NG20	---	NG04C	---	0
NG04CLF1	4	480VAC Distribution Panel	1501	A-21	---	S	H	X	X	X	X	---	E-11NG21	---	NG04C	---	0
NG04CLF115	4	AFWP Discharge Control MOV (ALHV0005)	1501	A-21	---	S	H	X	X	X	X	---	E-13AL09 E-11NG21	---	NG04C	---	0
NG04CLF116	4	AFWP Discharge Control MOV (ALHV0007)	1501	A-21	---	S	H	X	X	X	X	---	E-13AL09 E-11NG21	---	NG04C	---	0
~~NG04CLF121~~	~~4~~	~~Ctrl Rm A/C Unit Supply & Discharge Dampers (GKHZ0040A/40B)~~	~~1501~~	~~A-21~~	~~---~~	~~S~~	~~R, M, H~~	~~X~~	~~X~~	~~X~~	~~---~~	~~---~~	~~E-13GK02C E-11NG21~~	~~---~~	~~NG04C~~	~~---~~	~~0~~
NG04CLF2	4	CCW HX out to RCS Ctmt Iso Valve (EGHV0071)	1501	A-21	---	S	R, M, H	X	X	X	X	---	E-13EG09 E-11NG20	---	NG04C	---	0
NG04CMF1	4	Incoming Line from Load Center NG04	1501	A-21	---	S	R, M, H	X	X	X	X	---	E-03NG01 E-11NG20	---	NG0406	---	0
NG04CMF2	4	CCW Pump Room Cooler Motor (DSGL11B)	1501	A-21	---	S	R, M, H	X	X	X	X	---	E-13GL06 E-11NG20	---	NG04C	---	0
NG04CNF1	4	CST to MDAFW Pump B Valve (ALHV0034)	1501	A-21	---	S	H	X	X	X	X	---	E-13AL02B E-11NG20	---	NG04C	---	0
NG04CNF3	4	ESW B to CCW HX B Isolation Valve (EFHV0052)	1501	A-21	---	S	R, M, H	X	X	X	X	---	E-13EF05A E-11NG20	---	NG04C	XX-E-013-001-CN010	2
NG04CPF2	6	Immediate Borate to CCP Suction (BGHV8104)	1501	A-21	---	S	R	---	X	---	X	---	E-13BG13 E-11NG20	---	NG04C	Required for OFN RP-014. XX-E-013-001-CN013	2
NG04DAF1	4	Incoming Line from Load Center NG04	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-03NG01 E-11NG20	---	NG0407	---	0
NG04DBF6	4	Train B Diesel Generator Ventilation Supply Fan	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-13GM01A	---	NG04	XX-E-013-003-CN004	4
NG04DDF3	4	Emergency Fuel Oil Xfer Pump Motor (DPJE01B)	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-13JE01A E-11NG20	---	NG04D	XX-E-013-001-CN008	2
NG04DEF1	4	Distribution Panel	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-11NG21	---	NG04D	XX-E-013-003-CN006	4
NG04DEF111	4	Electro Hydraulic Damper Actuator (GMTZ11A)	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-11NG21	---	NG04D	XX-E-013-003-CN006	4
NG04DEF112	4	Electro Hydraulic Damper Actuator (GMTZ11B)	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-11NG21	---	NG04D	XX-E-013-003-CN006	4
NG04T	4	480V Class 1E Motor Control Center	1409	A-17	---	S	R, M, H	X	X	X	X	---	E-03NG01 E-11NG02	---	NG0405	---	0

APPENDIX 3
PFSSD COMPONENT LIST

Ctrl Rm A/C Unit Supply & Discharge Dampers (GKHZ0029A/29B)

(Sorted by System / Component ID)

CALCULATION NO. XX-E-013
REVISION NO. 4

Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
NN0120	1	BOP Instrumentation Rack (RP053AC)	3408	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN01	--	0
NN02	2	120VAC Class 1E Distribution Switchboard	3410	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN0201	--	4
NN0201	2	120VAC Class 1E Incoming from Inverter NN12	3410	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN12	--	0
NN0203	2	BOP Instrumentation Rack (RP147A)	3410	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN02		0
NN0204	2	LSELS Panel (NF039B)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0205	2	ESFAS Panel (SA036C)	3410	C-15	--	S	H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0206	2	LSELS Panel (NF039A)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0208	2	BOP Instrumentation Rack (RP053DA)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0209	2	SSPS Train B Input (SB032A)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01 E-13SB02	--	NN02		0
NN0210	2	SSPS Train A Input (SB029A)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0211	2	Nuc Instr NIS 2 Panel (SE054B)	3410	C-15	--	S	R	X	X	X	--	--	E-13NN01	--	NN02		0
NN0212	2	Process Protection Set 2 Panel (SB042)	3410	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN02		0
NN0217	2	Fire Isolation Panel (SB148A)	3410	C-15	--	S	M, H	X	X	X	X	--	E-13NN01	--	NN02		0
NN03	3	120VAC Class 1E Distribution Switchboard	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN0301		4
NN0301	3	120VAC Class 1E Incoming from Inverter NN13	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN13		0
NN0303	3	LSELS Panel (NF039B)	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN03		0
NN0305	3	LSELS Panel (NF039A)	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN03		0
NN0307	3	BOP Instrumentation Rack (RP053DB)	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN03		0
NN0309	3	SSPS Train B Input (SB032A)	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN03		0
NN0310	3	SSPS Train A Input (SB029A)	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN03		0

NN0121 | 1 | |3408|C-16| -- | S |R,M,H| X | X | X | -- | -- |E-13NN01,E-13GK02C|NN01|

Ctrl Rm A/C Unit Supply & Discharge Dampers (GKHZ0040A/40B)

APPENDIX 3
PFSSD COMPONENT LIST

CALCULATION NO. XX-E-013
REVISION NO. 4
Page 104

(Sorted by System / Component ID)

Component ID	S/G	Description	Room	Fire Area	Instrument Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	P&ID	Schematic / One Line	Other Drawings	Power Source	Notes	REV
NN0311	3	Process Protection Set 3 Panel (SB037)	3414	C-16	--	S	H	X	X	X	--	--	E-13NN01	--	NN03		0
NN04	4	120VAC Class 1E Distribution Switchboard	3404	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN0401		4
NN0401	4	120VAC Class 1E Incoming from Inverter NN14	3404	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN14		0
NN0403	4	ESFAS Panel (SA036B)	3404	C-15	--	S	H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0404	4	BOP Instrumentation Rack (RP147B)	3404	C-15	--	S	R, M, H	X	X	X	X	--	E-13NN01	--	NN04	--	0
NN0405	4	LSELS Panel (NF039B)	3404	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0406	4	Neutron Flux Monitor Signal Amp (SENY0061A)	3404	C-15	--	S	R	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0407	4	LSELS Panel (NF039A)	3404	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0408	4	NFMS Processor (SENY0061B)	3404	C-15	--	S	R	X	X	X	X	--	E-13NN01	--	NN04	--	0
NN0409	4	SSPS Train A Input (SB029A)	3404	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01 E-13SB01	--	NN04	--	0
NN0410	4	SSPS Train B Input (SB032A)	3404	C-15	--	S	R	X	X	X	X	--	E-13NN01 E-13SB02	--	NN04	--	0
NN0412	4	SSPS Train B #2 Output (SB032D)	3404	C-15	--	S	H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0414	4	Process Protection Set 4 Panel (SB041)	3404	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0416	4	BOP Instrumentation Rack (RP053BC)	3404	C-15	--	S	R, M, H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0418	4	BOP Instrumentation Rack (RP053BC)	3404	C-15	--	S	H	X	X	X	--	--	E-13NN01	--	NN04	--	0
NN0420	4	Fire Isolation Panel (SB148B)	3404	C-15	--	S	H	X	X	X	X	--	E-13NN01	--	NN04	--	0
NN11	1	7.5 KVA Inverter	3408	C-16	--	S	R, M, H	X	X	X	--	--	E-11NK01 E-13NN01	--	NK0111	--	0
NN12	2	7.5 KVA Inverter	3410	C-15	--	S	R, M, H	X	X	X	X	--	E-11NK02 E-13NN01	--	NK0211	--	0
NN13	3	7.5 KVA Inverter	3414	C-16	--	S	R, M, H	X	X	X	--	--	E-11NK01 E-13NN01	--	NK0311	--	0
NN14	4	7.5 KVA Inverter	3404	C-15	--	S	R, M, H	X	X	X	X	--	E-11NK02 E-13NN01	--	NK0411	--	0
NN0422	4		3404	C-15	--	S	R,M,H	X	X	X	--	--	E-13NN01, E-13GK02C	NN04			

APPENDIX 4
PFSSD RELAY LIST

(Sorted by Relay Location / Relay ID)

CALCULATION NO. XX-E-013
REVISION NO. 4

Relay ID	S/G	Relay Name	Room	Fire Area	Relay Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	Schematic / One Line	Other Drawing	Power Feeder Breaker	Notes	Logic Diagram (E-1F)	REV
250G/T2	6	Ground Over Current Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB05 E-13NB11 E-13PA14	---	PK6204	---	9426	0
263X-1/T2	6	Fault Pressure Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB11 E-13PA14	---	PK6204	---	9426	0
263X-2/T2	6	Fault Pressure Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB11 E-13PA14	---	PK6204	---	9426	0
287/T2(A)	6	Phase A Differential Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB11 E-13PA14	---	PK6204	---	9426	0
287/T2(B)	6	Phase B Differential Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB11 E-13PA14	---	PK6204	---	9426	0
287/T2(C)	6	Phase C Differential Relay	4401W	TURB	PA0201	S	R, M, H	X	X	X	---	E-13NB11 E-13PA14	---	PK6204	---	9426	0
1XEF31	1	ESW Pump Motor A Interposing Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-K3EF01	---	NK4122	XX-E-013-001-CN013	9402A	2
1XEF33	1	ESW Pump Motor A Interposing Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-K3EF01	---	NK4122	XX-E-013-001-CN013	9402A	2
1XEF35	1	ESW Pump Motor A Interposing Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-K3EF01	---	NK4122	XX-E-013-001-CN013	9402A	2
3XEG01	1	CCW Pump A Auxiliary Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13EG01A	---	NK4101	XX-E-013-001-CN013	9401A 9401B	2
3XEG03	1	CCW Pump C Auxiliary Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13EG01B	---	NK4101	XX-E-013-001-CN013	9401A 9401B	2
62XBB01	1	Pressurizer PORV Block Valve Auxiliary Relay	3301	C-9	RP139	M	---	X	X	X	X	E-13BB39	---	NG01BBR3 NK4101	XX-E-013-002-CN002	9301	3
62XBB03	1	Pressurizer PORV Block Valve Auxiliary Relay	3301	C-9	RP139	M	---	X	X	X	X	E-13BB39	---	NG01BBR3 NK4101	XX-E-013-002-CN002	9301	3
63TDEEG02	1	CCW Pump A Auxiliary Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13EG01A E-13EG01B	---	NK4101	XX-E-013-001-CN013	9401A 9401B	2
63TDEEG04	1	CCW Pump C Auxiliary Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13EG01A E-13EG01B	---	NK4101	XX-E-013-001-CN013	9401A 9401B	2
83XGK03	1	GKHZ0029A/29B Auxiliary Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13GK02C	---	~~NG03CLF115~~ NN0121	XX-E-013-001-CN013	9442	2
83XGK05	1	SGK05A Indication Circuit Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13GK13	---	NG01ACR130	Required to indicate spurious shutdown of SGK05A. Revised in CCN-XX-E-013-000-CN005.	9444	1
K1119	1	Load Sequencer Relay	3301	C-9	RP139	S	R, M, H	X	X	X	---	E-13GK13	---	NG01AAF4	XX-E-013-001-CN013	9444	2

APPENDIX 4
PFSSD RELAY LIST

(Sorted by Relay Location / Relay ID)

Relay ID	S/G	Relay Name	Room	Fire Area	Relay Location	SSD Fun	Sprtd Fun	Hot Stdby	Cold Shdwn	Normal Shdwn	Alt Shdwn	Schematic / One Line	Other Drawing	Power Feeder Breaker	Notes	Logic Diagram (E-1F)	REV
1XEF32	4	ESW Pump Motor B Interposing Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-K3EF01A	--	NK4401 NK4415	--	9402B	0
1XEF34	4	ESW Pump Motor B Interposing Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-K3EF01A	--	NK4401 NK4415	--	9402B	0
1XEF36	4	ESW Pump Motor B Interposing Relay	3302	C-10	RP140	S	R, M, H	X	X	X	--	E-K3EF01A	--	NK4401 NK4415	--	9402B	0
3XEG05	4	CCW Pump B Auxiliary Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-13EG01C	--	NK4401 NK4415	--	9401A 9401B	0
3XEG07	4	CCW Pump D Auxiliary Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-13EG01D	--	NK4401 NK4415	--	9401A 9401B	0
62XBB02	4	Pressurizer PORV Block Valve Auxiliary Relay	3302	C-10	RP140	M	--	X	X	X	X	E-13BB39	--	NG02BDF1 NK4401	XX-E-013-002-CN002	9301	3
62XBB04	4	Pressurizer PORV Block Valve Auxiliary Relay	3302	C-10	RP140	M	--	X	X	X	X	E-13BB39	--	NG02BDF1 NK4401	XX-E-013-002-CN002	9301	3
63TDEEG06	4	CCW Pump B Auxiliary Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-13EG01C E-13EG01D	--	NK4401 NK4415	--	9401A 9401B	0
63TDEEG08	4	CCW Pump D Auxiliary Relay	3302	C-10	RP140	S	R, M, H	X	X	X	X	E-13EG01C E-13EG01D	--	NK4401 NK4415	--	9401A 9401B	0
83XGK02	4	GKHZ0040A/40B Auxiliary Relay	3302	C-10	RP140	S	R, M, H	X	X	X	--	E-13GK02C	--	~~NG04CLF121~~ NN0422	Revised in CCN-XX-E-013-000-CN005	9442	1
83XGK04	4	SGK05B Indication Circuit Relay	3302	C-10	RP140	S	R, M, H	X	X	X	--	E-13GK13A	--	NG02ACR125	Required to indicate spurious shutdown of SGK05B. Revised in CCN-XX-E-013-000-CN005.	9444	1
63XAC37	5, 6	Main Turbine Drain Control Valve Auxiliary Relay	4401	T-2	RP141	R, H	--	X	--	X	--	E-13AB02A E-13AB02B	--	PG11JFR2 PG12KAF4	--	9103	0
3XBM13	5	Steam Generator Blowdown To Blowdown Flash Tank Isolation Valve Auxiliary Relay	1320	A-8	RP209	R, M, H	--	X	X	X	X	E-13BM06C E-13BM06D	E-093-00048	NK5113	BMHV0001 will close if relay is de-energized. XX-E-013-001-CN013	9101	2
3XBM14	5	Steam Generator Blowdown To Blowdown Flash Tank Isolation Valve Auxiliary Relay	1320	A-8	RP209	R, M, H	--	X	X	X	X	E-13BM06C E-13BM06D	E-093-00048	NK5113	BMHV0002 will close if relay is de-energized. XX-E-013-001-CN013	9101	2
3XBM15	5	Steam Generator Blowdown To Blowdown Flash Tank Isolation Valve Auxiliary Relay	1320	A-8	RP209	R, M, H	--	X	X	X	X	E-13BM06C E-13BM06D	E-093-00048	NK5113	BMHV0003 will close if relay is de-energized. XX-E-013-001-CN013	9101	2
3XBM16	5	Steam Generator Blowdown To Blowdown Flash Tank Isolation Valve Auxiliary Relay	1320	A-8	RP209	R, M, H	--	X	X	X	X	E-13BM06C E-13BM06D	E-093-00048	NK5113	BMHV0004 will close if relay is de-energized. XX-E-013-001-CN013	9101	2

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

DOCUMENT TITLE: Post Fire Safe Shutdown (PFSSD) Analysis

ORIGINATOR: William M. Wilkins

DESIGN VERIFIED:	SAFETY CLASSIFICATION:	VERIFICATION METHOD:
☐ PRELIMINARY	☐ SAFETY-RELATED	☒ DESIGN REVIEW
☒ FINAL	☒ SPECIAL SCOPE	☐ ALTERNATE CALCULATION
☐ REVISION	☐ NON-SAFETY RELATED	☐ TESTING

☒ **INDIVIDUAL VERIFICATION** **SIGNATURE:** **George K. Boghosian/** George K. Boghosian **DATE:** **01-18-2017**

Print / Sign

QUALIFICATION REQUIRED: ES9280465 OR ES9280479

☐ **TEAM VERIFICATION**

Scope Verified:	SIGNATURE:	DATE:

TEAM LEADER SIGNATURE: **DATE:**

QUALIFICATION REQUIRED
ES9280465 OR ES9280479

PRINT / SIGN

*** Team leader signature certifies that adequate interfaces and overlaps have occurred.**

OVERVIEW (PURPOSE AND SCOPE):
A new load is added by CP 015070 to spare circuit NN0121 and NN0422 in distribution panels NN001 and NN004 respectively. This CCN revises the PFSSD analysis for the change.

CRUCIAL AREAS:
1. Bases for Design Inputs
2. Traceability of Design Inputs
3. Adequacy of Methodology used in CCN
4. Margins

ALTERNATE OR INDEPENDENT ITEMS USED FOR VERIFICATION:
1. N/A

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

COMMENTS:	ORIGINATOR'S RESPONSE:
1. Metadata for CCN Subject has not been entered; other fields are blank. Complete entry of Metadata. Per procedure the subject field in the CCN should match the data entered in the Metadata.	Corrected.
2. Page 2 "Calculation Subject" states: "CP 15070 is changing the 120VAC source from system NG to NN for the control room A/C unit inlet and exhaust dampers GKHZ0029A/B (Train A) & GKHZ0040A/B (Train B). This is to provide damper function to mitigate a radiological release scenario through the non-operation train with the loss of the EDG. This change is inconsequential to PFSSD. The PFSSD function to support one train of control room A/C cooling is maintained as a single fire scenario will not impact both NN sources. For PFSSD applicability, this will remove distribution panel breakers NG03CLF115 and NG04CLF121 and add fused disconnects NN0121 and NN0422." Comment: The Calculation Subject as written includes Subject, Function, and Conclusion. Revise to remove Function and Conclusion statements. Refer to comment number 4 for suggestion on how to handle Function and Conclusion.	Calculation Subject revised to remove function and conclusion statements.
3. Page 3 "Additional Controlled Documents Inputs to this calculation" is marked "none." Drawing E-13GK02C should be referenced in this CCN field as it is the design input document showing the power source. The revision for the CP is WIP-E-13GK02C-002-A-1, which shows the correct power source. Recommend referencing the WIP with a Note in the body of the CCN saying when CCN is incorporated, revised parent document will replace WIP.	Corrected.
4. General Comment; Review of the parent calculation identified sections for Conclusions, Assumptions, Design Inputs and Methodology. Reviewing this CCN indicates that Conclusions and Design Inputs should be filled out. The remaining headings, Assumptions and Methodology should be listed in the CCN, with Assumptions stating none and Methodology unchanged. The function from comment 2 above does not appear to fit any heading. If this is the case, consider deleting the statement.	There are no changes to Results, Conclusions, Assumptions, Design Inputs, or Methodology. Revised CCN to summarize change and to clarify specific sections as not affected.
5. Margins; - The Parent calculation and the CCN do not include a heading for Margin. Suggest adding this heading to the CCN and explaining why it does not apply.	Calculation procedure AP 05D-001 Attachment A does not require a separate Margin subsection. It states to discuss design and operation margins. Margin is appropriately discussed/referenced, as applicable, throughout the calculation.
6. Additional Components are marked "none". Conform that all components are included including and none additional need to be added.	Confirmed. NG003C, NG004C, NN001, & NN004 are already listed components. Only main MCC (motor control center) and distribution switchboard components are listed. Specific breaker & fused disconnect components are not listed for any PFSSD function.

CONCLUSIONS:

Response to comments is acceptable. Reviewed incorporation of comments and occur with the changes in the CCN. No additional comments have been identified.

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
1. Were the design inputs correctly selected and incorporated into the design? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
2. Are assumptions, necessary to perform the design activity, documented, adequately described and reasonable? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
3. Are the appropriate quality and quality assurance requirements specified? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
4. Are the applicable codes, standards and regulatory requirements, including issue and addenda, properly identified and are their requirements for design met? Yes: ☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
5. Has applicable plant and industry construction and operating experience been considered? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
6. Have the hardware interface design requirements been satisfied? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
7. Is the output reasonable compared to input? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
8. Are the specified parts, equipment and processes suitable for the required application? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
9. Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
10. Have adequate maintenance features and requirements been specified? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
11. Are accessibility and other design provisions adequate for performance of needed maintenance and repair? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
12. Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
13. Has the design properly considered radiation exposure to the public and plant personnel? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
14. Have adequate pre-operational and subsequent periodic test requirements been appropriately specified? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
15. Does each document contain the required signatures and date? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
16. If a computer program was used in the analysis, has the program been verified? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
17. If a component has been added, has a Safety Classification Analysis been completed? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
18. Were the commitments provided in the USAR and the Design Criteria documents correctly incorporated into the design documents? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
19. Have the appropriate design documents been identified and/or updated? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
20. Has warehouse stock been considered for modification or retirement? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
21. Are acceptance criteria for the changes adequately defined to enable verification that the changes meet existing design requirements? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
22. Are all differences between previous and proposed configuration identified; Are reasons for acceptability of changes adequately documented; and does the evaluation adequately support authorization of the changes? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	
23. Were existing design requirements, functions, failure mechanisms, failure modes and effects, and critical characteristics appropriately determined and applied to the evaluation of the changes? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A **(This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.**

Design Verification Question	See Table Footnote
24. Does the change impact existing digital assets or add a new digital asset? If so, have AP 15D-008, Wolf Creek Cyber Security Program considerations been addressed? Yes:☐ No:☐ Design verifier must clearly define the basis upon which the "yes" or "no" box was checked. N/A – See Table A applicability above	

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-004-CN004	REV. N/A

TABLE A (This table is required for change packages, or when required by a Supervisor.) If the answer to the question is yes, then provide a descriptive answer that explains why you came to this conclusion. If the question is not applicable, then provide a descriptive explanation detailing why it is not applicable.

TABLE A FOOTNOTE:

The purpose of this column is to enable Wolf Creek to track and trend deficiencies discovered during package verification. IF the design verification question is answered "no," THEN he verifier shall mark this box with deficiency type as follows:

Type	Description
• MPR -	Missed procedural requirement. Use this designator if all or part of a process step was not performed.
• TEV -	Technical Error by Vendor. Use this designator if the discrepancy was caused by the actions of a Vendor. If the discrepancy was caused by misinformation supplied by Wolf Creek, use the next designator.
• TEWC -	Technical Error by Wolf Creek. Use this designator if the discrepancy was caused by Wolf Creek personnel.

IF the design verification question is answered "yes" but could be significantly enhanced by additional or altered information, THEN the verifier shall mark the box as:

- DE - Document enhancement opportunity