FORM APF-05D-001-02, REV. 10

CALCULATION CHANGE NOTICE

CCN NO. XX-E-013 - ~~003~~ 004 - ~~CN005~~ CN002

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

NRM 10/24/15

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

Post-Fire Safe Shutdown (PFSSD) Analysis

COMPUTER CODE: N/A VERSION: N/A

Administrative?	☐ YES ☒ NO	ASSOCIATED CHANGE #:	DCP 14209

REGULATORY REVIEWS:
- ☐ N/A - only if Administrative
- ☐ Attached
- ☒ Attached to: DCP 14209 Evaluation # _____

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

ANY DOCUMENTS IMPACTED?
- ☐ YES If yes, Condition Report # _____
- ☒ NO

Status: ☒ ~~COMMITTED~~ P.B. 4/23/18 ☒ FINAL ☐ VOID ☐ SUPERSEDED

ORIG	DigsigOrg 2.8, 0.7 ~~Brian Fox~~ William M. Wilkins Printed Name	10/21/15 ~~8/8/2013~~ Date	ORIG	N/A Printed Name	Date
	Brian R. Fox William M. Wilkins Signature			Signature	
	QUALIFICATION REQUIRED: ES9280479			QUALIFICATION REQUIRED: ES9280479	
VERF	DigsigVer 2.8, 0.7 Howard L. Meyer Printed Name	10/22/15 ~~9/24/13~~ Date	VERF	PAUL BRAMATEANU Printed Name	4/23/18 Date
	Howard L. Meyer Signature			Signature	
	QUALIFICATION REQUIRED: ES9280479			QUALIFICATION REQUIRED: ES9280479	
APP	DigsigApp 2.8, 0.7 ~~Jeff Suter~~ Jeff Suter Printed Name	10/22/2015 ~~09/25/2013~~ Date	APP	Vik Kaura Printed Name	4/23/18 Date
	Jeff Suter Signature			Vik Kaura Signature	

BRIAN R. FOX LICENSED 18295 KANSAS PROFESSIONAL ENGINEER

Digitally signed by Brian R Fox
Date: 2013.09.25 18:27:31 -05'00'

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 - ~~003~~ 004 - ~~CN005~~ CN002 Base Calc No. Rev No. Sequence No.

10/24/15

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

DCP 14209 removes the HMCP breakers from MCC cubicles NG03DBF6 and NG04DBF6, which were added as PFSSD components in CCN XX-E-013-003-CN004 per DCP 13800. These breaker cubicles provide power and control functions for Train A and B Emergency Diesel Generator Room supply fan motors DCGM01A and DCGM01B, respectively. Due to breaker coordination issues, DCP 14209 will modify the power supply to supply 480 VAC power to the diesel generator room supply fan motors DCGM01A and DCGM01B directly from new Load Center breakers NG0308 and NG0408, respectively. Breakers NG0308 and NG0408 will supply power to the fan control functions within NG03DBF6 and NG04DBF6, respectively. Therefore, MCC cubicles NG03DBF6 and NG04DBF6 will remain as PFSSD components.

CALCULATION DATABASE INPUT	CCN NO. XX-E-013 (Base Calc No.) - ~~003~~ 004 (Rev No.) - ~~CN005~~ CN002 (Sequence No.)

NMM 10/21/15

Link systems to the calculation/CCN in EIS.	
Systems Affected:	NG
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:	None
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:	DCP 14209, Rev. 0
Link components to the calculation/CCN in EIS.	
Additional Components:	None

REFER TO DESKTOP GUIDE FOR PROCESSING CALCULATIONS IN EIS

FORM APF-05D-001-02, REV. 10

LIST OF EFFECTIVE PAGES

CCN NO. XX-E-013 - ~~003~~ 004 - ~~CN005~~ CN002 [handwritten initials, 10/21/15]

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	N/A						
2	N/A						
3	N/A						
4	N/A						
5	N/A						
6	App. 3, pgs 62, 86, 87, 88 and 90						
	DVR						

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

CALCULATION SHEET	Page 5 CCN NO. XX-E-013 - ~~003~~ 004 - ~~CN005~~ CN002 (ORIGINAL 10/21/15) Base Calc. No. Rev. No. Sequence No

Changes to XX-E-013 are described in the following pages.

The Calculation Main Body is not affected by this change.

Appendix 1 is not affected by this change.

Appendix 2 is not affected by this change.

Changes to Appendix 3 are shown on the following pages.

Appendix 4 is not affected by this change.

Attachment 1 is not affected by this change.

~~Attachment 2~~ Appendix 5 is not affected by this change.

~~Attachment 3~~ Appendix 6 is not affected by this change. (ORIGINAL 10/21/15)

CALCULATION SHEET	Page 6 CCN NO. XX-E-013 – ~~003~~ 004 – ~~CN005~~ CN002 Base Calc. No. Rev. No. Sequence No

10/24/15

Revise Appendix 3 as follows (Changes shown in boldface). Also refer to CCN XX-E-013-003-CN004.

System 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
GM	DCGM01A	1	Train A Diesel Generator Ventilation Supply Fan	5203	D-1	---	S	R, M, H	X	X	X	---	M-12GM01	E-13GM01	---	NG0308 ~~NG03DBF6~~	---	3
GM	DCGM01B	4	Train B Diesel Generator Ventilation Supply Fan	5201	D-2	---	S	R, M, H	X	X	X	X	M-12GM01	E-13GM01A	---	NG0408 ~~NG04DBF6~~	---	3
GM	GMHIS0001A	1	Train A Diesel Generator Ventilation Supply Fan HIS	3601	C-27	RL020	S	R, M, H	X	X	X	---	M-12GM01	E-13GM01	---	NG0308 NG03DBF6	---	3
GM	GMHIS0011A	4	Train B Diesel Generator Ventilation Supply Fan HIS	3601	C-27	RL020	S	R, M, H	X	X	X	X	M-12GM01	E-13GM01A	---	NG0408 NG04DBF6	---	3
GM	GMHS0011B	4	Train B Diesel Generator Room Supply Fan HS	5201	D-2	---	S	R, M, H	---	---	---	X	M-12GM01	E-13GM01A	---	NG0408 NG04DBF6	---	3
NG	**NG0308**	1	**Train A Diesel Generator Room Ventilation Supply Fan (DCGM01A)**	3301	C-9	---	S	R, M, H	X	X	X	X	M-12GM01	E-11NG01 E-13NG01A	---	NG03	---	3
NG	**NG0408**	4	**Train B Diesel Generator Room Ventilation Supply Fan (DCGM01B)**	3302	C-10	---	S	R, M, H	X	X	X	X	M-12GM01	E-11NG02 E-13NG01A	---	NG03	---	3
NG	NG03DBF6	1	Train A Diesel Generator Ventilation Supply Fan	5203	D-1	---	S	R, M, H	X	X	X	---	---	E-13GM01 E-11NG20	---	NG0308	---	3
NG	NG04DBF6	4	Train B Diesel Generator Ventilation Supply Fan	5201	D-2	---	S	R, M, H	X	X	X	X	---	E-13GM01A	---	NG0408	---	3

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-003-~~CN005~~ 004-CN002 10/24/13	REV. N/A

DOCUMENT TITLE: Post-Fire Safe Shutdown (PFSSD) Analysis

ORIGINATOR: Brian R. Fox

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

☒ **INDIVIDUAL VERIFICATION** **SIGNATURE:** Howard J Meyer **DATE:** 9/24/13

QUALIFICATION REQUIRED--- ES9280465 OR ES9280479

☐ **TEAM VERIFICATION**

Scope Verified:	SIGNATURE:	DATE:

TEAM LEADER SIGNATURE: **DATE:**

QUALIFICATION REQUIRED ES9280465 OR ES9280479

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

OVERVIEW (PURPOSE AND SCOPE):

The purpose of this CCN is to incorporate the changes to the PFSSD Analysis due to relocating the Train A and B Emergency Diesel Generator Room supply fan power supplies from MCC cubicles NG03DBF6 and NG04BF6 to Load Center Breakers NG0308 and NG0408, respectively.

CRUCIAL AREAS:

1. Ensure the Database Input sheet is complete and accurate.
2. Ensure all changes shown in Appendix 3 are complete and accurate.
3. Determine whether any changes, in addition to Appendix 3, should be made.

ALTERNATE OR INDEPENDENT ITEMS USED FOR VERIFICATION:

1. CCN XX-E-013-003-CN004

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-~~003-CN005~~ 004-CN002	REV. N/A

COMMENTS:	ORIGINATOR'S RESPONSE:
1. p2: A superseded CCN should not be the sole reference in line 2 of the Statement of Problem. Suggest that the ending of the first sentence be revised to read as follows: "...PFSSD components in CCN XX-E-013-002-CN014 (subsequently superseded by CCN XX-E-013-003-CN004) per DCP 13800".	1. Replaced CCN XX-E-013-002-CN014 with CCN XX-E-013-003-CN004.
2. p3: DCP 14209 should be added to the "Additional Other Reference Documents" section.	2. DCP 14209 added.
3. p4: It is not clear why the affected pages of Appendix 3 are shown as being 61, 85, 86 and 89. It seems that the actual affected pages would be 62, 86, 87, 88, 90.	3. Changed the affected pages to 62, 86, 87, 88 and 90.
4. p5: It is generally an error trap to repeat detailed information in different areas. Suggest that the first paragraph be deleted as it is an exact duplication of what has already been stated in the Calculation Subject.	4. Deleted the 1st paragraph.
5. p6: Suggest that the first line above the table be revised to not only reference the superseded CCN, but also reference the current superseding CCN.	5. Changed to reference only the current CCN.
6. Final thought: CN005 to XX-E-013 Rev. 3 appears to revise portions of CN004 to XX-E-013 Rev. 3. The calculation procedure does not allow CCNs to be revised, only superseded. Explain how or why this is acceptable.	6. It is not the intent to revise portions of CN004 with CN005. CN005 uses the current information in the parent calculation plus outstanding CCNs, which are required to be considered when preparing a new CCN. Both CCNs need to be worked together when revising the parent calculation following implementation in MC20.

CONCLUSIONS:

The changes accomplished by CCN XX-E-013-003-CN005 are complete and accurate.

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-~~003-CN005~~ 004-CN002 10/24/15	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.

1.	Were the design inputs correctly selected and incorporated into the design?
2.	Are assumptions, necessary to perform the design activity, documented, adequately described and reasonable?
3.	Are the appropriate quality and quality assurance requirements specified?
4.	Are the applicable codes, standards and regulatory requirements, including issue and addenda, properly identified and are their requirements for design met?
5.	Has applicable plant and industry construction and operating experience been considered?
6.	Have the hardware interface design requirements been satisfied?
7.	Is the output reasonable compared to input?
8.	Are the specified parts, equipment and processes suitable for the required application?
9.	Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-~~003-CN005~~ 004-CN002 10/24/15	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.

10. Have adequate maintenance features and requirements been specified?
11. Are accessibility and other design provisions adequate for performance of needed maintenance and repair?
12. Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life?
13. Has the design properly considered radiation exposure to the public and plant personnel?
14. Have adequate pre-operational and subsequent periodic test requirements been appropriately specified?
15. Does each document contain the required signatures and date?
16. If a computer program was used in the analysis, has the program been verified?
17. If a component has been added, has a Safety Classification Analysis been completed?
18. Were the commitments provided in the USAR and the Design Criteria documents correctly incorporated into the design documents?

DESIGN VERIFICATION REPORT	DOCUMENT NO. XX-E-013-~~003-CN005~~ 004-CN002	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.

19. Have the appropriate design documents been identified and/or updated?
20. Has warehouse stock been considered for modification or retirement?