PHILADELPHIA ELECTRIC COMPANY

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JOSEPH W. GALLAGHER
VICE PRESIDENT
NUCLEAR SERVICES

October 5, 1988

Docket Nos. 50-277
50-278

Mr. W. R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Peach Bottom Atomic Power Statio.
Appendix R Fire Protection Modification

Reference: Letter from J. W. Gallagher (PECo),
to W. R. Butler (NRC), dated October 16, 1987

Dear Mr. Butler:

My letter of October 16, 1987 forwarded safety evaluations to you to satisfy a request made during the July 30, 1987 meeting at Peach Bottom with your staff relative to fire protection modifications.

The design of modification 2285 has since been completed and its safety evaluation is enclosed in order to fully satisfy the request of your staff. The modification will assure minimum flow protection for the RHR pumps which are required to operate during a postulated Appendix R fire.

This modification will be implemented on Unit 3 during the current pipe replacement outage and on Unit 2 during the next refueling outage. As discussed in the July 30, 1987 meeting, temporary modification 2084 has been implemented on Unit 2 and assures conformance with the Appendix R requirements on Unit 2 until Modification 2285 is implemented.

A006
1/1

If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

J. W. Gallagher

Attachment

cc: Addressee
1 White Flint North
11555 Rockville Pike
Rockville, MD 20852
W. T. Russell, Administrator, Region 1, USNRC
T. P. Johnson, USNRC Senior Resident Inspector
T. E. Magette, State of Maryland
J. Urban, Delmarva Power
J. T. Boettger, Public Service Electric & Gas
H. C. Schwemm, Atlantic Electric

NUCLEAR ENGINEERING
N2-1, 2301 Market Street

ATTACHMENT

Safety Evaluation for Mod 2285, Rev. 0
Peach Bottom APS Unit 3
File: Safety 2 (Mod 2285)
Doctype 565

I SUBJECT:

This modification provides minimum flow protection to RHR Pump 3AP35 in the event of an Appendix R fire in Fire Area 13 North by installing an alternate power supply to RHR Minimum Flow Bypass Valve MO 3-10-16A.

II CONCLUSION:

This modification affects safety-related equipment. It does not involve an unreviewed safety question. A change to the Technical Specifications is not required. This modification does involve safe shutdown equipment, however safe shutdown capability in the event of a fire is maintained. Neither a license amendment nor prior NRC approval is required. A significant hazards consideration is not involved.

III DISCUSSION:

As a result of the analysis of safe shutdown capability in compliance with 10CFR50, Appendix R, a modification to the power supply for RHR Minimum Flow Bypass Valve MO 3-10-16A is required. This analysis shows that a fire in Fire Area 13 North (13N) could affect valve operability and jeopardize minimum flow protection for RHR Pump 3AP35.

An Appendix R fire in Fire Area 13N requires RHR Pump 3AP35 for suppression pool cooling, approximately 3 hours into the fire scenario, to maintain suppression pool temperature within RHR Pump NPSH limits. Normally, when the pump is running without a sufficient discharge path, MO 3-10-16A opens on a high differential pressure signal to prevent pump damage. Load Center 30B10, which feeds MO 3-10-16A via MCC 30B36, is located in Fire Area 13N and could become de-energized during an Appendix R fire in this fire area. Minimum flow protection for Pump 3AP35 is lost when the pump starts automatically on valid signals with no power available to MO 3-10-16A. There may not be enough time for an operator to recognize the situation and trip the pump.

This modification relocates MO 3-10-16A motor control equipment from 480V MCC 30B36 to an auxiliary motor controller. Power to the auxiliary motor controller will be supplied from a 480V automatic transfer switch. Normal power to the switch will be supplied from the present power supply, MCC 30B36 (Safeguard Channel ZA). The auto-transfer switch will operate on a several second time delay after normal power is lost. Unit 2 MCC 20B36,

which is available during a fire in Fire Area 13N, will serve as the backup power supply to the switch. The time delay will prevent the auto-transfer switch from operating during the loss of one offsite source and consequential transfer of affected 4kV busses to the other off-site source.

The auto-transfer switch will be located in the E13 Emergency Auxiliary Switchgear Room. The auxiliary motor controller will be located in the Unit 3 Recirc M-G Set Room. Both are safety-related and environmentally and seismically qualified as required.

The automatic transfer is accomplished by a mechanically-interlocked, solenoid-operated double throw switch. This ensures only one of two possible switch positions - normal or backup. There is no off position. The auxiliary motor controller contains a manual bypass switch to permit bypassing the auto-transfer switch for testing purposes. In the normal position, the auxiliary motor controller is fed from the auto-transfer switch. In the bypass position, the auxiliary motor controller is fed directly from MCC 30B36.

Existing control room valve controls, position indication and motor thermal overload annunciation are not changed by this modification. Additional control room annunciators are provided to alarm when the auto-transfer switch operates, the auxiliary motor controller door is opened or the manual bypass switch is in the bypass position.

There is no significant net increase in load on the plant electrical system as a result of this modification. Unit 2 MCC 20B36 has sufficient capacity to power MO 3-10-16A if required. Electrical isolation via circuit breakers is provided between the normal and backup power sources and the auto-transfer switch.

The design of this modification meets the intent of Regulatory Guide 1.6, "Independence Between Redundant Standby Power Sources and Between Their Distribution Systems," and IEEE 308-1978, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations." Reg. Guide 1.6 and IEEE 308-1978 do not permit automatic transferring of loads between redundant standby Class 1E power sources. For this modification, the normal and backup power supplies to the auto-transfer switch are not redundant since they originate from the same emergency diesel-generator.

During the normal and design basis accident operation of RHR Pump 3AP35, MO 3-10-16A is powered from its normal 480V source and will function as designed previous to implementation of this modification. The automatic transfer to the Unit 2 backup source occurs on a time delay after normal power is lost and on the condition that backup power is available. The time delay prevents an auto-transfer unless a sustained loss of normal power is sensed by the switch circuitry. The auto-transfer switch resets automatically when normal power is restored.

In the event of a fire in Fire Area 13N, minimum flow protection for RHR Pump 3AP35 could be delayed due to the auto-transfer switch time delay. The maximum delay would be 10 seconds. This maximum delay would occur if MO 3-10-16A received a signal to open and normal 480V power to this valve is lost simultaneously. Operating RHR Pump 3AP35 with no minimum flow protection for an additional 10 seconds over the present design would not result in excessive pump/motor overheating.

Since this modification does not affect any radwaste system, the guidance provided in IE Circular 80-18 is not applicable.

The plant as described in the UFSAR is being changed by this modification. Appropriate Single Line Diagrams will be updated to reflect the new design. Sections 4.8, 6.4, 6.5, 7.4, 8.4 and 8.5 were reviewed to make this determination. Chapter 5 and Table A-3 of the PBAPS Fire Protection Program (FPP) have been reviewed and will also be revised.

IV <u>10CFR50.59 CHANGES, TESTS, AND EXPERIMENTS:</u>

1. This modification does not involve an unreviewed safety question because of the following:

   a) The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased. The present valve operator controls, indication, and 480V power supply for RHR Minimum Flow Bypass Valve MO 3-10-16 A are maintained. MO 3-10-16A operates as previously designed to provide minimum flow protection for RHR Pump 3AP35 during normal operation or design basis events. This modification adds a backup power source to this valve for an Appendix R fire.

   b) The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created. RHR Minimum Flow Bypass Valve MO 3-10-16 operates as previously designed. This modification ensures minimum flow protection for RHR Pump 3AP35 during a loss of normal 480V power to MO 3-10-16A due to a fire in Fire Area 13N. MO 3-10-16A will normally be powered from its present source. On a sustained loss of normal 480V power, an auto-transfer switch will operate and

supply power to MO 3-10-16A from a Unit 2 backup source. The E-1 diesel-generator feeds both the normal and backup power sources to the auto-transfer switch. This design meets NRC Reg. Guide 1.6 and IEEE 308-1978 criteria. The auto-transfer switch, auxiliary motor controller which controls MO 3-10-16A, and associated cable rerouting are designed and constructed in accordance with criteria applicable to safety-related and Appendix R safe shutdown systems. The cable routing associated with the backup source is designed and constructed in accordance with Appendix R safe shutdown criteria.

c) This modification does not reduce the margin of safety as defined in the basis for any Technical Specification. The RHR system initiation and operability requirements as described in Sections 3.5 and 4.5 are unchanged by this modification. The operability of MO 3-10-16A is maintained to provide minimum flow protection for RHR Pump 3AP35 in the event of a fire in Fire Area 13N.

2. No changes to the Technical Specifications are required based on the review of Sections 3.5 and 4.5.

V 10CFR50.92 SIGNIFICANT HAZARDS DETERMINATION:

A license amendment is not required; therefore, this section is not applicable.

VI APPROVALS:

Prepared By: _____ DATE: 6-22-88
(Responsible Engineer)

Reviewed By: _____ DATE: 6/22/88
(Lead Div. Independent Reviewer)

_____ DATE: 6/22/88
(Lead Division/Section/Branch Head)

S.C. _____ DATE: 6/28/88
(Non-Lead Div. Responsible Engineer)

_____ DATE: 6/28/88
(Non-Lead Div. Independent Reviewer)

_____ DATE: 6/30/88
(Non-Lead Division/Section/Branch Head)

_____ DATE: 7/7/88
(Nuclear & Environmental Section Head)

JDK:slc
sc10687m830

Copy to: DISTRCODE EESE-1

UFSAR CHANGE CONTRO-
M-20770 5/83

Peach Bottom Atomic Power Station

MOD # 2285 [Unit 3] UFCCF NO. _____ REV. 1

MOD DESCRIPTION Alternate Power Supply for MO 3-10-16A

DATE 5-18-88 PROPOSED IMPLEMENTATION DATE 12/88

PREPARED BY: J. D. King

REFERENCES: UFSAR / FPP
(Use Additional Sheets As Needed)

SECTION I

[ ] UFSAR CHANGES NOT REQUIRED (Indicate Sections that were reviewed)
[X] UFSAR CHANGES REQUIRED (Attach UFSAR pages with wording/numbering changes Marked)

TOPIC		SECTION	PAGES
TEXT	UFSAR	Figure 8.4.6	MMO V Singles Lines will be updated on Engr. Drwgs
TABLES FIGURES	FPP	Chapter 5, Table 5-3	See attached sheets

(If additional space is required, use additional sheets of paper)

FINAL UFSAR CHANGES REQUIRED (ATTACHED UFSAR PAGES WITH WORDING/NUMBERING CHANGES MARKED - USE ADDITIONAL SHEETS IF MORE SPACE IS REQUIRED.)

SECTION II

TOPIC	SECTION	PAGES
TEXT		
TABLES		
FIGURES		

APPROVAL BY:

1. _____ DATE _____
Responsible Reviewer

2. _____ DATE _____
Responsible Reviewer's Group Leader or Branch Head

3. _____ DATE _____
Responsible NES Engineer

4. _____ DATE _____
NES Engineer-in-Charge

SECTION III

FINAL RESOLUTION IMPLEMENTED

UFSAR REVISION # _____

REVISED BY: _____ DATE _____
Responsible NES Engineer

PS2-23-97B	HPCI Pump Turbine Exhaust
PS2-23-68A	HPCI Pump Turbine Steam Press
PS2-23-68B	HPCI Pump Turbine Steam Press
PS2-23-68C	HPCI Pump Turbine Steam Press
PS2-23-68D	HPCI Pump Turbine Steam Press
TE-5941A	HPCI Steam Leak Detection
TE-5941B	HPCI Steam Leak Detection
TE-5941C	HPCI Steam Leak Detection
TE-5941D	HPCI Steam Leak Detection
30C04BX	HPCI Alternative Control Station
MCC 30B33Q	RHR MO-3-10-16A Motor Control Center

Mid 2285' Unit 2

(c) Postulated Fire in Area

(1) Ignition of electrical cabling in cable trays (an unlikely occurrence in the absence of a fire source external to the cabling since it is of the self-extinguishing type).

(2) Lube oil from Units 2 and 3 - RHR pumps, HPCI pumps, recirculating pump M-G sets, recirculating pump M-G set lube oil pumps, RCIC pumps either leaking onto the floor with subsequent ignition of the oil or an overheating of the pumps causing ignition of the oil.

(3) Charcoal filters in the SGTS air plenum.

(4) Spent charcoal filters in filter room 118.

(5) Ignition of trash in the radwaste trash storage area from an external source.

(6) Ignition of paper in the radwaste control room from an external source.

(d) Consequence of Fire with Active Fire Suppression

The smoke generated by a fire will activate smoke detectors which will cause an audible-visual alarm annunciation in the main control room. Upon receipt of an alarm from any of the rooms in the area, the fire brigade will be dispatched to extinguish the fire. The smoke generated by a fire in the RHR pump rooms will activate smoke detectors which will cause an audible-visual alarm annunciation at the fire alarm

5.3.25 Fire Area 33: Emergency Switchgear Room 267 (Elev. 135'-0").

(a) Structural and Architectural Design Features of Fire Area

	Construction	Rating
Walls:	N - Concrete masonry units	2-hr
	E - Reinforced concrete	3-hr
	S - Concrete masonry units	2-hr
	W - Concrete masonry units	2-hr
Floor:	Reinforced concrete	3-hr
Ceiling:	Reinforced concrete	3-hr
Access:	Door connecting to fire area 32	
	Door connecting to fire area 50	

Mod 2285 Unit 3

(b) Major Safety Related Components in Fire Area

Emergency Auxiliary Switchgear
Automatic transfer switch
Motor Control Center

(c) Postulated Fire Hazards

Combustible electrical cabling in cable trays (an unlikely occurrence in the absence of a fire source external to the cable, since power cable is of the self-extinguishing type).

(d) Consequence of Fire with Active Fire Suppression

The smoke generated by a fire will activate smoke detectors which will cause an audible-visual alarm annunciation at the fire annunciator in the main control room. Upon receipt of the alarm in the control room, the plant fire brigade will be dispatched to extinguish the fire.

(e) Effect of Fire on Safe Shutdown

Fire area 33 contains cables and equipment associated with shutdown methods A, B, and C for Units 2 and 3. Cables required to support shutdown method B or C in this fire area are encapsulated by a 3-hour-rated fire barrier or, for cables that are not encapsulated, manual operator actions can be taken to recover any functions that could be lost. Equipment associated with shutdown method B or C located in this fire area either have a redundant component located outside the fire area or manual operator actions can be taken to recover any functions that could be lost. Therefore,

TABLE A-3 (Cont'd)

Equipment Number	Component Description	Fire Area	Hot Shutdown Methods	Cold Shutdown
3DP37	Core spray pump D	12	3C	
3DP42	HPSW pump D	47	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
3OE32	RCIC barometric condenser	2	3A	
3OP26	HPCI auxiliary lube oil pump	2	3B, 3D	
3OP46	RCIC vacuum pump	2	3A	
3OP48	RCIC condensate pump	2	3A	
3OS37	HPCI turbine	2	3B, 3D	
3OS38	RCIC turbine	2	3A	Unit 3
3OS548	RHR MO 3-10-16A, 480 VAC Auto-Load SW	33	3A, 3B, 3C	
516A	HPSW unit intertie valve	48	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
516B	HPSW unit intertie valve	47	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
DPI3-10-179	RHR/HPSW differential pressure indicator	2	3D	Unit 3
DPT3-10-179	RHR/HPSW differential pressure transmitter	10	3D	Unit 3
FC2-13-91	RCIC flow controller	25	2A	
FC2-23-108	HPCI flow controller	25	2B, 2D	
FC3-13-91	RCIC flow controller	25	3A	
FC3-23-108	HPCI flow controller	25	3B	
FI2-10-132A	HPSW flow indicator	25	2A, 2B, 2C, 2D 3A, 3B, 3C	Unit 2 Unit 3
FI2-10-132B	HPSW flow indicator	25	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3

TABLE A-3 (Cont'd)

Equipment Number	Component Description	Fire Area	Hot Shutdown Methods	Cold Shutdown
MCC20B59	480V ac motor control center	39	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC20B60	480V ac motor control center	37	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B36	480V ac motor control center	2	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B37	480V ac motor control center	13N	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B38	480V ac motor control center	13S	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B39	480V ac motor control center	13N	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B59	480V ac motor control center	33	2A, 2B, 2C, 3D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MCC30B60	480V ac motor control center	35	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MO-0498	ESW discharge valve	54	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MO-2213	Sluice gate	Yard	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MO-2233A	Sluice gate	55	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MO-2233B	Sluice gate	55	2A, 2B, 2C, 2D 3A, 3B, 3C, 3D	Unit 2 Unit 3
MO-2344	HPSW loop intertie valve	48	2A, 2B, 2C, 2D 3A, 3B, 3C	Unit 2 Unit 3
MO-2486	HPSW discharge valve to river	54	2A, 2B, 2C, 2D	Unit 2

ALARA REVIEW CHECKLIST, REV. 0

Station PBAPS Unit # 3 Responsible Enç. J.D. Kane

Mod # 2295

1. Mod Description: Alternate Pwr Supply for MO 3-10-1619

1. Non-radioactive equipment that is located in high radiation environments ("hot" areas) increases worker exposure during operation and maintenance. To lessen this exposure only equipment having high reliability and low maintenance/calibration requirements should be used in these areas. Does the design of this modification locate non-radioactive equipment in "hot" areas?

No X Yes ____

If Yes, Explain

2. Placement of "Hot" equipment in non-radioactive areas increases worker exposure for all activities carried out in the area. Shielding and provisions to capture system leakage can minimize exposure and contamination. Does this design locate "hot" equipment in non-radioactive areas?

No X Yes ____

If Yes, Explain

3. Deposition of activation products (crud) in piping systems results in increased exposure for all plant workers. The following design considerations can minimize crud deposition.

a. eliminate low spots by sloping all horizontal runs

b. eliminate elbows

c. use butt welds instead of socket welds

d. provide flush and drain connections for equipment and piping runs

e. eliminate the use of materials that promote activation (e.g. Stellite contains Cobalt which is the most significant activation product).

Does this design fail to incorporate the above considerations in radioactive systems?

No X Yes ____

If Yes, Explain

_____

_____

_____

4. Does the design change permanent plant shielding by adding penetrations or cutouts in the shielding?

No X Yes ____

If Yes, Explain

_____

_____

_____

5. Normal ventilation flow is from non-radioactive areas to high radiation areas in order to minimize the spread of airborne contaminants. Does this design alter these flow paths?

No X Yes ____

If Yes, Explain

_____

_____

_____

6. Worker exposure during routine maintenance in high radiation areas can be decreased if the following are considered:

   a. Provide flanged connections on equipment so it can be moved to clean areas for maintenance.

   b. Equipment/material laydown areas should be provided outside of the high rad areas.

   c. Installation of permanent platforms vs. erection of scaffolding.

   d. Provide for the erection of temporary shielding.

   e. Investigate the proximity to breathing air connections.

   Does the design fail to incorporate the above considerations?

No X Yes ____

If Yes, Explain

_____

_____

_____

Any items marked Yes must be referred to the Nuclear Branch for completion of Section II.

Prepared by: J. D. Kane Date 7-9-88

Reviewed by: M. W. Hahn Date 5/19/88

II. Requirements/resolutions of items 1-6 marked Yes. ____

N/A

Prepared by: N/A Date ____
(Nuclear Branch)

Approved by: N/A Date ____
(Supv. Engr. NE)

CC: E-I-C Industria A. Giangiulio (N2-1)
NPE) T.F. Shannon (N4-1)
IPE)
Station Superintendent G.F. Rackley (PBAPS)
DAC (Dostype = IIO)
J.O. Kane N2-1

FIRE PROTECTION REVIEW CHECKLIST, REV. 0

Station PBAPS Unit # 3 Responsible Eng. J. D. Kane

MOD # 2285

I. Mod Description: Alternate Power Supply for MO 3-10-16A

1. New penetrations through rated fire barriers are being created. Existing penetrations require removal or modification (not including cable penetrations). (See Architectural Fire Barrier Dwg.)

No X Yes ____

Description, location ____________________

2. New equipment represents an increase in the combustible loading to the site. Items to be considered are lubricants, fuels, combustible gases, bulk gas storage, insulation, plastics, etc.

No ____ Yes X

List quantity, nature, and location of combustibles

Addition of an MCC in U/3 Recirc M-G Set Rm (2-12C) and an auto-trans sw in the E13 Emer Aux Switchgear Room (33-120) PAF 6/16/88

3. Relocation or addition of any safety related equipment/component/cabling.

No ____ Yes X

Description Control cables assoc. w/ MO 3-10-16A will be located to a new MCC in the U/3 Recirc M-G Set Rm. Power cable for MO 3-10-16A will be rerouted through an auto-transfer switch in the E13 Emer Aux Sw Rm. to the new MCC.

4. Relocation or addition of any safety related equipment/components/cabling identified as safe shutdown in the FPER and circuit and raceway schedules.

No ____ Yes X

Description See No. 3 above. In addition, a new cable from MCC 20B36 will provide safe shutdown alternative power to MO 3-10-16A via the auto-transfer switch.

5. Will the modification interfere with the effectiveness of existing fire detection and suppression equipment; such as require modification to sprinkler piping, or block a sprinkler head or fire detector? Is there suppression or detection equipment within one foot of new equipment installed for this modification? Will access to detection; suppression; fire dampers be compromised?

No X Yes ____

Description _____

Prepared by: J. D. Kuo Date 5-18-88

Reviewed by: M. W. Fahl Date 5/19/88

Any items marked Yes must be referred to the Buildings Facilities Branch for completion of Section II.

I. Requirements/resolutions of items 1, 2, 3, or 5 marked Yes. I.2 & I.3

PER FP 88-030, THE PROPOSED MODIFICATION DOES NOT HAVE AN ADVERSE IMPACT ON THE FIRE PROTECTION AT PBNPS.

Prepared by: Paul A. Furman (B.F. Branch) Date 6/17/88

Reviewed by: [illegible] (B.E. Branch) Date 6/17/88

Requirements/resolutions of item 4 marked Yes. SSEF 1045 will ensure that the contact. does not adversely impact safe shutdown capability.

Prepared by: [illegible] (E.E. Div.) Date 5/19/88

Reviewed by: Frank B Holt Jr. (E.E. Div.) Date 5/31/88

Approved by: G. J. Reid (Supv. Engr. BFB) Date 6/17/88

cc: E-I-C Industrial
MPE
EPE
Station Superintendent
DAC (Doctype = 197)
P. Furman

No. FP 88-030

Facilities Branch

FPRC Evaluation Form

Rev. 0

Mod. 2285
Station PB, NS-3
Resp FB Eng PAF
Date 6/14/88

Fire Area/Zone 33-120, 2-12C
Elev. 135'

Items Checked Yes:

I.1. (1) If PBAPS, require seals to be installed per Spec M-610 — NO

(2) If LGS, require seals to be installed per Spec M-629 — ____

I.2 (1) Will increased loading impact on a combustible free zone — NO (SEE BELOW)

a) PBAPS - 1. FPP ~~Sections 8.6~~ FIGURE B-6 — ____

2. FPP Sections 5.3.e — ____

3. FPP Figures 5.3.f — ____

b) LGS -FPER Sections 5.4.e — ____

c) If Item 1.2.1.a & b include any items marked yes, inform the responsible engineer that this is not acceptable without additional analysis by Electrical Engineering or fireproofing the hazard.

d) Calculate quantity of combustibles to be added in units consistent with those given in the FPP for PBAPS or the FPER for LGS. ALL COMBUSTIBLES ARE CONTAINED IN A METAL ENCLOSURE AND NEED NOT BE CONSIDERED AS BEING ADDED TO TABLE A-1.

(2) Will increased combustibles be added to an area containing safety-related equipment/cables which is not protected by automatic detection? NO

If yes, add detection, request an exemption prior to approval of work or relocate combustibles.

DETECTION EXISTS IN FIRE AREA/ZONES 2-12C AND 33-120.

(3) Will increased combustibles cause combustible loading to be in excess of a requested exemption for PBAPS - refer to FPP Sections 5.3.f's

NO
(See I.2.(1).d)

If yes, determine if increased loading defeats the intent of the exemption request. If no, inform the NRC in accordance with established mechanism. If yes, request an exemption prior to start of work.

(4) Will the loading be added to an area in which there is unprotected structural steel?

a) Refer to PLC Structural Steel Summary

Calc No. N/A

Yes ____
Go to I.1.4.b

No ✓
Go to I.2.5

b) Determine if increase is greater or equal to 10% of the original fixed loading the calc is based on

1. If no, go to I.1.4.d ____

2. If yes, go to Structural Steel calc and re-perform analysis. After completing analysis, go to I.2.4.c ____

c) Did the increased loading cause steel to fail? ____

1. If no, go to I.2.4.d

2. If yes, determine corrective action and inform responsible engineer to go to I.2.4.d ____

(d) Update analysis: If loading is greater than 10%, add an additional 10% or the total amount of increased loading which causes the steel to fail, which ever is less. If (original 10%) so that the next calculation will be based on the original 10% less any subsequent mods which have added combustible material to the area.

(5) Does increased loading represent an unevaluated hazard to safety-related equipment?

a) No, go to 1.2.6 (see I.2.(5).d) ✓

b) Yes, go to I.2.5.c

c) Determine if there is any adverse impact and any additional fire protection enhancements required.

(6) After satisfactorily resolving items 1.2.1 through I.2.5 on this evaluation form and items I.3 and I.5 on the FPRC, forward this evaluation and the FPRC to the responsible Facilities Branch engineer for the FPP for PBAPS or the FPER for LGS to revise the applicable sections of the respective reports as required by this evaluation.

(7) Sections of FPP or FPER reviewed.

① TABLE A-1 ② SECTIONS 5.3.2 & 5.3.25 ③
FIGURE B-6

(8) Is an LDCN (LGS) or a UFCCF (PBAPS) required to specifically address Fire Protection? Responsibility for completing (if applicable). NO

(9) Comments:

(10) Conclusion:

THE PROPOSED SPECIFICATION DOES NOT HAVE AN ADVERSE EFFECT ON THE FIRE PROTECTION AT PBNPS BECAUSE:

(1) THE COMBUSTIBLES ARE CONTAINED IN A NEMA 4 ENCLOSURE AND NEED NOT BE CONSIDERED IN THE COMBUSTIBLE LOADING ANALYSIS (TABLE A-1)

(2) DETECTION EXISTS FOR THE AREAS THAT EQUIPMENT WILL BE MOVED.

JCP/vvg/01088805