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V. S. BOYER
SR. VICE PRESIDENT
NUCLEAR POWER

May 23, 1985

Docket Nos. 50-277
50-278

Mr. Hugh L. Thompson, Jr.
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Peach Bottom Atomic Power Station
Fire Protection Modifications Progress Report

REFERENCES: (1) Letter from J. W. Gallagher to
D. G. Eisenhower, dated February 25, 1983

(2) Letter from V. S. Boyer to D. G. Eisenhower
dated January 16, 1985

(3) Letter from V. S. Boyer to Hugh L. Thompson, Jr.
dated March 29, 1985

(4) Letter from V. S. Boyer to Hugh L. Thompson, Jr.
dated May 8, 1985

Dear Mr. Thompson:

Philadelphia Electric Company, in the Reference (1) letter, proposed to submit Peach Bottom's Fire Protection Modifications Progress Report to the NRC every four months starting in May, 1983.

This letter includes: (I) the seventh Modifications Progress Report (Attachment 1); (II) an update of the penetration sealing program; (III) an update of the fire damper program including an exemption request; and (IV) a progress report addressing structural steel fire protection.

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I. Modification Progress Report

The attached modification status report indicates that one modification has been completed since the last previous report dated January, 1985. All other modifications, with the exception of two modifications discussed in detail below, are progressing on schedule.

- (1) Completion of the installation of the cross-tie feeds for the battery chargers will be delayed due to problems with equipment delivery. The installation will now be scheduled for a non-outage period subsequent to equipment delivery.
- (2) The lack of availability of qualified thermal-magnetic type breakers necessary to replace several of the 480 Volt motor control center magnetic-only circuit breakers continues to delay completion of the breaker replacement modification. We are expediting qualification and delivery of these breakers.

II. Penetration Seal Program III.M

- A. A total of 6246 penetrations through 342 fire barriers which required sealing were identified. Approximately 51 of these penetrations still require sealing. Seal completion activities are being performed by Philadelphia Electric Company Construction personnel.
- B. A fire test was performed April 16, 1985, during which a new seal system and a procedure for pulling cable through existing seals successfully passed the ASTM E-814 fire test. A seal system using Nelson Flameseal Fire Stop Putty and ceramic fiber passed the test and will be used in small conduit. Additionally, a procedure to pull cables through existing silicone foam penetration seals without extensive seal material removal and rework was qualified.
- C. Another test is scheduled for early June to demonstrate the ability of polyurethane foam and ceramic fiber to withstand the hose stream test following a fire test duration of 1-1/2 hours to enable the use of this type fire seal where the combustible loadings on each side of the barrier are less than one hour. The use of this seal was explained in detail in the letter indicated as

Reference (2).

III. HVAC Damper Program III.G.2

A. Installation

The installation of three-hour qualified dampers in ventilation ducts penetrating safe shutdown barriers is continuing. The most recent status was transmitted by letter to the NRC (Reference 4) which reported that the damper installation modifications are approximately 65% complete.

B. Damper Exemptions

Radiological safety concerns have been identified in two areas where we request exemption from the requirements of 10 CFR 50, Appendix R, Section III.G.2, which requires the separation of cables, equipment and associated non-safety circuits of redundant trains by a fire barrier having a three-hour rating. The safety concerns involve the installation of fire dampers in ducts which penetrate fire barriers as described below:

1. Radwaste Building Equipment Cell Exhaust Fans OAV, OBV-41

The Equipment Cell Exhaust System duct penetrates the west wall of the Radwaste Building Fan Room, Elevation 150. This exhaust system vents the Condensate Phase Separator Tanks and the Waste Surge Tanks, and other radwaste processing equipment inside the Radwaste Building. The fans pull air from potentially contaminated areas and exhausts the air through high efficiency filters. The operating staff has determined that taking this ventilation system out-of-service while installing a fire damper might permit contaminated gas and particulates to migrate to non-contaminated areas within the Radwaste Building, creating an unacceptable jeopardy to plant personnel.

2. Radwaste Building Exhaust Fans OAV, OBV-42

The exhaust duct associated with the Radwaste Building Exhaust Fans penetrates the same barrier as the Radwaste Building Equipment Cell Exhaust duct. Both of these ducts tie into a common discharge duct at a

location less than 10 feet from the barrier. The operating staff has determined that, due to the ducting arrangement, the work involved in the installation of a fire damper in this duct would expose workers to an unacceptable radiation hazard and would, at the same time, provide a path to clean radiological areas for the exhaust of the Equipment Cell Exhaust fans. A schematic of the ducting is attached (Attachment 2).

The locations where we are requesting an exemption from the rule are described as follows:

Wall/ Room #	Elev.	Location	Duct Size	Separates Room	Fire Resistance
1. East/ 292	150	J-20.5 Radwaste	42 x 44	Duct Space/ Radwaste H+V Equip. Room	30 Min.
2. East/ 292	150	J-20.5 Radwaste	42 x 30	Duct Space/ Radwaste H+V Equip. Room	30 Min.

The barrier at the locations described above separates an area with a 0.10 hour fire resistance requirement from a duct chase on the opposite side of the barrier with a .5 hour fire resistance requirement. There are cable trays located in this duct chase; however, the thirty-minute fire resistance reflected in the table above is due in most part to cable trays located at the ceiling of the fan room at Elevation 165. Because of the spatial separation of these fixed combustibles from the barrier penetration locations, the chance of propagation of a fire through the barrier is negligible. Based on the minimal combustible loading at the barrier location and radiological plant safety concerns, we request an exemption in accordance with Section 50.12 of the Commission's regulations from Appendix R, Section III.G.2 for these two fire dampers.

IV. Structural Steel Fireproofing III.G.2

The structural steel survivability analysis was submitted via letter to the NRC on March 29, 1985 (Reference 3). The analysis indicated twenty-seven plant areas which had total area fire durations and temperature problems which exceeded

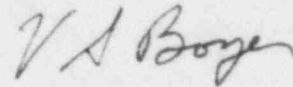
structural steel survivability acceptance criteria. Sixteen additional plant areas were identified which did not have total area temperature problems but exhibited localized heating problems due to the location of cable trays in proximity to exposed steel. Sixty localized problems have been identified in these sixteen plant areas.

We are presently evaluating several alternative methods which would protect exposed steel, including fire protective coatings, installation of sprinkler systems, and the possible use of solid tray covers to alleviate flame impingement on steel beams.

Philadelphia Electric Company will provide a tentative list of proposed corrective actions to the NRC to alleviate the fire related problems in all jeopardized plant areas by June 1, 1985.

If you have any questions regarding this matter, please do not hesitate to contact us.

Very truly yours,



DOB:vdw

Attachments

cc: T. P. Johnson, Resident Site Inspector
NRC Document Control Desk

bcc: S. L. Daltroff
J. S. Kemper
M. J. Cooney
R. H. Moore
R. S. Fleischmann, II
R. H. Logue
L. B. Pyrih
W. M. Alden/WCB
R. J. Lees
E. C. Kistner
G. M. Morley
E. F. Sproat
P. A. Tutton
DAC

PBAPS Fire Protection Mod Progress Report

Revised to Account for Proposed Alternative Shutdown System
(This Report Supersedes the January, 1985, Report)

Key: 2-EOO means "Unit 2 - End of Next Refueling Outage"
N/A - Not Applicable

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Reroute ZD2Q1024K and ZD2Q1027B then encapsulate in Fire Zone 4-4C.	Complete	Completed	1029B
Encapsulate 4 raceways in Fire Zone 4B.	No encapsulation necessary.	N/A	
Encapsulate 3 raceways in Fire Zone 4-4C - ZA2D855 ZA2M001, ZA2D417	Complete	Completed	1029A
Reroute ZD2Q1024K in Fire Zones 6-5E and 6-5G.	Complete	Completed	1029B
Fix ZA3Q1827A (reroute in Fire Zone 11-12C).	Complete	Completed	1029B
Encapsulate ZB3M002 in Fire Zone 11-12C.	Raceway encapsulation complete. J-Box to be encapsulated.	Raceway encapsulation completed J-Box - 3-EOO	1029A
Encapsulate ZA2M417; ZB3D002 in Fire Zone 11-75.	Complete	Completed	1029A
Encapsulate conduits ZA2B1249, ZC2B1247 and ZA2B143 in Fire Zone 50-78A.	Complete	Completed	1029A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Encapsulate conduits ZC3B137, ZC3B150 and Junction Box J17 in Fire Zone 50-78A.	Complete	Completed	1029A
Encapsulation 1/2 SSA Raceways in Fire Zone 50-78B.	Complete	Completed	1029A
Encapsulate ZB3D1802A, B and ZD3DD01E in Fire Zone 31-118.	Complete	Completed	1029A
Encapsulate ZD3DD01E in Fire Zone 32-119.	Complete	Completed	1029A
Relocate battery chargers 3BD03 & 3DD03, then encapsulate ZB3BD01E in Fire Zone 32-120.	Complete	Completed	1029C 1029A
Encapsulate OG03H and ZA2AG121B in Fire Zone 35-122.	Complete	Completed	1029A
Redesign 2A1706R - encapsulate OG03H and ZA2AG121B in Fire Zone 37-124.	Complete	Completed	1029A
Redesign 2A1603R - encapsulate ZB2BD01E in Fire Zone 32-125.	Complete	Completed	1029D 1029A
Relocate battery charger 2DD03, then encapsulate related cables in Fire Zone 39-126.	Complete	Completed	1029C 1029A
Encapsulate ZB2BD01E, ZBOB6143C and ZB2B1122A in fire Zone 39-126.	Encapsulation unnecessary due to new safe shutdown strategy and field survey results.	N/A	
Encapsulate ZA2A1505A in Fire Zone 40-127.	Complete	Completed	1029A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Encapsulate ZB2D1802A, B and ZB2BD01E in Fire Zone 41-128.	Complete	Completed	1029A
Encapsulate ZA2B1249, ZA2B143 and ZC2B1247 in Fire Zone 50-130	Complete	Completed	1029A
Redesign cables 2A1603J, K, L, 2A1706J, K, L - in Fire Zones 43-132, 44-133, 45-134 and 46-135 as required.	Complete	Completed	1029D
Encapsulate ADS/CS raceways in Fire Zone 11-147.	Complete	Completed	1029A
Upgrade penetration seals to required ratings as previously committed in correspondence from J. W. Gallagher to D. G. Eisenhut dated 10/14/81.	Approximately 6230 seals are complete of an estimated 6290 total.	2-EOO 3-Completed	1110
Change the settings on the following 4kV circuit breakers: Unit 2-152-1505, 152-1705, 152-1806; Unit 3-152-1505 ... 152-1806.	Complete in Unit 3. Unit 2 work in progress.	3-Completed 2-EOO	2-1029G 3-1029H
Change the settings on the 480V load center circuit breakers: Unit 2-1013 ... 1322; Unit 3-1212 ... 1114.	Complete in Unit 3. Unit 2 work in progress.	3-Completed 2-EOO	3-1029H 2-1029G

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
<p>Replace the following 480V motor control center magnetic-only circuit breakers with thermal magnetic circuit breakers:</p> <p>Unit 2-3671 ... 2851 Common-4955, 5055, 6131 Unit 3-3851 ... 6033. (As previously committed to in correspondence from S. L. Daltroff to D. G. Eisenhut, dated January 12, 1983.)</p>	<p>PECo working with two vendors in order to obtain qualified breakers.</p>	<p>End of first outage, commencing after material availability.</p>	<p>2-1029J, 1029K, 3-1029L</p>
<p>Add new ground overcurrent relays to the following 4kV circuit breakers: Unit 2-152-1606 and 152-1709.</p>	<p>Complete</p>	<p>Completed</p>	<p>1029M</p>
<p>Replace the existing ground overcurrent relays for the following 4kV circuit breakers: Unit 2; 152-1606 and 152-1704.</p>	<p>Design complete. Relays delivered.</p>	<p>2-EOO</p>	<p>1029N</p>
<p>Add eight-hour battery power supply capability to the Emergency Lighting System in the following locations: Main Control Room, Remote Shutdown Panels, Cable Spreading Room (selected locations), Four Emergency Switchgear Rooms, HPSW Pump bays and the fifth bay in the DG Building.</p>	<p>Complete (Alternative shutdown system design will add additional areas.)</p>	<p>Completed</p>	<p>1029R</p>
<p>Provide a water curtain in the west corridors of reactor building, elev. 135; Units 2 and 3.</p>	<p>Complete</p>	<p>Completed</p>	<p>1029U</p>

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
System Automation of Water Curtain in the West Corridors of reactor building.	Complete except for one cleanup item.	2-EOO 3-EOO	1029U
Isolate the corridor behind the emergency switchgear rooms.	Complete	Completed	1029S
Provide dikes for Emergency Load Centers on elevation 165, Units 2 and 3.	Complete	Completed	1029T
Provide smoke detectors in Fire Zones 50-78A and 50-82 since the zones have a fixed combustible loading and no existing smoke detection system.	Complete	Completed	1029W
Provide smoke detectors in Fire Zones 2-70, 11-72E, 11-72F, and 11-74 since the zones have a fixed combustible loading and no existing smoke detection system.	Complete	Completed	1029W
Provide line type heat detectors in cable tray in Fire Zone 29-108 since the area has a fixed combustible loading and no existing fire detection system.	Complete	Completed	1029W
Provide smoke detectors in Fire Zones 26-76 and 22-77 due to the possibility of transient combustibles in these zones.	Complete	Completed	1029W
Reroute conduit ZB2D785 outside of Fire Zones 50-78B and 50-78W	Complete	Completed	1029B
Encapsulate ZA2A1506A in Fire Zone 50-131.	Complete	Completed	1029A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Encapsulate raceways ZA2M165 and ZA2M166 in the north half of Fire Zone 6-5H.	Complete	Completed	1029A
Encapsulate raceway ZB3P315 in the south half of the Fire Zone 13-13H.	Encapsulation complete except for a short section associated with a junction box. Encapsulation of junction boxes is outage work due to blocking requirements.	Next system outage of sufficient duration.	1029A
Reroute 2Q1019B, F and encapsulate new Zone 5-5H.	Complete	Completed	1029B
Reroute ZB2Q2074A	Design complete. No encapsulation necessary.	Completed	1029B
Reroute ZA2B5944A from Fire Zone 11-72B.	Complete	Completed	1029B
Install a single smoke detector in the drywell access hatch areas of both units, Fire Zones 6-22 and 13-28. The detectors are to be tied into existing loops on 135' of the Rx Bldgs.	Complete	Completed	1029W
Encapsulate ZD2P219 in Fire Zone 4-6.	Complete	Completed	1029A
Encapsulate ZA2L075 in Fire Zone 5-7.	Complete	Completed	1029A
Encapsulate ZD3L004 in Fire Zone 12-15.	Complete	Completed	1029A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Install a single smoke detector in Fire Zone 11-65C. The detector is to be tied into the existing loop on 91'-6" of the Radwaste Bldg.	Complete	Completed	1029W
Install 57 3-hour rated fire dampers in HVAC ducts penetrating fire barriers.	29 of the 57 dampers remain to be installed.	2-EOO 3 - End of Unit 2 Outage	1309
Install battery charger cross-tie feeds. These cross-tie feeds will be encapsulated as required.	Installation in progress.	2-EOO dependent upon equipment delivery.	1029B
Encapsulate ZA2M416 in Fire Zone 6-5H.	Complete	Completed	1029A
Encapsulate cable ZD2B3923A in Fire Zone 38-125.	Complete	Completed	1029A
Reroute ZD3D489 in Fire Zone 32-119.	See listing for Fire Zone 31-118. ZD3D489 to be rerouted to avoid encapsulation, design complete.	Completed	1029A
Encapsulate ZB3M149 in Fire Zone 31-118.	Complete	Completed	1029A
Encapsulate ZB3M149 in Fire Zone 33-120.	Complete	Completed	1029A
Relocate B and D Diesel Generator MCC feeds.	Relocation complete. Encapsulation complete.	Completed	1029B
Encapsulate ZC3D481 and ZC3D482 in Fire Zone 34-121.	Complete	Completed	1029A
Encapsulate ZA2D841 in Fire Zone 35-122.	Complete	Completed	1029A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Encapsulate ZC3D481 and ZC3D482 in Fire Zone 36-123.	Complete	Completed	1029A
Encapsulate ZA2D841 in Fire Zone 37-124.	Complete	Completed	1029A
Encapsulate ZC2A484 in Fire Zone 48-144.	Complete	Completed	1029A
Reroute 5 cables in Fire Zone 6-5H - ZC2B3814A; ZC2Q1228A, B; ZC2Q1230B, C.	Design complete. Installation scheduled.	2-Complete	1029B
Reroute ZC2Q1228B and ZC2Q1230B in Fire Zone 6-5J.	Design complete. Installation scheduled.	2-Complete	1029B
Reroute 4 cables in Fire Zone 25-72A - ZC2Q1221B; ZC2Q1230B ZD3Q1227B; ZD3Q1229B	Unit 2 design complete & installation scheduled. Unit 3 complete except for circuit switchover.	2-Complete 3 - Next system outage of sufficient duration.	1029B
Reroute 5 cables in Fire Zone 6-13H ZD3B3952A; ZD3Q1227A, B; ZD3Q1229B, C.	Complete except for circuit switchover.	3 - Next system outage of sufficient duration.	1029B
Reroute ZD3Q1227B and ZD3Q1229B in Fire Zone 6-13J.	Complete except for circuit switchover	3 - Next system outage of sufficient duration.	1029B
Reroute 12 cables in Fire Zone 28-78H (Cable Spreading Room)	Unit 2 design complete and installation scheduled. Unit 3 complete except for circuit switchover.	2-Complete 3 - Next system outage of sufficient duration.	1029B

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Reroute 6 cables in Fire Zone 29-108 (Main Control Room)	Unit 2 design complete & installation scheduled. Unit 3 complete except for circuit switchover.	2-Complete 3 - Next system outage of sufficient duration.	1029B
Install 2 additional smoke detectors in Fire Zone 50-78A to provide area coverage.	Complete	Completed	1029W
Reroute SRV/ADS cables to facilitate safe shutdown (linked to 1352G(U2) & 13543G (U3)).	Unit 2 - work on hold until Unit 3 work is complete. Unit 3 - Design in progress.	2-EOO (86) 3-EOO	1029B
Provide control room indication for 6 process variables and 4 system diagnostics for each Fire Area.	Unit 2 - work on hold until Unit 3 is complete. Unit 3 - Design in progress.	2-EOO (86) 3-EOO Non-outage - 12/31/85	1029E

ALTERNATIVE SHUTDOWN MODIFICATIONS

Provide new panels to be established as the alternative control stations for the B and D safeguard channel diesel generators.	Design in progress. Panels delivered. Pre-outage construction work in progress.	2-EOO (86)	1351A
Establish alternative controls and indication for the B&D safeguard channel diesel generators at new panels identified above.	Design in progress. All materials delivered except for dc contactors. Pre-outage	2-EOO (86)	1351A

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
	construction work in progress.		
Provide alternative control and indication for 4kv circuit breakers 20A1606, 2A1807, 30A1606, and 30A1807.	Design in progress. Materials delivered.	Unit 3 work 3-EOO Unit 2 work 2-EOO (86)	1351A
Provide alternative status indication for 4kv circuit breakers 20A1601, 20A1604, 20A1608, 20A1801, 20A1802, 20A1803, 20A1804, 20A1805, 20A1808, 30A1601, 30A1602, 30A1603, 30A1604, 30A1607, 30A1608, 30A1609, 30A1801, 30A1803, 30A1808 and 30A1809.	Design in progress. Materials delivered.	Unit 3 work 3-EOO Unit 2 work 2-EOO (86)	1351A
Provide alternative bus voltage indication for 4kv bus 20A16, 20A18, 30A16, and 30A18.	Design in progress. Materials delivered.	Unit 3 work 3-EOO Unit 2 work 2-EOO (86)	1351A
Provide a linear heat detection system in the cable trays in fire area 25.	Design in progress.	6/30/86	1351B
Provide reroutes of two circuits required to ensure alternative shutdown capability for Unit 3 and common plant systems.	Design in progress. Pre-outage construction work is in progress.	3-EOO	1351C
Provide encapsulation of circuits required to ensure alternative shutdown capability for Unit 3 and common plant systems.	Design in progress.	Outage work- 3-EOO 1351C Non-outage work 12/31/85.	
Provide encapsulation and reroutes as required to support alternative shutdown capability for Unit 2 systems.	Identification of encapsulations and reroutes is in progress.	2-EOO (86)	1351C
Provide alternative control and breaker status indication for the 4kv circuit breaker for the B	Unit 2 equipment is involved with mod. Design in progress.	2-EOO (86)	1351D

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
safeguard channel ESW pump (20A1603).	Materials ordered.		
Provide a new panel to establish an alternative control station for the Unit 2 HPCI system. The new panel will also house equipment for mods 1352B, 1352C, 1352D, 1352G and 1352H.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352A
Establish alternative controls and indication for the Unit 2 HPCI system at the panel identified above.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352A
Establish alternative diagnostic instrumentation for Unit 2 alternative shutdown systems at the Unit 2 HPCI ACS.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352B
Provide alternative control and breaker status indication for the 4kv circuit breaker for the Unit 2 B safeguard channel RHR pump (20A1602).	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352C
Establish necessary alternative controls and indication for the Unit 2B RHR valves at the Unit 3 HPCI ACS panel provided by Mod 1352A.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352C
Provide isolation of control circuits for Unit 2 RHR MO-17 or MO-18 valve that cannot be subjected to spurious operations.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352C
Provide alternative control and breaker status indication for the 4kv circuit breaker for the Unit 2 B safe-	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352D

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
guard channel HPSW pump (20A1607).			
Establish necessary alternative controls and indication for the Unit 2B HPSW valves at the Unit 2 HPCI ACS panel provided by Mod 1352A.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352D
Provide alternative control and breaker status indication for Unit 2 4kv emergency circuit breakers 20A1605 and 20A1806 that feed 4kv/480v load centers.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352E
Provide alternative DC power panels & feeds for control and motive power for Unit 2 alternative shutdown systems.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352F
Provide alternative controls for Unit 2 safety relief valves (SRV's) A, B, & K and nitrogen isolation valves A & B at the Unit 2 HPCI ACS.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352G
Provide two alternative control stations for the transfer/isolation switches needed for alternative control of ADS.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352G
Establish Unit 2 alternative process monitoring instrumenta- tion at the Unit 2 HPCI ACS.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352H
Provide emergency lighting for Unit 2 alternative control stations and routes access and egress for the ACS's.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352I

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Provide communications between alternative control stations.	Unit 2 work. Design on hold until Unit 3 work is complete.	2-EOO (86)	1352I
Provide a new panel to establish an alternative control station for the Unit 3 HPCI system. The new panel will also house equipment for mods 1353B, 1353C, 1353D, 1353G and 1353H.	Design in progress. Materials delivered. Pre-outage Construction work is in progress.	3-EOO	1353A
Establish alternative controls and indication for the Unit 3 HPCI system at the panel identified above.	Design in progress. Materials delivered. Pre-outage construction work is in progress.	3-EOO	1353A
Provide alternative diagnostic instrumentation for Unit 3 alternative shutdown systems at the Unit 3 HPCI ACS.	Design in progress. Most materials delivered. Pre-outage construction work is in progress.	3-EOO	1353B
Provide alternative control and breaker status indication for the 4kv circuit breaker for the Unit 3 D safe-guard channel RHR pump (30A1802).	Design in progress. Materials delivered.	3-EOO	1353C
Establish necessary controls & indication for the Unit 3D RHR valves at the Unit 3 HPCI ACS panel provided by Mod 1353A.	Design in progress. Materials delivered. Pre-outage construction work is in progress.	3-EOO	1353C
Provide isolation of control circuits for Unit 3 RHR valve MO-17 that cannot be subjected to spurious operations.	Design in progress. Materials delivered. Pre-outage construction work is in progress	3-EOO	1353C
Provide alternative control and breaker	Design in progress.	3-EOO	1353D

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
status indication for the 4kv circuit breaker for the Unit 3, D safe- guard channel HPSW pump (30A1804).	Materials delivered.		
Establish necessary controls & indication for the Unit 3D HPSW valves at the Unit 3 HPCI ACS panel provided by Mod 1353A.	Design in progress. Materials delivered. Pre-outage construction work is in progress.	3-EOO	1353D
Provide alternative control and breaker status indication for Unit 3 4kv emergency circuit breaker 30A1605 and 30A1806 that feed 4kv/480v load centers.	Design in progress. Materials delivered.	3-EOO	1353E
Provide alternative DC power panel & feeds for control power for Unit 3 alternative shutdown systems.	Design in progress. Materials delivered. Pre-outage construction work is in progress.	3-EOO	1353F
Provide alternative controls for Unit 3 safety relief valves (SRV's) A, B, and K and nitrogen isolation valves A & B at the Unit 3 HPCI ACS provided by Mod 1353A.	Design in progress. Materials delivered. Pre-outage construction work is in progress.	3-EOO	1353G
Provide two alternative control stations for the transfer/isolation switches needed for alternative control of ADS.	Design in progress. Materials ordered. Pre-outage construction work is in progress.	3-EOO	1353G
Establish Unit 3 alternative process monitoring instrumentation at the Unit 3 HPCI ACS.	Design in progress Most materials available.	3-EOO	1353H

<u>Mod Description</u>	<u>Status</u>	<u>Expected Completion Dates</u>	<u>Mod. No.</u>
Provide emergency lighting for Unit 3 alternative control stations and routes of access and egress for the ACS's. This is non-outage work.	Design in progress.	12/31/85	1353I
Provide communications between alternative control stations. This is non-outage work.	Design in progress.	12/31/85	1353I

