PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS

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February 28, 1991

Docket Nos. 50-277
50-278

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Annual Progress Report for Implementation of Control Room Enhancements Pursuant to NUREG-0737 Peach Bottom Atomic Power Station, Units 2 & 3

REFERENCE: 1) Letter, S. L. Daltroff, PECo, to D. R. Muller, USNRC, dated February 26, 1986; Subject: Peach Bottom Atomic Power Station NUREG-0737, Supplement 1, Section 5 Control Room Design Review

2) Letter, E. P. Fogarty, PECo ,to USNRC dated June 30, 1989; Subject: Progress Report for Implementation of Control Room Enhancements, PBAPS Unit 2

3) Letter, G. A. Hunger, Jr., PECo, to USNRC dated February 15, 1990; Subject: Annual Progress Report for Implementation of Control Room Enhancements Pursuant to NUREG-0737, PBAPS Unit 3

4) Letter, G. A. Hunger, Jr., PECo, to USNRC dated July 12, 1990; Subject: Annual Progress Report for Implementation of Control Room Enhancements Pursuant to NUREG-0737, PBAPS Unit 2

Dear Sir:

In accordance with the requirements of NUREG-0737, Supplement 1, Section 5, reference 1 letter submitted a copy of the Peach Bottom Control Room Design Review (CRDR) Final Report. The report identified numerous human factors enhancements planned

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for Peach Bottom Atomic Power Station (PBAPS) Units 2 & 3. Areas requiring enhancement were identified on Human Engineering Discrepancy (HED) Assessments which were included in the report. As committed in reference 1 letter, PECo has kept the NRC informed of the implementation status of control room enhancements thru the submittal of annual progress reports (reference letters 2 thru 4).

In the past, we submitted separate annual control room enhancement progress reports for PBAPS Units 2 & 3. However, beginning with this annual progress report and for all future progress reports, we will status both PBAPS Units 2 & 3 in a single report.

In an effort to more efficiently manage the implementation of the remaining enhancements and to provide for a more concise and complete means of reporting our status to the NRC we have developed a consolidated database. This database provides a complete listing of all HEDs identified including; their description, revision date (if applicable), priority, implementation status for both Units 2 & 3, and any forecasted schedules for implementation. A copy of this database is provided as Attachment 1 to this letter. The database is sorted by Priority number. The COMMENTS column provides any additional specific information relating to the status, schedule and/or proposed resolution of a given HED. Dates provided in the REV column indicate the HED Assessment has been revised subsequent to the original prepared during the CRDR. Copies of all revised HEDs not previously submitted to the NRC are included in Attachment 2.

In the CRDR Report, 262 HEDs were identified. Each HED was assigned a priority with respect to safety significance using a scale of 1 to 6, with 1 being the most significant. Three HEDs were assigned dual priorities. Although the HED Assessments provided in the final report were written for Unit 2, it was determined during the CRDR that the discrepancies were applicable to Unit 3 as well.

Table 1 below summarizes the total number of HEDs identified, the number resolved as of the last submittal, and the number resolved as of this submittal for PBAPS Units 2 & 3.

TABLE 1
PBAPS UNIT 2(3) HED STATUS SUMMARY

Priority	Number of HEDS Identified	Number of HEDs Resolved As Of Last Submittal	Number of HEDs Resolved As Of This Submittal
1	10 (10)	10 (10)	10 (10)
2	44 (44)	38 (36)	39 (40)
3	26 (26)	16 (14)	17 (16)
4	94 (94)	74 (67)*	79 (79)
5	52 (52)	52 (52)**	52 (52)**
6	39 (39)	39 (39)**	39 (39)**

Priority 1 High Safety Significance
Priority 2 Low Safety Significance
Priority 3 Operational Reliability
Priority 4 No Significant Improvement
Priority 5 Previously Corrected
Priority 6 Not a Discrepancy

* Table 3 of the Unit 3 progress report dated 2/15/90 identified 67 Priority 4 HEDs as complete but unintentionally listed only 66 as being complete in the report text.

** For the purpose of clarity, the acronym NA used in previous submittals has been replaced by the actual number of HEDs resolved. Priority 5 and 6 HEDs were resolved prior to the submittal of the final Control Room Design Review report (reference letter 1).

Our recent review indicates that in previous Unit 2 progress reports we incorrectly reported two HEDs, VW-11 and VW-13, as complete. These HEDs have not been resolved in their entirity and therefore we are revising their status to open.

Since our last Unit 2 progress report (reference 4), two Priority 2 HEDs, one Priority 3 HED, and six Priority 4 HEDs have been resolved for PBAPS Unit 2. For Unit 3, four Priority 2 HEDs, two Priority 3 HEDs, and twelve Priority 4 HEDs have been resolved since our last Unit 3 progress report (reference 3).

HED No. D5-09 is of particular significance. This HED is currently open for both Units 2 & 3 although significant improvements in the labelling of controllers have been implemented. Additional time is required to completely resolve this item because of the numerous and different types of controllers installed, the different operating methods required for each, and therefore the different labelling required as well as the need to provide a level of consistency in labelling from one controller to the other. In addition many of the controllers

are becoming obsolete and we are investigating possible replacement units which may have new and unique labelling requirements.

The resolutions for several HEDs are either in the process of being installed via modifications or are the subject of modification packages which are complete from an engineering standpoint and are awaiting installation. Specific modification numbers are provided in the COMMENTS column of Attachment 1 for these HEDs.

Modifications are being initiated to address the remaining open HEDs which can be resolved via equipment modifications including the addition of enhancements, equipment relocation, labelling changes, etc. The comment "modification required" is provided in the COMMENTS column of Attachment 1 for each HED of this type. Modifications are processed in accordance with an Integrated Management Process (IMP). The IMP is a continuing process of selection, integrating, and prioritizing plant modifications on the basis of public and personnel safety, personnel productivity, economic performance, and external impact in order to optimize the allocation of resources. Since these modifications are in the initial stages of development, implementation schedules are not available at this time. Open HEDs which require resolution via means other than equipment modifications are being addressed as indicated in Attachment 1.

In addition to the IMP, modifications associated with the enhancements and any procedure changes are subjected to additional review processes. Either the IMP or the review process may determine it necessary to revise the proposed resolution for a previously identified HED. We will continue to keep the NRC informed of any HED revisions and of our progress via the submittal of an annual progress report. The next progress report for PBAPS Units 2 & 3 will be submitted to the NRC by the end of February 1992.

Should you have any questions regarding this progress report, please contact us.

Very truly yours,

G. J. Beck, Manager
Licensing Section
Nuclear Engineering & Services

Attachments

cc: J.J.Lyash, USNRC Senior Resident Inspector
T. Martin, Administrator, Region I, USNRC

ATTACHMENT 1

Schedule and Status of
Human Engineering Discrepancies (HED)
Peach Bottom Atomic Power Station Units 2 & 3

HUMAN ENGINEERING DISCREPANCIES (HEDs)
PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3

DATE: 02/27/91

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
A1-09	0	ANNUNCIATOR SILENCE CONTROL	1		closed	closed	
D2-05	0	MIMIC FLOW DIRECTION	1		closed	closed	
D3-03	0	COMPONENT STRING AND MATRIX ARRANGEMENT	1		closed	closed	
E1-02	0	P.A. SYSTEM ACCESS	1		closed	closed	
I3-01	0	RECORDER VALUES	1		closed	closed	
I3-05	0	MULTIPOINT RECORDER SPEED	1		closed	closed	
SD2-03	0	CONTAINMENT ISOLATION MIMIC ARRANGEMENT	1		closed	closed	
SD3-23	0	CONTROL/DISPLAY RELATIONSHIPS	1		closed	closed	
TA1-04	0	ISOLATION SUMMARY DISPLAY	1		closed	closed	
TA1-07	6/89	REACTOR LEVEL-172 INCHES	1		closed	closed	
A1-12	6/89	"ALARM CLEAR" INDICATION	2		closed	closed	
D5-01	0	OPERATION LIMITS AND WARNINGS	2		closed	closed	
D5-02	0	HIERARCHAL LABELING	2		closed	closed	
D5-06	0	REDUNDANT LABEL INFORMATION	2		closed	closed	
D5-09	6/89	INCOMPLETE LABELS	2		open	open	Modification required
I2-01	0	INDICATOR ZONE MARKINGS	2		closed	closed	
I3-03	0	RECORDER ALARM POINTS	2		closed	closed	
I3-07	2/91	RECORDER PEN COLORS	2		closed	closed	closed for Unit 3 since last submittal
I3-11	0	RECORDER ZONE MARKINGS	2		closed	closed	
I5-05	0	INADVERTENT CONTROL ACTIVATION	2		closed	closed	
LER-06	0	DIESEL GENERATOR RESTART PROCEDURAL REQUIREMENTS	2		closed	closed	
LER-08	0	VALVE ALIGNMENT PROCEDURAL REQUIREMENTS	2		closed	closed	
LER-14	0	REACTOR VESSEL HEAT-UP RATE	2		closed	closed	
LER-18	0	IMPROPER SWITCH POSITION	2		closed	closed	
LER-19	0	IMPROPER VALVE OPERATION	2		closed	closed	
NRC2-11	0	TORUS LEVEL ZONE MARKING	2		closed	closed	
NRC2-12	0	REACTOR LEVEL ACCURACY	2		closed	closed	
P4-01	0	FEEDBACK TO OPERATOR	2		closed	closed	
SD3-14	0	HPCI INDICATIONS	2		closed	closed	
SD3-18	0	CONTROL GROUPING	2		closed	closed	
SD3-19	0	CONTROL GROUPING	2		closed	closed	
SD3-21	0	RHR INDICATOR ARRANGEMENTS	2		closed	closed	
SD3-28	0	REACTOR MODE SWITCH LOCATION	2		closed	closed	
SP1-02	0	PROCEDURE TERMINOLOGY UPDATE	2		closed	closed	closed for Unit 2&3 since last submittal
TA1-01	0	REACTOR COOLDOWN RATE	2	see comment	open	open	Mod 9550 in progress, U2 scheduled for completion 7/92, U3 scheduled for 6/91
TA1-02	0	REACTOR LEVEL-48 INCHES	2		closed	closed	
TA1-05	6/89	HPCI INITIATION SIGNAL	2		closed	closed	
TA1-06	0	LPCI FLOW RESOLUTION	2	4/91	open	closed	Mod 1891 in progress
TA1-07	6/89	REACTOR LEVEL +172 INCHES	2		closed	closed	
TA1-08	0	HPCI AND RCIC MANUAL INITIATION	2		closed	closed	
TA1-09	0	CS MANUAL INITIATION	2		closed	closed	
TA1-10	0	LPCI MANUAL INITIATION	2		closed	closed	
TA1-11	0	ADS TIMER RESET	2		closed	closed	

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
TA1-16	6/89	SRV INSTRUMENT N2 ALARM	2	9th cycle	open	open	Mod 5177 initiated; Eng'g complete
TA1-17	0	TORUS LEVEL RANGE	2		closed	closed	
TA1-20	0	TORUS LEVEL 18.5 FEET	2		closed	closed	
TA1-21	6/89	TORUS AIR SPACE TEMPERATURE	2		closed	closed	
TA1-22	0	TORUS PRESSURE RANGE	2		closed	closed	
VW-01	0	ADS NUMBERS	2		closed	closed	
VW-04	0	ORIFICE BYPASS VALVE TAG	2		closed	closed	
VW-06	0	TORUS PRESSURE INSTRUMENT NUMBER	2		closed	closed	
VW-11	0	ECCS INSTRUMENT COLOR PADS	2		open	open	Unit 2 status changed to open; drywell temp instrument color padding not complete; Mod required
VW-12	0	T-200 SERIES NOMENCLATURE	2		closed	closed	closed for Unit 2&3 since last submittal
VW-15	0	T-221 VALVES NOT FOUND	2		closed	closed	
A1-10	0	ANNUNCIATOR CONTROL ARRANGEMENT	3		closed	closed	
D2-02	0	DEMARCATION AND MIMIC LINES	3		closed	closed	
D2-04	0	MIMIC FLOWPATHS	3		closed	closed	
D3-04	0	COLOR CODING CONSISTENCY	3		closed	closed	
E2-01	0	ILLUMINATION LEVELS	3		open	open	Modification required
I2-02	0	DISPLAY GLARE	3		open	open	Glare on pnl C196 has been resolved; modification required to resolve other discrepancies
I2-06A	0	DISPLAY GROUPING	3		closed	closed	
I2-07	0	SCALE SUBDIVISIONS	3		closed	closed	closed for Unit 2&3 since last submittal
I3-05	0	MULTIPOINT RECORDER SPEED	3		open	open	Modification required
I3-10	0	RECORDER GLARE	3		open	open	Modification required
I5-02	0	POSITION INDICATION LABELS	3		closed	closed	
I5-03	0	POSITION MARKINGS	3		closed	closed	
NRC2-04	0	DIFFERENT ENGINEERING UNITS ON RECORDER	3		open	open	Modification required
NRC2-05	0	SCALE INCREMENTS TOO LARGE	3		closed	closed	
SD2-02	0	CONTAINMENT PURGE MIMIC ARRANGEMENT	3		closed	closed	
SD3-01	0	CONTROL/DISPLAY GROUPING	3		closed	closed	
SD3-02	0	FEEDWATER CONTROLS	3		open	open	Modification required
SD3-05	0	AIR EJECTOR CONTROLS/INDICATIONS	3		closed	closed	
SD3-16	0	DISPLAY ARRANGEMENT	3		closed	closed	
SD3-17	0	DISPLAY ARRANGEMENT	3		closed	open	Modification required
SD3-25	0	INDICATOR ARRANGEMENT	3		closed	closed	
SD5-01	0	FEEDWATER PUMP BYPASS CONTROLLER	3		open	open	Modification required; also see HED No. D5-09
SD5-02	2/91	CONTROL POSITION ESCUTCHEONS	3		closed	closed	closed for Unit 3 since last submittal
SI2-02	0	FEEDWATER STARTUP BYPASS CONTROLLER	3		open	open	Modification required
ST1-01	0	TRAINING UPDATE ON ENHANCEMENTS	3		closed	closed	
TA1-23	0	CHILL WATER FLOW RANGE	3		open	open	Modification required
A1-01	0	ANNUNCIATOR COLOR/LOCATION CODING	4		closed	closed	closed for Unit 3 since last submittal
A1-02	0	ANNUNCIATOR LEGEND CONSISTENCY	4	9th cycle	open	open	Mod 5177 initiated; Eng'g complete
A1-03	0	ANNUNCIATOR TYPE STYLE	4		closed	closed	
A1-04	0	INCORRECT ANNUNCIATOR LEGEND	4	9th cycle	open	open	Mod 5177 initiated (same as A1-02)

HUMAN ENGINEERING DISCREPANCIES (HEDs)
PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
A1-06	0	MULTI-CHOICE ALARMS	4		closed	closed	
A1-07	0	ANNUNCIATOR PRIORITY CODING	4		closed	closed	
A1-08	0	ANNUNCIATOR IDENTIFICATION	4		closed	closed	
D1-02	0	CONSOLE CONTROL REACH DISTANCES	4		closed	closed	
D1-04	0	MIRROR-IMAGING OF PANELS	4		closed	closed	
D1-05	0	UNCOVERED PANEL HOLES	4		closed	closed	
D2-01	0	CONTROL DISTINCTION	4		closed	closed	
D2-03	0	DEMARCATION LINE CONTRAST	4		closed	closed	
D2-06	0	MIMIC CONSISTENCY	4		closed	closed	
D3-01	0	CONTROL/DISPLAY GROUPING	4		closed	closed	
D3-02	2/91	COMPONENT ARRANGEMENT	4		closed	closed	closed for Unit 3 since l submittal
D3-05	0	CONTROL/DISPLAY HEIGHT	4		closed	closed	
D4-01	0	COLOR STANDARDS	4		closed	closed	closed for Unit 3 since las submittal
D5-03	0	PANEL IDENTIFICATION	4		closed	closed	
D5-04	0	INCONSISTENT NOMENCLATURE AND ABBREVIATIONS	4		open	open	Modification required
D5-05	0	LABEL TYPE AND STYLE	4		close	closed	
D5-07	0	LOW LABEL HEIGHT	4		closed	closed	closed for Unit 3 since last submittal
D5-10	0	VERTICAL LABEL ORIENTATION	4		open	open	Modification required
D7-01	0	CONTROL PANEL ACCESS	4		closed	closed	
D7-03	0	MOVEABLE OBSTRUCTIONS	4		closed	closed	
D7-04	0	LOW CONTROL/DISPLAY VISIBILITY	4		closed	closed	
D7-06	0	ANNUNCIATOR LOCATION	4		closed	closed	
E3-02	0	PROTECTIVE CLOTHING	4		closed	closed	
E3-03	0	BREATHING APPARATUS LOCATION	4		open	open	The need for emergency breathing apparatus in the control room is being reevaluated. Also see E3-05
E3-05	0	CONTROL OPERATION	4		open	open	The need for additional training in the use of breathing apparatus is being revaluated. See E3-03
E4-02	0	TELEPHONE CORDS	4		closed	closed	
I1-01	0	CONTROLLER HEIGHT LOW	4		closed	closed	
I2-03	0	SCALE UNITS	4		closed	closed	
I2-04	0	POINTERS OBSCURE MARKINGS	4		closed	closed	
I2-06	2/91	SCALE COMPATABILITY	4		closed	closed	closed for Unit 2&3 since last submittal
I2-08	0	EXCESSIVE SCALE GRADUATIONS	4		closed	closed	
I2-09	0	SCALE SUBDIVISION MULTIPLES	4		open	open	Modification required
I3-02	0	INCORRECT CHART PAPER SCALES	4		open	open	Special order chart paper is on back order and will be installed after receipt
I3-08	0	RECORDER MARKING PROCEDURE	4		closed	closed	
I5-01	0	CONTROL SEQUENCE	4		closed	closed	closed for Unit 3 since last submittal
I5-04	0	CONTROL HEIGHT	4		closed	closed	
I5-06	0	LABEL AND INDICATOR VISIBILITY	4		closed	closed	
I5-07	0	CONTROL SHAPE CODING	4		closed	closed	
I5-08	0	LABEL AND POINTER VISIBILITY	4		closed	closed	

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
15-09	0	EMERGENCY CONTROL IDENTIFICATION	4		closed	closed	
LER-02	2/91	INAPPROPRIATE OPERATION OF FEEDWATER INLET VALVE	4		closed	closed	closed for Unit 2&3 since last submittal
LER-16	2/91	IMPROPER VALVE ALIGNMENT	4		closed	closed	closed for Unit 2&3 since last submittal
NRC2-01	0	DUEL GRID CHART RECORDER	4		closed	closed	
NRC2-02	0	EXTRA SCALE ON CHART	4		closed	closed	
NRC2-03	0	LABEL TERMINOLOGY	4		closed	closed	
P1-04	0	ANNUNCIATOR RESPONSE CARD IDENTIFICATION	4		closed	closed	
P3-05	0	PROCEDURAL RESULTS DESCRIPTIONS	4		closed	closed	closed for Unit 2&3 since last submittal
P3-07	0	OPERATING LIMIT SPECIFICATIONS	4		open	open	Procedure revisions required
SD1-01	0	OPPOSING SURFACES CLOSE	4		closed	closed	
SD3-03	0	AIR EJECTOR INDICATIONS	4		closed	closed	
SD3-04	0	AIR EJECTOR CONTROLS	4		closed	closed	
SD3-06	0	CONDENSATE PANEL CONTROL GROUPING	4		closed	closed	
SD3-07	2/91	CONDENSATE RECIRC INDICATION	4		closed	closed	closed for Unit 2&3 since last submittal
SD3-08	0	TURBINE DRAIN CONTROLS	4		closed	closed	
SD3-09	0	DRAIN TANK DUMP INDICATIONS	4		closed	closed	
SD3-10	0	DRAIN TANK DRAINS	4		closed	closed	
SD3-11	0	RECIRC INDICATIONS NOT GROUPED	4		closed	closed	
SD3-12	0	CRD INDICATIONS	4		closed	closed	
SD3-13	0	HPCI CONTROLS	4		closed	closed	
SD3-15	0	CONTROL ARRANGEMENT	4		closed	closed	
SD3-20	0	CONTAINMENT VENTILATION CONTROL ARRANGEMENT	4		closed	closed	
SD3-22	0	DRYWELL PRESSURE INDICATOR ARRANGEMENT	4		closed	closed	
SD3-26	0	CONTROL GROUPING	4		closed	closed	closed for Unit 3 since last submittal
SD3-27	0	CONTROL COLOR CODING	4		closed	closed	
SD4-01	0	LABEL LOCATION	4		closed	closed	
SI1-01	0	HIGH MODULE LOCATION/READABILITY	4		closed	closed	
SI1-02	0	MULTI-SCALE INDICATORS	4		open	open	Modification required
SI2-01	0	RECORDER LOCATION LOW	4		closed	closed	
SI2-03	0	REACTOR PRESSURE INDICATION	4		open	open	Modification required
SI2-04	0	RECORDER SCALE MARKINGS	4		open	open	Modification required
SI2-05	0	SELECTOR LIGHT COLOR	4		closed	closed	
SI3-01	0	RECORDER PEN COLORS	4		closed	closed	
SP1-01	0	REMOTE SHUTDOWN PANEL PROCEDURES	4		closed	closed	
TA1-15	0	REACTOR PRESSURE 1090 PSIG	4		open	open	Scale marking required
TA1-24	0	HPSW TO RHR DRAIN	4		closed	closed	
TA1-25	0	REACTOR PRESSURE 330 PSIG	4		closed	closed	
TA1-27	0	REACTOR PRESSURE 150 PSIG	4		closed	closed	
TA1-28	0	REACTOR/TORUS P	4		closed	closed	
TA1-29	0	REACTOR PRESSURE 210, 270, 630	4		open	open	Scale marking required
TA1-30	0	PROCEDURAL REFERENCE	4		closed	closed	
TA1-31	0	PROCEDURAL REFERENCE	4		closed	closed	
TA1-32	0	GENERATOR LOAD 5%	4		closed	closed	

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
TA1-33	0	CORE MAP GREEN LIGHT	4		closed	closed	
VW-03	0	TURBINE SPEED LABEL	4		closed	closed	
VW-07	0	TORUS INSTRUMENT COLOR PADS	4		closed	closed	
VW-08	0	HPSW TO LPCI MIMIC	4		closed	closed	
VW-09	0	HPCI TURBINE PB COLOR	4		closed	closed	closed for unit 3 since last submittal
VW-10	0	LOCATION OF RX INSTRUMENTS	4		closed	closed	
VW-13	0	T-200 SERIES INFORMATION	4		open	open	unit 2 status changed to open; panel names to be added to procedures; procedure revisions required
VW-14	0	T-220 STEP NOT CLEAR	4		closed	closed	
A1-05	0	ANNUNCIATOR MARKINGS	5		closed	closed	
A1-11	0	ANNUNCIATOR FIRST-OUT FEATURE	5		closed	closed	
D6-01	0	TEMPORARY LABELS	5		closed	closed	
D6-02	0	TEMPORARY LABEL APPLICATION	5		closed	closed	
D6-03	0	TEMPORARY LABEL STANDARDS	5		closed	closed	
D6-04	0	TEMPORARY LABEL LOCATION	5		closed	closed	
D6-05	0	TEMPORARY LABEL ADMINISTRATIVE PROCEDURE	5		closed	closed	
D7-02	0	ECCS PANEL ACCESS	5		closed	closed	
E1-01	0	PANEL ACCESS AND COMMUNICATION	5		closed	closed	
E1-05	0	P.A. SYSTEM AUDIBILITY	5		closed	closed	
E3-01	0	CONTROL ROOM TRAFFIC	5		closed	closed	
E3-04	0	PORTABLE RADIATION MONITORING EQUIPMENT	5		closed	closed	
E3-07	0	EMERGENCY LIGHTING	5		closed	closed	
E4-01	0	AMBIENT NOISE LEVELS	5		closed	closed	
I1-02A	0	INAPPROPRIATE CONTROL POSITIONS	5		closed	closed	
I2-05	0	RECORDER SCALE COMPATABILITY	5		closed	closed	
I2-04	0	RECORDER INK	5		closed	closed	
I3-09	0	CHART RETENTION PROCEDURE	5		closed	closed	
LER-01	0	MAIN STEAM RAD. MONITOR DRIFT	5		closed	closed	
LER-05	0	INSTRUMENT OPERABILITY REQUIREMENTS	5		closed	closed	
LER-07	0	TECHNICAL SPECIFICATION MODIFICATIONS AVAILABILITY	5		closed	closed	
LER-13	0	SELECTOR SWITCH LABELING	5		closed	closed	
LER-15	0	INSUFFICIENT IRM INPUT	5		closed	closed	
LER-20	0	RECIRCULATION PUMP STARTUP	5		closed	closed	
M1-01	0	PRINT MODIFICATIONS	5		closed	closed	
M1-02	0	PROCEDURE MODIFICATIONS	5		closed	closed	
M1-03	0	MAINTENANCE TAGOUTS	5		closed	closed	
NRC2-06	0	DRYWELL PRESSURE CHART PAPER	5		closed	closed	
NRC2-07	0	MISSING ENGINEERING UNIT	5		closed	closed	
P1-01	0	PROCEDURE AVAILABILITY	5		closed	closed	
P1-02	0	PROCEDURE USE	5		closed	closed	
P1-05	0	PROCEDURES INDEX	5		closed	closed	
P1-06	0	CODING OF EMERGENCY PROCEDURES	5		closed	closed	
P1-07	0	PROCEDURE INDEXING	5		closed	closed	
P2-01	0	ADMINISTRATIVE PROCEDURE SPECIFICITY	5		closed	closed	
P3-01	0	PROCEDURAL WORDING	5		closed	closed	
P3-02	0	PROCEDURE NOTES CONSISTENCY	5		closed	closed	

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
P3-03	0	PROCEDURE DISCRIMINABILITY	5		closed	closed	
P3-04	0	PROCEDURE CLARITY	5		closed	closed	
P3-06	0	ANNUNCIATOR ALARM SETPOINTS	5		closed	closed	
P3-08	0	PROCEDURAL CONTINGENCY ACTIONS	5		closed	closed	
P3-09	0	PROCEDURE REFERENCES	5		closed	closed	
P3-10	0	MANUAL OVER-RIDE	5		closed	closed	
P4-02	0	OPERATOR CHANGES	5		closed	closed	
P5-01	0	RECORDING LOG ENTRY TIME	5		closed	closed	
P5-02	0	CHART MARKING	5		closed	closed	
P5-03	0	LOG RETENTION TIME	5		closed	closed	
SE2-01	0	ILLUMINATI - LEVELS	5		closed	closed	
SE2-02	0	ILLUMINATION AND SHADOWING	5		closed	closed	
SE2-03	0	DISPLAY GLARE	5		closed	closed	
T1-01	0	COMPUTER TRAINING	5		closed	closed	
T1-02	0	ADMINISTRATIVE GUIDELINES	5		closed	closed	
C1-01	0	PRINTER USE	6		closed	closed	
C1-02	0	AUTO-RESTART CAPABILITY	6		closed	closed	
C1-03	0	PROCESSOR REDUNDANCY	6		closed	closed	
D1-01	0	ANNUNCIATOR HEIGHTS	6		closed	closed	
D1-03	0	CONSOLE HEIGHT	6		closed	closed	
D2-01	0	CONTROL DISTINCTION	6		closed	closed	
D5-08	0	INCORRECT LABEL	6		closed	closed	
D7-05	0	PANEL VISIBILITY	6		closed	closed	
E1-03	0	AUDITORY ALARM PRIORITIZATION	6		closed	closed	
E1-04	0	PHONE/RADIO AUDIBILITY	6		closed	closed	
E3-06	0	FOUNTAIN LOCATIONS	6		closed	closed	
I1-02	0	CONTROLLER MARKINGS	6		closed	closed	
I3-06	0	RECORDER CHART PAPER	6		closed	closed	
I4-01	0	LAMP TESTING	6		closed	closed	
I5-10	0	KEY-LOCK SWITCHES	6		closed	closed	
LER-03	0	COORDINATION OF OPERATIONS AND MAINTENANCE ACTIVITIES	6		closed	closed	
LER-04	0	TECHNICAL SPECIFICATION VIOLATION	6		closed	closed	
LER-09	0	VALVE STATUS PROCEDURAL REQUIREMENTS	6		closed	closed	
LER-10	0	COORDINATION BETWEEN OPERATIONS AND TESTING ACTIVITIES	6		closed	closed	
LER-11	0	VALVE BLOCKING PROCEDURAL REQUIREMENTS	6		closed	closed	
LER-12	0	TEST EQUIPMENT ISOLATION PROCEDURAL REQUIREMENTS	6		closed	closed	
LER-17	0	IMPROPER SYSTEM OPERATION	6		closed	closed	
NRC1-01	0	TORUS RECORDERS SCALES	6		closed	closed	
NRC2-08	0	TERMINOLOGY	6		closed	closed	
NRC2-09	0	CONTAINMENT ISOLATION PANEL LABELS	6		closed	closed	
NRC2-10	0	COLORS ARE REVERSED	6		closed	closed	
P1-03	0	ANNUNCIATOR RESPONSE PROCEDURE LOCATION	6		closed	closed	
SD2-01	0	SUPERVISOR'S STATION	6		closed	closed	
SD3-24	0	CONTROL CONSISTENCY	6		closed	closed	
S14-01	0	KEY SWITCHES	6		closed	closed	
TA1-03	0	REACTOR POWER 3%	6		closed	closed	

HED NUMBER	REV	TITLE	PRI	SCHEDULE	STATUS UNIT 2	STATUS UNIT 3	COMMENTS
TA1-12	0	REACTOR PRESSURE RESOLUTION	6		closed	closed	
TA1-13	0	REACTOR PRESSURE 950 PSIG	6		closed	closed	
TA1-14	0	RHR DISCHARGE PRESSURE	6		closed	closed	
TA1-18	0	TORUS LEVEL 12.5 FEET	6		closed	closed	
TA1-19	0	TORUS LEVEL RANGE	6		closed	closed	
TA1-26	0	ADS SOLENOID ENERGIZED	6		closed	closed	
VW-02	0	13 KV MANUAL TRANSFER	6		closed	closed	
VW-05	0	ADD WATER TO VESSEL	6		closed	closed	

ATTACHMENT 2

Revised Human Engineering Discrepancy (HED)
Assessment Forms

HED No. D3-02

HED No. I2-06

HED No. I3-07

HED No. LER-02

HED No. LER-16

HED No. SD3-07

HED No. SD5-02

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. D3-02
EP= 6 PRI: See attached
Code: See attached

TITLE:
Component Arrangement

COMMENT:
Some conponents are not arranged in the expected manner.

Item: 4.1.3.2 Ref: A3.2 Source: CRS

IDENTIFICATION: Panel: 20C12, 30C12, 20C123, 20C43, 30C43
Component Name: See below
ID or Number: See below

DESCRIPTION:

"B" chilled water drywell isolation valves are above the "A"valves (C12); "B" recircu.ation pump chilled water flow indicatoris left of "A" indicator (C12); valve MO-3972 for Unit 3 is above the corresponding valve for Unit 2 (C123); conponents on 20C43 and 30C43 are not ordered identically.

RESOLUTION: (Sched: Complete)

See attached.

TRAINING REQUIREMENTS:
Provide training to operators on enhancement scheme prior to implementation in the control room and during licensing training.
See HED ST1-01

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

(1) Add'l page(s) attached

Resolution:

20C19-20C12 Code: F, PRI: 4

a. These valves are in series and must be operated together. Changing location will not improve operation. A plant modification has removed the indications.

20C123 Code: F, PRI: 4

b. These are ESW isolation valve controls. They are located on the same panel common to both units. This arrangement is considered to be adequate. The panel has been enhanced to clarify relationships.

20C43- Code: F, PRI: 4

c. Controls and displays are ordered identically, however, 20C43 has two controls (OAP57, OBP57) and two displays (PI0236AX, PI0236BX) not found on 20C43. There are no ESW controls or indications on the Unit 3 Remote Shutdown Panel. This is a common system to both units. A note will be added to Unit 3 RSP to remind the operator that they are located on the Unit 2 panel.

REASON FOR REVISION

Resolution for Item b has been revised to delete the statement that the ESW isolation valve controls will both be operated at the same time. The schedule has been changed from "none" to "complete".

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. I2-06
EP= 4 PRI 4
Code A

TITLE:
Scale Compatability

COMMENT:
Several scales used for comparative readings use varying scales.

Item: 4.2.2.6 Ref: B2.10 Source: CSR

IDENTIFICATION: Panel: 20C05A, 20C08A
Component Name: See below
ID or Number: 05A: PI-2-06-90A,B,C
08A: PI-2177A, 2179A

DESCRIPTION:
In several instances, indicating devices used scales that did not facilitate comparative readings: for example, RX PRESSURES A & B on the reactor panel are in actual values while RX PRESSURE C uses a x100 scale.

RESOLUTION: (Sched: Complete)

1. 20C05A: This is the same discrepancy as that identified and documented on HED ASSESSMENT No. SI2-03. This discrepancy will be tracked and resolved in accordance with HED No. SI2-03 and therefore this HED (I2-06) will be treated as a completed item.
2. 20C08A: These scales measure different stages of the LP turbine and cover different ranges. They cannot use the same scales. Not considered a discrepancy.
than track the same discrepancy on different HEDs.

REASON FOR REVISION: Revised Schedule from "None" to "Complete" because the discrepancy concerning the Pressure indicators on panel C05A is being resolved in accordance with HED SI2-03 and the scales on panel C08A were found to be acceptable without changes.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. I3-07
EP = 8 PRI 2
Code E

TITLE:
Recorder Pen Colors

COMMENT:
Recorder pen color associations are not specified.

Item: 4.2.3.7 Ref: B3.10 SOURCE: CRS

IDENTIFICATION: Panel: All not yet identified - Supplementary Survey Item.
Component Name: Same as above.
ID or Number: Same as above.

DESCRIPTION:
Multipen recorder labels do not specify pen color associations. This makes it difficult to determine which parameter is which.

RESOLUTION: (Sched: 2nd Refuel)

Provide labels which specify pen color associations arranged in the same order as the colored pens and associated scales.

Reason For Revision: The original resolution stated specific pen colors used on multipen recorders, however other pen color combinations not stated (ie. red & blue two pen recorders) are also used. This revised resolution is applicable to all multipen recorders.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. LER-02
EP= N/A PRI: 4
Code: A

TITLE:
Inappropriate operation of Feedwater Inlet Valve

COMMENT:
Feedwater Inlet valve was not properly closed.

Item: N/A Ref: 3-81-14/1T Source: LER Review

IDENTIFICATION: Panel: 20C05A
Component Name: Feedwater Inlet Valve
ID or Number: MO-2-02-029B

DESCRIPTION:
While attempting to maintain reactor vessel level, improper use of the Feedwater Inlet Valve caused vessel level to increase above the main steam lines resulting in reactor pressurization.

MITIGATING CONSIDERATIONS:
Operation of these valves are restricted by mechanical devices. These are required prior to startup.

RESOLUTION: (Sched: Complete)

Improved procedural guidance has been provided. Plant operating experience over the past several years since the discrepancy was identified has not indicated any operational difficulties associated with the control of this valve, no additional LERs relating to this issue have been initiated and therefore the installation of a caution tag is not required.

REASON FOR REVISION: Panel and Equipment ID numbers have been corrected and the resolution has been revised to delete the need to install a caution tag based on improved operating procedures.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. LER-16
EP= N/A PRI: 4
Code: A

TITLE:
Improper Valve Alignment

COMMENT:
Operating failed to close feedwater inlet valves according to procedure for long path recirculation.

Item: N/A Ref: 3-84-04 Source: LER Review

IDENTIFICATION: Panel: N/A
Component Name: N/A
ID or Number: N/A

DESCRIPTION:
In setting up feedwater system for long path recirculation, operator failed to close Feedwater Inlet Valves according to procedure. This led to injecting condensate into the reactor vessel and increasing reactor pressure.

MITIGATING CONSIDERATIONS:
Operation of these valves are restricted by mechanical devices. Thes are required prior to startup.

RESOLUTION: (Sched: Complete)
Improved operating procedures for long path recirculation have been provided. Plant operating experience over the past several years since the discrepancy was identified has not indicated any operational difficulties associated with setting up the feedwater system for long path recirculation, no additional LERs relating to this issue have been initiated and therefore the installation of a caution tag is not required.
REASON FOR REVISION: Resolution revised to delete the need to install a caution tag based on improved operating procedures.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. SD3-07
EP= N/A PRI: 4
Code: A

TITLE:
Condensate Recirc Indication

COMMENT:
Position indication lights not grouped with related controls.

Item: N/A Ref: A3.1 Source: SCRS
TDA

IDENTIFICATION: Panel: 20C07A
Component Name: Cond Recirc
ID or Number: 148

DESCRIPTION:

The Condensate controls are located on the right side of the benchboard. The recirculation valve indicating lights are located on the left side with Screen Wash and Circ Water valve controls.

RESOLUTION: (Sched: Complete)
The indicating lights have been relocated to the right side of the panel above Recirc Flow controller FC-2110 and below Recirc Flow indicator FI-2110.

REASON FOR REVISON: Indicating lights have been relocated and grouped with related controls as opposed to being removed per the original resolution.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached

PEACH BOTTOM
HED ASSESSMENT
REVISED 2/91

HED No. SD5-02
EP = N/A PRI 3
Code A

TITLE:
Control Position Escutcheons

COMMENT:
Chilled Water System controls missing position labels.

Item: N/A | Ref: TDA A5.1 | SOURCE: SCRS

IDENTIFICATION: Panel: 20C12
Component Name: Chilled Water System Controls
ID or Number: MO-20246, MO-20245, AO-20268-1, AO-20268-2

DESCRIPTION:
These four thumbknob controls do not have escutcheons to mount position labels. As a result, labels are attached to the panel for two of the controls and AO-20268-1 and AO-20268-2 are not labeled.

RESOLUTION: (Sched: None)
Labels are used to identify the control positions for MO-20246 and MO-20245 in lieu of escutcheons because of the lengthy position terminology required and limited available space on standard excutcheons. The label installations are acceptable.
Escutcheons have been provided for AO-20268-1 and AO-20268-2 to indicate the open and close control positions.

Reason For Revision: AO-20268-2 has been added to the list of components and the original problem description has been rewritten based on re-examination of the panel photographs depicting the configuration at the time this HED was first identified. The resolution has been revised to accept labels attached to the panels to indicate control positions for two of the four identified controls.

TRAINING REQUIREMENTS:
None

PROCEDURE REQUIREMENTS:
None

Team Approval Signatures:

Operations

Engineering

Human Factors

( ) Add'l page(s) attached