



# THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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*Serving The Best Location in the Nation*  
**PERRY NUCLEAR POWER PLANT**

**Al Kaplan**

VICE PRESIDENT  
NUCLEAR GROUP

February 10, 1989  
PY-CEI/NRR-0946L

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
License Amendment Request;  
Detailed Control Room Design Review -  
First Refuel HED Revisions Report

Gentlemen:

The Cleveland Electric Illuminating Company (CEI) hereby requests amendment of Attachment 1 of the Facility Operating License NPF-58 for the Perry Nuclear Power Plant, Unit 1. In accordance with the requirements of 10CFR50.91(b)(1), a copy of this request for amendment has been sent to the State of Ohio as indicated below.

This Amendment requests an addition to Attachment 1 of the Operating License to provide reference to the "Detailed Control Room Design Review - First Refuel HED Revisions Report" which is provided in the enclosure to this letter. Attachment 1 to this letter provides a summary of the requested change, the Significant Hazards Analysis, and the Environmental Impact Appraisal. Attachment 2 of this letter provides the proposed revisions to Attachment 1 of the Operating License. Enclosure 1 provides the Detailed Control Room Design Review - First Refuel HED Revisions Report. The HED Report Sheets presented in Enclosure 1 of this letter also supersede the Report Sheets that were contained in Attachment 2 of our letter dated October 12, 1987 (PY-CEI/NRR-0728 L).

Should you have any questions, please feel free to call.

Very truly,

Al Kaplan  
Vice President  
Nuclear Group

AK/njc

Enclosures/Attachments

cc: K. Connaughton

T. Colburn

J. Harris (State of Ohio)

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### Summary

The initial Human Engineering Deficiency (HED) commitments were made in the 1985-1986 time frame, prior to operation of the Perry Nuclear Power Plant. The Perry Plant has gained valuable operating experience since the initial HED commitments were made, therefore, a reassessment of the HED's scheduled for the first refueling outage has been performed. This reassessment ensures that the proposed fixes are still appropriate and that the maximum possible benefit is obtained from the implementation of the HED's.

The results of the reassessment are provided in the enclosed "Detailed Control Room Design Review- First Refuel HED Revisions Report", Enclosure 1 to this letter. A short summary description of each change to the HED Report Sheets is provided in Section 1 of the report, and the Report Sheets themselves are found in Section 2 of the Report. As noted in the summary descriptions, the changes to the HED Report Sheets provide additional information on what instruments are associated with the HED's or how the original HED comment has been/is being resolved.

This Operating License Amendment is requested in order to add a reference to this letter and the enclosed Report into the Operating License, Attachment 1.

### Significant Hazards Analysis

Per the requirements of 10CFR50.92, CEI has performed a Significant Hazards Analysis to ensure that the operation of the Perry Nuclear Power Plant in accordance with this proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident or (3) involve a significant reduction in the margin of safety.

This proposed Amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated since it only involves the addition of an additional reference into Attachment 1 of the Operating License. Each of the proposed changes to the HED Report Sheets themselves have been reviewed against previously evaluated accidents and were determined to also not increase the probability or consequences of such accidents since they do not affect possible initiating events for accidents previously analyzed, system functional requirements or safety analysis assumptions. This review also determined that operator response to previously evaluated accidents would not be affected.

The proposed Amendment does not create the possibility of a new or different kind of accident since it only involves the addition of an additional reference into Attachment 1 of the Operating License. The proposed changes to the HED Report Sheets also do not create this possibility since they do not affect plant systems or structures in such a manner that could initiate any new or different accidents, since they do not adversely affect any system functional requirements nor plant maintenance or operability requirements.

The proposed Amendment does not involve a significant reduction in the margin of safety since it only involves the addition of an additional reference to Attachment 1 of the Operating License. The proposed changes to the HED Report Sheets do not involve a significant reduction in the margin of safety since they do not affect any Updated Safety Analysis Report (USAR) assumptions or Technical Specification bases.

#### Environmental Impact

The Cleveland Electric Illuminating Company has reviewed the proposed Operating License Amendment against the criteria of 10CFR51.22 for environmental considerations. As shown above, the proposed change does not involve a significant hazards consideration, nor increase the types and amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, CEI concludes that the proposed Operating License Amendment meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

NJC/CODED/1717



ATTACHMENT 2

TO

PY-CEI/NRR-0946 L

REVISED ATTACHMENT 1 TO NPF-58



~~November 13, 1986~~

ATTACHMENT 1

TO NPF-58

DETAILED CONTROL ROOM DESIGN REVIEW

Before start of the 100-hour warranty run, CEI shall implement corrections to human engineering discrepancies per commitments in Supplement 2 to the Detailed Control Room Design Review Summary Report, dated May 28, 1986, and in a letter from M. R. Edelman to W. R. Butler, dated August 26, 1986.

Before startup following the first refueling outage, CEI shall implement corrections to human engineering discrepancies per commitments in

- (a) the Detailed Control Room Design Review Summary Report, dated January 10, 1985.
- (b) Supplement 1 to the Detailed Control Room Design Review Summary Report, dated October 14, 1985.
- (c) Revision 1 to Supplement 1 to the Detailed Control Room Design Review Summary Report, dated October 21, 1985.
- (d) Supplement 2 to the Detailed Control Room Design Review Summary Report, dated May 28, 1986.
- (e) The Control Room Validation Summary Report, dated July 11, 1986.
- (f) Errata sheets to Supplement 2 to the Detailed Control Room Review Summary Report, attached to Letter PY-CEI/NRR-0510 L, dated July 29, 1986.
- (g) Detailed Control Room Design Review - First Refuel HED Revisions Report, attached to Letter PY-CEI/NRR-0946L, dated February 10, 1989.

Before startup following the first refueling outage, CEI shall also provide results of the final sound surveys in the control room and at the remote shutdown facilities for NRC review per the commitment in Supplement 1 to the Detailed Control Room Design Review Summary Report, dated October 14, 1985.

Before startup following the second refueling outage, CEI shall complete the augmented verification of human engineering discrepancy corrections implemented after full-power licensing per the commitment in Supplement 2 to the Detailed Control Room Design Review Summary Report, dated May 28, 1986. CEI shall also correct any problems identified by the augmented verification before startup following the second refueling outage per the commitment in a letter from M. R. Edelman to W. R. Butler, dated August 26, 1986.

ENCLOSURE 1

TO

PY-CEI/NRR-0946L

DETAILED CONTROL ROOM DESIGN REVIEW -  
FIRST REFUEL HED REVISIONS REPORT

Detailed Control Room Design Review  
First Refuel HED Revisions Report

1. SUMMARY DESCRIPTIONS OF HED REASSESSMENT CHANGES.

The following provides a short summary description of the first refuel Human Engineering Deficiency (HED) reassessment changes. The detailed changes may be found on the individual HED Report Sheets which are located in Section 2 of this Report.

<u>HED #</u>	<u>REV</u>	<u>CHANGE</u>
33	2	The Verification section was revised based on new operating experience. The yellow annunciator demarcation was found to be of no real benefit and will be removed instead of making the color less distinctive.
80	2	Added an attachment sheet identifying all of the instruments that will be modified by this HED.
81	2	Added additional instruments to the attachment sheet identifying all of the instruments that will be modified by this HED.
84	2	Added an attachment sheet identifying all of the instruments that will be modified by this HED.
96	2	Deleted the location of the small nameplate from the Human Factors Review section.
100	2	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
102	2	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
105	2	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
107	1	The HED Implementation Section has been changed from "Fix and None" to "None". The four (4) leak detection indicators on P632 will remain as is since these meters are used only for calibration and surveillance. The pointers only partially obscure the scale and do not significantly impair the readability of the scale. This HED is considered closed.



<u>HED #</u>	<u>REV</u>	<u>CHANGE</u>
182	3	The Correction Schedule Section was modified to remove the specification to provide function keys that do not collect dirt. Engraved function keys will be provided. However, special keys are not required since dirt collection is not as much of a problem as it was during the construction phase.
195	2	The verification "corrects HED" was changed from "PARTIAL" to a "YES". Since all control room printers have the capability of either storing data or sending information to a backup printer while paper is being loaded, an alarm is not required. See Human Factors Review for revised response. This HED is considered closed.
328	1	The first refueling implementation to move the indicating light is not necessary. The fuel load implementation to provide an enhanced mimic adequately corrects the HED. This HED is considered closed.
363	1	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
365	2	The Human Factors Review Section was revised to explain why the four (4) P53 valves are separated from the other P53 valves and therefore do not need to be placed in MPL order with the other P53 valves. This HED is considered closed.
370	2	Revised the Human Factors Review Section to provide further clarification on keylocked switch philosophy and identified which switches will be modified.
501	1	The HED Implementation Section was changed from a "FIX" to a "DISAGREE". The procedure step referenced in the description has been revised, therefore the deficiency no longer exists. This HED is considered closed.
508	1	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
511	1	The HED Implementation Section has been changed from a "FIX" to a "MODIFY". The verification section was revised to justify leaving the indicating lights at their present locations, since the installation of the demarcation and labeling has provided adequate resolution of this HED. This HED is considered closed.

<u>HED #</u>	<u>REV</u>	<u>CHANGE</u>
514	1	Revised the Human Factors Review Section to say that remote shutdown throttle valve controls will be labeled on the switch handles instead of being color coded.
515	1	Revised the Human Factors Description and Review Sections to correct the color coding of a few permissive indicating lights that were not previously identified. In addition, we will continue to use the existing blue neon bulbs. However, they will be replaced periodically to ensure maximum visibility.
521	1	Revised the Human Factors Review Section to provide for correction of five switches that were not previously identified.
526	1	The Implementation Section was changed from "fix" to "disagree" to delete the recommendation for providing a workstation at the Division 2 remote shutdown panel since the nearby Division 1 panel provides adequate work station and storage space. This HED is considered closed.
527	1	Changed the Human Factors Review Section to reference HED-84 for meter banding implementation.
602	1	Changed Human Factors Review Section to add a maintenance and calibration jack to the control room diesel/generator panel.
603	1	Added the fact that the phones are color coded in the Human Factors Review Section.
606	1	Revised the Human Factors Review Section to delete the proposal to add PA loudspeakers outside the primary operating area of the Control Room, in order to minimize noise levels.
607	1	Revised the Human Factors Review Section to install position collars on the Cutler Hammer Rotary pushbuttons.
608	1	The HED Implementation Section was changed from a "FIX" to "MODIFY". The process computer CRT will be used to identify the parameters being displayed on the digital display instead of using a scribble plate. This HED is considered closed.
611	1	Changed Human Factors Review Section to add the modification of the indicator scales so that they will both have the same scale numbers and increments.

<u>HED #</u>	<u>REV</u>	<u>CHANGE</u>
612	1	The HED Implementation Section has been changed from a "fix" to a "disagree". The recirculation pump vibration reset switch indication is correctly designed. This HED is considered closed.
615	1	The Human Factors Review Section was revised to add the modification to the "RFPT Trip" annunciator logic so it will not clear after the discharge valve closes. The new alarm window nomenclature was improved.
1012	2	Revised the Human Factors Review Section to delete the proposed change to the E51-F005 drain valve control switch since it is consistent with the other drain valve controls.
1019	3	Revised the Human Factors Review Section to identify the three local panels that will be modified to prevent masking of other alarms.

## 2. FIRST REFUEL REVISED HED REPORT SHEETS

The attached pages provide copies of the Human Engineering (HED) Report Sheets which have been revised to reflect the reassessment of the HED's scheduled for the first refueling outage. The changes to the Report Sheets are summarized in Section 1 (above) of this Report.

Prior to the reassessment, 64 HED's were scheduled for first refueling outage implementation. As a result of the reassessment, nine (9) HED's are proposed for closure and fifty-five (55) remain as first refueling commitments as shown below:

29, 33, 72, 74, 76, 77, 80, 81, 84, 94, 96, 100, 102, 105, 110, 158, 182, 313, 314, 320, 354, 360, 363, 364, 366, 370, 408, 506, 508, 509, 512, 513, 514, 515, 521, 525, 527, 528, 529, 601, 602, 603, 604, 606, 607, 609, 610, 611, 613, 614, 615, 616, 1012, 1019, 1036.



## HED REPORT SHEET

HED-33 REV. 2

HED DESCRIPTION: Annunciator windows have not been grouped by type; i.e., informational and diagnostic alarms are not segregated from trips and warnings. B3.11 (4.3.4)

HUMAN FACTORS REVIEW: An integrated detailed review of Control Room annunciator windows has been conducted. Alarm prioritization, location, alarm logic, readability, terminology and adherence to standard abbreviations were reviewed to aid immediate operator response. Annunciator windows throughout the control room are grouped by panel section. Annunciator trip alarms that were rearranged into functional groups were the following: DG initiation and trip; ECCS initiation; RCIC initiation, turbine trip and isolation; SPMU initiation; Main Steam Line isolation; NS4 isolation; SRV; ADS; and RPS. This arrangement will improve the man-machine interface with those systems requiring prompt attention and immediate operator action. Annunciator priority has been established by a consistently applied color code. This annunciator improvement has been introduced at the simulator.

H.F. GUIDELINES: NUREG 0700, Section 3; Annunciators

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? NO INCREASE ERROR POTENTIAL? NO

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? Yes

Previous reviews had identified that the color coding used for demarcation around annunciator windows is too distinctive. Further operational experience reviews indicate that the color coded annunciator demarcation is not only too distinctive but it is of no real benefit to the operators and in some cases has caused confusion. It is felt that the regrouping of the annunciators into functional groups combined with the use of priority color coding of the annunciator windows is acceptable and that the demarcation around the annunciators should be removed.

FIRST REFUEL - CORRECTS HED? \_\_\_\_ NEW HED? \_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load  
WORK COMPLETE 12/5/85

PLANNED COMPLETION Prior to startup following first refuel.  
Delete annunciator demarcation.

WORK COMPLETE \_\_\_\_\_

## REFERENCES:

1) DCP 880079

HED REPORT SHEETHED-80 REV. 2

HED DESCRIPTION: The following indicators possess greater than 9 intermediate graduations between numbered scale divisions:

Panel 601:	C11R100 B/A CRD PUMPS A/B	
	E51-R601 RCIC PUMP DISCH PRESS	
	E51-R602 MST TO RCIC TURBINE PRESS	
	E22-R601 HPCS PUMP DISCHARGE PRESS	
Panel 001:	SUPPR POOL LEVEL - D23-R240 (RG 1.97)	
Panel 622/623:	All meters	
Panel 632:	EQUIPMENT AREA AMBIENT TEMP = E31-R608	
Panel 642:	SUMP LEVEL - E31-R618 (RG 1.97)	
Panel 669-672:	APRM Indicators	
Panel 823/842:	Bailey Meters - N11-R050, R055	B5.28 (4.2.2.14)
Panel 845:	Several discrepant indicators	
Panel 970:	FPCC SURGE TANK LEVEL A NCC PUMP A and B - G41-R366A,B	
Panel 811:	Several discrepant indicators - N41-R110, S11-R010	
Panel 821:	Several discrepant indicators	

HUMAN FACTORS REVIEW: Instrument scales will be modified to possess less than or equal to 9 intermediate graduations between numbered scale divisions as shown on the attached sheet.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - All RG 1.97 indicator scales  
WORK COMPLETE 9/10/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Remaining indicator scales  
WORK COMPLETE 2/1/89

REFERENCES:

1) Visual Verification

## HED ATTACHMENT SHEET

HED-80-1 REV. 2PRIORITY 1 - FUEL LOAD

<u>MPL</u>	<u>PANEL</u>	<u>COMPLETE</u>
D23-R240	C61-P001	X
E31-R618	H13-P642	X

PRIORITY 2 - PRIOR TO START-UP AFTER FIRST REFUEL

<u>MPL</u>	<u>PANEL</u>	<u>COMPLETE</u>
B21-R614	H13-P614	X
B33-R601	H13-P614	X
C11-R100A	H13-P601-22B	X
C11-R100B	H13-P601-22B	X
C61-R011	C61-P001	X
E22-R601	H13-P601-16B	X
E31-R608	H13-P632	X
E31-R611	H13-P632	X
E51-R602	H13-P601-21B	X
N11-R050	H13-P842	X
N11-R055	H13-P842	X
N21-R216	H13-P842	X
N27-R066	H13-P842	X
N31-R001	H13-P823	X
N31-R002	H13-P823	X
N41-R110	H13-P811	X
N64-R602	H13-P845	X
N64-R610	H13-P845	X
N64-R613	H13-P845	X
N64-R630	H13-P845	X
N71-R216	H13-P842	X
S11-R010	H13-P811	X



HED REPORT SHEET

HED-81 REV. 2

HED DESCRIPTION: Number scale divisions that were not in decimal multiples of 1, 2, or 5 were observed on the following panels:

001	680	870
601	800	904
622	821	970
669/672	823-842	

B5.29 (4.2.2.15)

HUMAN FACTORS REVIEW: Scales will be modified to meet the above criteria for the instruments identified in the attached sheet. A two stage implementation plan will take place. 1) All scales associated with RG 1.97 instrumentation or those found during the task analysis of the PEI's and IOI-11 will be fixed prior to fuel load. 2) The remaining instruments will be modified prior to startup following first refuel.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No  
FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Priority 1  
WORK COMPLETE 9/6/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Priority 2  
WORK COMPLETE                     

REFERENCES:

- 1) Photos: 27, 28
- 2) ECN 28465-86-2240

HED ATTACHMENT SHEETHED-81-1 REV. 2Priority 1 - Fuel Load

MPL	Panel	
E12-R100C	P601-17B	
B21-R623B	P601-17B *	
C41-R600B	P601-18B	* RG 1.97 instrumentation
C41-R600A	P601-19B *	
B21-R623A	P601-20B *	
E51-R601	P601-21B	
E21-R100	P601-21B	
C61-R012	C61-P001	
E22-R601	P601-16B	
D23-R170A	P883 *	
D23-R170B	P883 *	

Priority 2 - Prior to Startup After First Refuel

MPL	Panel	Complete
B21-R610C	H13-P601-20B	X
B21-R610D	H13-P601-17B	X
B21-R659A	H13-P622	X
B21-R659B	H13-P622	X
B21-R659C	H13-P622	X
B21-R659D	H13-P622	X
B21-R660A	H13-P622	X
B21-R660B	H13-P622	X
B21-R660C	H13-P622	X
B21-R660D	H13-P622	X
B21-R661A	H13-P623	X
B21-R661B	H13-P623	X
B21-R661C	H13-P623	X
B21-R661D	H13-P623	X
B21-R662A	H13-P623	X
B21-R662B	H13-P623	X
B21-R662C	H13-P623	X
B21-R662D	H13-P623	X
B33-R602A	H13-P680-4B	X
B33-R602B	H13-P680-4B	X
B33-R603A	H13-P680-4B	X
B33-R603B	H13-P680-4B	X
B33-R605A	H13-P680-4B	X
B33-R605B	H13-P680-4B	X
B33-R651A	H13-P680-4B	X
B33-R651B	H13-P680-4B	X
C11-R100A	H13-P601-22B	X
C11-R100B	H13-P601-22B	X
C11-R601	H13-P601-22B	X
C11-R602	H13-P601-22B	X
C11-R603	H13-P601-22B	X

HED ATTACHMENT SHEETHED-81-2 REV. 2

<u>MPL</u>	<u>Panel</u>	<u>Complete</u>
C61-R010	C61-P001	X
C61-R011	C61-P001	X
C85-R718A	H13-P680-7B	X
C85-R718B	H13-P680-7B	X
C85-R718C	H13-P680-7B	X
C85-R718D	H13-P680-7B	X
C85-R718E	H13-P680-7B	X
C85-R718F	H13-P680-7B	X
C85-R718G	H13-P680-7B	X
C85-R719A	H13-P680-7B	X
C85-R719B	H13-P680-7B	X
C85-R719C	H13-P680-7B	X
C85-R719D	H13-P680-7B	X
C85-R719E	H13-P680-7B	X
C85-R719F	H13-P680-7B	X
C85-R719G	H13-P680-7B	X
D23-R230	C61-P001	X
E12-R605-1	H13-P601-20B	X
E22-R011C	H13-P601-16B	X
E51-R602	H13-P601-21B	X
G33-R600	H13-P680-3B	X
G33-R605A	H13-P680-3B	X
G33-R605B	H13-P680-3B	X
G41-R016	H13-P970	X
G41-R031	H13-P970	X
G41-R077	H13-P970	X
G41-R082	H13-P970	X
G41-R098	H13-P870-2B	X
G41-R101A	H13-P970	X
G41-R101B	H13-P970	X
G41-R106	H13-P870-2B	X
G41-R121	H13-P870-2B	X
G41-R366A	H13-P970	X
G41-R366B	H13-P970	X
G42-R053	H13-P870-2B	X
N11-R011A	H13-P601-19A	X
N11-R011B	H13-P601-19A	X
N11-R011C	H13-P601-19A	X
N11-R011D	H13-P601-19A	X
N11-R122A	H13-P870-6B	X
N11-R122B	H13-P870-6B	X
N11-R127A	H13-P870-6B	X
N11-R127B	H13-P870-6B	X
N11-R141A	H13-P870-6B	X
N11-R141B	H13-P870-6B	X
N11-R146A	H13-P870-6B	X
N11-R146B	H13-P870-6B	X
N11-R191A	H13-P870-6B	X
N11-R191B	H13-P870-6B	X
N11-R196A	H13-P870-6B	X
N11-R196B	H13-P870-6B	X



## HED ATTACHMENT SHEET

HED-81-3 REV. 2

<u>MPL</u>	<u>Panel</u>	<u>Complete</u>
N11-R243A	H13-P680-3B	X
N11-R243B	H13-P680-3B	X
N11-R251A	H13-P680-3B	X
N11-R251B	H13-P680-3B	X
N11-R301	H13-P680-3B	X
N11-R311	H13-P680-3B	X
N11-R382A	H13-P970	X
N11-R382B	H13-P970	X
N11-R387A	H13-P970	X
N11-R387B	H13-P970	X
N11-R406	H13-P870-7B	X
N21-R001	H13-P680-2B	X
N21-R002	H13-P680-2B	X
N21-R003	H13-P680-2B	X
N21-R028	H13-P680-2B	X
N21-R033	H13-P680-2B	X
N21-R051	H13-P680-3B	X
N21-R111	H13-P680-3B	X
N21-R181A	H13-P680-2B	X
N21-R181B	H13-P680-2B	X
N21-R181C	H13-P680-2B	X
N21-R183	H13-P870-7B	X
N21-R191A	H13-P870-2B	X
N21-R191B	H13-P870-2B	X
N21-R256A	H13-P680-2B	X
N21-R256B	H13-P680-2B	X
N21-R256C	H13-P680-2B	X
N21-R276A	H13-P680-2B	X
N21-R276B	H13-P680-2B	X
N21-R276C	H13-P680-2B	X
N21-R348	H13-P680-2B	X
N25-R351A	H13-P870-5B	X
N25-R351B	H13-P870-5B	X
N25-R451A	H13-P870-5B	X
N25-R451B	H13-P870-5B	X
N27-R146A	H13-P680-3B	X
N27-R146B	H13-P680-3B	X
N27-R191	H13-P680-3B	
N27-R295	H13-P680-3B	
N27-R401	H13-P823	X
N27-R416A	H13-P870-8B	X
N27-R416B	H13-P870-8B	X
N27-R421A	H13-P870-8B	X
N27-R421B	H13-P870-8B	X
N27-R426A	H13-P680-3B	X
N27-R426B	H13-P680-3B	X
N27-R431A	H13-P870-8B	X
N27-R431B	H13-P870-8B	X
N27-R436A	H13-P870-8B	X
N27-R436B	H13-P870-8B	X

HED ATTACHMENT SHEETHED-81-4 REV. 2

<u>MPL</u>	<u>Panel</u>	<u>Complete</u>
N27-R441A	H13-P870-8B	X
N27-R441B	H13-P870-8B	X
N27-R451A	H13-P870-8B	X
N27-R451B	H13-P870-8B	X
N31-R005	H13-P823	X
N31-R011	H13-P680-15B	X
N31-R012	H13-P680-15B	X
N31-R013	H13-P680-15B	X
N31-R014	H13-P680-15B	X
N31-R015	H13-P680-15B	X
N31-R016	H13-P680-15B	X
N31-R017	H13-P680-15B	X
N31-R018	H13-P680-15B	X
N31-R019	H13-P680-15B	X
N31-R020	H13-P680-15B	X
N31-R021	H13-P680-15B	X
N31-R022	H13-P680-15B	X
N32-R046	H13-P870-9B	X
N32-R704A	H13-P680-8B	
N32-R704B	H13-P680-8B	
N32-R704C	H13-P680-8B	
N32-R704D	H13-P680-8B	
N32-R706A	H13-P680-8B	
N32-R706B	H13-P680-8B	
N32-R706C	H13-P680-8B	
N32-R706D	H13-P680-8B	
N32-R708A	H13-P680-8B	
N32-R708B	H13-P680-8B	
N32-R708C	H13-P680-8B	
N32-R708D	H13-P680-8B	
N32-R708E	H13-P680-8B	
N32-R708F	H13-P680-8B	
N32-R709A	H13-P680-8B	
N32-R709B	H13-P680-8B	
N32-R709C	H13-P680-8B	
N32-R709D	H13-P680-8B	
N32-R709E	H13-P680-8B	
N32-R709F	H13-P680-8B	
N32-R710	H13-P680-8B	
N32-R712	H13-P680-8B	
N32-R713	H13-P680-8B	
N32-R714	H13-P680-8B	
N32-R715	H13-P680-8B	
N33-R181	H13-P870-7B	
N34-R135	H13-P680-15D	X
N36-R341A	H13-P870-4B	X
N36-R341B	H13-P870-4B	X
N36-R341C	H13-P870-4B	X
N36-R441A	H13-P870-5B	X

HED ATTACHMENT SHEETHED-81-5 REV. 2

<u>MPL</u>	<u>Panel</u>	<u>Complete</u>
N36-R441B	H13-P870-5B	X
N36-R481A	H13-P870-5B	
N41-R016	H13-P680-9B	X
N41-R018	H13-P680-9B	X
N41-R019	H13-P680-9B	X
N42-R036	H13-P870-9B	X
N42-R041	H13-P870-9B	X
F11-R125	H13-P870-2B	X
P41-R010	H13-P970	X
P41-R011	H13-P970	X
P41-R012	H13-P970	X
P41-R013	H13-P970	X
P42-R043A	H13-P601-20B	X
P42-R043B	H13-P601-17B	X
P42-R045A	C61-P001	X
P42-R096A	H13-P601-20B	X
P42-R096B	H13-P601-17B	X
P43-R026A	H13-P970	X
P43-R026B	H13-P970	X
P43-R026C	H13-P970	X
P43-R194A	H13-P680-1B	X
P43-R194B	H13-P680-1B	X
P43-R221	H13-P970	X
P43-R350	H13-P970	X
P43-R351	H13-P970	X
P43-R352	H13-P970	X
P43-R602	H13-P800	X
P45-R010	H13-P601-20B	X
P45-R011	H13-P601-17B	X
P45-R033A	C61-P001	X
P45-R054A	H13-P601-20B	X
P45-R054B	H13-P601-17B	X
P45-R055A	C61-P001	X
P45-R102A	H13-P601-20B	X
P45-R102B	H13-P601-20B	X
P45-R178	H13-P601-16B	X
P46-R200	H13-P800	X
P46-R201	H13-P800	X
P47-R290	H13-P904	X
P47-R291	H13-P904	X
P47-P292	H13-P904	X
P51-R112	H13-P870-2B	X
P61-R212	H13-P970	X
P52-R010	H13-P870-2B	X
P52-R102	H13-P870-2B	X
P57-R026A	H13-P601-19B	X
P57-R026B	H13-P601-19B	X
R11-R010	H12-P870-1B	X
R11-R011	H12-P870-1B	X



HED ATTACHMENT SHEETHED-81-6 REV. 2

<u>MPL</u>	<u>Panel</u>	<u>Complete</u>
R11-R012	H12-P870-1B	X
R11-R013	H12-P870-1B	X
R11-R014	H12-P870-1B	X
R11-R015	H12-P870-1B	X
R11-R016	H12-P870-1B	X
R11-R017	H12-P870-1B	X
R11-R018	H12-P870-1B	X
R22-R010	H13-P870-1B	X
R22-R011	H13-P870-1B	X
R22-R012	H13-P870-1B	X
R22-R013	H13-P870-1B	X
R22-R020	H13-P870-1B	X
R22-R021	H13-P870-1B	
R22-R022	H13-P870-1B	
R22-R023	H13-P870-1B	
R22-R024	H13-P870-1B	X
R22-R025	H13-P870-1B	
R42-R010	H13-P870-1B	X
R42-R011	H13-P870-1B	X
R42-R012	H13-P870-1B	X
R42-R013	H13-P870-1B	X
R42-R020A	H13-P877-1B	X
R42-R021	H13-P877-1B	X
R42-R030B	H13-P877-2B	X
R42-R031	H13-P877-2B	X
R42-R040C	H13-P601-16B	X
R42-R041C	H13-P601-16B	X
R42-R100	H13-P870-1B	X
R42-R101	H13-P870-2B	X
R43-R010A	H13-P877-1B	X
R43-R011A	H13-P877-1B	X
R43-R012A	H13-P877-1B	
R43-R020B	H13-P877-2B	X
R43-R021B	H13-P877-2B	X
R43-R022B	H13-P877-2B	

HED REPORT SHEET

HED-84 REV. 2

HED DESCRIPTION: Indicator scales are generally not marked or color coded to indicate normal, marginal and abnormal ranges. B5.33 (4.2.2.1)

HUMAN FACTORS REVIEW: Indicators will be reviewed for consistent and meaningful application of color banding where applicable to indicate normal, marginal and abnormal ranges. A two stage parsimonious implementation is planned since all the specific limits of indicator color banding have not been sufficiently determined. Initially the normal range and important limits will be marked on the scale cover as a temporary fix. Permanent color banding will be provided for selected plant emergency instruction and technical specification related instrumentation as shown on the attached sheets prior to start up following first refuel.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Partial NEW HED? No  
TEMPORARY BANDING DOES NOT FULLY CORRECT THE HED. FURTHER REVIEWS WILL BE CONDUCTED TO ENSURE A CONSISTENT AND MEANINGFUL APPLICATION OF PERMANENT COLOR BANDING.

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Temporary color banding  
WORK COMPLETE 11/23/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Permanent color banding  
WORK COMPLETE                     

REFERENCES:

- 1) Visual Verification

HED REPORT SHEETHED-84-1 REV. 2

<u>HED</u>	<u>PANEL</u>	<u>COMPLETED</u>
B21-R623A	H13-P601-20B	X
B21-R623B	H13-P601-17B	X
C34-R606A	H13-P680-3B	
C34-R606B	H13-P680-3B	
C34-R606C	H13-P680-3B	
C41-R601	H13-P601-19B	
C61-R010	C61-P001	X
C61-R011	C61-P001	X
C61-R030	C61-P002	X
C61-R031	C61-P001	X
D23-R024A	H13-P601-20B	X
D23-R024B	H13-P601-17B	X
D23-R034A	H13-P601-20B	X
D23-R034B	H13-P601-17B	X
D23-R046A	H13-P601-20B	X
D23-R046B	H13-P601-17B	X
D23-R200A	H13-P601-20B	X
D23-R200B	H13-P601-17B	X
D23-R210A	H13-P601-20B	X
D23-R210B	H13-P601-17B	X
D23-R220A	H13-P601-20B	X
D23-R220B	H13-P601-17B	X
D23-R260	C61-P002	X
D23-R270	C61-P002	X
D23-R280	C61-P002	X
E22-R013C	H13-P601-16B	X
E22-R017C	H13-P601-16B	
E31-R614C	H13-P680-1B	X
G43-R013A	H13-P601-20B	X
G43-R013B	H13-P601-17B	X
G43-R022A	H13-P601-20B	
G43-R022B	H13-P601-17B	
G43-R062A	H13-P601-20B	X
G43-R062B	H13-P601-17B	X
G43-R102	C61-P002	X
N11-R011A	H13-P601-19A	X
N11-R011B	H13-P601-19A	X
N11-R011C	H13-P601-19A	X
N11-R011D	H13-P601-19A	X
N21-R181A	H13-P680-2B	X
N21-R181B	H13-P680-2B	X
N21-R181C	H13-P680-2B	X
R22-R020A	H13-P87701B	X
R22-R020C	H13-P601-16B	
R22-R030B	H13-P877-2B	
R22-R043C	H13-P601-16B	X
R42-R100	H13-P877-1B	X
R42-R101	H13-P877-2B	X
R42-R102	H13-P601-16B	X



HED REPORT SHEETHED-84-2 REV. 2

<u>HED</u>	<u>PANEL</u>	<u>COMPLETED</u>
R43-R013A	H13-P877-1B	X
R43-R017A	H13-P877-1B	X
R43-R020A	H13-P877-1B	
R43-R023B	H13-P877-2B	X
R43-R027B	H13-P877-2B	X
R43-R030B	H13-P877-2B	
R45-R011	H13-P601-16B	X
R45-R106	H13-P601-16B	X
R45-R131A	H13-P877-1B	X
R45-R131B	H13-P877-2B	X
R45-R191A	H13-P877-1B	X
R45-R191B	H13-P877-2B	X

HED REPORT SHEETHED-84-2 REV. 2

<u>HED</u>	<u>PANEL</u>	<u>COMPLETED</u>
R43-R013A	H13-P877-1B	X
R43-R017A	H13-P877-1B	X
R43-R020A	H13-P877-1B	
R43-R023B	H13-P877-2B	X
R43-R027B	H13-P877-2B	X
R43-R030B	H13-P877-2B	
R45-R011	H13-P601-16B	X
R45-R106	H13-P601-16B	X
R45-R131A	H13-P877-1B	X
R45-R131B	H13-P877-2B	X
R45-R191A	H13-P877-1B	X
R45-R191B	H13-P877-2B	X

HED REPORT SHEET

HED-96 REV. 2

HED DESCRIPTION: Some chart recorders are provided with dual speed capability while others are not. The operator is given no indication from the front of the panel to distinguish between single and dual speed capabilities. More widespread application of dual speed capability may be desirable, particularly for those parameters closely monitored during transient conditions and the instruments on the emergency shutdown panel. B5.45 (4.2.3.4)

HUMAN FACTORS REVIEW: Dual speed recorders with a switch on the face are properly labeled. Other dual speed recorders with a internal switch will be identified with a nameplate to identify dual speed capability. The ERIS displays provide trending information for critical plant parameters.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Disagree and Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY 1  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior to Start-Up after First Refuel  
WORK COMPLETE                     

REFERENCES:



HED REPORT SHEET

HED-100 REV. 2

HED DESCRIPTION: Recorder scales are generally not marked to indicate normal and abnormal range. B5.49 (4.2.3.10)

HUMAN FACTORS REVIEW: Reference HED-84 for Human Factors Review

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Partial NEW HED? No  
SEE HED-84

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Temporary color banding  
WORK COMPLETE 9/13/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Permanent color banding  
WORK COMPETE                     

REFERENCES:

HED REPORT SHEET

HED-102 REV. 2

HED DESCRIPTION: A given parameter covered by the guidelines may possess several action levels. Suppression Pool water level, for example, has at least eight limits of concern to the operator. Limits or action levels of immediate concern to the operator should be marked in fashion on the indicator or recorder. They may include such points as the top of active fuel for reactor water level, normal operating limits and vacuum breaker elevation for suppression pool level, and low pressure injection system shutoff head for reactor pressure. B5.51 (5.30), B5.52 (5.6)

HUMAN FACTORS REVIEW: Reference HED-84 for Human Factors Review.

H.F. GUIDELINES: NJREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Partial NEW HED? No  
SEE HED-84

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Temporary color banding  
WORK COMPLETE 11/23/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Permanent color banding

WORK COMPLETE                     

REFERENCES:

HED REPORT SHEET

HED-105 REV. 2

HED DESCRIPTION: Alarm points are generally not identified on recorder scales. B5.55  
(4.2.3.2)

HUMAN FACTORS REVIEW: Reference HED-84 for Human Factors Review.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Partial NEW HED? No  
SEE HED-84

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load  
WORK COMPLETE 9/13/85

PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE                     

REFERENCES:

- 1) Visual Verification



HED REPORT SHEET

HED-107 REV. 1

HED DESCRIPTION: Pointers partially obscure scale markings or numerals on round indicators located on Panel 680 and four indicators on Panel 632. B5.57 (4.2.2.7)

HUMAN FACTORS REVIEW: The four leak detection flow switch indicators(E31-R613A, B, C, D) pointers do not totally obscure the scale markings and do not significantly impair the readability of the scale. The indicators are primarily used for calibration and surveillance. The round indicators on P680 for RFPT control valve position, RFPT RPM, GEN FREQUENCY, GEN WATTS, GEN VARS, POWER FACTOR and SYNCHROSCOPE have the pointer obscuring the numerals. The scales are well marked with major and intermediate markings. The pointer partially obscuring the numerals on these non critical plant parameters introduces only very slight risk.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: None

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?        NEW HED?       

CORRECTION SCHEDULE: PLANNED COMPLETION  
WORK COMPLETE N/A

REFERENCES:

- 1) Photos: C1, C2

HED REPORT SHEET

HED-182 REV. 3

HED DESCRIPTION: Computer function keys on the process computer keyboard do not have engraved labels. Some of the keys have only temporary number labels. Functions for some keys are shown on a temporary diagram placed on the panel above the keys. B7.6

ERIS keys have numbers but no function indication. Process Computer function keys are unmarked; a legend sheet is loosely placed on the keyboard. HEO-42

HUMAN FACTORS REVIEW: The ERIS function keys will be provided with labels that will show display function and number. Process computer function keys will be provided with temporary function labels by fuel load. Engraved function keys will be provided prior to start-up after first refuel.

H.F. GUIDELINES: NUREG 0700, Section 7; Computers

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - ERIS function key labels and temporary process computer function labels.

WORK COMPLETE 12/16/85

PLANNED COMPLETION - Prior to start-up after first refuel - Engraved process computer function keys.

WORK COMPLETE 11/8/88

REFERENCES:

1) Photo: P5

HED REPORT SHEET

HED-195 REV. 2

HED DESCRIPTION: Printers must be turned "off" in order to reload paper. This may result in the loss of hard copy data during paper reloading. B7.20

HUMAN FACTORS REVIEW: Control room printers will have the capability to either store data in memory for later retrieval or have automatic transfer to a backup printer during those times that the printer is being reloaded with paper. Since the functions the printers provide is not safety significant or time critical, an alarm is not required.

H.F. GUIDELINES: NUREG 0700, Section 7; Computers

IMPLEMENTATION: FIX

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY \_\_\_\_\_  
SAFETY CONSEQUENCE? \_\_\_\_\_ INCREASE ERROR POTENTIAL? \_\_\_\_\_

VERIFICATION: CORRECTS HED? Yes NEW HED? No

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load  
WORK COMPLETE 9/9/85

REFERENCES:



HED REPORT SHEET

HED-328 REV. 1

HED DESCRIPTION: PEI-1 (3.1.4) Generator breaker mimic is incorrect.

P680-9C S-610-PY-TIE  
P680-9C S-611-PY-TIE  
HEO-61

HUMAN FACTORS REVIEW: The generator breaker mimic will be corrected.

H.F. GUIDELINES: NUREG 0700, Section 6.6; Labels and Aids

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED? Yes NEW HED? No

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Provide permanent mimic  
WORK COMPLETE 11/23/85

REFERENCES:

- 1) FDDR KL1-6100

HED REPORT SHEET

HED-363 REV. 1

HED DESCRIPTION: Indicator scales are generally not marked or color coded to indicated normal, marginal, and abnormal ranges. Refer to HED Attachment Sheet.

HUMAN FACTORS REVIEW: Reference HED-84 for Human Factors Review.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Temporary color banding  
WORK COMPLETE 11/24/85

PLANNED COMPLETION Prior to start-up following first refuel  
- Permanent color banding  
WORK COMPLETE                     

REFERENCES:

- 1) WO 859489, 859788, 9790

HED ATTACHMENT SHEET

HED-363-1

	A5.2	Are labels, legend plated and escutcheons used to identify operational limits or warnings?		
		o Background colors used on panel meters; except on one ammeter.	904	
	B2.1	Are indicating devices marked to show normal or abnormal, or unsafe, or expected to unexpected range of operation where applicable?		
		o Indicating devices not marked.	902,906	
		o No on chiller amps, yes on temp.	904	
PEI-1	2.0.1	Level 3 is not indicated on the following instruments:		
	A.	Wide range meters/recorders	P601	B21-R623A
			P601	B21-R623B
	B.	Narrow range meter	P680-3B	C34-R606A
			P680-3B	C34-R606B
			P680-3B	C34-R606C
	C.	Narrow range recorder	P680-3B	C34-R604
	D.	Narrow range recorder	P680	C34-R608
	E.	Shutdown range level meter	P601	B21-R605
	F.	Upset range recorder	P601	C34-R608
PEI-1	A1-2	HPCS flow has same range as other injection subsystems, however, units are different (GPMx10, vs. GPMx100)		
PEI-1	A1-2	-145" setpoint on RPV water level recorder is not color coded or otherwise uniquely identified, but can be determined from recorder scale.	P601-17B P601-20B	B21-R623B B21-R623A
PEI-1	A3-2	RPV pressure steam cooling limit (700 psig) is not banded or coded on the RPV pressure recorders. The value can be read off the meter <u>if</u> monitored.	P601-20 P601-17	B21-R623A B21-R623B
PEI-1	A4-CS14.b	Top of vessel is not identified on the SHUT-DOWN RANGE WL meter. Operator is required to find vessel height and calculate from instrument zero or remember.	P601-17	B21-R605



HED ATTACHMENT SHEETHED-363-2

PEI-2	2.0	Suppression pool temperature meter does not	P601	D23-R220B
PEI-2	3.0.4	indicate setpoint	P601	D23-R220A
PEI-6	2.0.1	Suppression pool water level scale on	P601-20B	G43-R062A
PEI-6	2.0.2	instruments are not color coded to show	P601-17B	G43-R062B
PEI-6	CS3.0.1	setpoint.	P883	G43-R073A
			P883	G43-R073B
			Procedure	
IOI-11	4.3.12	No normal range band exists on meter for	P001	C61-R005
IOI-11	4.3.12	RHR A flow meter.	P002	C61-R025
IOI-11	4.3.12	Control range for suppression pool	P001	D23-R240
IOI-11	4.3.12	temperature is not indicated on meter face.	P002	D23-R270
IOI-11	4.4.1.10	Procedure directs operator to control RPV	P001	C61-R012
IOI-11	4.4.2.4	level between levels 4 and 7. Instrument	P001	C61-R012
IOI-11	4.4.3.1	scale is in inches with no indication of	P001	C61-R012
IOI-11	4.5 NOTE	level numbers. Operator must remember	PC01	C61-R010
	(Pg. 9,	correspondence between levels numbers and	P001	C61-R012
	4.5.2)	following inches.		
IOI-11	NOTE 2	Suppression pool temperature trip (120°F)	P001	SUPR POOL
	Pg. 9	is not identified by colored band or stripe	P002	TEMP
		or meter.	(4.5)	Recorder
			after	D23-R270
			4.5.2	
SOI-B33	4b	No identification band or color bands on	P680-4B	B33-651A,B
Sect. 5.2		meter.		
SOI-C34	7	The 3800 RPM setpoint should be shown by	P680-3B	N27-R411A,B
6.3	NOTE 2&3	color banding on the meter scale.		
SOI-N27	5	Indication of 7,000 GPM critical flow on	P680-3B	N27-R088A,B
6.4		meter would be helpful.		

HED REPORT SHEET

HED-365 REV. 2

HED DESCRIPTION: PEI-4 (CS3.0.2) Indication of BOP isolation is not very salient. The positions of chilled water valve status lights in matrix differ from Panels 601-18B and P601-19B. Indicators P50-F150 and P50-F060 in P601-19B matrix are in reverse numerical order.

P601-18B  
P50-F060

P50-F140 P601-19B

PEI-7 (3.0.1) Isolation matrices on P601 are not arranged to best identify isolation groups.

P601-19B  
P601-18B

Containment Isolation matrix

HEO-109, HEO-119

HUMAN FACTORS REVIEW: The isolation matrices on P601 will be improved by rearranging valve position indication to identify isolation groups. Within each isolation group, valves will be organized by MPL alphanumeric designation with the exception of P53-F030, F035, F040, F045 which isolate open instead of closed. These indications have been separated from the other "CLOSE" valves to prevent confusion during the isolation

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED? NEW HED?

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load  
WORK COMPLETE 9/19/85

REFERENCES:

- 1) ECN 24002-86-654, 655

HED REPORT SHEETHED-370 REV. 2

HED DESCRIPTION: SB4.2 Are key-operated switches used only where appropriate? Concern that keys will be removed and stored in SS office. Prefer to leave keys in control room and use the key feature to highlight an important control.

HEO-39

HUMAN FACTORS REVIEW: PAP-0201 Conduct of Operations specifies in the key control section that the keys for keylocked switches that bypass a safety function will be under the control of the unit supervisor with emergency keys clearly differentiated; this is acceptable with the Human Factors Task Force since administrative control is required and the time to procure the keys is not restrictive. The Task Force did determine that keylocked switches were not consistently used in the control room. Inappropriate keylocked switches such as those used for the Inop and Bypass, and the SRV controls will be replaced. The inadvertent bumping and subsequent actuation of a keylocked SRV at Grand Gulf on 10/13/84 lead the team to assess the use of normal key-in-place keylocked switches on vertical panels as providing unsatisfactory safety and operability. Inappropriately used keylocked switches will be replaced. (CONTINUED ON ATTACHED SHEETS)

H.F. GUIDELINES: NUREG 0700, Section 4; Controls

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Key control procedure will direct all keys not in use on vertical panels be removed.

WORK COMPLETE 9/7/85

PLANNED COMPLETION Prior to start-up following first refuel.  
- Replace affected keylocked switch controls.

WORK COMPLETE                     

REFERENCES:

- 1) OAP 0216
- 2) DCP 860216 SCRAM Reset
- 3) DCP 880103
- 4) NR NEDS 3499



HUMAN FACTORS REVIEW: All keylocked switches were evaluated for compliance with the Perry standard for the use of keylocked switches in bypass, restraint and test functions. The keylocked switches listed below did not meet the keylocked switch criteria and will be replaced with conventional switches. The two Standby Liquid Control and 38 safety relief valve control switches will remain as keylocked switches since they fall into the restraint category. The 19 SRV switches in the main horseshoe (non-vertical panels) will typically have their keys installed at all times. In addition, the Reactor mode switch will typically have its key installed. This will ensure timely operation of these switches, which are still shape-coded to prevent inadvertent operation. The remaining 19 SRV switches are located outside the primary operating area on vertical panels and are a backup to the other switches. These and all other keylocked switches will have their keys removed when not in use.

SWITCH CHANGES

<u>SWITCH</u>	<u>DESCRIPTION</u>	<u>PANEL</u>	<u>COMPLETE</u>
C71-S5A THRU D	SCRAM RESET-CH. A-D	H13-P680-11E1	X
E51A-S16	RCIC ISOLATION RESET - DIV. 1	H13-P601-21B	X
E51A-S25	RCIC ISOLATION RESET - DIV. 2	H13-P601-21B	X
E32A-S4	INITIATE OUTBOARD SYSTEM	H13-P654	
E32A-S1A	SYSTEM A INITIATION	H13-P655	X
E32A-S1E	SYSTEM B INITIATION	H13-P655	X
E32A-S1J	SYSTEM C INITIATION	H13-P655	X
E32A-S1N	SYSTEM D INITIATION	H13-P655	X
B21H-S74	OTBD ISOLATION OUT OF SERVICE	H13-P601-19B	
B21H-S75	INBD ISOLATION OUT OF SERVICE	H13-P601-18B	
B21A-S1	RX HEAD TO DW VENT VALVE	H13-P601-18C	X

HED REPORT SHEET

HED-501 REV. 1

HED DESCRIPTION: PEI-1: A5-4 Several steps in the PEI's require that the operator determine if RPV water level has decreased to 26 inches. Consider adding mark on wide range water level scale.

HUMAN FACTORS REVIEW: The PEI's now require the operator to determine if water level has decreased to 0 inches which is clearly marked on the fuel zone range instrumentation.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Disagree

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY \_\_\_\_\_  
SAFETY CONSEQUENCE? \_\_\_\_\_ INCREASE ERROR POTENTIAL? \_\_\_\_\_

VERIFICATION: CORRECTS HED? \_\_\_\_\_ NEW HED? \_\_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION  
WORK COMPLETE N/A

REFERENCES:

- 1) PEI B13 - Attachment 5

# HED REPORT SHEET

HED-508 REV. 1

HED DESCRIPTION: IOI-11 (Sect 4.3.2.10 and 4.3.1) Operator is required to control reactor water level between 197 and 205 inches. Resolution on scale is not adequate to see 197" and span is difficult to see on the upper end of meter C61-R010 due to parallax.

HUMAN FACTORS REVIEW: IOI-11 will be changed so that the operator will control water level between 180 and 215 inches. The scale resolution is adequate to read these numbers. Increasing the operating band, the addition of color banding, and the option to use Reactor Water Level Recorder C61-R012 which is less susceptible to parallax will help correct the problem. Reactor water level can also be monitored on ERIS. Reference HED-84 for Human Factors review response on color banding.

H.F. GUIDELINES: NUREG 0700, Section 5; Displays

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY 1  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? YES NEW HED? NO

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Temporary Banding, Procedure Change  
WORK COMPLETE 11/25/85

PLANNED COMPLETION - Prior to start-up after first refuel - Permanent Color Banding.

WORK COMPLETE                     

## REFERENCES:

- 1) IOI-11 Rev. 2



HED REPORT SHEET

HED-511 REV. 1

HED DESCRIPTION: IOI-11 (Sect 4.4.3) control switches and associated indicating lights are separated for the following control switches: C61-S121 and S122.

HUMAN FACTORS REVIEW: Functional demarcation and proper labeling will associate the indicating lights and control switches prior to fuel load.

H.F. GUIDELINES: NUREG 0700, Section 4; Controls

IMPLEMENTATION: Modify

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED? PARTIAL NEW HED? NO  
Further review of the present design indicates that the installation of the functional demarcation and labeling has provided adequate resolution of the deficiency. Since the control switches and indicating lights are relatively close to each other (operator is not required to move) movement of the lights is not necessary to support operator functions.

CORRECTION SCHEDULE: PLANNED COMPLETION - Fuel Load  
WORK COMPLETE 12/16/85

REFERENCES:

- 1) DCP 850526

HED REPORT SHEET

HED-514 REV. 1

HED DESCRIPTION: IOI-11 (Sect 4.10.3.6)) There is no distinction between throttleable and nonthrottleable valve controls in the Division 1 and 2 shutdown rooms.

HUMAN FACTORS REVIEW: Switch handles on the remote shutdown throttle valve controls will be labeled on the handle for quick identification.

H.F. GUIDELINES: NUREG 0700, Section 4; Controls

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY 1  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior to start-up after first refuelling  
WORK COMPLETE 2/1/89

REFERENCES:

1) DCP 880081

## HED REPORT SHEET

HED-515 REV. 1

HED DESCRIPTION: The blue permissive lights in the control room are very difficult to distinguish whether or not the light is on or off. In addition, other amber lights on P680-15C and green and blue lights on P870-8C are not consistent with the PNPP blue permissive light philosophy.

HUMAN FACTORS REVIEW: The amber permissive lights for the nine bearing lift pumps on P680-15C will be changed to blue lights. The RFPT A(B) turning gear green permissive lights on P870-8C will be changed to blue. The blue RFPT A(B) vacuum override trip lights on P870-8C will be changed to green. The CRD pump A(B) white lights will be changed to blue. A thorough Engineering review was performed to find an alternate replacement for the dark blue neon bulbs. The review failed to come up with a suitable replacement that would meet the design requirements and still maintain the Human Factors standards. Discussions with the operators identified that the neon bulbs glow dimmer over time and that after a new bulb was installed, visibility increased significantly. Therefore, we have decided to leave the present bulbs installed and issue a repetitive task that will periodically replace all blue bulbs to ensure maximum visibility.

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED? \_\_\_\_ NEW HED? \_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION Prior to start-up after first refuel  
WORK COMPLETE \_\_\_\_\_

REFERENCES:

DCP 88-79



HED REPORT SHEET

HED-521 REV. 1

HED DESCRIPTION: SOI-B33 (6.1) Trip and Stop pushbuttons on P680-4C and P680-1C are color coded black when the standard for trips is red.

HUMAN FACTORS REVIEW: Pushbutton colors will be changed from black to red for the following switches: B33A-S104 A(B)  
B33A-S102 A(B)  
B33A-S114 A(B)  
B33A-S115 A(B)  
G33A-S13  
G33A-S14  
G33A-S15  
G33A-S16  
G33A-S17

H.F. GUIDELINE: NUREG 0700, Sect. 4; Controls

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NO NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior to start-up after first refuel.  
WORK COMPLETE                     

REFERENCES:

1. DCP 880098

HED REPORT SHEET

HED-526 REV. 1

HED DESCRIPTION: No storage space or workstation has been provided in the Division 2 shutdown panel. May be useful for long term operation.

HUMAN FACTORS REVIEW: A workstation and adequate storage space has been provided at the Division 1 remote shutdown panel room. Sufficient storage space is available at this panel for procedures, supplies etc., that are necessary to support the remote shutdown operation. Additional storage space is not required at the Division 2 remote shutdown panel.

IMPLEMENTATION: Disagree

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY \_\_\_\_\_  
SAFETY CONSEQUENCE? \_\_\_\_\_ INCREASE ERROR POTENTIAL? \_\_\_\_\_

VERIFICATION: CORRECTS HED? \_\_\_\_\_ NEW HED? \_\_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION  
WORK COMPLETE N/A

REFERENCES:

HED REPORT SHEET

HED-527 REV. 1

HED DESCRIPTION: Division 2 remote shutdown panel indicators have not been marked to show normal, abnormal ranges.

HUMAN FACTORS REVIEW: Reference HED-84 for Human Factors Review.

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FULL POWER - CORRECTS HED? Partial NEW HED? No  
See HED-84

FIRST REFUEL - CORRECTS HED? \_\_\_\_ NEW HED? \_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION - Prior to Full Power License temporary  
color banding  
WORK COMPLETE 12/6/85  
PLANNED COMPLETION - Prior to start-up after first refuel.  
- Permanent color banding  
WORK COMPLETE \_\_\_\_\_

REFERENCES:

- 1) Visual Inspection



HED REPORT SHEET

HED-602 REV. 1

HED DESCRIPTION: SF1.2 There is insufficient number of Maintenance and Calibration Jacks in the primary operating area. Long cords provide tripping hazards and are draped across controls.

HUMAN FACTORS REVIEW: An additional maintenance and calibration jack will be added to the diesel/generator panel.

H.F. GUIDELINES: NUREG 0700, Section 2; Communications

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE           

REFERENCES:

HED REPORT SHEET

HED-603 REV. 1

HED DESCRIPTION: F1.10 The PBX and OPX phones are not properly labelled at the Division 1 and 2 Remote Shutdown Panels.

HUMAN FACTORS REVIEW: PBX and OPX phones will be appropriately labelled. In addition, the phones are color coded for easy recognition.

H.F. GUIDELINES: NUREG 0700, Section 6; Labels

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE 11/8/88

REFERENCES:

HED REPORT SHEET

HED-606 REV. 1

HED DESCRIPTION: PA page broadcasts can be heard through four control room communication module loudspeakers and two ceiling speakers in the control room. The two ceiling speakers monitor all PA channels whereas the four modules monitor Channel 5 only. In addition, PA messages cannot be heard in all areas of the CR.

HUMAN FACTORS REVIEW: All control room PA loudspeakers will be modified to monitor Channel 5 only. PA messages can be adequately heard in the primary operating area. There is always an operator stationed in this area. Therefore to minimize noise in the control room, no additional speakers will be installed outside the primary operating area.

H.F. GUIDELINES: NUREG 0700, Section 2; Communications

IMPLEMENTATION: Fix and disagree.

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior to Startup Following First Refuel  
- Monitor Channel 5 only.

WORK COMPLETE                     

REFERENCES:



HED REPORT SHEET

HED-607 REV. 1

HED DESCRIPTION: Operators cannot quickly determine the position of the rotating collar on some Cutler Hammer Rotary pushbuttons.

HUMAN FACTORS REVIEW: Position collars will be installed on all control room Cutler Hammer rotary pushbuttons.

H.F. GUIDELINES: NUREG 0700, Section 4; Controls

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED? \_\_\_\_\_ NEW HED? \_\_\_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE \_\_\_\_\_

REFERENCES:

1) DCP 880360

HED REPORT SHEET

HED-608 REV. 1

HED DESCRIPTION: The operator has no method of denoting which parameters have been selected on the three process computer digital displays.

HUMAN FACTORS REVIEW: The operators use the process computer CRT to determine the current parameter being displayed on the digital display. In addition, during shift turnover, the oncoming operators are informed of the current assignment of the process computer digital displays. A scribble plate was installed for a short time to assist the operators in keeping track of the parameters being displayed. However, this method was found to cause confusion since the scribble plate was not always updated. The scribble plate has been removed.

H.F. GUIDELINES: NUREG 0700, Section 6; Labels

IMPLEMENTATION: Modify

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?        NEW HED?       

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE 11/8/83

REFERENCES:

1) DCP 880079

HED REPORT SHEET

HED-611 REV. 1

HED DESCRIPTION: Feedwater A/B Pressure (N27-R146A/B) and Reactor Pressure (C34-R605) meters are compared during system operation. The feedwater pressure is scaled 1-1500 while Rx pressure is scaled 1-1200 making it difficult for comparison.

HUMAN FACTORS REVIEW: The meter scales will be modified so that they will both have the same scale numbers and increments. In addition, a large digital meter and the ERIS CRT both display reactor pressure in close proximity to the feedwater pressure meter. The new scales and the redundant instrumentation provide suitable information to the operator.

H.F. GUIDELINES: NUREG 700, Section 5; Displays.

IMPLEMENTATION: FIX

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? NO INCREASE ERROR POTENTIAL? NO

VERIFICATION: CORRECTS HED? \_\_\_ NEW HED? \_\_\_

CORRECTION SCHEDULE: PLANNED COMPLETION PRIOR TO STARTUP FOLLOWING FIRST REFUEL  
WORK COMPLETE 2/1/89

REFERENCES:



HED REPORT SHEET

HED-612 REV. 1

HED DESCRIPTION: Recirculation pump vibration reset switch (B33-S110) is not consistent with other Recirc System reset indication. The switch does not have two indicating lights to indicate the vibration status as do the other switches.

HUMAN FACTORS REVIEW: Indicating lights are not required to show recirculation pump vibration status for the following reasons:

1. Annunciators will alarm on high vibration which eliminates the need for indicating lights.
2. The primary purpose of the switch is to reset the alarm not to reset the control system interlocks which is why indicating lights are provided on the other switches.

H.F. GUIDELINES: NUREG 700, Section 5; Displays

IMPLEMENTATION: Disagree

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY  
SAFETY CONSEQUENCE?      INCREASE ERROR POTENTIAL?     

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION  
WORK COMPLETE     N/A    

REFERENCES:

HED REPORT SHEET

HED-615 REV. 1

HED DESCRIPTION: Validation - The P680 SO attempted to restore the feedwater system to maintain vessel level however, he did not realize that the RCIC initiation had tripped the RFPT's since the RFPT trip alarm clears after the discharge valve closes.

HUMAN FACTORS REVIEW: The RFPT trip annunciator logic has been modified so that the alarm will remain in for a specific time delay after the trip. This ensures that the operator is reminded of the trip and also eliminates the nuisance alarm feature. In addition, a RCIC initiation contact will be added to the "Main Turb & Feedpump Trip L8" annunciator on P680-3A-A8 to alert the operator that the RCIC initiation has tripped the RFPT's. The alarm window will be changed to "MAIN TURB & FDW Trip RCIC/L8".

H.F. GUIDELINES:

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE                     

REFERENCES:

- 1) DCP 870275
- 2) DCP 880372

HED REPORT SHEET

HED-1012 REV.2

HED DESCRIPTION: The following valve nameplates are labelled close, open. However the open position is actually automatic:

B33-F019  
B33-F020  
E12-F060 A, B  
E12-F075 A, B

The following valve nameplates are labeled close, open however the close position is automatic:

E51-F005

(PPD-OPS 1/28/83)

HUMAN FACTORS REVIEW: Relabel nameplates to show close, auto and auto level, open respectively by fuel load. Install three position switches "CLOSE, AUTO, OPEN" by first refuel for valves B33-F019, 20, E12-F060A(B) and E12-F075A(B). E51-F005 will remain as a two position switch which is consistent with other drain valve control switches.

H.F. GUIDELINES: NUREG 0700, Section 5, Labels Locations and Aids

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: FUEL LOAD - CORRECTS HED? Yes NEW HED? No

FIRST REFUEL - CORRECTS HED?      NEW HED?     

CORRECTION SCHEDULE: PLANNED COMPLETION Fuel Load - Labelling  
WORK COMPLETE 12/16/85

PLANNED COMPLETION - Prior to start-up after first refuel  
- Install new switches

WORK COMPLETE 7/18/88

REFERENCES:

- 1) Nameplate List - P05A001, A002, P1A001, A002, P13A022, P111A001, P112A001.
- 2) FDDR KL1-942



# HED REPORT SHEET

HED-1019 REV.3

HED DESCRIPTION: The operational sequence of the annunciator system provides return to normal indications for satellite subsystems on the main panel. At "Flasher Reset on Main" the status is steady which directs the operator to the satellite panel, but the alarmed condition has not been acknowledged at that panel. At "Flasher Reset on Subsystem", the status is slow flash, which when reset by the operator will change to off, which masks the abnormal condition existing on the satellite panel. This sequence fails to attract the operators attention to plant variables that are out of established operating limits. (PPD-OPS 6/1/83).

HUMAN FACTORS REVIEW: The Control Room annunciator system will remain as presently designed. The Perry control room annunciator design philosophy is that all important plant alarms are provided in the control room. Local satellite panel alarms which do not clear during the shift are logged on the operator round sheets in accordance with OAP-1702. Further review indicated that it would be beneficial to provide a local reset feature on three local annunciator panels. H51-P052, P063, and P035A will be modified so that the control room alarm can be reset allowing any future local panel alarms to come in.

H.F. GUIDELINES: NUREG 0700, Section 3, Annunciators

IMPLEMENTATION: Fix

SAFETY AND OPERABILITY ASSESSMENT: CATEGORY I  
SAFETY CONSEQUENCE? No INCREASE ERROR POTENTIAL? No

VERIFICATION: CORRECTS HED?        NEW HED?       

CORRECTION SCHEDULE: PLANNED COMPLETION Prior To Startup Following First Refuel  
WORK COMPLETE 12/10/88

## REFERENCES:

- 1) DCP 870731