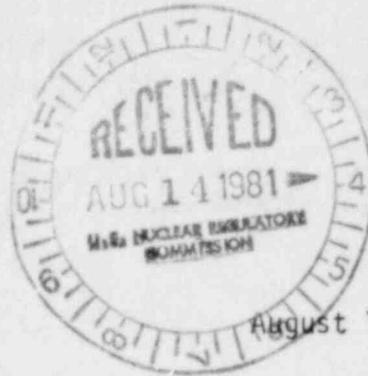


SNUPPS

Standardized Nuclear Unit
Power Plant System

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Nicholas A. Petrick
Executive Director

August 12, 1981

SLNRC 81- 65 FILE: 0278
SUBJ: Human Factors Evaluation of
the SNUPPS Control Room

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

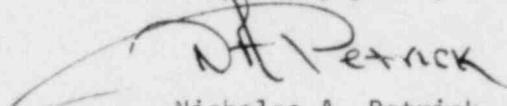
Docket Nos. STN 50-482, STN 50-483, and STN 50-486

Reference: SLNRC 81-51, June 26, 1981: Same subject

Dear Mr. Denton:

The referenced letter discussed a detailed human factors evaluation of the SNUPPS control room that had been performed. During a visit to the Callaway site on July 29-31, 1981 by NRC personnel from the Human Factors Engineering Branch, SNUPPS was requested to provide the resolution of each of the human engineering findings identified in the attachment to the referenced letter. The enclosed table provides the requested information.

Very truly yours,


Nicholas A. Petrick

RLS/vas

cc: J. K. Bryan	UE
G. L. Koester	KGE
D. T. McPhee	KCPL
W. A. Hansen	NRC/Cal
T. E. Vandell	NRC/WC

Attachment

Boo!
5/11

HUMAN ENGINEERING FINDINGS (HEF)

HEF	Priority	Subject	Disposition
1	2	Reactor Trip Breakers	The Reactor Trip Breaker indicators will be revised to indicate red when closed and green when open.
2	1	ESF Status Light Panels	This panel is currently undergoing design changes as a result of this HEF.
3	4	Direction of Movement of Process Controller	The controllers are not safety-related nor the primary indication used by the operator (flow rate is the primary indication). No action is deemed necessary.
4	4,2	Height vs. 5th Percentile Operator	The probability that all operators in the control room will be less than 5'3" tall is negligibly small. No action is deemed necessary.
5	3	System Summary Labels	Further action on identifying Functional or System labels is not recommended at this time. The Main Control Board is sectionalized such that controls and indications are grouped functionally. These groupings are so obvious to trained personnel that addition of labels would be redundant. Additionally, these labels would add visual clutter, and retract from other, more useful signs and labels.
6	3	J-Handles	Guardrails will be provided as needed on the rear panels. Switchguards will be provided as necessary on the front panels.
7	NA	Withdrawn by Essex	
8	4	Location of Controllers	These controllers are manipulated infrequently (used during startup) and are not safety-related. No action is deemed necessary.
9	1	Legend Lights - Partial Trip Panel	The legend plates will have an adhesive to prevent them from falling out. The panel has been rearranged more logically so that a mislocated legend plate would be obvious.
10	3	Pushbutton Identification	Modifications will be made to either the legend lights or the pushbuttons on the EHC so that there is a clear distinction between the two.

HEF	Priority	Subject	Disposition
11	2	Labels for Multipen Chart Recorders	This finding was found to be simulator-specific. No further action is deemed necessary.
12	3	Indicator Lights	Since the worst possible scenario is a delay in startup due to a restarting sequence for the turbine, no action is deemed necessary. In addition, these controls are used infrequently.
13	NA	Withdrawn by Essex	
14	4	Telephone Locations	Unresolved
15	3	Demarcation Lines	No action is deemed necessary. Demarcation lines are easily applied and altered in the field. Operations personnel should experiment with demarcation lines, using Appendix F of the Essex report as a guideline. This should be done after the operations group (W.C. & Callaway) have taken custody of their Main Control Boards. Mimics provide some amount of demarcation.
16	2	Labeling	No action is deemed necessary. It is understood that, in any situation involving operator stress, operation of the DG is automatic. The meters identified by Essex are primarily for use in testing (when the key instrument is the synchroscope) or well into an accident sequence. A light on the control panel indicates to the operator if safety equipment is powered from the emergency bus.
17	3	Location of Controllers	No action is deemed necessary. Demarcation lines are easily applied and altered in the field. Operations personnel should experiment with demarcation lines, using Appendix F of the Essex report as a guideline. This should be done after the operations group (W.C. & Callaway) have taken custody of their Main Control Boards. Mimics provide some amount of demarcation.
18	NA	Withdrawn by Essex	

HEF	Priority	Subject	Disposition
19	2,3	Pushbutton Arrangement	No problems have been experienced by the SNUPPS operators at the simulator, therefore, no action is deemed necessary.
20	3	Grouping of Controls and Displays	The locations of the Boric Acid Totalizer (BG-FY-11CBB) and the combined M/U and Boric Acid Totalizer (BG-FY-111BB) on RL002 will be reversed as recommended by Essex.
21	NA	Withdrawn by Essex	
22	3	Labeling	A decimal point will be added on the boric acid counter. The SNUPPS operators are trained to know that the unit of volume is gallons.
23	1,3,5	Tolerance Zones on Vertical Meters	Tolerance zones will be marked on most meters. The markings should be applied so that they are in the plane of the meter face to avoid parallax error. As this involves partial disassembly of the meter, plant I&C personnel would be involved. Action application of marking will follow system turnover to operations.
24	3	Rotary Controls - Labels	No problems have been experienced by the SNUPPS operators at the simulator, therefore, no action is deemed necessary.
25	NA	Withdrawn by Essex	
26	3	Rotary Control	A line will be ingraved on the switch face of BG-HS-26 adjacent to "STOP" to indicate the stop position. Since this switch provides an input to the Westinghouse reactor makeup system and controls the action of more than one device. Addition of indication lights on the switch will not be made.
27	4	Accessability of Light Bulbs	(Site-specific to Callaway). The probability that all operators in the control room will be less than 5'3" tall is negligibly small. No action is deemed necessary.
28	4	Location of Labels	(Site-specific to Callaway). Since this is a minor technical discrepancy only, no action is deemed necessary.

HEF	Priority	Subject	Disposition
29	4	I vs. l	(Site-specific to Callaway). Since this is a minor technical discrepancy only, no action is deemed necessary. Generally the context will clearly signify whether a vertical line is an "I" or a "l".
30	4	Labeling	(Site-specific to Callaway). Since this is a minor technical discrepancy only, no action is deemed necessary.
31	NA	Withdrawn by Essex	
32	4	Meter Scales	The significant factor is that the positions of the pointers on left and right are to be matched, therefore, no action is deemed necessary.
33	3	Failure Mode of Vertical Meters	The Lead A/E indicated that the Essex recommendation is not technically feasible. No action is deemed necessary.
34	3	Rotary Controls	The positions of NIS recorder select switches SE SS-1 and 2 on RL003 will be reversed as suggested by the HEF.
35	3	Possible Dirt Collection on Labels	The utility operating staffs will monitor the control rooms for cleanliness.
36	3	Labels Colored by Separation Group	No problems have been experienced by the SNUPPS operators at the simulator, therefore, no action is deemed necessary.
37	1	Pushbuttons	Acknowledge pushbuttons will continue to have mushroom heads (one pushbutton per board). All acknowledge buttons will be capable of acknowledging all annunciators including first out. Test and reset buttons will be recessed (in lieu of mushroom heads) to distinguish them from the other buttons. All buttons will be arranged consistently.
38	4	Placement of Indicator Lights	The location of the Air Compressor indicator lights for Compressor A (QL-3) and Compressor C (QL-1) will be reversed.

HEF	Priority	Subject	Disposition
39	2	Trend Recorders	This meter will normally be used during startups where there will generally be an additional operator in the Control Room who could monitor this panel up close if need be. Therefore, no action is deemed necessary.
40	3	Pushbuttons	Shrouds will be added to pushbuttons SE-HS-5 and SE-HS-10.
41	3	Meter Scale	The meter (MA-JI-4) will be revised to a zero centered scale and provide indication of VARS "IN" or "OUT".
42	2	Trend Recorders	The scales and nameplates for the recorders identified in this HEF were reviewed at the Callaway jobsite. In all cases the units and applicable pen color are identified on the recorder labels. As these recorders are used for trend information, we feel that sufficient identification of the scales has been provided to the operator. No action is deemed necessary.
43	1	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
44	2	LED Display of Control Rod Position	No action is deemed necessary. Space, location and panel design are such that no modification can be made.
45	3	Covers on Process Controllers	This problem is unique to construction. This type of problem should be noticed and corrected during turnover.
46	1	Pressurizer Pressure Indication	This HEF notes the lack of Reactor Coolant pressure indication on RL002 between 700 and 1700 PSIG. There are indicators available for the 0-700 and 1700-2500 pressure ranges. Indication of Reactor Coolant pressure between 700 and 1700 is available to the operator at the console by putting the wide range pressure indication on the computer trend recorder on RL002 or the CRT display on RL004. The operators deem no changes to be necessary.

HEF	Priority	Subject	Disposition
47	3	Direction of Control Movement	The SYNC Check Relay Bypass Switch MA-HS-7 will be revised to allow the key to be removed in the left (auto) position, provided proper switch action is available.
48	1	J-Handles	No problems have been experienced by the SNUPPS operators at the simulator. Administrative procedures will be employed to cover proper use of controls, thereby preventing the occurrence of this finding. No further action is deemed necessary.
49	NA	Withdrawn by Essex	
50	2	Pushbutton Guards	The only potential safety issue is reset of the signal.
51	1	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
52	1	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
53	NA	Withdrawn by Essex	
54	3	Meter Scales	The relative position of the pointer is more important than the exact value indicated for this non-safety-related instrument. No action is deemed necessary.
55	4	Horizontal Meter Scales	(Site-specific Callaway). Since this is a minor technical discrepancy only, no action is deemed necessary. In addition, all of this information is available on the BOP computer.
56	4	Cover Obscuring Display	Boron is injected via a counter when a parameter change is desired. After injection, parameters will be checked by the operators. The boronmeter can be checked for amounts of boron addition, if desired. Therefore, no action is deemed necessary.

HEF	Priority	Subject	Disposition
57	NA	Withdrawn by Essex	
58	4	Scales on Vertical Meters	No problems have been experienced by the SNUPPS operators at the simulator, therefore, no action is deemed necessary.
59	4	Breaker Location	No action is deemed necessary. Control location on this panel is tight, however, a mimic does exist. The ammeter has only a limited association with the indicated switch.
60	3	J-Handles	The label "Rod Drive Power Supply" will be placed with the indicated control (PG-HIS-16 and 1B) and the existing handles will be replaced with red handles.
61	NA	Withdrawn by Essex	
62	NA	Withdrawn by Essex	
63	3	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
64	NA	Withdrawn by Essex	
65	3	J-Handle Labels	The label for NB-HIS-1 will be revised to read XMR01 to XNB02 Breaker 252PA0201.
66	3	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
67	4	Labeling	Operators will be trained to understand position indication, therefore, no action is deemed necessary.
68	3	Pointer Length	This HEF states that the pointer obscures the minor graduation marks on the recorder scale for the RHR heat exchanger temperatures. It appears that this should cause no operational problems and the Lead A/E recommends no changes be made. If the operator requires accurate readings of RHR temperature, they are available on the computer CRT.

HEF	Priority	Subject	Disposition
69	3	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
70	2	J-Handles	No problems have been experienced by the SNUPPS operators at the simulator, therefore, no action is deemed necessary.
71	2	Height of Controls	The probability that all operators in the Control Room will be less than 5'3" tall is negligibly small. No action is deemed necessary.
72	1	Labeling	The label for switch SB-HS-47 will be revised to read "Containment Isolation Phase A".
73	1	Labeling	The label for indicator BG-FI-183A will be revised to read "Emergency Borate Flow".
74	NA	Withdrawn by Essex	
75	4	Pushbuttons	(Site-specific to Callaway). Since this is a minor technical discrepancy only, no action is deemed necessary.
76	3	Rotary Control	The process is a controlled evolution and the operator has other indicators for his use. No action is deemed necessary.
77	4	Labeling	The recorder identified in this HEF has not been installed in the control panels at Callaway. After installation, they will be reviewed to insure that sufficient information regarding the scales has been provided to the operator.
78	4	Labeling	As this finding represents a technical deviation to the guidelines and a fix would only be a nicety, no action is deemed necessary.
79	NA	Withdrawn by Essex	
80	2	Labeling	The SNUPPS operators advise that the lights are self-explanatory. There is also direct communication when these valves open. No action is deemed necessary.

HEF	Priority	Subject	Disposition
81	NA	Withdraw. by Essex	
82	3	Labeling	Labels will be reviewed for sufficient and consistent information and where confusing and redundant, the labels on Westinghouse-supplied Hagen Controllers will be removed and replaced with blank plates.
83	3	Hagen Process Controllers	Because the relative position of the pointer is more important than the exact valve indicated, no action is deemed necessary.
84	NA	Withdrawn by Essex	
85	NA	Withdrawn by Essex	
86	1	Labeling	The labels for indicators BB-TI-421A, 431A and 441A will be revised to indicate ΔT .
87	1	Vertical Meter	The locations of indicators AB-PI-507 and AB-UI-500 will be interchanged as noted.
88	2	Labeling of Trend Recorders	Since the letters "A-B-C-D" correspond directly with "1-2-3-4", this is considered a minor technical discrepancy and no action is deemed necessary.
89	NA	Withdrawn by Essex	
90	4	Labeling	Utilities will develop desired label formats and provide to the Lead A/E for installation and incorporation in drawings.
91	3	Direction of Motion for Controls	Control switch BG-HS-27 will be revised (as indicated in the HEF) to have the OFF position between "Dilute" and "Borate" provided concurrence is received from Westinghouse. Since this is a maintained contact switch and the switch indicates the mode of operation (borate or dilute), there will be no addition of an indicating light.
92	NA	Withdrawn by Essex	

HEF	Priority	Subject	Disposition
93	4	Consistency of Abbreviations	The pushbutton for HB-HIS-7176 will be revised to read "Norm" in order to provide consistency with other pushbutton labeling.
94	1	Pushbuttons	The purpose of this switch is to provide testing of the automatic switcher from RWST to containment sump for the RHR pump suction. Operation of this testing circuit is described in Westinghouse procedure E-EPS3139. One pushbutton closes the valve in the RWST line and is labeled "Test". The other pushbutton tests the interlock with the sump isolation valve and the pushbutton label reads "Test Lamp". This button will be revised to read "Valve Test".
95	3	Scales for Process Controllers	The disposition is still under review by SNUPPS.
96	3	Legend Light	Labeling will be checked by the utilities prior to turnover. No further action is deemed necessary.
97	3	Pushbuttons	The wording on the label will be changed to "bypass".
98	NA	Withdrawn by Essex	
99	1	Light Bulb Replacement	The utilities will provide any tools necessary to change light bulbs in Cutler Hammer Switches.
100	1	Labeling on Trend Recorders	The labels on recorders EJ-TR-613 and 612 will be changed to read "A" and "B" in lieu of "1" and "2".
101	NA	Withdrawn by Essex	
102	1	RL017 Arrangement	A mock-up of RL017 and RL018 will be made for utility input and review as a result of this HEF.
103	3	Location of Controllers	(Site-specific to Callaway). Unresolved at this time.
104	NA	Withdrawn by Essex	
105	3	Legend Lights	(Site-specific to Callaway). Unresolved at this time.
106	4	Labeling of Horizontal Meters	(Site-specific to Callaway). Unresolved at this time.

HEF	Priority	Subject	Disposition
107	1	Permissive/Partial Trip/Block Status Panel	This panel has been redesigned to correct the problems identified by this HEF.
108	NA	Withdrawn by Essex	
109	NA	Withdrawn by Essex	
110	4	Scales for Process Controllers	The operators have not experienced any problems with the pointer obscuring the numerals. These controllers are set periodically and most are normally not changed. No action is deemed necessary.
111	3	Labeling	(Site-specific to Callaway). Unresolved at this time.
112	2	Light Bulb Replacement	Either long life bulbs will be used or bulbs will be at lower operating voltages.
113	3	Pushbuttons	A guarded switch will be used to replace BG-HIS-8145.
114	4	Rotary Control	The switch in question is only a meter select switch and not a control function. No action is deemed necessary.
115	3	Vertical Meters	The locations of indicators FC-PI-164A and FC-PI-68A will be interchanged as indicated by this HEF.
116	4	Grouping of Controls	Since this HEF is considered a minor technical discrepancy, no action is deemed necessary.
117	4	Vertical Meters and Simple Indicators	<p>The labeling for indicators AC-FI-84, 82, 91 and 87 will be revised as follows:</p> <p style="margin-left: 40px;">AC-FI-84 "REHEATER C 1st STG Steam Flow" AC-FI-82 "REHEATER C 2nd STG Steam Flow" AC-FI-81 "REHEATER D 1st STG Steam Flow" AC-FI-87 "REHEATER D 2nd STG Steam Flow"</p> <p>This change makes the labels consistent with the flow indicators for reheaters A & B.</p>

HEF	Priority	Subject	Disposition
118	NA	Withdrawn by Essex	
119	3	Labeling of Process Controller	This HEF was corrected with the mimic changes on RL017 and 18 mock-up. A direction label will be added to the mimic indicating "To Accumulator Tanks A & C".
120	NA	Withdrawn by Essex	
121	NA	Withdrawn by Essex	
122	3	Inconsistency of Labels	Annunciators, controls, and labels will be reviewed for consistency and corrections will be made where necessary.
123	NA	Withdrawn	
124	4	Pushbuttons	This HEF was implemented as requested with the mimic changes on RL017 and 18 mock-up.
125	NA	Withdrawn by Essex	
126	NA	Withdrawn by Essex	
127	4	Labeling	The operators have not experienced any problems with unnumbered minor marks on the meter faces. These controllers are set periodically and most are normally not changes. No action is deemed necessary.
128	4	Labeling	Since this is considered a minor technical discrepancy, no action is deemed necessary.
129	3	Rotary Controls	The SYNC Check Relay Bypass Switch MA-HS-7 will be revised to allow the key to be removed in the left (auto) position, provided proper switch action is available.
130	3	Labeling	Since this finding is considered to be a minor technical discrepancy, no action is deemed necessary.

HEF	Priority	Subject	Disposition
131	4	Horizontal Meters	(Site-specific to Callaway). Unresolved at this time.
132	3	Location of Controllers	No action is deemed necessary. Demarcation lines are easily applied and altered in the field. Operations personnel should experiment with demarcation lines, using Appendix F of the Essex report as a guideline. This should be done after the operations group (W.C. & Callaway) have taken custody of their Main Control Boards. Mimics provide some amount of demarcation. While switch AB ULS-5002 is not immediately adjacent to the Steam Header Pressure pressure controller, it is located within a small cluster of components devoted to steam dump control. The low priority of this HEF does not justify the expense of relocating components.
133	4	Height vs. 5th Percentile Operator	The probability that all operators in the control room will be less than 5'3" tall is negligibly small. No action is deemed necessary.
134	NA	Withdrawn by Essex	
135	NA	Withdrawn by Essex	
136	NA	Withdrawn by Essex	
137	NA	Withdrawn by Essex	
138	NA	Withdrawn by Essex	
139	4	Multipen Trend Recorders	The meters cannot easily be changed because all indications have redundant indicators except "Seal Injection Flow to Reactor Collant Pumps", which has a computer point and alarm. No action is deemed necessary.
140	4	Trend Recorders	Trend recorders are generally used for approximation whereas meters are used for accurate measurements. No action is deemed necessary.

HEF	Priority	Subject	Disposition
141	1	Annunciator Windows	A method of identifying each window is currently under investigation.
142	1	Annunciator Prioritization	Annunciator prioritization is currently being developed for review by the utilities.
143	2	Separation of Meters	Since wide range reactor coolant pressure indication is provided on RL022, no action is deemed necessary.
144	NA	Withdrawn by Essex	
145	3	Labeling of Process Controller	The label for process controller EP-HC-93 will be changed to "Accum. N ₂ Supply Line Vent".
146	5	Pushbutton Surface	Since this is a minor technical discrepancy only, no action is deemed necessary.
147	4	Trend Recorders	Trend recorders are generally used for approximation whereas meters are used for accurate measurement. Therefore, no action is deemed necessary.
148	4	Trend Recorder Label	There is no room above the trend recorder for this label. Also, the operators will use this recorder often and will therefore remember its function. No action is deemed necessary.
149	4	Graduation Marks	As this finding represents a technical deviation to the guidelines and a fix would only be a nicety, no action is deemed necessary.
150	4	Meter Scales	As this finding represents a technical deviation to the guidelines and a fix would only be a nicety, no action is deemed necessary.
151	4	Trend Recorder Scale	Trend recorders are generally used for approximation whereas meters are used for accurate measurement. Therefore, no action is deemed necessary.

HEF	Priority	Subject	Disposition
152	1	Annunciator Legends	The annunciators are currently under investigation and reevaluation.
153	1	Annunciator Legends	The annunciators are currently under investigation and reevaluation.
154	2	Labeling - Spacing of Characters	Still under evaluation.
155	2	Height vs. 5th Percentile Operator	The probability that all operators in the Control Room will be less than 5'3" tall is negligibly small. No action is deemed necessary.
156	3	Scale on Horizontal Meters	(Site-specific to Callaway). Unresolved at this time.
157	3	Pushbuttons	All pushbuttons that require the operator to hold the button until the valve or damper has completely changed state or is used to jog the valve to a mid position will be changed to a different color button with contrasting lettering. This change will be implemented for all applicable motor operated and air operated valves and dampers.
158	2	Pushbuttons	This switch (FC-HIS-332) is not required and will be deleted on the next revision of the MCB drawings.
159	NA	Withdrawn by Essex	
160	NA	Withdrawn by Essex	
161	NA	Withdrawn by Essex	
162	NA	Withdrawn by Essex	
163	NA	Withdrawn by Essex	
164	NA	Withdrawn by Essex	
165	NA	Withdrawn by Essex	

HEF	Priority	Subject	Disposition
166	4	Pushbuttons and Simple Indicators	The switch arrangements for the feedwater heater isolation valves are different for each heater train because the valving arrangements are different. Blind switches with separate indicating lights are used for switches controlling multiple valves as on feedwater heaters 6 and 7 where all the scavenging steam valves are controlled from the extraction line isolation valve control switch. Where the switch only controls the extraction line isolation valves, the valve indication is integral to the switch. In all cases consistency is maintained for a given heater train. No action is deemed necessary.
167	3	J-Handles	The Mimic label on RL015 will be revised to read "From ESF XFMR XNB01".
168	NA	Withdrawn by Essex	
169	2	Pushbuttons	This switch is not required and will be deleted on the next revision of the MCB drawings.
170	4	J-Handles	The control switch does not control the speed of the turning gear motor as indicated by the HEF. Its function is to start and stop the motor. The fast and slow lights are provided for operator information. The switch operation is correct, therefore, no action is deemed necessary.
171	NA	Withdrawn by Essex	
172	NA	Withdrawn by Essex	
173	2	Mimic Lines	There is insufficient space to modify the mimic, therefore, no action is deemed necessary.
174	3	Arrangement of Process Controllers	(Site-specific to Callaway). Unresolved at this time.
175	NA	Withdrawn by Essex	
176	NA	Withdrawn by Essex	

HEF	Priority	Subject	Disposition
177	3	Pushbuttons	Unresolved.
178	1	Mimics	This HEF is being resolved by pending changes to RL017 and RL018.
179	NA	Withdrawn by Essex	
180	NA	Withdrawn by Essex	
181	4	Trend Recorders	This paper comes with the recorder and therefore cannot be ordered differently. No action is deemed necessary.
182	3	Glass Cover for Trend Recorder	This problem is specific to construction and will be corrected at turnover. These panels are undergoing changes and review as a result of this finding.
183	1	RL017 and RL018 Arrangements	These panels are undergoing changes and review as a result of this finding.
184	1	RL018 Panel Mimics	These panels are undergoing changes and review as a result of this finding.
185	4	CRT Locations	The back panel CRT's have large screens (25") and are therefore visible. The problem of glare is simulator-specific. No action is deemed necessary.
186	2	Location of Indicator Lights	The purposes of the CCW Pump Reset lights will be addressed through training.
187	4	Labeling	Control Switches CB-HIS-4, 5, 6, 7, 8, 9 and 10 will be replaced with switch plates having "AUTO" engraved rather than stick-on labels.
188	NA	Withdrawn by Essex	
189	1	Vertical Indicators (psia vs. psig)	This HEF involves the engineering units on the indicators for containment pressure provided by Westinghouse. It has been requested that the indication be in PSIG. Confirmation from Westinghouse is being pursued.

HEF	Priority	Subject	Disposition
190	1	Meter Labeling	Meter labeling is consistent at Callaway, therefore, this finding appears to be simulator-specific. No further action appears is deemed necessary.
191	1	Mimics	UE and KGE will meet to develop and submit mimic changes and corrections.
192	3	Possible Glare from Glass Covers	Since this HEF represents a technical deviation to the guidelines, no action is deemed necessary.
193	4	Arrangement of Controls	The safety implications are very low for the inadvertent operation of these sump pumps. No action is deemed necessary.
194	4	Grouping of Trend Recorders	Comparing levels is more important than combining levels and pressures, therefore, no action is deemed necessary.
195	4	Label Location on Trend Recorders	Since this finding only represents a technical deviation to the guidelines, no action is deemed necessary.
196	4	Legend Light Arrangement	These indicators came as a package. It is more important to recognize groups of colors rather than individual status. No action is deemed necessary.
197	4	Computer Keyboard	The groupings and color codings are intentional and should therefore be allowed to remain as is. No action is deemed necessary.
198	NA	Withdrawn by Essex	
199	4	Computer Keyboard	As the finding is considered to be a technical discrepancy only, no action is deemed necessary.
200	3	Control of CRT Displays	Training and administrative procedures will be used to prevent loss of display on the BOP CRT's.
201	4	CRT Colors	Unresolved.

HEF	Priority	Subject	Disposition
202	4	CRT Colors	This finding was determined to be simulator-specific and no further action is deemed necessary.
203	4	CRT Displays	The CRT displays are limited by the software capability. As this finding is of a low priority, no action is deemed necessary.
204	3	Computer System Printer	Alarm printer will be located in the Control Room.
205	4	Scale on Vertical Meters	The meters in question are used infrequently and are not the sole indication. An alarm exists for the steam seal system and the rest will alarm indirectly. This, coupled with a low priority assignment warrants no action deemed to be necessary.
206	NA	Withdrawn	