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J. T. Beckham, Jr.  
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Hatch Project



Georgia Power

THE SOUTHWESTERN ELECTRIC SYSTEM

HL-1978  
000529

February 6, 1992

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

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

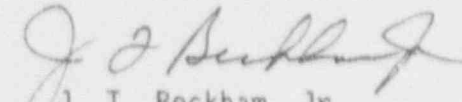
Gentlemen:

Georgia Power Company's (GPC's) present human factors commitment, based on the guidance of NUREG-0700, "Human Factors Engineering Design Standards," for the Unit 2 annunciator windows requires completion of all modifications by the end of the 1992 refueling outage. After considerable review and evaluation, GPC has determined the safety/operations benefits to be gained from regrouping and relocating several Unit 2 annunciators are not justified when compared with the possibility of negative transfer of training and experience from the existing arrangement to the proposed arrangement.

Based on the discussion presented in the enclosure to this letter, GPC requests concurrence to remove the items described above from the Plant Hatch Human Factors Project. All modifications associated with human factors improvements are complete for Hatch Unit 1.

If additional information relative to any of the human engineering deficiencies and/or the DCRs is required, do not hesitate to contact this office. Your timely response to our proposal is requested.

Sincerely,

  
J. T. Beckham, Jr.

OCV/sp

Enclosure:

c: (See next page.)

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PDR ADOCK 05000366  
P PDR

ADD: NRC/DLPR/LHFB

44- Encl. A001 1/1

U.S. Nuclear Regulatory Commission

February 6, 1992

Page Two

c: Georgia Power Company

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NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.

Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II

Mr. S. D. Ebner, Regional Administrator

Mr. L. D. Wert, Senior Resident Inspector - Hatch

ENCLOSURE

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

At present, all Unit 1 human engineering discrepancies (HEDs) and all Unit 2 Categories 1 and 2 HEDs have been resolved. This request involves seven Unit 2 HEDs (nos. 295, 296, 298, 301, 302, 303, and 472) which, for resolution, require the regrouping and relocating of several annunciators. Four HEDs are Category 3, and three HEDs are Category 4. Category 3 HEDs include safety-related items having a low probability of ever causing an operational or safety problem. Category 4 HEDs are nonsafety-related items. Early in the categorization process, the HEDs relative to multiple panels or problems were upgraded one category; i.e., a nonsafety-related HED was upgraded to a Category 3. If Hatch had not taken this conservative approach, all HEDs relative to this request would be Category 4. Listed below are representative examples from the five Design Change Requests GPC is seeking to remove from the Human Factors Project:

1. Panel 2H11-P700 (houses controls for the drywell chillers, hydrogen and oxygen analyzers, and nitrogen supply systems) (Figure 1).
  - a. Move annunciator at location Y15 to location Y03 to group the alarm with related system (turbine building instrument air) annunciators.
  - b. Swap the location of annunciators Y23 and Y24 to more logically arrange the annunciators related to the waste gas treatment system and the control building.
2. Panel 2N62-P600 (houses annunciators and controls for the offgas system) (Figure 2).

Move the offgas carbon bed bypassed annunciator and the recombiner A or B temp hi/low annunciator to group the alarms with related systems, similar to the Unit 1 arrangement.
3. Panel 2H11-P654 (houses annunciators for heating and ventilation) (Figure 3).

Move seven annunciators within the panel to group them with related systems.
4. Panels 2H11-P601 and 2H11-P602 (house controls for core spray (CS), residual heat removal (RHR), recirculation system, and safety relief valves (SRVs). Each panel contains four annunciator panels.

Move the annunciators to position them above their specific controls, following the left-to-right flow of their corresponding systems. Some annunciators will be moved to adjacent annunciator panels.

## ENCLOSURE (Continued)

### RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

All the changes described above were originally designed to optimize the arrangement or location of alarms by:

1. Grouping annunciators closer to other related annunciators.
2. Relocating annunciators closer to their appropriate system and controls.
3. Establishing consistency between the annunciator panels of both units.

It should be noted that the annunciators, in their existing configuration, are not grossly out of position with respect to other related annunciators or their respective systems and controls. For example, an operator working at the off-gas panel (Figure 2) can respond to the recombiner A or B temp hi/lo annunciator from its present position just as easily as he can from the proposed position. As shown in Figure 3, four annunciators related to primary containment isolation system vent valve overrides are to be moved from one side of the annunciator panel to the other. The associated controls for the annunciators are located directly under the panel. If an operator were to override the high drywell pressure signal for one of the vent valves using the keylock switch, he could verify this action by looking at the alarming annunciator on the 2H11-P654 panel. Moving the annunciator to its proposed location will not improve the operator's ability to make the verification.

In addition, the normal response to an alarming annunciator for a Plant Hatch operator consists of, after acknowledging the alarm, pulling the annunciator response procedure and taking the delineated actions. Such actions may require the operator to go to another panel to investigate other alarms and/or take some action. Therefore, relocating the annunciator to a position closer to its respective controls may not decrease the operator's response time to the abnormal condition. This argument applies to all the examples discussed herein.

After considerable review and discussion, the Engineering and Operations staffs agreed the proposed modifications will not significantly improve plant safety nor significantly enhance the ability of licensed personnel to operate the appropriate systems or respond to alarms.

Since the original decision to reconfigure the arrangement of annunciator windows for Plant Hatch Units 1 and 2, control room operators have had approximately 4 years additional experience in operating with the present annunciator arrangement, both in the main control room and in the simulator. If the proposed changes are made, the potential for an increase in operator errors is created due the negative transfer of training and experience. Optimal location of the annunciators is not necessary to ensure a proper, timely operator response.

ENCLOSURE (Continued)

RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

The majority of differences between Unit 1 and Unit 2 have been reconciled. For example, many back panel alarms on Unit 1 were moved to the front panels to match the Unit 2 configuration. The remaining differences, such as the one described in example 2, are barely discernible and, therefore, are not as conspicuous as a back panel-to-front panel discrepancy. GPC believes the cost of the modifications and the increased potential for operator error due to unfamiliarity with the new design are greater than the benefit to plant safety and effectiveness of operation.

In conclusion, GPC believes the deletion of seven of the ten remaining HEDs from the Unit 2 Human Factors Project will not decrease the level of safety at which the plant is operated. Following resolution of the three outstanding HEDs and pending NRC staff concurrence, GPC will consider the NUREG-0700 Human Factors Project complete for Hatch Unit 2.

## BAY A ANNUNCIATOR

<del>Y01</del> Y01 H-27753 RB INSTR AIR NON-INT AIR HDR PRESS LOW	<del>Y07</del> Y02 H-27788 RFP AREA LEAK DETECTION	<del>Y13</del> Y03 H-27788 MAIN TURB AREA LEAK DETECTION	<del>Y19</del> Y04 H-23678 CONTROL BLDG AFTCLR B001A DISCH TEMP HIGH	<del>Y25</del> Y05 H-23680 INST AIR DRYER MALFUNCTION	<del>Y31</del> Y06 H-27753 WGT BLDG INSTR AIR SUPPLY LINE PRESS LOW
<del>Y02</del> Y07 H-27753 RB INSTR AIR N2 INERT SYS PRESS LOW	<del>Y08</del> Y08 H-27780 INSTR AIR AFT FLTR D102A DIFF PRESS HIGH	<del>Y14</del> Y09 H-27788 MAIN CNDSR AREA LEAK DETECTION	<del>Y20</del> Y10 H-23678 CONTROL BLDG AFTCLR B001B DISCH TEMP HIGH	<del>Y26</del> Y11 H-24018 H2O2 ANALYZER B HEAT TRACE SYS FAIL	<del>Y32</del> Y12 H-27742 WGT BLDG CHEMICAL SUMP LEVEL HIGH
<del>Y03</del> Y13 H-23680 INSTR AIR DRYERS SYS PRESS LOW	<del>Y09</del> Y14 H-27780 INSTR AIR AFT FLTR D102B DIFF PRESS HIGH	<del>Y15</del> Y15 H-27780 INSTR AIR ESSENTIAL SPLY PRESS LOW	<del>Y21</del> Y16 H-23678 CONTROL BLDG AFTCLR B001C DISCH TEMP HIGH	<del>Y27</del> Y17 H-24008 H2O2 ANALYZER SYSTEM B FAIL	<del>Y33</del> Y18 H-27742 WGT BLDG CRW DRAIN SUMP LEVEL HIGH
<del>Y04</del> Y19 H-23680 INSTR AIR DRYERS SYS PRESS LOW	<del>Y10</del> Y20 H-27782 WGT VAULT VENT B528A/B SUPPLY FLOW LOW	<del>Y16</del> Y21 H-23678 AIR CMPSR 2A TRIPPED/ SHUTDOWN	<del>Y22</del> Y22 H-23680 CONTROL BLDG SERVICE AIR PRESS LOW	<del>Y28</del> Y23 H-27746 PCIS OUTBOARD H2O2/FPM SYS OVERRIDE	<del>Y34</del> Y24 H-27742 WGT BLDG CRW DRAIN SUMP LEVEL HIGH-HIGH
<del>Y05</del> Y25 H-23680 INSTR AIR PREFLTR D103A DIFF PRESS HIGH	<del>Y11</del> Y26 H-27782 WGT VAULT VENT B530 SUPPLY FLOW LOW	<del>Y17</del> Y27 H-23678 AIR CMPSR 2B TRIPPED/ SHUTDOWN	<del>Y23</del> Y28 H-24008 H2O2 ANALYZER SAMPLE B FLOW LOW	<del>Y29</del> Y29 H-24008 DRWL/TORUS CH B O2 CONTENT HIGH	<del>Y35</del> Y30 H-27742 WGT BLDG DRW DRAIN SUMP LEVEL HIGH
<del>Y06</del> Y31 H-23680 INSTR AIR PREFLTR D103B DIFF PRESS HIGH	<del>Y12</del> Y32 H-27753 RW BLDG INSTR AIR NON-ESS SPLY PRESS LOW	<del>Y18</del> Y33 H-23578 AIR CMPSR 2C TRIPPED/ SHUTDOWN	<del>Y24</del> Y34 H-23680 CONTROL BLDG SERVICE AIR SHUTOFF	<del>Y30</del> Y35 H-24008 DRWL/TORUS CH B H2 CONTENT HIGH	<del>Y36</del> Y36 H-27742 WGT BLDG DRW DRAIN SUMP LEVEL HIGH-HIGH

**BEFORE**



FIGURE 1 (SHEET 1 OF 2)

ENCLOSURE (Continued)  
RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

BAY A ANNUNCIATOR

Y01 Y01 H-27753 RB INSTR AIR NON-INT AIR HDR PRESS LOW	Y07 Y02 H-27788 RFP AREA LEAK DETECTION	Y13 Y03 H-27788 MAIN TURB AREA LEAK DETECTION	Y19 Y04 H-23678 CONTROL BLDG AFTCLR B001A DISCH TEMP HIGH	Y25 Y05 H-23680 INST AIR DRYER MALFUNCTION	Y31 Y06 H-27753 WGT BLDG INL R AIR SUPPLY LINE PRESS LOW
Y02 Y07 H-27753 RB INSTR AIR N2 INERT SYS PRESS LOW	Y08 Y08 H-27780 INSTR AIR AFT FLTR D102A DIFF PRESS HIGH	Y14 Y09 H-27788 MAIN CNDSR AREA LEAK DETECTION	Y20 Y10 H-23678 CONTROL BLDG AFTCLR B001B DISCH TEMP HIGH	Y26 Y11 H-24018 H202 ANALYZER B HEAT TRACE SYS FAIL	Y32 Y12 H-27742 WGT BLDG CHEMICAL SUMP LEVEL HIGH
Y03 Y13 H-27780 INSTR AIR ESSENTIAL SPLY PRESS LOW	Y09 Y14 H-27780 INSTR AIR AFT FLTR D102B DIFF PRESS HIGH	Y15 Y15 H-23678 CONTROL BLDG AFTCLR B001C DISCH TEMP HIGH	Y21 Y16 H-23678 CONTROL BLDG AFTCLR B001C DISCH TEMP HIGH	Y27 Y17 H-24008 H202 ANALYZER SYSTEM B FAIL	Y33 Y18 H-27742 WGT BLDG CRW DRAIN SUMP LEVEL HIGH
Y04 Y19 H-23680 INSTR AIR DRYERS SYS PRESS LOW	Y10 Y20 H-27782 WGT VAULT VENT BS28A/B SUPPLY FLOW LOW	Y16 Y21 H-23678 AIR CMPSR 2A TRIPPED/ SHUTDOWN	Y22 Y22 H-23680 CONTROL BLDG SERVICE AIR PRESS LOW	Y28 Y23 H-27746 PCIS OUTBOARD H202/FPM SYS OVERRIDE	Y34 Y24 H-27742 WGT BLDG CRW DRAIN SUMP LEVEL HIGH-HIGH
Y05 Y25 H-23680 INSTR AIR PREFLTR D103A DIFF PRESS HIGH	Y11 Y26 H-27782 WGT VAULT VENT BS30 SUPPLY FLOW LOW	Y17 Y27 H-23678 AIR CMPSR 2B TRIPPED/ SHUTDOWN	Y23 Y28 H-23680 CONTROL BLDG SERVICE AIR SHUTOFF	Y29 Y29 H-24008 DRWL/TORUS CH B O2 CONTENT HIGH	Y35 Y30 H-27742 WGT BLDG DRW DRAIN SUMP LEVEL HIGH
Y06 Y31 H-23680 INSTR AIR PREFLTR D103B DIFF PRESS HIGH	Y12 Y32 H-27753 RW BLDG INSTR AIR NON-ESS SPLY PRESS LOW	Y18 Y33 H-23678 AIR CMPSR 2C TRIPPED/ SHUTDOWN	Y24 Y34 H-24008 H202 ANALYZER SAMPLE B FLOW LOW	Y30 Y35 H-24008 DRWL/TORUS CH B H2 CONTENT HIGH	Y36 Y36 H-27742 WGT BLDG DRW DRAIN SUMP LEVEL HIGH-HIGH

AFTER



FIGURE 1 (SHEET 2 OF 2)

RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

RECOMBINER A AND B TEMP HIGH OR LOW *	H2 ANALYZER A HIGH #2	GLYCOL STORAGE TANK HIGH TEMP	GAS INLET HIGH TEMP	ADSORBER VESSEL HIGH TEMP				
RECOMBINER A INLET LOW TEMP	H2 ANALYZER B HIGH #2	GLYCOL STORAGE TANK LOW TEMP	GAS PREHEATER INLET LOW TEMP	ADSORBER VESSEL LOW TEMP				
RECOMBINER B INLET LOW TEMP	HIGH INLET FLOW TO HOLD LINE	GLYCOL STORAGE TANK LOW LEVEL	GAS INLET OUTLET DEPARTING HIGH TEMP	ADSORBER VESSEL HIGH TEMP	ADSORBER VESSEL RING HIGH			
OUTGAS COND A LEVEL HEAD	LOW INLET FLOW TO HOLD LINE	REFRIGERATION MACHINES INOPERABLE	PRE-FILTER DIPPY HIGH PRESS	ADSORBER TANK INLET HIGH PRESS	ADSORBER VESSEL RING DOWNGRADE			
OUTGAS COND B LEVEL HEAD			PRE-FILTER DIPPY HIGH PRESS	OUTGAS CARBON BED BYPASS				
CONDENSER OUTLET HIGH TEMP								

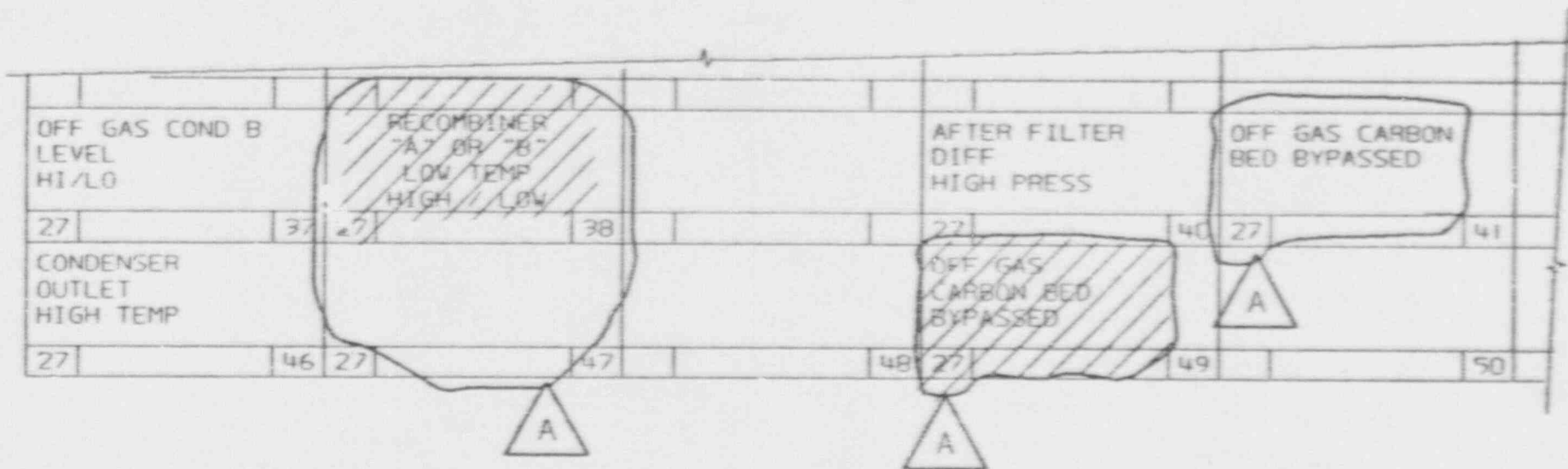
\* RELOCKED

OVERALL VIEW OF PANEL 2N62-P600

FIGURE 2 (SHEET 1 OF 2)



RECOMBINER A/B TEMP HI OR LOW		H <sub>2</sub> ANALYZER "A" HIGH H <sub>2</sub>	
27	1	27	2
RECOMBINER "A" INLET LOW TEMP		H <sub>2</sub> ANALYZER "B" HIGH H <sub>2</sub>	
27	10	27	11



LOCATION OF CHANGES TO PANEL 2N62-P600

FIGURE 2 (SHEET 2 OF 2)

RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

401 V1	402 V1	403 V1	404 V1	405 V1	406 V1	407 V1	408 V1	409 V1	410 V1	411 V1	412 V1	413 V1	414 V1	415 V1	416 V1	417 V1	418 V1	419 V1	420 V1	
R B INS-A AND OUTSIDE AIR HI DIFF PRESS	SGT SVSTE ON BACK-UP	SGT SVSTE HAB IS LD FLOW	SGT SVSTE FILTER IS HI DIFF PRESS	SGT SVSTE FILTER IS HIGH MOISTURE	SGT SVSTE FAN'S NOT IN AUTO	LIQUID NITROGEN STORAGE TANK LOW LEVEL	MULTIPOINT TEMP RECORDER SLOD HIGH TEMP	FUEL POOL PUMP 1 HI DISCH PRESS	FUEL POOL PUMP 2 HI DISCH PRESS	FUEL POOL PUMP 3 HI DISCH PRESS	FUEL POOL PUMP 4 HI DISCH PRESS	FUEL POOL PUMP 5 HI DISCH PRESS	FUEL POOL PUMP 6 HI DISCH PRESS	FUEL POOL PUMP 7 HI DISCH PRESS	FUEL POOL PUMP 8 HI DISCH PRESS	FUEL POOL PUMP 9 HI DISCH PRESS	FUEL POOL PUMP 10 HI DISCH PRESS	FUEL POOL PUMP 11 HI DISCH PRESS	FUEL POOL PUMP 12 HI DISCH PRESS	FUEL POOL PUMP 13 HI DISCH PRESS
421 V1	422 V1	423 V1	424 V1	425 V1	426 V1	427 V1	428 V1	429 V1	430 V1	431 V1	432 V1	433 V1	434 V1	435 V1	436 V1	437 V1	438 V1	439 V1	440 V1	441 V1
SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL	SPENT FUEL STORAGE POOL LOW LEVEL	SPENT FUEL STORAGE POOL HIGH LEVEL

BEFORE

421 V1	422 V1	423 V1	424 V1	425 V1	426 V1	427 V1	428 V1	429 V1	430 V1	431 V1	432 V1	433 V1	434 V1	435 V1	436 V1	437 V1	438 V1	439 V1	440 V1	441 V1
TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE	TRANSFER CANAL BLASER LOW AIR PRESSURE
442 V1	443 V1	444 V1	445 V1	446 V1	447 V1	448 V1	449 V1	450 V1	451 V1	452 V1	453 V1	454 V1	455 V1	456 V1	457 V1	458 V1	459 V1	460 V1	461 V1	462 V1
TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE	TRANSFER CANAL SUPPLY AIR LOW PRESSURE

FIGURE 3 (SHEET 1 OF 2)

RESOLUTION OF HUMAN ENGINEERING DEFICIENCIES

ANNUNCIATOR PANEL, 'F' M21-P 6.5.4  
HEATING & VENTILATION ANNUNCIATOR

421 S1	421 S2	421 S3	421 S4	421 S5	421 S6	421 S7	421 S8
R/B INSIDE AND OUTSIDE AIR HI DIFF PRESS N-217143	R/B INSIDE AND OUTSIDE AIR ON BACK-UP N-217143	R/B INSIDE AND OUTSIDE AIR HI DIFF PRESS N-217143	LIQUID NITROGEN STORAGE TANK LOW LEVEL N-217155	MULTIP'T TEMP RECORD'R BLDG HIGH TEMP N-217155	FUEL POOL PUMP HI DIFF PRESS N-217156	R/C SYSTEM DATE L.A. DRUM HIGH FLOW N-217156	SPENT FUEL STORAGE TANK HIGH LEVEL N-217156
422 S1	422 S2	422 S3	422 S4	422 S5	422 S6	422 S7	422 S8
SCT SYSTEM ON BACK-UP N-217145	SCT SYSTEM ON BACK-UP N-217145	SCT SYSTEM ON BACK-UP N-217145	U.A. / T.O.S. N HEAT SYSTEM INLET HIGH FLOW N-217158	T.O.S. WATER PUMP HI-LOW TEMP N-217158	REFUELING BELLON'S ASSEMBY N-217158	REFUELING BELLON'S ASSEMBY LOW LEVEL N-217158	REFUELING BELLON'S ASSEMBY LOW LEVEL N-217158
423 S1	423 S2	423 S3	423 S4	423 S5	423 S6	423 S7	423 S8
SCT SYSTEM FAN IS LO FLOW N-217145	SCT SYSTEM FAN IS LO FLOW N-217145	SCT SYSTEM FAN IS LO FLOW N-217145	D/W / TORUS N MARKUP C / SO VALVES OPEN N-217159	D/W / TORUS N MARKUP C / SO VALVES OPEN N-217159	D/W / TORUS N MARKUP C / SO VALVES OPEN N-217159	D/W / TORUS N MARKUP C / SO VALVES OPEN N-217159	D/W / TORUS N MARKUP C / SO VALVES OPEN N-217159
424 S1	424 S2	424 S3	424 S4	424 S5	424 S6	424 S7	424 S8
SCT SYSTEM FILTER IS HI DIFF PRESS N-217145	SCT SYSTEM FILTER IS HI DIFF PRESS N-217145	SCT SYSTEM FILTER IS HI DIFF PRESS N-217145	DRY WELLS HIGH TEMP N-217160	DRY WELLS HIGH TEMP N-217160	DRY WELLS HIGH TEMP N-217160	DRY WELLS HIGH TEMP N-217160	DRY WELLS HIGH TEMP N-217160
425 S1	425 S2	425 S3	425 S4	425 S5	425 S6	425 S7	425 S8
SCT SYSTEM FAN IS HI MOISTURE N-217145	SCT SYSTEM FAN IS HI MOISTURE N-217145	SCT SYSTEM FAN IS HI MOISTURE N-217145	TORUS WATER MINIFLOW LEVEL N-217161	TORUS WATER MINIFLOW LEVEL N-217161	TORUS WATER MINIFLOW LEVEL N-217161	TORUS WATER MINIFLOW LEVEL N-217161	TORUS WATER MINIFLOW LEVEL N-217161
426 S1	426 S2	426 S3	426 S4	426 S5	426 S6	426 S7	426 S8
SCT SYS FAN 'B' SH-NOT IN AUTO N-217145	SCT SYS FAN 'B' SH-NOT IN AUTO N-217145	SCT SYS FAN 'B' SH-NOT IN AUTO N-217145					

AFTER

421 S1	421 S2	421 S3	421 S4	421 S5	421 S6	421 S7	421 S8
421 S1	421 S2	421 S3	421 S4	421 S5	421 S6	421 S7	421 S8
MULTIP'T TEMP RECORD'R BLDG HIGH TEMP N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155	T.B VENT SUPPLY FAN LOW FLOW N-217155
422 S1	422 S2	422 S3	422 S4	422 S5	422 S6	422 S7	422 S8
422 S1	422 S2	422 S3	422 S4	422 S5	422 S6	422 S7	422 S8
422 S1	422 S2	422 S3	422 S4	422 S5	422 S6	422 S7	422 S8
423 S1	423 S2	423 S3	423 S4	423 S5	423 S6	423 S7	423 S8
423 S1	423 S2	423 S3	423 S4	423 S5	423 S6	423 S7	423 S8
424 S1	424 S2	424 S3	424 S4	424 S5	424 S6	424 S7	424 S8
424 S1	424 S2	424 S3	424 S4	424 S5	424 S6	424 S7	424 S8
425 S1	425 S2	425 S3	425 S4	425 S5	425 S6	425 S7	425 S8
425 S1	425 S2	425 S3	425 S4	425 S5	425 S6	425 S7	425 S8
426 S1	426 S2	426 S3	426 S4	426 S5	426 S6	426 S7	426 S8
426 S1	426 S2	426 S3	426 S4	426 S5	426 S6	426 S7	426 S8

FIGURE 3 (SHEET 2 OF 2)

CONTINUED FROM FIGURE ABOVE