



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690 - 0767

February 28, 1989

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

**Subject: Dresden Nuclear Power Station Unit 2
Incomplete DCRDR Corrective Actions
Following the Fall 1988 Refuel Outage
NRC Docket No. 50-237**

- References (a): Letter from J.R. Wojnarowski to J.A. Zwolinski dated February 11, 1986 transmitting Dresden Station Detailed Control Room Design Review (DCRDR) Final Summary Report (FSR) Supplement 1 dated January 31, 1986.
- (b): Letter from I.M. Johnson to T.E. Murley dated August 25, 1987 transmitting "Dresden Station Detailed Control Room Design Review Supplement 2" dated August, 1987.
- (c): Letter from J.A. Silady to T.E. Murley dated December 20, 1988 requesting Dresden and Quad Cities Station schedule changes.

Dear Dr. Murley:

Enclosed is CECO's response to the NRC Staff's request for a submittal concerning changes to the Dresden Station HED corrective action implementation schedule as per CECO/NRC conference calls on February 13 and 15, 1989. These conference calls detailed the present status, near the conclusion of the Unit 2 Second DCRDR Refueling Outage, and the scope of the proposed schedule changes. It was agreed that the corrective actions for incomplete HED's would be completed:

- a) within 75 days after the end of the refuel outage (April 19, 1989) for those which do not require a unit outage, or
- b) by the end of the scheduled dual unit outage (approximately December 19, 1989) for those that require an outage.

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February 28, 1989

Attachment A identifies the Dresden Station Unit 2 HED's requiring a schedule change. Of the 19 HED's, 3 will be completed within 75 days from the unit startup. The remainder will be completed at the earliest reasonable opportunity but no later than the end of the Unit 2/3 dual outage. Many of the components in these 16 HED's will be worked on while the unit is operating, leaving a minority of components requiring a unit outage for work to be completed. Evaluation of the above HED's has determined that this revised schedule does not introduce a significant safety impact upon the plant or operator training.

All components that can be reasonably worked on while the unit is operating will be altered to meet the Reference (a) FSR enhancements prior to 75 days after the Unit 2 startup. Rather than unnecessarily enter an LCO or risk a unit trip, the remaining components will be enhanced before the end of the Unit 2/3 dual outage. The dual outage is currently scheduled to start on December 9, 1989 and continue for approximately 10 days. Any opportunity provided by unscheduled outages of 16 hours or longer, prior to the Unit 2/3 dual outage, will be used to work on any outage-related items still remaining.

As specific work packages are completed, it may be found that certain items can be reclassified from completion during the dual outage to completion with the unit on-line. The opposite scenario may occur as well.

During the verification process the Human Factors Engineers (with concurrence from the operating staff) determined that it was not appropriate nor required to implement the corrective actions specified in the FSR as identified in Attachment B of this letter. This includes HED's 213, 217, 219, and 220 (FSR pages 172, 174, 176, 177, respectively). We propose to change the implementation to "Accept as is" for these four (4) HED's which are Category 1C items. A discussion of these HED's is also included in Attachment B.

Please contact this office should further information be required.

Very truly yours,



J. A. Silady

Nuclear Licensing Administrator

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cc: A.B. Davis - Regional Administrator, RIII
B.L. Siegel - Project Manager, NRR
S.G. DuPont - Senior Resident Inspector, Dresden

ATTACHMENT A
Schedule Changes

ATTACHMENT A
Schedule Changes

<u>Category/ Level</u>	<u>Index</u>	<u>FSR pg</u>	<u>General Characterization</u>	<u>Number of Components</u>	<u>Within 75 Days Prior to Startup</u>	<u>During 2/3 Outage</u>
1B	305	178	Meter scale graduations	42	33	9
1B	572	304	Meter scale divisions	2	0	<u>2</u>
1B	210	171	Numeral height	20	17	3
1C	216	173	Stroke width/ character height	4	<u>4</u>	0
1C	218	175	Numeral height/width	1	0	<u>1</u>
1C	170,172,310	428	Recorder pointers obscure scales	26	<u>26</u>	0
1C	394	445	Recorder not printing clear numbers	1	1	0
2B	515,610	151	Controllers	10	4	6
2B	516	152	Controllers	10	4	6
2B	517	153	Controllers	10	4	6
2B	520,599	155	Controllers	10	4	6
2B	526	160	Controllers	10	4	6
2B	528	162	Controllers	10	4	6
2B	413	168	Controllers	10	4	6
2C	436	190	Color code	EHC Panel	0	<u>X</u>

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0305

12 HED NO.: 5.1.5.A.1-1

CATEGORY: 1 LEVEL: B

FINDING:

More than 9 graduations were used between major numerals on displays. Having more than 9 graduations can make accurate reading of the display difficult. There are 114 displays affected by this guideline. (Photo Log L-30)

RESPONSE:

The cited displays will be modified to insure no more than nine graduations are used between major numerals.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/46

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 305
APPENDIX C
HED CATEGORY 1B
FSR PAGE 178

RESPONSE

THE CITED DISPLAYS WILL BE MODIFIED TO INSURE NO MORE THAN NINE GRADUATIONS ARE USED BETWEEN MAJOR NUMERALS.

NRC/SAIC COMMENT

Proposed implementation dates should be reevaluated for implementation by the completion of the first refueling outage, or further justification should be provided for implementation as proposed.

CECO CLARIFICATION

The discrepant displays will be modified to ensure that no more than nine graduations are used between major numerals. This will be done as part of the control room relabeling program in conjunction and coordination with the background shading and lines of demarcation programs. Because of the extensive nature of these programs, and the large number of displays involved (114), their completion will not be until the end of the second refueling outage.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0572

12 HED NO.: 9.0/V-3

CATEGORY: 1 LEVEL: B

FINDING:

The "medium range level A" and "medium range level B" instruments (on 90X-5) presently read in divisions of three.

RESPONSE:

The scale will be modified and will present level in acceptable units.

IMPLEMENTATION:

By the completion of the second refueling outage.

4380/c/74

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0210

12 HED NO.: 5.1.3.A-1

CATEGORY: -1 LEVEL: B

FINDING:

The height of numerals on displays does not subtend 15 minutes of visual arc from a three foot viewing distance. (Photo Log J-23 J-24)

RESPONSE:

Discrepant meters will be relabeled to ensure 15 minutes of arc readability.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/16

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 210
APPENDIX C
HED CATEGORY 1B
FSR PAGE 171

RESPONSE

DISCREPANT METERS WILL BE RELABELED TO ENSURE 15 MINUTES OF ARC READABILITY.

NRC/SAIC COMMENT

Proposed implementation dates should be reevaluated for implementation by the completion of the first refueling outage, or further justification should be provided for implementation as proposed.

CECO CLARIFICATION

The discrepant meters will be relabeled to ensure 15 minutes of arc readability. This will be done as part of the control room relabeling program in conjunction and coordination with the background shading and lines of demarcation programs. Because of the extensive nature of these programs their completion will not be until the end of the second refueling outage.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0216

12 HED NO.: 5.1.3.D.1-9

CATEGORY: 1 LEVEL: C

FINDING:

The stroke width-to-character height ratios are not between 1:6 and 1:8. These limits provide optimal readability of characters on a display. (Photo Log L-25)

RESPONSE:

Displays will be relabeled to insure stroke width-to-character height ratios are between 1:6 and 1:8.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/17

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0218

12 HED NO.: 5.1.3.D.3-13

CATEGORY: 1 LEVEL: C

FINDING:

The numeral height-to-width ratio for displays is not approximate 3:5.
(Photo Log L-26)

RESPONSE:

Displays will be relabeled to insure numeral height-to-width ratios are 3:5.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/18

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0170, 0172, 0310

12 HED NO.: 5.2.2.A.2-1, 5.2.2.A.2-3,
5.2.2.B.1-6

CATEGORY: 1 LEVEL: C

FINDING:

Pointer tips on scales are covering the scale graduations making scales difficult to read. This problem is primarily associated with GE strip-chart recorders. (Photo Log I-9)

RESPONSE:

The trend recorders cited are used for trend information only. The specific values of the rotary meters do not significantly effect operation because enough of the numerals can normally be seen so that the meters can be read.

IMPLEMENTATION:

Accept as is.

4381/c/47

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 170 172 310
APPENDIX D7
HED CATEGORY 1C
FSR PAGE 428

RESPONSE

THE TREND RECORDERS CITED ARE USED FOR TREND INFORMATION ONLY. THE SPECIFIC VALUES OF THE ROTARY METERS DO NOT SIGNIFICANTLY EFFECT OPERATION BECAUSE ENOUGH OF THE NUMERALS CAN BE SEEN SO THAT THE METERS CAN BE READ.

NRC/SAIC COMMENT

This HED's corrective action and/or implementation date, which was accepted by the NRC in the original Summary Report, has been modified in the Supplemental Report. The modified corrective action and/or implementation date is not acceptable to the NRC and the licensee should provide assurance that the original will be implemented.

CECO CLARIFICATION

Reevaluation of the GE stripchart recorder pointer problem by the HEDAT resulted in concurrence with the NRC's comments. Therefore, our original response is reinstated and the pointers on these recorders will be adjusted where appropriate so as to remove any obstruction of the recorder scale.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0394

12 HED NO.: 5.6.2.B.3-2

CATEGORY: 1 LEVEL: C

FINDING:

The number printing mechanisms on the graphic recorders do not provide clear sharp numbers.

RESPONSE:

The printing keys on the graphic recorders will be cleaned or replaced as needed so they will print clearly.

IMPLEMENTATION:

By the completion of the second refueling outage.

4430/c/6

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0515, 0610

12 HED NO.: 5.0/V-2, 5.1.5.A.1-2

CATEGORY: B LEVEL: 2

FINDING:

The following discrepancies were noted on the Clean-up pressure controller (on 90X-4):

1. The EM scale reads 0-100. The units are not listed.
2. There are no units listed on the demand EM.
3. The thumbwheel (setpoint) tape has 0-100 with no scale.
4. The deviation meter just has dots on it.

RESPONSE:

Units and parameters will be added to the response, demand, and deviation meters. It is not appropriate to label the setpoint tape since it has different values at different modes of operation. A job performance aid will be permanently engraved and appended to the panel.

IMPLEMENTATION:

By the completion of the second refueling outage.

4397/c/39

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 515 610
APPENDIX D1
HED CATEGORY 2B
FSR PAGE 151

RESPONSE

UNITS AND PARAMETERS WILL BE ADDED TO THE RESPONSE, DEMAND, AND DEVIATION METERS. IT IS NOT APPROPRIATE TO LABEL THE SETPOINT TAPE SINCE IT HAS DIFFERENT VALUES AT DIFFERENT MODES OF OPERATION. A JOB PERFORMANCE AID WILL BE PERMANENTLY ENGRAVED AND APPENDED TO THE PANEL.

NRC/SAIC COMMENT

The description of the proposed corrective action is too brief, ambiguous, or general to allow an adequate evaluation to be made.

CECO CLARIFICATION

The parameter "PSI" will be added to the Response meter on the Cleanup pressure controller. In addition, Divisions will be changed from "0-100" to "0-200". Further, the parameter "DEM" will be added to the Demand meter and the parameter "DEV" and the units of "+" and "-" will be added to the Deviation meter on the controller. It is not appropriate to label the Setpoint Tape since it has different values for different modes of operation. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION

2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0516

12 HED: 5.0/V-3

CATEGORY: 2 LEVEL: B

FINDING:

The following discrepancies were noted on the clean-up system flow controllers (on 90X-4):

1. The demand meter has no units listed.
2. There is no response meter in flow.
3. The setpoint tape has no units.
4. The deviation tape has no units and is not color banded.

RESPONSE:

Units and parameters will be added to the response, demand, and deviation meters. It is not appropriate to label the setpoint tape since it has different values at different modes of operation. A job performance aid describing the use of this controller will be permanently engraved and appended to the panel.

IMPLEMENTATION:

By the completion of the second refueling outage.

4399/c/26

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 516
APPENDIX D1
HED CATEGORY 2B
FSR PAGE 152

RESPONSE

UNITS AND PARAMETERS WILL BE ADDED TO THE RESPONSE, DEMAND, AND DEVIATION METERS. IT IS NOT APPROPRIATE TO LABEL THE SETPOINT TAPE SINCE IT HAS DIFFERENT VALUES AT DIFFERENT MODES OF OPERATION. A JOB PERFORMANCE AID DESCRIBING THE USE OF THIS CONTROLLER WILL BE PERMANENTLY ENGRAVED AND APPENDED TO THE PANEL.

NRC/SAIC COMMENT

The description of the proposed corrective action is too brief, ambiguous, or general to allow an adequate evaluation to be made.

CECO CLARIFICATION

For the Clean-up system flow controllers, the parameter "DEM" will be added to the Demand meter and the parameter "DEV" and the units of "+" and "--" will be added to the Deviation meter. It is not appropriate to label the Setpoint Tape since it has different values for different modes of operation. Further, a Response meter for the controller is not necessary since system flow is easily obtained from a flow recorder located just above the controller. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION

2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0517

12 HED: 5.0/V-4

CATEGORY: 2 LEVEL: B

FINDING:

The clean-up blowdown flow controllers (on 90X-4) have demand meters with no units, and do not have response meters for actual valve position.

RESPONSE:

Units will be added to the demand meters.

IMPLEMENTATION:

By the completion of the second refueling outage.

4399/c/27

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 517
APPENDIX D2
HED CATEGORY 2B
FSR PAGE 153

RESPONSE

UNITS WILL BE ADDED TO THE DEMAND METERS.

NRC/SAIC COMMENT

The proposed corrective action only partially corrects the discrepancy.

CECO CLARIFICATION

The parameter "DEM" will be added to the Demand meter on the Clean-up Blowdown Flow controllers. Flow is the parameter of interest when operating these controllers, not valve position per se, and a flow indicator with a range of 0-300 GPM is located directly above the controllers. Therefore, a separate Response meter on the controller is not necessary, nor is a Deviation meter. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0520, 0599

12 HED: 5.0/V-7, 5.1.2.A-2

CATEGORY: 2 LEVEL: B

FINDING:

The following discrepancies were identified for the head cooling flow control valve (90X-4):

1. The response meter has insufficient divisions for low range operation.
2. The demand meter has no units.
3. The setpoint tape has no units.
4. The deviation meter has no units or banding.

RESPONSE:

Units and parameters will be added to the response, demand, and deviation meters. It is not appropriate to label the setpoint tape since it has different values at different modes of operation. A job performance aid describing the use of this controller will be permanently engraved and appended to the panel.

IMPLEMENTATION:

By the completion of the second refueling outage.

4399/c/1

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 520 599
APPENDIX D1
HED CATEGORY 2B
FSR PAGE 155

RESPONSE

UNITS AND PARAMETERS WILL BE ADDED TO THE RESPONSE, DEMAND, AND DEVIATION METERS. IT IS NOT APPROPRIATE TO LABEL THE SETPOINT TAPE SINCE IT HAS DIFFERENT VALUES AT DIFFERENT MODES OF OPERATION.

NRC/SAIC COMMENT

The description of the proposed corrective action is too brief, ambiguous, or general to allow an adequate evaluation to be made.

CECO CLARIFICATION

The parameter "GPM" will be added to the Response meter on the Reactor Head Cooling Flow Control Valve controller. In addition, Divisions will be changed to "0-150". Further, the parameter "DEM" will be added to the Demand meter and the parameter "DEV" and the units of "+" and "-" will be added to the Deviation meter on the controller. It is not appropriate to label the Setpoint Tape since it has different values for different modes of operation. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0526

12 HED: 5.0/V-13

CATEGORY: 2 LEVEL: B

FINDING:

The recirculating pump speed controllers (on 90X-4) require modifications. At present, neither the response nor demand meter has units.

1. The demand meter has no units of measurement.
2. The response meter has no units of measurement.
3. The response meter only goes to 100 and can be overspeeded.

RESPONSE:

Units and parameters will be added to the response, demand, and deviation meters. An electrical and a mechanical stop are provided on these controllers to prevent overspeed.

IMPLEMENTATION:

By the completion of the second refueling outage.

4399/c/6

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 526
APPENDIX D1
HED CATEGORY 2B
FSR PAGE 160

RESPONSE

UNITS AND PARAMETERS WILL BE ADDED TO THE RESPONSE, AND DEMAND METERS. AN ELECTRICAL AND A MECHANICAL STOP ARE PROVIDED ON THESE CONTROLLERS TO PREVENT OVERSPEED.

NRC/SAIC COMMENT

The description of the proposed corrective action is too brief, ambiguous, or general to allow an adequate evaluation to be made.

CECO CLARIFICATION

The parameter "%" will be added to the Response meter on the Reactor Recirculating Pump Speed controllers. An electrical and a mechanical stop are provided on these controllers to prevent overspeed. "DEM" will be added to the Demand meter. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION
2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0528

12 HED: 5.0/V-15

CATEGORY: 2 LEVEL: B

FINDING:

The master recirculating flow controller (on 90X-5) requires modification. The demand meter and the deviation for this controller presently have no units.

RESPONSE:

Units will be added to the demand and deviation meters.

IMPLEMENTATION:

By the completion of the second refueling outage.

4399/c/8

REVISED RESPONSE/CLARIFICATION TO HEDS REFERRED TO
IN THE NRC'S SAFETY EVALUATION (SE) OF THE DCRDR.

HED # 528
APPENDIX D1
HED CATEGORY 2B
FSR PAGE 162

RESPONSE

UNITS WILL BE ADDED TO THE DEMAND AND DEVIATION METERS.

NRC/SAIC COMMENT

The description of the proposed corrective action is too brief, ambiguous, or general to allow an adequate evaluation to be made.

CECO CLARIFICATION

The parameter "DEM" will be added to the Demand meter on the Master Recirculating Flow Controller. The parameter "DEV" and the units of "+" and "-" will be added to the Deviation meter on the controller. Training, both in the classroom and at the simulator, covers the appropriate use of all controllers under all modes of operation.

IMPLEMENTATION

2ND REFUELING OUTAGE

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0413

12 HED NO.: 5.1.1.B.1-1

CATEGORY: 2 LEVEL: B

FINDING:

The displays are not identified as to whether they reflect demand or actual status. Knowing which is being reflected gives the operator a clearer understanding of the display. (Photo Log 0-5)

RESPONSE:

All cited displays are part of controllers. An identifier will be established to indicate to the operator when displays are indicating demand status and response.

IMPLEMENTATION:

By the completion of the second refueling outage.

4409/c/21

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0436

12 HED: 5.3.3.D-9

CATEGORY: 2 LEVEL: C

FINDING:

The color of legend light indicators when lit does not conform to the general color code employed throughout the control room. (Photo Log 0-11)

RESPONSE:

A color coding standard has been established and will be implemented on legend light indicators.

IMPLEMENTATION:

By the completion of the second refueling outage.

4385/c/11

ATTACHMENT B
Implementation Changes

ATTACHMENT B
Implementation Changes

<u>Category Level</u>	<u>Index</u>	<u>FSR pg</u>	<u>General Characterization</u>	<u>Number of Components</u>
1C	217	174	Letter width-to-height ratios	2
1C	219	176	Space between characters	3
1C	220	177	Space between lines	1
1C	213	172	Black lettering on white background	2

ATTACHMENT B

(Cont'd)

BASES FOR HED's ACCEPTED "AS IS"

- 1) HED Index No. 217: The letters on the scales outlined on the component list are slightly outside of the recommended criteria for the width-to-height ratios of 1:1 and 3:5. The lowest ratio in this list is 2.5:5. On these deviant scales, the height of the letter subtends 15 degrees of visual arc. In addition, the operators do not have any problems reading the information on these scales; and readability should be enhanced by the newly installed lighting system in the control room.

- 2) HED Index No. 219: The separation of characters on the scales outlined on the component list are slightly less than one stroke width. The lowest separation in this list is 88 percent of the stroke width. In addition, the operators do not have any problems reading the characters on these scales; and readability should be enhanced by the newly installed lighting system in the control room.

- 3) HED Index No. 220: This HED has two parts: graduation heights on displays and the space between lines on displays. The first deficiency (graduation heights) has been corrected. The specific justification statement in this paragraph is only concerned with the latter potential deficiency. The separation between lines on the scales outlined on the component list are slightly less than 50 percent of the character height. The lowest separation in this list is 45 percent of height. In addition, the operators do not have any problems reading the characters on these scales; and readability should be enhanced by the newly installed lighting system in the control room.

- 4) HED Index No. 213: The two high pressure coolant injection meter displays (on 902-3) contain letters, numbers, and graduations that are an affiliate to dark gray (almost black). Since the perceptual contrast difference in these two cases between dark gray and black is very small and the operators do not have any problems reading the two scales, it was felt that the recommended fix was unnecessary. In addition, the dark gray lettering on a light background meets the intent of the guidelines. Further, readability should be enhanced by the newly installed lighting system in the control room.

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0217

12 HED NO.: 5.1.3.D.2-11

CATEGORY: 1 LEVEL: C

FINDING:

Letter width-to-height ratios are not between 1:1 and 3:5. These limits provide for optimal readability of characters on displays. (Photo Log L-27)

RESPONSE:

Displays will be relabeled to insure letter width-to-height ratios are between 1:1 and 3:5.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/24

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0219

12 HED NO.: 5.1.3.D.4-15

CATEGORY: 1 LEVEL: C

FINDING:

Minimum space between characters on displays is less than one stroke width. This limit provides for optimal readability of characters.
(Photo Log L-27)

RESPONSE:

Displays will be relabeled to insure the space between characters is one stroke width.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/19

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0220

12 HED NO.: 5.1.3.D.6-17

CATEGORY: 1 LEVEL: C

FINDING:

The space between lines on displays is less than one half the character height. This limit provides for optimal readability of the display wording. (Photo Log L-28)

RESPONSE:

Displays will be relabeled to insure that space between lines is one-half the character height.

IMPLEMENTATION:

By the completion of the second refueling outage.

4381/c/20

DRESDEN CORRECTIVE ACTIONS

INDEX NO.: 0213

12 HED NO.: 5.1.3.C.1-7

CATEGORY: 1 LEVEL: C

FINDING:

The displays do not have black lettering on a white background.
(Photo Log J-31)

RESPONSE:

The two high pressure coolant injection meter displays (on 90X-3) are an affiliate to dark gray. The meter faces will be modified to insure black lettering on a white background. The two drywell sump counters on panels 90X-4, 18 and 19 are white on black. The timers on panels 90X-10 and 18 are dark green on white and black on silver, respectively. This dark lettering on a light background meets the intent of the guidelines.

IMPLEMENTATION:

By the completion of the second refueling outage.

4380/c/7