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DAVIS,A.B. Region 3, Ofc of the Director

SUBJECT: Responds to violations noted in SSFI Rept 50-331/90-03.

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Iowa Electric Light and Power Company

June 29, 1990
NG-90-1610

Mr. A. Bert Davis
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
Response to Safety System Functional Inspection and Enclosed Notice of Violation, Report No. 50-331/90003(DRS)

File: A-102, A-103

Dear Mr. Davis:

Attachment 1 responds to the items identified in the Notice of Violation. The response was originally requested June 11, 1990, however that date was extended following discussions with Mr. R. Westberg and Mr. M. Parker of your office. Attachment 2 discusses the status of unresolved items identified in your report. Attachment 3 contains a discussion of our commitments to improve systems and programs as identified in the Inspection Report.

The May 11, 1990 letter states that the NRC's most significant concern was with the potential for loss of the ultimate heat sink due to the unusually low level of the Cedar River. We have successfully negotiated dredging permits with the State of Iowa and removed an accumulation of sediment from the river bed directly in front of the intake structure for the plant. Substantial progress has been made in the completion of a detailed model of the river that will allow us to determine whether the installation of vanes in the river can enhance the flow path and sedimentation characteristics of the river. Further information regarding this item is provided in the attachments to this response. In addition, above average rainfall in recent months has restored ample river flow and subsoil moisture. Current Cedar River flow rates are more than an order of magnitude greater than when the SSFI team observed the river. With the replacement of subsoil moisture it is likely that flow rates will remain in a desirable range in the near future.

This SSFI led to a meaningful dialogue between Iowa Electric and NRC personnel that in our view provided a definite benefit to the continued safe operation of our plant.

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If you have any questions regarding this response, please feel free to contact our office.

Very truly yours,

Daniel L. Mineck
Manager, Nuclear Division

DLM/KSP/ky

Attachments: 1) Response to Notice of Violation
2) Response to Unresolved Items
3) Status of Commitments Noted in the Inspection

cc: U. S. NRC Document Control Desk (Original)
L. Liu
L. Root
R. McGaughy
J. R. Hall (NRR)
NRC Resident Inspector - DAEC
K. Putnam
Commitment Control No. 900153

Iowa Electric Light and Power Company
Response to Notice of Violation
Transmitted with Inspection Report 90-003

NRC NOTICE OF VIOLATION 1

10 CFR 50, Appendix B, Criterion III, as implemented by the Iowa Electric Light and Power Quality Assurance Manual, requires that measures be established to assure that applicable regulatory requirements and their design basis, as defined in Section 50.2 and as specified in the license application, are correctly translated into specifications, drawings, procedures, and instructions. It also requires that the design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews or by the use of alternate or simplified calculational methods. It further requires that design control measures be applied to such items as compatibility of materials, maintenance and repair, and delineation of acceptance criteria for inspections and tests.

Contrary to the above:

a. Incorrect damping values for seismic response spectra were used in Calculations No. 85-375, dated May 9, 1985 and No. 85-376, dated May 15, 1985 and checking activities did not detect these deficiencies.

b. Incorrect stress intensification factors were used in Calculations No. 80-322, dated February 22, 1980, No. 85-375, dated May 9,1985 and No. 85-376, dated May 15,1985 and checking activities did not detect these deficiencies.

c. Six of nine piping calculations reviewed did not account for the effects of Stress Intensification Factors for integrally welded stanchion anchors as required by the B31.1 Piping Code.

d. The design criteria, "Project Direction for NRC Bulletin 79-02 and 79-14 Integration Program," dated March 26, 1980, for allowable U-bolt lateral loads, was inappropriately used for the special application U-bolt of support No. HBD-25-H-55.

e. Eight examples of thermal overload settings that did not conform to the design drawings were noted in the field.

f. Modification, DCP No. 1430, failed to correct the breaker miscoordination between MCC 1B37 and the Low Pressure Coolant Injection (LPCI) Swing Bus. Thus, a non-LPCI fault could disable the LPCI function.

This is a Severity Level IV Violation (Supplement I).

RESPONSE TO NOTICE OF VIOLATION 1

1. Corrective Actions Taken and the Results Achieved:

   a. Item 1a-1d:

      The referenced calculations were reviewed. In each case the installed configuration was acceptable with corrections for the noted discrepancies.

   b. Item 1e:

      Discrepancies between the thermal overload field installed device designation and design drawing specified device numbers were reviewed. The discrepancies did not adversely affect equipment performance.

   c. Item 1f:

      By letters dated October 4, 1988 (NG-88-3315, W. Rothert to T. Murley) and November 4, 1988 (NG-88-3787) Iowa Electric proposed revision to the design and related actions intended to resolve NRC and other concerns associated with the LPCI swing bus. These actions were reviewed by the NRC and resulted in issuance of an NRC SER "Evaluation of LPCI Swing Bus Design Modification", transmitted by NRC letter of January 19, 1989 (J. Hall to L. Liu). Design enhancements were implemented by issuance of Design Change Package 1430 and further enhancements are being implemented during the current refueling outage via Design Change Package 1470. During the NRC SSFI, the NRC inspection team questioned the appropriateness of having the MSIV Leakage Control System, in addition to the LPCI valves, attached to the swing bus. The NRC team's concern was related to an internal NRC position that was provided to Iowa Electric which stated that only loads associated with the LPCI function, i.e., LPCI valve motors, may be connected to the swing bus. Iowa Electric reviewed the breaker characteristics associated with the feeder breakers to the swing bus, in relation to the characteristics of the breakers from the swing bus to the MSIV LCS. The conclusion of this review is that electrical faults, with the exception of very high currents associated with bolted faults downstream of the MSIV LCS breaker, would result in tripping of the MSIV LCS breaker prior to tripping of the upstream feeder (and thus ensure continued availability of AC power to the LPCI valves). For extreme faulted conditions, an upstream swing bus breaker breaker could trip. Iowa Electric agrees with the NRC that this situation has a very low probability of occurrance. Further, the modifications being implemented via DCP 1470 during this

refueling outage further reduce the consequences of this occurance by augmenting the ability to sense and transfer upon loss of AC on the swing bus (so that if this were to occur, transfer to the redundant power division for the swing bus would occur). At the conclusion of these modifications, however, the issue remains of whether the MSIV LCS should remain on the swing bus, and whether breaker coordination can or needs to be further enhanced. The actions identified below address these points.

2. Corrective Actions to be Taken to Prevent Recurrence:

   a. Items 1a-1d:

      An engineering review of seismic calculations for the type of discrepancies noted is underway. To date no items requiring field modifications have been identified. The review will be complete by December 31, 1990. Formal revisions to calculations will be prepared when warranted.

   b. Item 1e:

      As a portion of the Iowa Electric program to address generic letter 89-10 (MOVs), the specific installed overload devices will be field verified, the appropriateness of the sizing verified for the application, and controlled design documentation revised to reflect the appropriate device designations. In general, these devices have been sized large to prevent breaker tripping on thermal overloads from defeating the safety functions associated with valve movement. This follow-on activity, as such, represents a design optimization.

   c. Item 1f:

      The breaker coordination will be reviewed further to determine if an alternate device can or should be substituted for the MSIV LCS breaker that would allow a coordinated interrupt at large fault currents. Alternate methods or sources of supplying MSIV LCS with AC power could be implemented. However, this alternative involves a design tradeoff of eliminating the ability to power MSIV LCS from either essential AC power source, compared to the low potential for the MSIV LCS to defeat LPCI functions by virtue of a bolted fault in the power feeder cables.

3. Date When Full Compliance Will be Achieved:

   a. Items 1a-1d:

      Full compliance was achieved with the completion of the reviews of the installed configurations for acceptability in March 1990.

b. Item 1e:

Full compliance was achieved with the verification of acceptability that was completed during the SSFI. The actions identified for Item 1e above (corrective actions to be taken) will provide improved configuration management over these devices.

c. Item 1f:

With the completion of the scheduled modification associated with DCP 1470, the DAEC design will be in conformance with the NRC SER and DAEC FSAR. Further actions may be necessary (as noted under actions to be taken) if recent NRC design guidance is applied to the DAEC.

NRC NOTICE OF VIOLATION 2

10 CFR 50, Appendix B, Criterion XVI, as implemented by the Iowa Electric Light and Power Quality Assurance Manual, requires that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, the team noted discrepancies between the specified magnetic trip settings on the applicable design drawings and the actual field settings of the safety-related 480VAC motor control center breakers for ESW pump No. 1P99B, Residual Heat Removal Service Water pump "A" supply fan, screen wash pumps 1P112A&B, and the 480v power receptacles. These discrepancies had been identified in 1987 but had not been corrected.

This is a Severity Level IV Violation (Supplement I)

RESPONSE TO NOTICE OF VIOLATION 2

1. Corrective Actions Taken and the Results Achieved:

The discrepancies between the specified trip settings from design drawings and field settings for the noted breakers were reviewed for effect on equipment performance and were determined not to affect equipment reliability or operability.

2. Corrective Actions to be Taken to Prevent Recurrence:

A comprehensive assessment of the electrical distribution system is in progress under the Power Systems Analysis Program. This program will document in-plant magnetic trip settings, verify their appropriateness, and provide controlled engineered documentation consistent with these results. This activity will be completed concurrent with Power System Analysis phase III, currently scheduled for December, 1991, in accordance with the Iowa Electric Integrated Plan schedule.

3. Date When Full Compliance Will be Achieved:

   Full compliance was achieved with the completion of the review of discrepancies, which determined equipment performance was not affected.

NRC NOTICE OF VIOLATION 3

Technical Specification No. 4.6.G.2 requires inservice testing of ASME Code pumps and valves to be performed in accordance with Section XI of the ASME Code and applicable addenda. This includes Article IWP-4000, "Methods of Measurement," as required by 10 CFR 50.55(g). This article requires instruments to be within the limits of Table IWP-4110-1 "Acceptable Instrument Accuracies," that they be calibrated on a regular basis and that a static correction of more than 1/4 percent in the indicated value be accounted for.

ASME Code Section XI, Article IWP-3111, requires that when a reference value or a set of values may have been affected by repair or routine servicing of the pump, a new reference value or set of values shall be determined or the previous value reconfirmed by an inservice test run prior to or within 96 hours after return of the pump to normal service. Deviations between the previous and new sets of reference values shall be identified with new verifications that the new values represent acceptable pump performance.

Contrary to the above:

a. Prior to March 9, 1990, acceptable instrument accuracy validation was not being controlled. The river water flow ASME testing was accomplished using a computer point that had not been calibrated nor had an accuracy validation been performed. In addition, a 1/2 percent static pressure correction had not been considered in the accuracy validation calculation for the Emergency Service Water discharge pressure instrument.

b. Deviations between the previous and new sets of reference values were not evaluated to show that pump performance was acceptable.

This is a Security Level IV Violation (Supplement I)

RESPONSE TO NOTICE OF VIOLATION 3

1. Corrective Actions Taken and the Results Achieved:

   a. Items 3a & 3b:

      The river water pump discharge flow computer points have been calibrated and the accuracy reviewed. ASME Section XI related surveillance procedures have been reviewed to ensure the instruments used are appropriately identified and controlled. The equipment data base has been revised to identify these instruments. The calibration frequencies of these devices have also been reviewed. This review resulted in revision to the frequency of calibration of some devices.

b. Administrative procedures are being approved that will require differences between new and previous reference values be evaluated to confirm new values represent acceptable performance. In addition, the Surveillance Test Procedures at Duane Arnold demonstrate Technical Specification operability and therefore pump performance within the requirements of the safety analysis.

2. Corrective Actions to be Taken to Prevent Recurrence:

An assessment of individual instrument variances including static pressure corrections for ASME testing is in progress for approximately 125 installed plant instruments used during ASME testing. This will be completed by December 31, 1990, including issuance of controlled documents.

3. Date When Full Compliance Will be Achieved:

Full compliance was achieved with the completion of the review of surveillance instruments on April 30, 1990. The further assessment of individual instrument variances will be completed by December 31, 1990.

NRC NOTICE OF VIOLATION 4

10 CFR 50, Appendix B, Criterion XII, as implemented by the Iowa Electric Light and Power Quality Assurance Manual, requires measuring and testing equipment used in activities affecting quality to be properly controlled.

Contrary to the above, on February 22, 1990, two resistor test blocks without calibration stickers were found in a controlled storage area for calibrated equipment. The resistors had been previously used in three calibrations of non-safety related permanent plant instruments.

This is a Security Level IV Violation (Supplement I)

RESPONSE TO NOTICE OF VIOLATION 4

1. Corrective Actions Taken and the Results Achieved:

The resistor blocks in question were segregated to the non-calibrated area of the Instrumentation and Control Lab. The resistors were subsequently checked for accuracy. Descrepancies in resistor accuracy were reviewed relative to the use history of the resistors. No adverse impact on installed instrumentation resulted.

We have developed new administrative control procedures for the control and issuance of measuring and test equipment. We have established specific areas for the controlled issuance of measuring and test equipment. This will ensure that only calibrated equipment can be used for calibration of installed equipment.

2. Corrective Actions to be Taken to Prevent Recurrence:

   As noted above, actions to prevent recurrence have been taken.

3. Date When Full Compliance Will be Achieved:

   Full compliance was achieved with the segregation of the resistor blocks from the calibrated equipment on February 22, 1990 and completion of the use history review.

RESPONSE TO UNRESOLVED ITEMS

Unresolved Item 90003-05 Documentation and Resolution of Calculation 80-322

Calculation 80-322 was reviewed and no operability concern exists. Formal revision of this calculation will be completed in association with the engineering review noted in response to Item of Violation 1 by December 31, 1990.

Unresolved Item 90003-07 Licensee Review of As-Built Supports

The subject pipe supports and structures were reviewed for affect on operability. The calculations will be formally revised in association with the engineering review noted in response to Item of Violation 1 by December 31, 1990.

Unresolved Item 90003-08 Licensee Review of Vendor Supplied Relay Characteristic Curves

Following consultation with the vendor, it has been determined that model IAC66B2A is identical in performance characteristics to a model IACB16A when modified to include a 40-160 amp trip unit. The installed configuration has the same performance characteristics as that specified on the design drawings.

Unresolved Item 90003-09 NRC Review of MOV Operator Thrust Deficiencies Identified in DCP 1460

Since issuance of IEB 85-03, significant emphasis on maintenance, and design enhancements have been devoted to improving the capabilities of the subject Motor Operated Valves (MOVs). Iowa Electric (as noted in previous Inspection Reports) has aggressively upsized power cables and paid particular attention to ensure torque and limit switch settings do not result in over-stressed valve internals under maximum electrical supply conditions, and that the switch settings are proper for allowing valve operation under worst case supply voltage and external environmental design conditions. As identified in NG-89-0584, several MOVs required further enhancements to allow valve performance to be at or above the target thrust values generated from application of MOVATS methodology for calculating necessary thrusts. Experience within the nuclear industry and at Iowa Electric, including actual Delta-P testing, has found that the previous thrust target values were often very conservative and did not necessarily consider the negative design considerations associated with having large thrusts applied. Thrust requirements determine torque switch settings which result in maximizing valve thrust during all valve cycling operations. The methodology for determining necessary thrust has improved since that time. The design enhancements planned in DCP 1460 during the Summer, 1990 refueling outage, coupled with maintenance enhancements on these valves are designed to ensure adequate thrust capability exists with each valve, switch settings are consistent with thrust needs, and valve and operator components (as well as electrical system) are fully capable of supporting optimum valve operation. The DCP discussed during the inspection was in the preliminary stages of preparation during the inspection. Administrative controls are firmly established to assure that the effects of design changes upon electrical power systems and battery load profiles are addressed. The Design Change Package as issued reflects these controls and battery effects.

Unresolved Item 90003-11 NRC Review of EWRs Regarding RWS Restart Logic

Engineering review has been completed regarding the subject Engineering Work Request. Design enhancements are under preparation to reduce potential need for operator actions for the scenario discussed within the Inspection Report. These design enhancements are anticipated to be completed during 1990. As an interim measure, warning tags have been placed on control room hand switches cautioning operators of the consequences of selecting a running pump for restart.

Unresolved Item 90003-12 Review of Pump Performance

The System Engineering Task Statement is being revised to require the preparation of comparisons of current reference values to original pump curves for ASME program pumps and require a yearly comparison of current pump performance to the original pump curves for ASME program pumps. This activity will be completed by December, 1990. In general, the ASME required action limits have been chosen with consideration of minimum pump performance characteristics specified in DAEC Technical Specifications (which represented the administrative control mechanism for minimum pump performance prior to ASME Section IX promulgation). The original Technical Specification limits were chosen to be conservative with respect to design basis minimum pump performance requirements. No instances have been identified in which such limits on minimum pump performance are non-conservative with design basis requirements.

Unresolved Item 90003-14 Analysis of Dual Train Chiller Inoperability

We agree with the NRC that having both Control Building Chillers out of service simultaneously is undesirable. As noted in the SSFI Report, we have issued a Special Order that prohibits both chillers from being voluntarily removed from service simultaneously. If both chillers become inoperable simultaneously, both Iowa Electric Management and the NRC Resident Inspector will be informed and prompt actions will be taken to restore the chillers to operable status as soon as practicable. In addition, compensatory measures will be taken to limit the increase in Control Room temperature during such periods of time.

An preliminary Engineering Evaluation, completed in April, has identified that adequate ventilation will be present to prevent equipment failure in the event of design basis (and less limiting events) at DAEC without any chiller operation. Initial engineering results indicate that steady state conditions, with outside ambient air at 90 degrees F, result in switchgear area temperatures of 115 deg. F and 105 degrees F, and control room back panel area temperatures of 103 deg. F.. These temperature ranges appear to be within the original design specification envelopes and are below the threshold of concern established in contemporary equipment assessments being performed in station blackout analysis. Further Engineering evaluation has been initiated to quantify actual heat loads in the control room and to perform formal calculations.

Operator comfort, however, is a potential concern in the event of total loss of chillers, coupled with a loss of non-safety related power supplies, and with a potential ongoing radiological release and hot air temperatures that could limit the operators ability to augment control room ventilation. In the event of less limiting conditions (colder ambient temperatures, absence of significant airborne radioactivity), administrative controls and operator actions are available to further minimize the temperature rise that could occur in the event of total loss of chillers as well. These actions include opening doors to switchgear and battery rooms to augment heat rejection.

The SSFI Report also had a concern with the lack of Technical Specification (TS) guidance on Control Building Chiller operation at the DAEC. While the DAEC does have TSs for Main Control Room Ventilation, they address the Standby Filter Unit and engineered safety features associated with control room habitability and mitigating potential radiological effects, and do not include the Control Building Chillers which support control building heat rejection. We have reviewed the TS for plants of DAEC's vintage, i.e., those with custom TS, and found no other plant which includes the chillers in their TS. Also, the NRC's Standard TS (NUREG-0123) does not directly deal with the loss of the chillers either. While the STS does contain a Surveillance Requirement for verifying control room temperature, it does not go so far as to address loss of the chillers, i.e., that loss of the chillers would not cause the Limiting Condition for Operation to be entered, so long as Control Room temperature remained within the limits. Consequently, neither Custom TS, such as DAEC's, nor the Standard TS provide guidance with regard to the loss of Control Building Chillers. This situation has been recognized by both the NRC and the industry during the recent reviews of the new Standard TS being prepared pursuant to the Commission's Interim Policy Statement on Technical Specification Improvements. We are active members in this industry effort and will continue to follow this specific TS item during its development in this program.

Our engineering review and evaluation of this condition is continuing. A formal engineering review will be completed during 1990. Maintenance actions have been initiated to improve the chiller equipment reliability, and minor design changes have been implemented to enhance chiller operability. Iowa Electric will continue to enforce the administrative controls and compensating actions discussed above. At the conclusion of the engineering evaluation, these controls and actions will be reviewed for applicability and modified, if warranted.

STATUS OF COMMITMENTS NOTED IN THE INSPECTION

1. SECTION 3.1.1.1 AND 3.5.2

   Dredging: Iowa Electric has applied for and received the required permits from the State of Iowa for dredging in the Cedar River in the area in front of the plant intake structure. During April of this year, we removed a significant quantity of sediment from this area. Heavy rainfall prior to completion of this task has resulted in high river flow that led to some additional accumulation of sediment. River levels are currently too high to continue with dredging operations. We have commissioned a study of the river silting characteristics and methods to minimize accumulations of sediment in the area in front of the intake structure. A scale model of the river has been constructed to aid in assessing the most effective methods of controlling sediment movement. We anticipate that these studies will be completed in the summer of 1990. A decision regarding installation of river vanes, further dredging, and inspection activities will be made following completion of the study.

2. SECTION 3.1.1.1

   Sand Gates: Procedural revisions are currently being drafted for operating instructions on the River Water Supply System to better describe sand gate operation. These procedures will be implemented by July 31, 1990. The Updated Final Safety Analysis Report will be revised in our 1991 annual update to reflect the current sand gate function. In the inspection report you noted that we were pursuing reestablishment of the operation of the sand jet line. We have reviewed the use of the sand jet line and concluded that the current design is largely ineffective but that the function of the jet line has no safety importance. Modification of the sand jet line and associated water supplies to improve effectiveness would be a relatively extensive modification without noticeable improvement in overall system capability. Consequently, the use of the sand jet line will not be reestablished and our revisions of the UFSAR will reflect this.

3. SECTION 3.1.1.1

   Basin Inspections: We have established a quarterly inspection frequency (PMAR - Preventative Maintenance Action Request) for the safety related pump house and intake structure wet pits. The inspection includes specific criteria for cleaning requirements if significant sand or silt accumulation exists. We will review the results of these inspections to determine if adjustment of the inspection frequency is appropriate.

4. SECTION 3.1.1.1

   UFSAR Revision: A revision to the UFSAR clarifying the service water flow rate and the installed configuration of pumps has been included in the 1990 update of the Final Safety Analysis Report.

5. SECTION 3.1.1.2

Administrative Controls on RCIC Room Coolers: Administrative controls have been implemented which require daily verification that both RCIC room coolers be operable when river temperature exceeds 87 degrees F. In the event that river water temperature exceeds 87 degrees F and one or both RCIC room coolers are inoperable, the RCIC System will be declared inoperable and appropriate Technical Specification action statements taken. This administrative control will remain in place until such time as supplemental analysis or plant modifications confirm that a single room cooler is capable of supporting extended RCIC operation with elevated river temperatures.

6. SECTION 3.1.1.2 AND 3.5.3

ESW Flow Verification and Heat Exchanger Performance Testing: A Special Test Procedure (#163) has been developed for safety related heat exchanger performance testing and flow verification. Testing of the performance of portions of the system is currently in progress and will be completed within one month following restart from the 1990 refuel outage.

7. SECTION 3.1.1.2

Design Documentation of ESW: During the inspection a review of design documentation revealed several discrepancies. We have initiated a comprehensive review of heat loads and calculations for the Emergency Service Water System that is scheduled for completion by September 30, 1990. Following completion of this review, the design documentation will be revised to reflect superseded calculations and eliminate associated discrepancies in controlled documents. Table 9.2.1 of the UFSAR will be verified as acceptable or revised in the 1991 update.

8. SECTION 3.1.1.3

Instrument Air: Testing of the instrument air system in accordance with Generic Letter 88-14 will occur during the 1990 refueling outage. Calculation M-79-19 will be revised subsequent to testing.

9. SECTION 3.1.3.1

Power Systems Analysis: Enhancements to the control of the electrical distribution system will occur under the Power Systems Analysis program in accordance with the schedule identified in the Integrated Plan. Methods of inspecting and verifying fuse sizing will be evaluated as a supplemental activity to the previous defined scope of Power Systems Analysis program for implementation following completion of the currently defined scope.

10. SECTION 3.1.4.1

Flow Elements: We have inspected selected flow elements within the RHRSW and ESW Systems and found no indication of either erosion or fouling. Remaining flow elements will be inspected on a routine maintenance schedule.

11. SECTION 3.2.1.2

Class 1E Electric Motors Requirements to inspect and clean motor ventilation screens have been incorporated into applicable motor maintenance procedures.

12. SECTION 3.2.3.2

PMAR Frequency for FT2050 The frequency for performance of flushing and calibration of FT2050 has been accelerated from a two year interval to annually.

13. SECTION 3.3

Relief Request PR-13 We are in the process of evaluating methods of better defining the appropriate application of relief from required actions when pump performance is indicated to be increasing. The specifics of this evaluation will be docketed in association with our next revision of the ASME program targeted for late 1990.

14. SECTION 3.4.1.C

ESW Surveillance Test Surveillance Test Procedure 48C001-Q has been revised to require verification of the chiller discharge valve positions upon completion of the test.

15. SECTION 3.5.4

Eddy Current Testing of RHR Heat Exchanger Eddy Current Testing will be performed on at least one RHR Heat Exchanger during the 1990 refuel outage.