

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Inspection Report: 50-361/94-05
50-362/94-05

Operating Licenses: NPF-10
NPF-15

Licensee: Southern California Edison Company
Irvine Operations Center
23 Parker Street
Irvine, California 92718

Facility Name: San Onofre Units 2, and 3

Inspection at: San Onofre, San Clemente, California

Inspection Conducted: February 28 through March 4, 1994

Inspector: D. G. Acker, Reactor Inspector

Approved by: W. P. Ang
W. Ang, Engineering Branch Chief

3-31-94
Date Signed

Inspection Summary

Areas Inspected (Units 2 and 3): Routine announced inspection for follow-up of previously identified NRC inspection items.

Results (Units 2 and 3):

Strengths:

- The licensee was utilizing acceptable methodology for instrument uncertainty calculations associated with:

Ensuring proper operator responses in emergency operating procedures.

Verifying the adequacy of component cooling water heat exchanger performance.

Verifying operability of the salt water cooling system.

The inspector concluded that the licensee's uncertainty calculation program and the licensee's decision to use the calculated uncertainties to improve plant operations via procedure changes and equipment modifications was a licensee strength.

Summary of Inspection Findings:

- Inspection Followup Item 50-361, 50-362/85-22-03 was closed (Paragraph 1.1).
- Inspection Followup Item 50-361, 362/94-05-01 was opened (Paragraph 1.1).
- Unresolved Item 50-361, 50-362/88-10-02 was closed (Paragraph 1.2).
- Unresolved Item 50-361, 50-362/88-10-03 was closed (Paragraph 1.3).
- Unresolved Item 50-361, 50-362/88-10-09 was closed (Paragraph 1.4).
- Inspection Followup Item 50-361, 50-362/91-01-04 was closed (Paragraph 1.5).
- Inspection Followup Item 50-361, 50-362/91-01-09 was closed (Paragraph 1.6).
- Unresolved Item 50-361, 50-362/93-16-01 was closed (Paragraph 1.7).
- Unresolved Item 50-361, 50-362/93-27-06 was closed (Paragraph 1.8).
- Violation 50-361, 50-362/93-01-01 was closed (Paragraph 2.1).
- Violation 50-361, 50-362/93-13-01 was closed (Paragraph 2.2).
- Violation 50-361, 50-362/93-27-02 was closed (Paragraph 2.3).
- Violation 50-362/93-27-04 was closed (Paragraph 2.4).
- Violation 50-361, 50-362/93-27-05 was closed (Paragraph 2.5).
- Licensee Event Report 50-361/93-12 was closed (Paragraph 3.1).

Attachments:

- Attachment - Persons Contacted and Exit Meeting

DETAILS

1 FOLLOWUP (92701)

1.1 (Closed) Followup Item 50-361, 50-362/85-22-03: Inservice Testing of Safety-Related Pumps

This followup item identified an inspector's concern that the Inservice Testing (IST) criteria for safety-related pumps did not consider safety analysis limits and potentially that the safety analysis limits could be more limiting than the IST criteria in the licensee's procedures.

As a result of the inspector's concern the licensee developed new curves for their safety-related pumps which included the safety analysis limits and updated the IST procedures to reference these curves.

The inspector reviewed a sample of the new pump curves and one of the licensee IST procedures, S023-V-3.4.10, Temporary Change Notice (TCN) 5-7, "Boric Acid Makeup Inservice Pump Test."

The inspector concluded that the licensee had included the safety analysis limits in their safety-related pump performance curves and that the licensee's IST procedures now required use of these curves to evaluate test results.

During a review of a sample of the pump curves, the inspector noted that the reference test values for Auxiliary Feedwater (AFW) Pump 2P140 and AFW Pump 2P504 were within two percent of their respective design safety analysis curves. The inspector also noted that no instrument uncertainties had been considered in these curves. The inspector questioned the licensee as to the acceptability of the latest IST data to show operability of these pumps.

The licensee performed an operability evaluation of the AFW pumps and concluded that there was margin in the respective safety analysis curves at the flow rates used for the IST to demonstrate that the pumps were operable. The licensee also reviewed the AFW pump IST data since Unit 2 startup in 1982, and determined that there had been no pump degradation.

The inspector reviewed the licensee's AFW pump analysis and determined that it discussed known conservatisms in the safety analysis pump curves, but did not provide a calculated value for the additional margin these conservatisms would provide. The licensee stated that they had initiated action to calculate the specific margins in the safety analysis curves and that they would use the calculated values to determine new curves. The licensee also stated that they would initiate an operability determination, if any of the pump data was below the existing safety evaluation curve limits.

The inspector considered this item was adequately resolved, based on the licensee's actions to include safety analysis criteria in IST procedures for safety-related pumps. However, the inspector considered NRC review of the revised AFW curves was warranted. (Followup Item 50-361, 50-362/94-05-01)

1.2 (Closed) Unresolved Item 50-361, 50-362/88-10-02: Failure to Consider a Single Failure in the Component Cooling Water System During a Safe Shutdown Earthquake

This unresolved item identified the potential that the licensee had failed to ensure that Units 2 and 3 could be safely shutdown in response to a Safe Shutdown Earthquake (SSE) with a single active failure of the component cooling water (CCW) system. The item was left unresolved pending further NRC staff review.

The licensee maintained that the CCW system would fulfill its design safety function during an SSE. The NRC staff later concluded, in a Safety Evaluation Report dated April 2, 1990, that the licensee's CCW SSE design did not conform to the criteria of the Standard Review Plan (SRP). However, the staff determined that the NRC had accepted the design of the CCW system, and that imposing the SRP criteria would be a backfit and was not warranted.

Despite their position that the system design safety function had been met, the licensee reviewed their CCW system design and concluded that several design improvements were warranted. The licensee committed to these improvements in letters to the NRC dated January 4, 1990, and July 30, 1990. The licensee committed to:

- Implement modifications to minimize the potential for system voiding.
- Enhance the capability to monitor system leakage.
- Provide a dedicated Seismic Category I source of emergency makeup water for CCW.
- Prepare a License Amendment to allow the shutdown cooling system to be a source of cooling to the spent fuel pool during maintenance of CCW train isolation valves.

The inspector reviewed a design modification package prepared for minimizing the potential for system voiding and a design modification package prepared for providing for a dedicated Seismic Category I source of emergency makeup water for CCW. The inspector reviewed Design Change Package (DCP) 6742.07SM, Revision 0, "Component Cooling Water Safety Related Makeup System," and Procedure S023-V-3.4.2, TCN 6-3, "Component Cooling Water Inservice Pump Test." As documented in Inspection Report 50-361, 362/93-27, the inspector had previously reviewed DCP 6742.02SM, "CCW Throttling Valves." DCP 6742.02SM installed new globe valves to throttle CCW flow to the containment emergency coolers to minimize system voiding during postulated system transients. The inspector also visually inspected the DCP 6742.07SM installed system modifications.

Since the NRC staff had previously concluded that the licensee's CCW design met their original licensing basis, the inspector concluded that the only remaining inspection action needed was to review a sample of the licensee's committed actions. The inspector concluded that DCP 6742.07SM and associated

procedures, such as S023-V-3.4.2, reduced the risk of CCW system waterhammer events caused by voiding of the CCW piping associated with the containment emergency chillers. The inspector concluded that DCP 6742.02SM provided a dedicated Seismic Category I source of makeup water for the CCW system. The inspector visually observed that the system was installed as shown on the associated piping drawings.

Based on satisfactory review of these items, the inspector concluded that the licensee had taken adequate actions to complete their commitments from the January 4, 1990 and July 30, 1990, letters to the NRC concerning CCW system design.

1.3 (Closed) Unresolved Item 50-361, 50-362/88-10-03: Review of Electrical System Analysis Using ASDOP Computer Program

This unresolved item noted that the licensee did not have calculations to establish that the alternating current (ac) voltage system would maintain the required electrical power to safety-related equipment during assumed worst case accident conditions. During the inspection the licensee stated that they would evaluate the ac voltage system adequacy by use of a computer program called ASDOP.

Subsequently, the licensee decided not to use the ASDOP program for electrical analysis. The licensee performed voltage drop and short circuit studies of the ac voltage system using a Bechtel software program titled, "Bechtel Electrical Computer Analysis Package," (BECAP). The licensee used the BECAP program to accomplish calculations E4C-090, Revision 0, "Aux. System Voltage Regulation," and E4C-092, Revision 0, "Short Circuit Studies."

During a followup inspection, NRC Inspection Report 50-361, 50-362/93-01, the inspector reviewed Calculations E4C-090 and E4C-092, input data for these calculations, and sample hand calculations. The inspector determined that there were a number of potential problems with site voltage regulation and supporting documentation including:

- Voltages to selected safety-related loads which could be above or below their design operating values under design bases conditions.
- Worst case short circuit fault current which could be above the ratings of certain safety-related 480 volt ac breakers.
- The licensee assumed only a three percent voltage drop from motor control centers (MCCs) to loads, without supporting data or analysis.
- The licensee did not have records to validate the computer program they were using for their voltage regulation calculations, the BECAP program.

During the above noted followup inspection, the inspector concluded that although Calculations E4C-090 and E4C-092 indicated design bases problems, none of the results indicated an immediate operational concern.

The licensee continued to resolve their potential voltage regulation problems through new calculations, administrative controls, setpoint changes, and equipment modifications. The licensee determined that under certain grid faults, offsite power could go below the minimum design analysis requirements. The licensee and the load dispatcher agreed to instructions which controlled offsite power within design limits, notified operators when offsite power exceeded design limits, and directed actions to take when offsite power became inoperable.

The licensee determined that a change to their degraded voltage relay setpoint was also required. The licensee submitted Technical Specification (TS) Amendment Application 136 and 120 by letter dated September 29, 1993, and provided additional requested information by letter dated February 8, 1994. The February 8, 1994, letter analyzed how 10 CFR 50, Appendix A, General Design Criteria 17, "Electric Power Systems," was met.

The licensee performed cable voltage drop calculations and determined that the three percent value they assumed in their calculations bounded all their safety-related equipment, except for the cables to the motor for the fuel handling building post accident cleanup air conditioning unit E371, which had a 3.6 percent voltage drop. The licensee stated that they would use the calculated voltage drop for unit E371.

The licensee determined that they had design basis low voltage problems to safety-related 120 volt ac loads. The licensee issued Nonconformance Reports (NCR) 93110113 03 and 93110122 02 to resolve the low voltage problems. In addition, the licensee issued Licensee Event Report 50-361/93-12 to describe the problems.

The licensee decided to obtain a computer voltage regulation program which complied with 10 CFR 50, Appendix B, quality assurance requirements. The licensee obtained the Electrical Transient Analyzer Program (ETAP), developed and certified to comply with 10 CFR 50, Appendix B, quality assurance requirements by Operation Technology, Inc. The licensee stated that they had not yet determined whether the Operation Technology, Inc. 10 CFR 50, Appendix B, quality assurance requirements were acceptable as described or required a licensee audit. Once certified, the licensee stated that they will use the ETAP program to validate existing calculations.

The inspector reviewed the licensee's actions to date and discussed planned future actions with licensee supervisory personnel.

The inspector concluded that:

- Energy Control Center (the load dispatcher) Procedure, "Songs Voltage," provided adequate guidance to identify when voltage to the site changed beyond design limits.

- Site Procedure S023-13-4, TCN 0-8, "Operation During Major System Disturbances," contained adequate guidance for operations personnel to deal with offsite voltages outside design limits. Procedure S023-13-4 directed that the offsite power system be declared inoperable when offsite voltage was outside design limits.
- The licensee had performed adequate calculations to justify their use of a worst case three percent cable voltage drop and had committed to use the calculated value of 3.6 percent for the motor to E371 which was determined to be outside the three percent assumption.
- The licensee had presented their technical problems and solutions for offsite grid regulation problems to the staff for review and approval as part of TS Amendment Application 136/120. NRC staff review of the Application will be separate from this item.
- The licensee was taking actions, such as equipment changes, to resolve NCRs 93110113 03 and 93110122 02.

Based on the licensee's submittal to the NRC staff of their overall plan to resolve degraded voltage problems and the inspector's review of individual supporting calculations and procedures, the inspector concluded that the licensee's actions to date provided reasonable assurance that the licensee will continue with their planned actions. LER 50-361/93-12, "Motor Control Center Control Circuit Voltages," which discussed the 120 volt ac potential degraded voltage problems, is also closed, based on in-office review.

1.4 (Closed) Unresolved Item 50-361, 50-362/88-10-09: Inadequate Testing of Salt Water Cooling Flow

This unresolved item identified that instrument errors had not been considered in the development of Salt Water (SW) cooling flow versus water temperature graphs used by the licensee for determining system operability. The SW system was the safety-related service water system for SONGS Units 2 and 3.

The licensee performed calculation J-EPA-003, Revision 1, "Combined Uncertainty for Saltwater Room Temperatures during Design Basis Accidents," to determine the maximum allowable indicated SW inlet temperatures at various SW cooling flow rates accounting for instrument uncertainties. The licensee updated Procedure S023-2-8, TCN 12-19, "Saltwater Cooling System Operation," to include the results of Calculation J-EPA-003.

The inspector reviewed calculation J-EPA-003 and Procedure S023-2-8. The inspector determined that calculation J-EPA-003 used methods to calculate system uncertainties within the guidelines provided by the Instrument Society of America. The inspector also determined that the calculated uncertainties were correctly reflected in Procedure S023-2-8. However, Inspection Report 50-361, 362/93-27 documented failure of the CCW heat exchangers, which were cooled by ASW, to meet their design requirements during licensee testing per Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related

Equipment." The cause of the failure was not known at the time of the inspection. Subsequent review by the licensee's Quality Assurance organization determined that the test equipment used had greater inaccuracies than assumed for the testing. The licensee determined that their GL 89-13 CCW heat exchanger testing was not sufficiently accurate to be valid based partly on calculation J-EGA-19, Revision 1, "Uncertainty in CCW Heat Exchanger Performance Measurement." The licensee performed operability evaluations for the CCW heat exchangers and concluded that they were operable, based on conservative instrument error assumptions and conservative tube plugging margins used in the calculated design curves.

Since the goal of the SW curves in Procedure S023-2-8 was to maintain CCW temperatures within their design limits, the inspector considered that the licensee's GL 89-13 testing and subsequent calculations indicated that Procedure S023-2-8 may require further modification of the SW temperature vs flow curves.

The inspector discussed with the licensee the effect of the GL 89-13 CCW heat exchanger performance test uncertainties on the SW operability curves in Procedure S023-2-8. The licensee acknowledged the potential impact, and noted that they were planning an independent audit of their GL 89-13 program. The licensee also noted that they had issued Nonconformance Reports (NCRs) 93100047 00 and 93100046 00 to evaluate new methods for performing GL 89-13 testing.

The inspector concluded that the licensee's CCW heat exchanger operability determination was acceptable. The inspector concluded that licensee actions on this item were adequate based on completion of uncertainty calculations to demonstrate the effects of instrument uncertainties on performance testing, the issuance of NCRs to develop new testing, and the licensee's commitment to audit their GL 89-13 compliance.

1.5 (Closed) Followup Item 50-361, 50-362/91-01-04: Safety-Related Tank Level Calibration

This followup item identified an inspector's concern that the Steam Generator Water Low Level Reactor Protection System Trip Setpoints were improperly determined because of errors made in the transmitter scaling calculations. This item was left open for review of the level calibration of other safety-related tanks for similar errors.

The licensee committed to review the level calculations for their other safety-related tanks. The licensee completed eight of 12 calculations, and had the remaining four in the review process.

The inspector reviewed the results of the completed and preliminary calculations and reviewed a sample calculation, J-BHA-050, Revision 0, "Scaling Calculation for Containment Sump Levels."

The licensee determined that their pressurizer level transmitters were incorrectly calibrated by up to 3.86 percent but that level calibrations for the remaining safety-related tanks were correct, with only very minor

improvements required. The licensee issued NCRs 91100017 01, 91100018 01, and 91100045 01 to correct the pressurizer level calibration errors. The licensee stated that the only specific Technical Specification related function of pressurizer level was to preclude water carryover to the safety relief valves. The safety analysis assumed a maximum level of 59 percent, while the licensee noted that they controlled level to a maximum of 53 percent. The licensee determined that at the 59 percent level, the maximum calibration error was 2.9 percent. Based on this analysis the licensee concluded that the pressurizer level transmitters were operable until recalibrated. The licensee recalibrated the transmitters.

The inspector determined that calculation J-BHA-050 was adequate to demonstrate proper transmitter calibration, based on licensee checks for proper elevation. The inspector concluded that the licensee's operability determination for the pressurizer level transmitter calibration error was adequate. However, the inspector noted that harsh environmental conditions will increase the uncertainties of the pressurizer level readings. The inspector concluded that the licensee was adequately resolving safety-related instrument uncertainties, including pressurizer level, as discussed in Section 1.6. The inspector concluded that licensee actions on this item were adequate.

1.6 (Closed) Followup Item 50-361, 50-362/91-01-09: Subcooling Monitor Calculations

In the original item, the inspector discovered errors and omissions in the licensee's calculations for instrument uncertainties. Inspection Reports 50-361, 362/92-23 and 93-01 followed up on this item and determined that the licensee was correcting the types of errors noted. However, the inspector noted that the licensee did not include site specific harsh environmental condition uncertainties in their emergency operation instructions (EOIs). Licensee calculations indicated that harsh environment uncertainties were greater than assumed in the EOIs.

The licensee determined that there were 25 key parameters which were used by operators for decision points in EOIs. For these parameters, the licensee planned to include the calculated harsh environmental uncertainties in their EOIs. The licensee informed the NRC staff of their plans on this issue as documented in an NRC letter dated September 27, 1993, "Summary of Meeting with SCE Held on August 5, 1993, to Discuss Harsh Environmental Effects on Instruments Used in Emergency Operation Procedures."

The inspector reviewed the results of the August 5, 1993, meeting and subsequent licensee actions. The licensee noted that certain transmitters had larger uncertainties than could be accepted to ensure correct operator decision in EOIs. For these transmitters the licensee had issued Conceptual Engineering Package 2&3-2005.00SJ, Revision 0, "Post Accident Monitoring Instrumentation," to install transmitters with lower uncertainties, including pressurizer level transmitters discussed in Section 1.5.

The inspector considered that the primary goal of setpoint and uncertainty calculations for EOIs was to assure that operator decision points considered

the inaccuracies of the instruments used for the decision points. The inspector considered that the licensee plans to replace transmitters, when necessary to insure correct EOI decisions, was commendable. The inspector concluded that the licensee actions to date, including keeping the NRC staff informed of their progress, provided reasonable assurance that the licensee will continue to satisfactorily resolve this item.

1.7 (Closed) Unresolved Item 50-361, 50-362/93-16-01: One-Half V Dimension Calculations for Ultrasonic Examinations

This unresolved item identified that licensee procedures for ultrasonic examinations stated that the preferred examination method was the one and one-half V technique. The inspector determined that many of the licensee's welds could be examined with a one-half V technique, which would provide more accurate results. Inspection Report 50-361, 362/93-39 followed up on this item and determined that the licensee's use of the one and one-half V method met the ultrasonic examination American Society of Mechanical Engineers Section XI Code requirements. However, the licensee stated that they were reviewing their procedures for potential improvements, since they had no written documentation to show that proper interference criteria decisions had previously been made to allow the use of the appropriate examination technique, i.e., half V or one and one-half V.

The licensee revised Procedure S023-XXVII-4.0.19, TCN 0-1, "Ultrasonic Examination Procedure Class 1 and Class 2 Piping and CEDM Upper Pressure Housing Welds," to delete the statement that one and one-half V was the preferred method, to add calculated interference criteria, and to add recording of weld measurements. The inspector reviewed Procedure S023-XXVII-4.0.19, TCN 0-1 and determined that the procedure contained the stated improvements. The remaining issue for this unresolved item was resolved by the procedure change.

1.8 (Closed) Unresolved Item 50-361, 50-362/93-27-06: Component Cooling Water Valves Not in Inservice Test Program

The NRC Test Team determined that the isolation valves separating the high pressure portion of the CCW system, to the reactor coolant pump seal coolers, from the low pressure portion of the system were not in the IST valve program for testing of the isolation function.

The Team considered that ASME Code 1977, Section XI, Subsections IWV-3411 and IWV-3522 required testing of these valve's safety functions. The item was left unresolved, pending further NRC and licensee review.

The licensee stated that these CCW isolation valves were not required to be in their IST program, because catastrophic failure of the reactor coolant pump seal coolers was not possible. However, the licensee determined that it was prudent to check the closed position of these valves as part of their IST program. The licensee added these valve tests to their IST program.

The inspector reviewed the licensee's IST program contained in Procedure S023-V-3.5, TCN 7-30, "Inservice Testing of Valves Program." The inspector

also reviewed valve test data contained in Surveillance Operating Instruction S023-3-3.32, TCN 0-1, "RCP/Component Cooling Water Valve Test," and Operations Division Procedure S0123-0-23, TCN 0-17, "Abnormal Alignments."

The inspector determined that Procedure S023-V-3.5 required testing of CCW RCP seal cooler high pressure isolation valves in their closed positions. The inspector determined that the isolation valves had been properly tested in October and November of 1993 by the procedures listed above.

No violations or deviations from NRC requirements were identified during the inspections noted in Paragraph 1 of this report.

2 FOLLOWUP OF ENFORCEMENT (92702)

2.1 (Closed) Enforcement Item 50-361, 50-362/93-01-01: Emergency Diesel Generator Fuel Calculation

The violation stated that the licensee had not included a 10 percent margin for calculating their onsite emergency diesel generator fuel storage, as required by American National Standards Institute (ANSI) Standard N195. The licensee's Updated Final Safety Analysis Report committed to use of ANSI Standard N195. During the inspection, the licensee determined that actual onsite fuel storage was adequate to cover the 10 percent requirement.

The licensee, in their response to the Notice of Violation, dated March 23, 1993, committed to correct their calculation.

The inspector reviewed the revised calculation, Calculation M-0016-008, Revision 2, "DG Onsite Fuel Oil Requirements." The inspector concluded that the licensee's calculation was now in accordance with ANSI Standard N195 and that onsite fuel storage was within calculation requirements. The inspector concluded that correction of the calculation resolved the violation.

2.2 (Closed) Enforcement Item Number 50-361, 50-362/93-13-01: Inservice Testing Procedure Compliance

The violation stated that a licensee procedure required that a Nonconformance Report (NCR) be issued when test results were outside procedure requirements, but that data had been recorded that was outside procedure requirements and no NCR had been issued. In addition, the inspector determined that test results had not been recorded as required by the procedure.

The licensee, in their response to the Notice of Violation (NOV), dated October 12, 1993, committed to review 165 completed ISI and IST procedures for similar errors and omissions. The licensee determined that the primary cause of this finding was personnel errors, with procedure clarity as a contributing cause. The licensee committed to train associated personnel on the errors.

The inspector reviewed the licensee's actions in response to the NOV and the training records. The licensee's procedure review found two additional cases where an NCR had not been issued as required, and 10 cases with test result

omissions. The licensee verified that all the correct data was available from other sources.

The inspector reviewed the licensee's revised Procedure S023-V-3.5.4, TCN 3-25, "Inservice Testing of Check Valves (Quarterly Frequency)," and determined that the procedure had been clarified. The inspector also determined that the committed training had been accomplished. The inspector concluded that these actions were adequate to resolve the violation.

2.3 (Closed) Enforcement Item Number 50-361, 50-362/93-27-02: Inappropriate Test Criteria

The violation listed a procedure error and a procedure omission. The licensee procedure for verifying correct phase rotation for SW cooling pumps provided the incorrect direction and the licensee procedure for testing CCW pumps referenced the wrong document for acceptance criteria.

The licensee, in their response to the Notice of Violation (NOV), dated January 13, 1994, committed to revise the referenced procedures.

The inspector reviewed the revised Procedures S023-I-5.4, TCN 4-4, "Pumps - Salt Water Cooling Pump Disassembly, Inspection and Assembly," and S023-V-3.4, TCN 5-4, "Inservice Testing of Pumps Program."

The inspector considered that the procedures contained the correct criteria. The inspector noted that a potential cause for these items, procedure compliance, was addressed by the licensee in response to an associated NOV, 50-361, 362/93-27-03. Therefore, the inspector considered that correction of the errors was sufficient action to resolve the violation.

2.4 (Closed) Enforcement Item Number 50-362/93-27-04: Failure to Perform a 10 CFR 50.59 Evaluation

The violation stated that changes had been made to the facility, Unit 3, as described in the Updated Final Safety Analysis Report without the required 10 CFR 50.59 evaluation. Specifically, an automatic air vent valve on the CCW heat exchanger had been made inoperable by closure of its associated manual block valve. The licensee stated that they closed the block valve because the automatic air vent valve had been leaking. Subsequent testing of the CCW heat exchanger determined that there was air trapped in the heat exchanger, which could have affected heat exchanger performance.

The licensee, in their response to the Notice of Violation (NOV), dated January 13, 1994, noted that they had recently enhanced their procedural requirements for 10 CFR 50.59 reviews. The licensee noted that this enhancement had occurred after the decision to block closed the CCW automatic air vent valve. The licensee also committed to replace the leaking automatic vent valve.

The inspector reviewed the licensee's revised procedure for 10 CFR 50.59 reviews, Procedure S0123-0-23, TCN 0-17, "Control of System Alignments," and visually observed the replacement CCW automatic vent valve.

The inspector determined that Procedure S0123-0-23 referenced the licensee's procedure for 10 CFR 50.59 evaluations, Procedure S0123-VI-1.3, "Unreviewed Safety Question Screening Criteria and Environmental Evaluation for Orders, Procedures and Instructions." The inspector considered that prior to this change, it was not clear what system alignment changes required a 10 CFR 50.59 evaluation. The inspector determined by visual observation that the replacement Unit 3 CCW heat exchanger E002 automatic air vent valve was not blocked.

The inspector concluded that the valve replacement and procedure improvement were adequate to resolve the violation.

2.5 (Closed) Enforcement Item Number 50-361, 50-362/93-27-05: Inadequate Procedures

The violation stated that the licensee had used inappropriate criteria in two procedures for verifying proper check valve operation. The licensee defined acceptable operation of check valves in the closed position based on differential pressures which incorrectly allowed for high back flow.

The licensee, in their response to the Notice of Violation (NOV), dated January 13, 1994, noted that they had additional data to indicate proper check valve performance and that they would review and modify as necessary their associated procedures to provide correct check valve acceptance criteria.

The inspector reviewed a sample of the licensee's revised procedures, Procedure S023-3-3.3.31.2, TCN 0-15, "In-Service Testing of Check Valves (Cold Shutdown Frequency)," and the status of the licensee's procedure reviews.

The inspector determined that the licensee had completed their review of check valve procedures and determined that no additional procedures contained incorrect check valve acceptance criteria. The inspector considered that Procedure S023-3-3.31.2 now provided correct acceptance criteria based on system flow. Based on the licensee's review of additional procedures and the inspector's determination that the new acceptance criteria was adequate, the inspector considered that the violation was adequately resolved.

No violations or deviations from NRC requirements were identified during the inspections noted in Paragraph 2 of this report.

3 IN-OFFICE REVIEW OF LICENSEE EVENT REPORTS (92700)

3.1 (Closed) Licensee Event Report 50-361/93-012: Motor Control Center Control Circuit Voltages

This LER was reviewed and determined to be adequate in conjunction with the review of Unresolved Item 50-361, 50-362/88-10-03, as discussed in Section 1.3 of this report.

No violations or deviations from NRC requirements were identified during the

ATTACHMENT

1 PERSONS CONTACTED

1.1 Licensee Personnel

- *D. Axline, Engineer, Onsite Nuclear Licensing
- P. Blakslee, Supervisor, Station Technical
- R. Bockhorst, Supervisor, Controls, Nuclear Engineering
- *R. Douglas, Licensing Engineer, On-Site Licensing
- *T. Elkins, Supervisor, Nuclear Construction Engineering
- *T. Frey, Engineering Aide, On-Site Licensing
- G. Gibson, Supervisor, On-Site Licensing
- *R. Giroux, Licensing Engineer, On-Site Licensing
- R. Krieger, Vice President, Southern California Edison Company
- *E. Regala, Inservice Inspections, Site Technical Services
- *P. Schofield, Supervisor, Station Technical
- *S. Shaw, Supervisor, Inservice Inspections, Site Technical Services
- D. Stickney, Supervisor, Electrical, Nuclear Engineering

1.2 Other Personnel

- *R. Erickson, Site Representative, San Diego Gas and Electric

1.3 NRC Personnel

J. Sloan, Senior Resident Inspector

The inspector also held discussions with other licensee and contractor personnel during the course of the inspection.

*Denotes those attending the exit meeting.

2. EXIT MEETING

The exit meeting was conducted on March 4, 1994. During this meeting, the inspector reviewed the scope and findings of the report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by the inspector.