U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NO.	50-309/93-27
LICENSE NO.	DPR-36
LICENSEE:	Maine Yankee Atomic Power Company
FACILITY:	Maine Yankee Atomic Power Station
INSPECTION AT:	Wiscasset, Maine
INSPECTION DATES:	November 30 - December 3, 1993
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Areas Inspected: An announced safety inspection of the engineering and technical support program activities in support of plant operations. Inspection included a review of plant design changes/modifications, technical adequacy of design changes, root cause analysis, licensing event reports (LERs), technical staff training, and status of previously identified open items.

Results: No violation or deviations were identified. The overall engineering and technical support to the plant was found to be of good quality to support plant operations. Selected design change packages, root cause analysis, and LERs were found to have adequate details and were technically sound. Active management participation was evident in actions taken to improve the overall engineering functions. The training program for technical personnel was considered a strength.

In addition, five previously identified open items were found adequately resolved and the items are closed. Three other items reviewed were upgraded to reflect the current status. Two unresolved items were identified during this inspection pertaining to your work order procedure to identify and initiate a root cause analysis and the adequacy of the application of the like-in-kind process for the Lambda power supply replacement. These items are discussed in Sections 2.0 and 3.0.

DETAILS

1.0 PURPOSE

The purpose of this inspection was to assess the effectiveness of the licensee's engineering support of plant operations. Areas examined included design changes and plant modifications in accordance with established procedures, 10 CFR 50.59 safety analysis evaluations, root cause analysis evaluations, licensing event reports, technical staff training, and status of previously identified open items.

2.0 FINDINGS

2.1 Design Organization

The Maine Yankee engineering organization staff is divided into two departments. The plant engineering department (PED) continues to provide a day-to-day support to the plant operation department. The corporate engineering department (CED) is responsible for plant major modifications and long term engineering projects. Both department's personnel continue to be located at the Maine Yankee station site.

Based on the inspector's review of the licensee's current work activities planned for the next refueling outage and reviewing the outstanding issues in the PED department, the inspectors determined that the current engineering technical staffing level in both departments (CED and PED) was adequate. The inspectors noted that the licensee had estabiished a five-year long term capital improvement plan to better control the major design activities. The inspectors also noted that the licensee's current supervision staffing level was appropriately adjusted among various groups based on an average workload to further optimize the functional design activities since the last engineering inspection. To improve the contractor's contribution in carrying out the engineering functional support assistance, the licensee was adding six permanent staff positions in the CED department. These positions were being added to accommodate the major design activities being routinely completed by the outside contractors on an as-needed basis. The positions were being filled in by the Yankee Nuclear Service Division Company staff instead of other short-term contractors used on an as-needed basis. Since these changes were approximately 50% complete at the conclusion of this inspection, the overall effectiveness of these change could not be determined. Overall, the inspectors concluded that the engineering organization was effective and adequately supporting the plant activities.

2.2 Administrative Controls For Engineering Activities

The inspectors reviewed selected administrative and engineering procedures to determine whether the engineering activities were specified and controlled by approved plant procedures. Procedures reviewed by the inspectors included procedures for initiating engineering work, engineering design modification requests, design control work, root cause determination process, root cause analysis evaluation, problem identification and classification process, licensee event report process, safety evaluations, and engineering prioritization of work.

The inspectors review of Procedure No. O-17-21-2 revealed that this licensee's procedure establishes the responsibility, requirements, and guidelines for implementing and control for major or minor types of design changes for the Maine Yankee Atomic Station. The inspectors noted that the licensee had been implementing a procedure upgrade program consistently from the last two years from engineering assessment program of post-refueling modification and quality assurance group feed back process. Several significant changes had been made in the design control procedures from the previous years assessments to improve the overall design control process. For example, early this year, a team concept was implemented to include the input of various departments prior to design of a modification. A project initiation form is also completed where engineering staff design expectations are clearly spelled out prior to design development. In addition, the Design Change Package (DCP) Procedure O-17-21-2, was also updated to simplify major and minor design packages and maintain uniformity between the two types. A design input checklist was also streamlined to assist the preparation and design review process.

The inspector's review of the above procedures revealed that the licensee's procedures had appropriate detail. The inspectors also concluded that the licensee's procedures for engineering activities provides adequate guidelines, controls, and specific requirements to ensure that design changes and modifications performed were in accordance with current approved procedures that comply with accepted industry standards and regulatory requirements.

2.3 Engineering Training Programs

The licensee continues to provide broad based administrative and technical training programs for the engineering staff. The plant training program is described in the Maine Yankee Operations plan. This document is generally updated on a yearly basis using plant, industry, and NRC information. The inspectors reviewed the training programs for the entry-level engineer to department manager. An Individual Development Plan (IDP) for each engineering person has been developed based on the training program approved in the 1993 Operations Plan.

The maintenance and implementation of the IDP for each engineering employee is maintained by the Engineering Division Training Coordinator. To assure that the engineering design personnel were receiving adequate training to perform their assigned tasks, the inspectors randomly selected and reviewed the IDPs for three personnel. These personnel are required to prepare and approve root cause evaluations, perform 10 CFR 50.59 safety evaluation reviews, and prepare engineering reports for evaluation of plant modifications. The inspectors found that the selected employees had completed courses in engineering lessons, 10 CFR 50.59 evaluations, Appendix R documents, seismic walkdown training, limitorque valve training, and root cause analysis courses, as required per the IDPs. Continuing training is scheduled each year and generally divided into quarters. Additional training was given during 1993 by special training courses and various reading assignments. The inspectors verified that both scheduled and unscheduled training was documented in the individuals' IDP training history records.

The orientation training program and the continuing training program ongoing for the engineering staff demonstrates that the licensee has committed to maintain their staff current on plant and industry concerns. Per discussion with the staff engineers, the inspector concluded that the management has shown a strong commitment in training by actively promoting and participating in both the mandatory and voluntary training programs. The department training program, in accordance with established procedures, was found to be effective in ensuring that individual development plans were being met. The training concerning administrative and technical issues important to the safety of the plant were given to the employees with the results documented in the employees' IDPs.

Based on the review of above training program and discussion with the engineering staff, including the supervisors, the inspectors concluded that the engineering staff is technically knowledgeable and familiar with areas within their responsibility. The program developed to address the training need of the engineering/technical staff was determined to be comprehensive and effective. The inspectors concluded that the overall technical training program to be an engineering strength.

2.4 Communication/Interface

The inspectors' discussions with the engineering operations and management staff revealed that effective communication exists between the operations and engineering personnel at Maine Yankee Atomic Power Station. This was evident at the daily morning plant manager's meeting with operations, engineering, and other support organization staff. Effective interface amongst the plant engineering, corporate engineering, operations, and maintenance was enhanced by the participation of supervisory and management personnel in these meetings. Since the corporate engineering personnel work at the plant, their management and staff participation in the morning plant meetings appeared to be effective in resolving interdepartmental concerns. The inspector also noted that the interdepartmental managers and other staff working level rotational assignments completed this period had further improved the overall communication among all organizations.

2.5 Engineering Backlog and Prioritization

The inspector reviewed the licensee's backlog of design changes and modifications. The licensee has established a written guideline to prioritize the modification work based on safety impact/significance of the design change. The priority is established by the inter-discipline departmental manager's refueling outage planning meetings. At this meeting, the modification schedule and design responsibility is also determined.

The inspectors noted that the licensee had scheduled approximately twenty modifications for the 1993 refueling outage and all the modifications were satisfactorily implemented during this period. To further improve the effectiveness of PED engineering group support to plant operations this period, the licensee's management had reassigned the majority of the design change modifications to the CED engineering group. The review of the current backlog in each department revealed that the modifications planned for the CED department were well ahead of previous cycle schedules in preparation. The PED department refueling and non-refueling type work orders also had substantially decreased from 115 to 11 and 189 to 89, respectively, from early this year to this inspection period.

Based on the above review, the inspectors concluded that the licensee had substantially reduced the engineering work load backlog by improving the engineering work process and work prioritization.

2.6 Root Cause Analysis Review

The licensee's procedures and practices for performing root cause analyses were reviewed to ascertain whether the evaluations of the significant events and their root cause(s) were determined and resolved. The root cause determination Procedure No. 20-308 provides guidance for the initiation of root cause investigation, systematic determination, and methodology. Procedures No. 20-100-1 and 17-309 provides further guidance for the preparation, review, development, and reduction of probability of recurrence of found concerns.

The inspectors selected three root cause analyses performed by the licensee to assure that the licensee was developing and documenting the root cause analyses as per their established procedures. The three root cause analyses reviewed were found to have sufficient details, were complete and technically sound. The inspectors review concluded that the root cause analyses performed by the licensee were satisfactory and were in accordance with the above established procedures.

However, in the process of reviewing the Work Order (WO) Procedure No. 0-16-3 for the design modification completion and root cause analysis review, the inspectors determined that this procedure does not require root cause evaluation to be considered on test failures that occur during testing performed as part of the WO procedure. The licensee, in reviewing Procedure No. 0-16-3, agreed with the NRC inspectors that the procedure was deficient in root cause direction. The licensee stated that they will review their procedures and take the necessary corrective actions to ensure that root cause evaluations are addressed in such cases, if required. This item is unresolved pending NRC's review of the licensee's corrective actions taken to resolve the above concern (50-309/93-27-01).

2.7 Licensee Event Reports

The inspector reviewed the licensee's Event Report Procedure 20-306, to assure that the licensee event reports (LERs) were evaluated and being controlled per the established procedure and in accordance with regulatory requirements. This procedure provides guidance for the preparation, review, and followup actions to identify and initiate root cause analysis of plant incidents.

The inspector noted that of the twenty-two LERs generated by the licensee this year, seven were generated as a result of surveillance testing on the recirculation valves and control room ventilation system. Per discussion with the licensee, the inspectors determined that every time testing is performed on these systems, the licensee had to declare the systems inoperable and LERs are issued as per their technical specification. The licensee was preparing a TS amendment for NRC approval to reduce their LERs.

The inspector reviewed three LERs to confirm licensee adherence to established procedure and NRC rules. The below LERs were examined:

1) LER 93-016, Multiple 480 Volt Breaker Trips Caused by RMS-9 Trip Devices
2) LER 93-014, Inoperable Emergency Core Cooling Subsystem During Recirculation Valve Stroke Testing
3) LER 93-019, Degraded Service Water Pump Found During Flow Rate Testing

The inspectors concluded that the LERs were complete and technically accurate.

2.8 Design Modification Package Review

The inspector reviewed selected design changes and modifications to ascertain that the changes/modifications were performed in accordance with the requirements of the technical specification (TS), Code of Federal Regulation (10 CFR), the Safety Analysis Report, the licensee's quality assurance program, and licensee procedures. A brief discussion of the modification packages reviewed are listed below:

2.8.1 **EDCR No. E92-2002, Neutron Noise Monitoring System**

This modification upgraded the core noise monitoring system by installing a TEC Model 1327 Sentry detector system. This system provides data acquisition for all of the required system combinations of density functions. TEC sentry detector system records the power spectral density (PSD) functions, the in-phase PSD functions, and the out-of-phase functions for the four upper and the four lower excore detectors. The results of these readings are used to determine the baseline noise levels within the detector locations. The Sentry detector equipment is located in the low power monitoring system rack in the control room.

The review of the modification documentation package (EDCR No. E92-2002) verification included: (1) 10 CFR 50.59 Evaluation, (2) Review for Appendix R Compliance, (3) Seismic Evaluation No. MYC-1535, (4) Work Order No. 92-04549, (5) Drawing No. 396D010104, "Model 396 Neutron Noise Signal Processing Schematic," and post-modification test results of the Sentry Detector System.

2.8.2 **EDCR No. E93-004, RPS Acopian Power Supply Zener Diode Addition**

The original installed Lambda power supplies could not be repaired, due to lack of spare parts. Engineering Technical Evaluation Report No. 28-92 justified the replacement of the Lambda power supply with the Acopian Power Supply. The inspectors verified that report No. 28-92 did evaluate remote sensing capability, ripple voltage, regulation load, operating temperature range, temperature derating, 10 CFR 50.59 determination and seismic design. Based on the technical evaluation report, the licensee considered the Acopian power supply a replace-in-kind power supply. During the 1992 refueling outage, the licensee replaced two of the four Lambda supplies with Acopian power supply units via Work Order No. 91-5966. During the post-installation testing, internal circuit failures occurred in the newly installed power supplies when the supplies were in the test mode. The licensee determined that the internal power regulating circuit components were being damaged due to the no-load/overvoltage condition when the loads were being removed for testing. The licensee placed new power supply units in service and developed administrative instructions to remove the applicable circuit fuses prior to testing that would require removal of the load.

During this inspection, the inspectors noted that the licensee had added a zener diode circuit to the Acopian Power Supplies output terminals during the 1993 refueling outage. The zener diode circuit clamps the power supply output voltage to a predetermined voltage value above an open or short circuit condition. The zener diode circuit prevents an open or short circuit condition from loading down the power supply and damaging the unit.

During the 1993 refueling outage, the remaining two Lambda supplies were replaced with Acopian units. EDCR No. E93-004 added a zener diode to all four RPS Acopian units. The inspectors reviewed and verified that the engineering support data package that was part of EDCR No. 93-004 included a 10 CFR 50.59 evaluation, screening guidelines for Appendix R compliance, seismic analysis, and applicable design drawings. In addition, the review of the test results indicated that the zener diode modification performed as designed and no power supply circuit failures have been reported.

Based on above review, the inspectors concluded that the licensee had adequately handled the above concern until final resolution to add the zener diode. The modification package had adequate detail and post-modification test was adequate to assure that the zener diode circuit performed as designed. However, in-office review of the modification raised a question with the decision to use the like-in-kind process for the replacement of the Lambda supplies with the Acopian units. Post-modification testing had revealed that the units did not behave in a like manner when loads were removed in testing mode. The adequacy of the application of the like-in-kind process for the power supply replacement will remain unresolved pending further NRC review of this matter (50-309/93-27-02).

2.8.3 EDCR No. 92-41-1, Wide Range Nuclear Instrumentation Channel Upgrade

This EDCR was implemented to replace the wide-range logarithmic channel portion of the excore nuclear instrumentation system. The new wide range nuclear instrument channels were required to improve the overall reliability, to provide more accurate and user-friendly displays, to reduce maintenance and calibration time and cost, and to make the spare parts readily procurable for the above system.

2.8.4 EDCR No. 93-2.7.4 Installation of Test Ports for Flow Measurement in the Control Room

During the initial plant construction, a single test port was installed at various locations to determine the ambient temperature. HVAC calculations are being performed by the licensee to determine the ambient temperature of the control room as a part of the design recovery effort. This modification was designed to add additional test ports in the control room HVAC supply duct and FN-15 exhaust duct. These test ports will allow insertion of flow measuring devices into the ventilation duct to perform a velocity traverse of the duct. This provides a more accurate flow rate than the single test ports that existed in the system.

2.8.5 Modification Review Conclusion

Based on the above review, the inspector concluded that the design changes and plant modifications were complete, technically accurate, and supported by plant operational tests. The programs for completing the design changes and modifications were generally of good quality. The completed packages were reviewed by cognizant personnel and approved in accordance with established procedures and regulatory requirements.

3.0 OVERALL CONCLUSION

Based on the above findings, the inspectors concluded that the overall engineering and technical support to the plant was found to be of good quality to support plant operations. Selected design change packages, root cause analysis, and LERs had adequate detail and were technically sound. Active management participation was evident in taking appropriate actions to improve the overall engineering functions. The training program for technical personnel was considered a strength.

4.0 STATUS OF PREVIOUSLY IDENTIFIED OPEN ITEMS

4.1 (Closed) Unresolved Items Nos. 50-309/90-80-03 and 91-01-01 Pertaining to Short Circuit Protection

The SSFI team identified that the original Maine Yankee minimum voltage switchgear short circuit calculation study, E-5, Revision 2, showed marginal interrupting capability for 4160 V circuit breakers. This calculation was also based on the assumption that there were no voltage fluctuations on the 345 kV system. However, normal system voltage was 350 kV and could increase to 362 kV, increasing calculated fault current values. Additionally, another concern regarding ac short circuit protection for the 480 Vac system was identified in Inspection Report 50-309/91-01. The concern was that calculated interrupting capacities of low voltage circuit breakers associated with safety-related load center buses 7 and 8 could be exceeded. Since these breakers are supplied from the 4160V circuit breakers, this concern was considered part of the same issue.

In response to these concerns, Maine Yankee performed Calculation MYC-1343, on December 4, 1990, to determine the extent of the interrupting capacity problem for low voltage circuit breakers. Results of this calculation showed that several 480 V switchgear buses had calculated short circuits that exceeded the interrupting rating of certain breakers.

Maine Yankee replaced the unit substation transformers during the cycle 12 refueling outage (RFO) in February 1992, resulting from the SSFI team's concerns regarding grid changes. In July 1993, during the cycle 13 RFO, Maine Yankee replaced the normal unit service station transformer per engineering design change request (EDCR) 92-33 with a transformer of higher impedance. This modification was performed in accordance with ac short circuit calculation MYC-1347, Revision 1, and MYC-430, Revision 5, "Auxiliary Power Systems Voltage Study." The purpose of this modification was to lower the maximum available fault current to within the interrupting ratings of the switchgear breakers and resolve the marginal interrupting capability of 4160 V breakers.

In addition, Maine Yankee replaced all safety-related motor control center molded case circuit breakers for safety-related buses 7A and 8A. These circuit breakers were replaced in accordance with Technical Evaluation 85-93, Revision 1, with higher interrupting duty circuit breakers. Further discussion of the licensee's molded case circuit breaker replacement and testing program is made in Section 4.5 of this report.

The inspectors reviewed the short circuit and voltage studies discussed above. The inspectors concluded that the installation of breakers with higher interrupting ratings and transformers with higher impedance were appropriate to ensure that all voltage level breakers would be capable of operating during design basis fault conditions and, therefore, resolved the ac short circuit concerns. Based on review of Maine Yankee's corrective actions and evaluations to address short circuit protection, this item is closed.

4.2 (Closed) Unresolved Item No. 50-309/90-80-01 Regarding Large Motor Overload Protection

In January 1990, the SSFI team was concerned that time-current thermal curves did not exist for large safety-related motors to verify the adequacy of overcurrent relay settings. Maine Yankee issued Service Request M-89-135 to YAEC for development of an electrical setpoint manual to verify motor overload protection. In a response letter from Maine Yankee to the NRC, dated April 20, 1990, Maine Yankee agreed with the team's assessment that a significant safety concern did not exist and stated resolution of this concern would be made by the end of the 1991 refueling.

During this inspection, the inspectors reviewed relay coordination study/calculation MYC-1559, Revision 0. The objective of this calculation was to verify the adequacy of the existing settings for the 4160 and 6900 V protective devices during starting and running conditions. Results of this review by the licensee demonstrated that the protective relay settings at Maine Yankee provided adequate coordination to minimize damage to equipment and unnecessary losses of power.

The inspectors reviewed the thermal damage (time-current) curves from large motor manufacturers including Westinghouse and Ingersoll-Rand. These curves were compared with the relay curves for the General Electric and Westinghouse relays that were installed. The inspectors did not identify any discrepancies. In addition to calculation MYC-1559, the licensee utilized the computer program CAPTOR (computer aided plotting for time overcurrent reporting) to model overcurrent device characteristics for optimum coordination and verification of proper device installation.

Based on review of the above calculation, the inspectors concluded that the protective devices for 4160 V safety-related equipment were adequately sized and coordinated to prevent equipment damage and unnecessary power losses. This item is closed.

4.3 (Closed) Unresolved Item No. 50-309/91-81-02 for the Battery Discharge Test

The EDSFI team identified that the minimum voltage required to be supplied by the safety-related battery to operate the inverters is 105 Vdc. It was also determined from Maine Yankee calculation MYC-1346, Revision 0, "DC Voltage Study - Batteries 1, 2, 3, 4, 5, and 6," that there is a maximum 2 volt drop between the battery terminals and the inverter. Therefore, for reliable operation of the inverters, a minimum of 107 Vdc is required at the battery terminals.

The team's review of Battery Test Procedure 3.5.3, Revision 14, dated March 28, 1990, "Station Batteries Rated Discharge Test," showed that the required minimum voltage identified by the procedure was 105 V as stated in the FSAR. The team was concerned that if the proper voltage was not reflected in the acceptance criteria of the procedure, the battery could become marginal with aging and addition of loads.

The inspectors reviewed the acceptance criteria provided in the Battery Surveillance Test Procedure 3.5.3, Revision 15, and calculation MYC-1346, Revision 0. Calculation MYC-1346 demonstrated that if the battery passes the discharge test and the time required to reach 10[illegible] Vdc is equal to or greater than the manufacturer's specification, the battery will perform in accordance with the calculation. The calculation analyzed the voltages on the dc system and determined the required voltage values at the first line equipment supplied from the main distribution panels. This analysis was based on matching the load profiles of each battery with the manufacturer's discharge characteristic curve.

Based on review of calculation 1346 for analyzing required equipment voltage values and surveillance test 3.5.3, the inspectors determined that the Maine Yankee battery discharge test envelopes the required service test per IEEE 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations," and IEEE 308-1980, "Criteria for Class 1E Power Systems for Nuclear Power Generating Stations." A review of the most recent surveillance test results for the batteries conducted on September 8, 1993, demonstrated an adequate margin of 112% battery capacity. The inspectors determined that the acceptance criteria required by the surveillance test was adequate to detect battery degradation. This item is closed.

4.4 (Closed) Violation No. 50-309/92-80-04 Regarding Component Substitution

In June 1992, an NRC team identified that Maine Yankee inappropriately applied the component substitution process because the technical and safety evaluations engineering performed did not significantly differ from a minor modification. The use of the component substitution process for a replacement of the Appendix R Diesel Generator day tank level alarm sensor precluded the Plant Operations Review Committee (PORC) review required by technical specifications. The failure to obtain PORC review of a modification was a violation.

At Maine Yankee, technical evaluations are developed for issues such as minor modifications, component/material substitutions and replacements and revisions to instruments or equipment setpoints. For the alarm sensor mentioned above, a technical evaluation for component substitution was created prior to its replacement to demonstrate the substitution was acceptable. The Technical Evaluation Procedure, 17-226, was considered a 10 CFR 50.59 review. The technical evaluation procedure did not, however, require consideration of whether the change constituted a modification to a system that affected nuclear safety and, therefore, needed PORC approval.

Maine Yankee's corrective actions included revising the technical evaluation procedure, 17-226, to include screening criteria to require that a technical evaluation that involves a modification to a system that affects nuclear safety receives PORC review. These actions were described in Maine Yankee letter MN-92-69, dated July 13, 1992, in response to this violation. The inspectors reviewed this procedure and held discussions with various plant engineers responsible for writing technical evaluations to verify their understanding of the requirement. No discrepancies were identified. This item is closed.

4.5 (Open) Violation No. 50-309/92-80-03 Regarding DC System Circuit Breaker Testing (Molded Case Circuit Breakers)

In June 1992, an NRC team identified that the licensee did not have a periodic testing program for molded case circuit breakers. These circuit breakers are used extensively for 125 Vdc and low voltage ac circuits. In addition, most of the nearly two thousand breakers had not been tested for more than twenty years.

In response to the concern regarding the periodic testing, Maine Yankee has stated in their Molded Case Circuit Breaker (MCCB) Reliability Program summary, dated September 22, 1992, that all MCCBs will be replaced within the next two refueling outages. During the past outage, all MCCBs installed in motor control centers 7A and 8A and approximately 60% of the MCCBs that provide isolation between Class 1E and nonsafety-related circuits have been replaced. The licensee plans on replacing the remaining two thirds of the total breakers within the next two outages. These plans were described by the licensee in their response letter to the NRC, dated July 13, 1992. Pending the establishment of MCCB testing guidance by industry and regulatory information, Maine Yankee intends on implementing this information into their MCCB program. This item remains open pending the establishment of a MCCB testing program and NRC review.

4.6 (Open) Unresolved Items 50-309/93-21-01 and 50-309/93-21-02 Regarding EDG Load Permissive Relay Wiring Configuration Discrepancy

A wiring configuration discrepancy identified at Maine Yankee, as presented in Inspection Report 93-21, revealed that the emergency diesel generator (EDG) output voltage sensing relays shared a common ground return wire. EDG sensing relays 59DG1A and 59DG1B sense the output voltage of its respective EDG and permits automatic closure of the generator output breaker. A predetermined voltage of 90% rated voltage is required to be available at the load permissive relay (59DG1A or 59DG1B) to allow the EDG output circuit breaker to close automatically as designed. A single break of this shared ground return wire would cause the voltage to be split between the relays. Thus, sufficient voltage may not be present for the relays and the EDG output circuit breakers would not close to load the diesels as designed.

The licensee committed to install an alternate return path connection for device 59-DG-1A to eliminate the common wire between both load permissive relays. In addition, the licensee committed to develop a plan to verify no other possible single failure common wiring discrepancies prior to startup.

Maine Yankee Plant Engineering Department (PED) developed Closeout Plan COP-93-017 to address specific concerns required for resolution of the identified issue. The closeout plan identified the need to resolve issues including the significance of a shared return path, separation requirements, and the existence of other common wire discrepancies. In addition, the closeout plan presented the intended actions to resolve the issues and status of the actions.

The inspectors reviewed two PED memorandums (WFB-93-18 and WFB-93-24). These memorandums evaluated the effect the lower voltage would have had if the EDG had been required to pick up a dead bus and review of other circuits for similar wiring configurations. However, the supporting technical analyses and vendor supplied information was not reviewed during this inspection. The licensee had installed a temporary jumper as an alternate return path to eliminate the common wire concern at the time of this inspection.

These items remain open pending NRC review of the licensee's completed corrective actions in support of Closeout Plan 93-059, supporting technical analyses as discussed in Memorandums WFB-93-18 and WFB-93-24, and installation of a permanent alternate return path connection for 59DG1A to eliminate the common mode failure.

5.0 EXIT MEETING

Licensee management was informed of the scope and purpose of the inspection at the entrance interview on November 30, 1993. The findings of the inspection were discussed with licensee representatives during the course of the inspection and presented to licensee management at the December 3, 1993, exit interview. In addition, the in-office review identified a concern pertaining to the adequacy of the application of the like-in-kind process for the power supply replacement and was discussed with Mr. J. Weast and other licensee personnel during a March 1, 1994, telephone conversation. The licensee did not disagree with the inspection findings.

ATTACHMENT 1

Persons Contacted

Maine Yankee Atomic Power Company

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*	J. Debartolo	Supervisor, Engineering Support
*	R. Grant	Engineering Section Head
*	R. Haywood	QA Supervisor
*	J. Hebert	Manager, Licensing and Engineering Support
	B. Higgins	Maintenance Department I&C Supervisor
*	G. Leitch	Vice President, Operations
	H. Movafegh	Electrical Engineer
	R. Nelson	Manager, Corporate Engineering
*	S. Nichols	Acting Plant Manager
	J. Niles	Operations Assistant Manager
	W. Schubert	Plant Engineering Supervisor
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	R. Snow	Electrical Engineer
*	J. Taylor	Senior Nuclear Safety Engineer
	J. Weast	Licensing Engineer
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J. P. Bonner	Lead Electrical Engineer
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U.S. Nuclear Regulatory Commission

*	W. Olsen	Resident Inspector
*	J. Yerokun	Sr. Resident Inspector

State of Maine

P. Dostie	State Nuclear Safety Inspector

* Indicates personnel present at the exit meeting of December 3, 1993.