U.S. NUCLEAR REGULATORY COMMISSION
REGION I

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License Nos.	NPF-39 NPF-85
Licensee:	Philadelphia Electric Company Correspondence Control Desk P.O. Box 195 Wayne, Pennsylvania 19087-0195
Facility Name:	Limerick Generating Station, Units 1 and 2
Inspection Period:	July 2 - August 12, 1990
Inspectors:	T. J. Kenny, Senior Resident Inspector L. L. Scholl, Resident Inspector M. G. Evans, Resident Inspector

Approved by: Lawrence T. Doerflein 9/11/90
Lawrence T. Doerflein, Chief, Date
Reactor Projects Section 2B

Inspection Summary: This inspection report documents routine and reactive inspections during day and backshift hours of station activities including: plant operations; surveillance and maintenance; engineering and technical support; and safety assessment/quality verification.

Executive Summary

Plant Operations (Modules 71707, 71710, 93702)

Unit 1 operated throughout this period. Two reportable events involving a Reactor Water Cleanup System isolation and a failure of a blow out panel in the reactor building occurred.

Unit 2 began the period in a shutdown condition and upon returning to service scrammed due to low condenser vacuum. Following repairs and return to service, the unit operated through the end of the report period (Section 1.1 and 1.2).

No significant findings were identified during this report period.

Maintenance and Surveillance (Modules 61701, 61715, 61726, 62703, 71707)

Activities involving the receipt and inspection of new fuel on site were noted to be conducted in a very professional, organized and well controlled manner (Section 2.1.1).

The inspectors identified deficiencies in Philadelphia Electric Company's (PECo) methodology and procedures for verifying containment integrity. PECo management took prompt corrective action to make improvements to the program (Section 2.2.2)

Engineering and Technical Support (Modules 71707, 90712, 92700)

Significant discrepancies were noted in the procedures used to verify containment integrity. In the past, the inspectors had noted varying degrees of procedural discrepancies during system walkdowns. In response to these findings, the PECo system engineers are in the process of walking down all plant systems to ensure consistency with system valve lineup procedures, P&IDs and actual system valve positions (Section 2.2.2).

The polarization index for the D12 diesel generator was found to be less than the acceptable value. This was an incidence where a Non Conformance Report (NCR) should have been issued to resolve the discrepancy instead of the informal memorandum which was written. Following questioning by the inspector, an NCR was written (Section 2.2.1).

Safety Assessment/Quality Verification (Modules 71707, 30703, 35502)

PECo's response to a previous violation (50-352/90-13-01) for failure to properly control documents affecting quality was found to be too narrowly focused. PECo management took prompt action to resolve newly identified document control discrepancies and to revise their initial response to the violation (Section 3.0).

DETAILS

1.0 Plant Operations

1.1 Operational Overview

Unit 1

At the start of this report period, Unit 1 was at 8% power and holding, due to Low Pressure Coolant Injection System instrumentation problems. On July 3, following correction of the instrumentation problems, power was increased and the generator was synchronized to the grid. On July 5, a reportable event involving a Reactor Water Cleanup (RWCU) System isolation occurred (see Section 1.2 for details). The unit attained 100% power on July 6 and remained at 100% through the end of this report period. On July 13, a reportable event involving the failure of a reactor building blowout panel occurred (details in Section 1.2).

Unit 2

At the start of this report period, Unit 2 was shutdown to facilitate repairs to the reactor water cleanup to feedwater check valve. On July 10, startup commenced. On July 15, the reactor scrammed due to low condenser vacuum (details in Section 1.2). Philadelphia Electric Company (PECo) personnel found and repaired the source of the vacuum leak, a broken oil drain line that passes through the condenser from the top. The line is designed to collect oil drips from the main bearings and direct it to the oil waste system. On July 23, repairs were completed and a reactor startup commenced. The unit ran at 100% until August 3 when power was reduced to 17% to remove the main generator from service to allow repair of an electro-hydraulic control system (EHC) leak. After the leak was repaired, the unit was returned to 100% power. The unit remained at 100% power through the end of the report period.

1.2 Reportable Events

Unit 1

On July 5, the RWCU system isolated due to high RWCU regenerative heat exchanger room temperature. The room temperature increased due to steam leaks in the room combined with the normal reactor enclosure heating, ventilation and air conditioning system (HVAC) being shutdown for surveillance testing. After verifying proper system response to the isolation signal and reestablishing reactor enclosure ventilation, the isolation was reset and the RWCU system returned to service. Maintenance work requests have been issued for the steam leaks and they are scheduled to be repaired during the next refueling outage.

On July 13, a reactor enclosure blowout panel failed due to a failure of an air supply line to the reactor enclosure exhaust fan blade positioner. During preparations for work on the "2C" reactor enclosure exhaust fan, an air supply line to solenoid valve SV-076-255C was broken when workmen hit it while moving a ladder. SV-076-255C supplies air to the exhaust fan blade positioner. The loss of air caused the in service "2A" and "2B" reactor

enclosure exhaust fans to go to a minimum blade pitch which caused a positive reactor enclosure differential pressure. When the differential pressure went positive, it caused a reactor enclosure blowout panel to fail which resulted in a loss of secondary containment. The "2A" Reactor Enclosure Recirculation System (RERS) and "A" Standby Gas Treatment System (SBGT) fans were placed in service. The blowout panel was repaired and the ventilation systems were returned to normal. Secondary containment was restored within the allowable Technical Specification action statement time limits. The air line was subsequently repaired at the swage lock fitting where the break occurred. Analysis showed that the fitting had been improperly installed. When the blowout panel failed, Health Physics personnel immediately began monitoring the area. There were no radioactive releases during the time the blow out panel was open.

Unit 2

At 9:31 a.m. on July 15, the Unit 2 reactor scrammed as a result of a main turbine trip caused by a low condenser vacuum (22.2 inches). Prior to the scram, the operators were lowering power level due to a decreasing vacuum in the main condenser. At approximately 80% reactor power the turbine tripped on low vacuum. All systems functioned as designed.

PECo declared an "unusual event" because Emergency Plan Procedure EP-101, "Classification of Emergencies," states that "shutdown other than normal controlled shutdown for purpose of placing plant in safer condition" constitutes an unusual event. The unusual event was terminated at 10:15 a.m. The inspector discussed the apparent low threshold for declaring the Unusual Event with PECo management. This has resulted in the licensee reconsidering the classification threshold for reactor trips.

The source of the vacuum leak was traced to an oil drain line that collects oil under the main bearings of the main generator. The piping is routed through the condenser to the waste oil collecting system. The piping within the condenser failed at a weld due to fatigue from excessive vibration. The weld was repaired and all other welds within the system were examined with no other problems being identified. PECo evaluated the vibration conditions and installed hangers within the condenser to prevent recurrence.

The above events were reported to the NRC via the Emergency Notification System (ENS). The root cause analysis and corrective actions will be reviewed further upon issuance of the Licensee Event Reports as part of the routine inspection program.

1.3 Engineered Safety Feature (ESF) System Walkdown

The inspector verified the operability of the 2A diesel generator (DG) by performing a walkdown of the system to confirm that system lineup procedures agreed with plant drawings and the as-built configuration. This ESF system walkdown was also conducted to identify equipment conditions that might degrade performance, to determine that instrumentation is calibrated and functioning, and to verify that valves, breakers and

switches are properly positioned and locked as appropriate.

The following procedures, drawings and tests were reviewed:

Drawing M-11	Emergency Service Water Piping and Instrumentation Drawing
Drawing M-20	Fuel and Diesel Oil Storage and Transfer (DG "A", Unit 2)
2S92.1.N(COL-1)	Equipment Alignment for 2A Diesel Generator Operation
S92.1.N	Diesel Generator Setup for Automatic Operation
ST-6-092-311-2	D21 Diesel Generator Operability Test Run
FSAR 9.5.4	Diesel Generator Fuel Oil System
FSAR 9.5.5	Diesel Generator Cooling Water System
FSAR 9.5.6	Diesel Generator Starting System
FSAR 9.5.7	Diesel Generator Lubrication System

The inspector found the system to be in good condition and properly aligned, however, during the walkdown the inspector noted the following:

- Procedures 2S92.1.N (Col-1) and S92.1.N perform an equipment alignment, and setup the diesel generator for automatic operation, respectively. As part of the equipment lineup, the DG DC auxiliary fuel pump 2AP538 control switch is positioned to the off position. Procedure S92.1.N does not realign this switch to "auto" as it does other breakers and switches required for automatic diesel start. However, the inspector found the switch in the auto position.

- Several valves were found without proper identification labeling.

The inspector discussed these items with the system engineer who stated that a revision would be made to procedure S92.1N to place the DG DC auxiliary fuel pump control switch to "auto," and that the valves in question would be properly labeled. The inspector had no further questions.

2.0 Maintenance and Surveillance

The inspectors observed and/or reviewed the results of portions of the maintenance activities and surveillance testing listed below to verify that the test instrumentation was properly calibrated, approved procedures were used, the work was performed by qualified personnel, limiting conditions for operations were met, appropriate system or component isolation was provided and the system was correctly restored following the testing or maintenance activity.

2.1 Maintenance

Maintenance activities observed and/or reviewed included:

MRF 9080250	Receipt and Inspection of New Fuel

MRF 8905811	Core Spray Pump 2A Suction Gage Recalibration
MRF 8908686	Core Spray Pump 2B Suction Gage Recalibration

Additional Maintenance Request Forms (MRFs)/activities reviewed as part of the diesel generator 18 month overhaul are listed in Attachment A.

In general, maintenance activities were found to be well controlled. Specific inspector comments and findings involving new fuel receipt and inspection and the 18 month inspection of the D12 diesel generator are discussed in sections 2.1.1 and 2.2.1 below.

2.1.1 New Fuel Receipt and Inspection

The inspector witnessed activities involving the receipt and inspection of new fuel for Unit 1. The inspector observed ongoing activities which included delivery of the fuel to the protected area and inspections of the shipping boxes for damage. Refuel floor activities observed included examination and channeling of the fuel bundles and movement of the channeled fuel assemblies to the spent fuel pool. All activities were performed by maintenance personnel utilizing maintenance procedure M-097-038, "New Fuel Receipt," and Maintenance Request Form (MRF) #9080250.

The inspector discussed the scope of the fuel bundle inspections with the maintenance personnel and noted that they were knowledgeable of their responsibilities. The inspector verified that the prerequisites and requirements of procedure M-097-038 were being met and that the technical monitoring group performed inspections as required. Overall, the inspector noted that all activities involving the new fuel were conducted in a very professional, organized and well controlled manner.

2.2 Surveillance

Surveillance testing observed and/or reviewed included:

ST-6-052-233-2	Safeguard Piping Fill Pump Test
ST-2-055-901	NSSSS-High Pressure Coolant Injection (HPCI) Steam Line Differential Pressure High; Division 4 Response Time Test
ST-2-042-671-1	ECCS and NSSSS-Reactor Level and Pressure and Drywell Pressure, Division 3, Channel G
ST-3-048-230-1	Standby Liquid Control (SLC) Pump, Valve and Flow Test

Additional surveillance procedures reviewed as part of the DG 18 month overhaul and the verification of containment integrity are listed in Attachments A and B, respectively.

No problems or concerns were noted by the inspectors except as specifically discussed below.

2.2.1 Complex Surveillance of D12 Diesel Generator 18 Month Inspection

The inspector reviewed the content of the procedures, listed in Attachment A, to determine the following:

- That the Technical Specifications (TS) affecting emergency power systems affiliated with D12 diesel engine and generator were addressed;

- That the appropriate test equipment, tools and personnel qualifications for the performance of the 18 month diesel inspection were delineated;

- That the diesel technical manual was utilized in the preparation of the procedures;

- That the correct pre and post maintenance testing was addressed in order to remove the equipment from service and then declare it operable after the inspection is complete; and

- That the correct blocking of equipment was applied in order to perform the inspections and testing in a safe, reliable manner.

The inspector concluded that the procedures reviewed were satisfactory to perform the inspection and testing in a safe and orderly manner. The procedures were well written and in accordance with good engineering and accepted industry standards, and were easily understood by the individuals performing the work. The test data and results were easily auditable and well documented.

The inspector observed the dismantling and inspection of selected portions of the diesel and generator. The inspector interviewed mechanics, technicians and electricians, witnessed selected portions of post operational testing and reviewed all completed test data. The inspector concluded that the 18 month inspection of the D12 diesel generator was performed, for the most part, in accordance with accepted practices and satisfied the TS requirements with the following exception.

The polarization index (PI) is the ratio of the 10 minute megger resistance value to the one minute resistance value, and for the generator the ratio should be two or greater (as per the procedure). The PI may be useful in the appraisal of the winding for dryness and for fitness for over potential tests. ANS/IEEE 43-1974 recommends performing this test. It further states that it may be possible to operate machines with values lower than the recommended minimum value; however, it is not normally considered a good practice. The actual value of the PI measurement was 1.95.

The inspector did not have technical concerns operating the DG with the PI being lower than the recommended ratio of two. However, the inspector could not find any technical justification by the licensee for the decision to operate the diesel generator except an informal memorandum from an on-site engineer stating that during a phone call, corporate engineering had agreed that "since the megger readings were high it was alright to run the unit." Past practices, used by PECo, have required a Non Conformance Report (NCR) in order to resolve such conflicts, however in this incidence an NCR was not written. Following discussions with the inspector, the licensee wrote an NCR to properly resolve the question of operation of the diesel with the low PI.

2.2.2 Verification of Containment Integrity

The inspectors reviewed the documents and inspected the containment penetrations listed in Attachment B to verify the adequacy and implementation of PECo's procedures designed to establish and maintain primary containment. This included the following:

- A review of Unit 2 primary containment integrity which had been established prior to the reactor startup performed on July 10;

- A review of surveillance tests utilized to periodically verify the containment integrity;

- A walkdown of various containment piping and electrical penetrations to ensure the valves were properly closed and locked;

- A review of surveillance tests to verify operability of containment spray, suppression pool cooling and main steam isolation valve (MSIV) leakage control systems;

- A verification that various containment penetrations meet the General Design Criterion (GDC) of 10 CFR 50, Appendix A;

- A walkdown of the MSIV leakage control system to verify system component alignment and general physical condition;

- A review of the performance of the drywell personnel air lock surveillance; and

- A verification that the containment leak rate test results were within the TS required limits.

Inspector Findings

The following discrepancies were identified during a walkdown of selected primary containment penetrations utilizing procedures ST-6-060-460-1 and -2 for Units 1 and 2 respectively:

- The primary containment manual isolation valve verification is accomplished by performing a review of the locked valve log. Procedures ST-6-060-460-1 and 2 do not require a physical verification of the valves' position;

- The locked valve log (A-8) is not routinely audited for accuracy therefore the valve verification per ST-6-060-460-1 and 2 may not be valid. The primary containment checkoff lists (1S60.1A and 2S60.1A COLs) also do not require a visual valve position verification of inaccessible valves, thus these procedures do not ensure the valves are periodically verified;

- Primary containment isolation valves (PCIVs) for flow transmitter FT-257B (PCIVs 87-2251B, 87-2253B, XV-87-256B and XV-87-257B) were not included in ST-6-060-460-2 which is used to satisfy TS surveillance requirement 4.6.1.1.b;

- The suppression pool NW hatch test tap PCIV (valve PP-60-206) was not locked as required by A-8 and ST-6-060-460-2;

- The Unit 1 excess flow check valve internal bypass valves are not included in ST-6-060-460-1. This is not consistent with ST-6-060-460-2 for Unit 2 and TS 4.6.1.1.b;

- PCIVs associated with the containment electrical penetration nitrogen gas volume are not locked in accordance with the directions delineated in A-8;

- Various Unit 1 scram discharge volume instrument calibration valves are not designated as PCIVs, are not locked and are not verified per ST-6-060-460-1. The associated Unit 2 valves are properly labelled and verified; and,

- The recirculation pump ESW cooling water inlet and discharge valves (valves HV-13-209 and -210) are designated as manual PCIVs and are not verified per ST-6-060-460-2, however, they are contained in the Unit 1 surveillance test.

The following deficiencies were noted during a walkdown of the Unit 2 MSIV leakage control system:

- the packing nuts were not tightened properly on several manually operated valves;

- Note 5 of P&ID M-40 specifies that the thermocouples (designed to sensor system

temperature downstream of a section of pipe which is heated to vaporize any condensation) shall be installed at the outlet end under the insulation no farther that 12 inches from the heater elements. The thermocouples were found to be improperly installed on an uninsulated portion of the piping. Also they were not at the outlet end of the heated piping, but within the heater boundary; and,

- Several valves were not included in the system valve lineup checkoff lists nor were they in the instrumentation lineup. Included are the main steam isolation valve leakage control system (MSIV-LCS) inboard system test valve (valve 40-2036), the test valves upstream of the air dilution flow elements (FE-260 and 261), and the test valves upstream and downstream of the system blowers (valves PP-254A, 254E, 255A, and 255E).

The following deficiencies were identified during a review of the 2S60.1A primary containment integrity valve lineup verifications:

- During the performance of a partial lineup following maintenance one step was not performed (step 182);

- The reasons for not verifying all valve positions during a partial lineup performance was not documented in all cases; and,

- The verification of the procedure being the correct revision was performed after steps of the lineup had already been accomplished.

For the containment penetrations reviewed (Attachment B), the inspector found the isolation design to be consistent with GDC 55, 56 and 57. The inspector noted that the P&IDs did not consistently designate the valves which are required to be locked closed. Examples of this are drawing M-49, the Reactor Core Isolation Cooling P&ID, which does not designate the PCIVs for pressure transmitters PT-2N058F and PT-2N058G (valves 49-2048B and 49-2048D) as being required to be locked closed.

PECo Actions in Response to the Findings

PECo engineers performed a 100% penetration check using "Red Lined" controlled prints to compile an independent listing of all primary containment manual isolation and boundary valves. This list of valves was noted and checked for inclusion in S60.1.A, ST-6-060-460, and priority code 1 of the A-8 locked valve log. The purpose was to incorporate all boundary valves into ST-6-060-460 to be verified as per the A-8 procedure. One significant deviation from the existing program was the interpretation that all manual valves which are in TS Table 3.6.3-1 are to be visually, locally verified locked closed. These valves were separated from the other boundary valves in the test.

PECo also reviewed their previously stated position on test taps used for instrumentation and testing purposes. This position is that the surveillance requirement of 4.6.1.1.b applies only to primary containment isolation valves listed in TS Table 3.6.3-1 and not to the manual valves located in the primary containment boundary which are used for testing and instrumentation purposes. However, the manual valves in instrument and testing lines which serve as containment isolation barriers will remain sealed closed pursuant to the response to FSAR question 480.33 (see Attachment B). Although the TS surveillance requirement does not pertain to these primary containment boundary valves, it is PECo's intent to ensure administrative control of these valves by leaving them in the primary containment integrity check surveillance test. The position of these valves will continue to be verified in the test through the use of the locked valve log (A-8 procedure). The inspector discussed this position with NRR and noted it was consistent with a NRR interpretation regarding implementation of TS requirement 4.6.1.1.b.

Additional PECo actions taken in response to the inspector's findings include:

- Instrument calibration valves for the scram discharge volume were added to the A-8 procedure and ST-6-060-460-1;

- Excess flow check bypass valves which are in the A-8 procedure and in the Unit 2 ST-5-060-460 but were not in Unit 1's ST-6-060-460 were added to Unit 1's ST-6-060-460. This constituted the primary difference between Unit 1 and 2 ST-6-060-460;

- Electrical penetrations, which were found to be closed, were seal wired closed to comply with FSAR Question 480.33. This was accomplished by utilizing troubleshooting control forms for both Unit 1 and 2;

- Modification 801 added test taps to all of the excess flow check valves on Unit 1 for testing purposes. The modification checklist failed to identify required revisions to the existing procedures (ST-6-060-460). The remaining test taps are scheduled to be installed during the third refuel outage. To ensure these valves are included in the above ST, the modification checklist was revised to include the applicable test taps;

- The Unit 1 ST-6-060-460 was revised using a Temporary Procedure Change (TPC) to incorporate all of the previously identified changes and will be permanently revised before the next scheduled test. The Unit 2 ST-6-060-460 surveillance test will also be revised using a TPC to incorporate omissions before the next scheduled test;

- The penetration check revealed a number of valves in the containment boundary which are locked closed, indicate lock closed in A-8 and ST-6-060-460, but are not shown locked closed on P&IDs. Revised drawing changes will be initiated to correct this;

- Procedure A-8 is currently under review by PECo to re-evaluate its content and to determine how audits will be performed; and,

- PECo system engineers have begun walking down all plant systems to insure consistency between system valve lineups, the P&IDs and actual system valve positions.

Inspector Conclusions

The inspector did not identify any containment isolation valves out of position and concluded the primary containment integrity was being maintained. However, the inspector identified weaknesses in the program to verify containment integrity including the methods used in checking the position of containment isolation valves and the fact that some valves were not included in the surveillance procedures. As a result of the inspection PECo made improvements to the program that ensures a thorough verification of containment integrity. Through a significant expenditure of resources PECo took prompt and thorough corrective action regarding the noted weaknesses.

3.0 Document Control

On July 2, 1990, the inspectors performed an audit of the controlled copy of the Limerick Generating Station, Unit 1 Technical Specification (TS) book which is assigned to the resident's office to determine if the TSs were being properly maintained. The inspectors noted that three bases pages were missing and that obsolete revisions of several pages were not removed when the new pages were inserted. These discrepancies were discussed with PECo representatives who immediately began a review to determine the extent of the discrepancies.

A complete PECo audit of controlled copies of TSs on site was completed by July 31, 1990. During the audit obsolete pages, missing pages and misfiled pages were discovered and immediately corrected. The inspector noted that prior to the audit PECo had reevaluated the number of controlled copies of TSs, significantly reduced the distribution and removed the deleted books.

During a previous inspection, a violation (50-352/90-13-01) was issued for failure to properly control documents affecting quality. The inspector discussed the corrective actions taken in response to the violation with PECo management. In light of the discrepancies identified involving controlled copies of TS, PECo management agreed that the response

to the previous violation was too narrowly focused. The previous violation was for failure to control documents and specifically involved controlled procedures. PECo's response addressed only the control of procedures not all documents. Therefore, the response to the violation was revised to include all controlled documents on site.

The inspector will review PECo's corrective actions regarding the control of TSs as part of the review of PECo's corrective actions to violation 352/90-13-01.

4.0 Review of Licensee Event Reports (LERs) and Special Reports

The following LERs or Special Reports were reviewed by the inspector and determined to have accurately described the events and to have addressed adequate corrective or compensatory action:

4.1 Unit 1

LER 1-90-013 License Condition 2.C.(3), Fire Protection, was not met due to underrated fuses in the Division 1 and Division 2 DC Electrical Distribution Systems. In addition, inadequate electrical isolation between Class 1E and non-class 1E circuits resulted in Unit 1 and Unit 2 Division 1 and 2, 250 volt DC systems being inoperable.

LER 1-90-14 Reactor Water Cleanup (RWCU) System isolated due to the increase of the RWCU System Regenerative Heat Exchanger room temperature beyond its isolation setpoint. The increase in room temperature was due to normal Reactor Enclosure Ventilation being taken out of service in combination with several minor steam leaks from the RWCU system valves.

- Monthly Operating Report for June 1990, dated July 9.

- Monthly Operating Report for July 1990, dated August 9.

4.2 Unit 2

LER 2-90-009 Unplanned actuation of the Primary Containment and Reactor Vessel Isolation Control System due to a personnel error during installation of electrical relay test jacks.

LER 2-90-010 Inoperability of the Standby Gas Treatment System (SGTS) due to mispositioning of the handswitches for the SGTS filter isolation valves because of personnel error.

- Monthly Operating Report for June 1990, dated July 9

- Monthly Operating Report for July 1990, dated August 9

No additional concerns were identified upon review of the above listed reports.

5.0 Management Meetings

5.1 Preliminary Inspection Findings

The NRC resident inspectors discussed the issues in this report with the licensee throughout the inspection period, and summarized the findings at an exit meeting held with the Plant Manager, Mr. Martin McCormick on August 13, 1990. No written inspection material was provided to PECo representatives during the inspection period.

5.2 Additional NRC Inspections this Period

The following inspector exit interviews were attended during the report period:

Dates	Subject	Report	Inspector
7/9-7/13	Radiological Safety	90-19/90-18	D. Chawaga
7/23-7/27 and 7/30-8/2	Operator Licensing	90-11/90-10 and 90-12/90-11	F. Paul Bonnet

ATTACHMENT A

DOCUMENTS REFERENCED DURING REVIEW OF D12 DIESEL GENERATOR 18 MONTH INSPECTION

ST-1-092-112-1	D12 Diesel Generator 4 KV SFGD Loss of Power LSF/SAA and Outage Testing (Rev. 7)
RT-1-092-312-1	D 12 Diesel Generator Run-IN
IC-11-00082	Preventative Maintenance Procedure for Instrumentation Critical to Surveillance Test Requirements on Emergency Diesel Generator
ST-2-020-401-1	Electrical Power Systems-1BG501 Diesel Generator Critical Instruments Calibration/Functional Test
ST-1-020-322-1	D12 Diesel Generator Independent Air Start Operability and Valve Test
ST-6-092-365-0	Inoperable Unit 1 Safeguards Power Supply Actions for Both Units (Verification of other Equipment to Satisfy TS)
PMQ-011-005	Preventative Maintenance Procedure for Diesel Generator Air Cooler Coolant Exchanger (E586), Lube Oil Cooler (E506) and/or Jacket Water Heat Exchanger (E507) Clean and Examine
PMQ-020-010	Diesel Engine Examination and General Maintenance
M-020-001	Diesel Generator 18 Month Examination and Maintenance
PMQ-500-003	Preventive Maintenance Procedure for Megger Testing of Rotating Electrical Equipment
MRF 8983843	Diesel Generator 18 Month Overhaul
MRF 8983487	Diesel Generator 18 Month Overhaul

ATTACHMENT B

VERIFICATION OF CONTAINMENT INTEGRITY

DOCUMENTS REVIEWED

ST-6-060-460-1	Unit 1 Primary Containment Isolation Capability Test
ST-6-060-460-2	Unit 2 Primary Containment Isolation Capability Test
ST-6-051-231-1	A RHR Pump, Valve and Flow Test
ST-6-060-462-2	Cold Shutdown Primary Containment Integrity Check
ST-1-LLR-BO7-2	Personnel Lock Door Seals Local Leak Rate Test (LLRT)
ST-1-LLR-001-2	The LLRT Program and Accountability Test
ST-6-060-470-2	Primary Containment Airlock Door Interlock Check
ST-6-052-232-2	B Loop Core Spray Pump, Valve and Flow Test
ST-6-057-810-2	Containment Vent and Purge Valve Alignment and Valve Oper. Hours Determination
ST-1-040-400-2	MSIV LCS Functional Test
ST-6-040-202-2	MSIV LCS Cold Shutdown Valve Test
ST-6-040-320-2	MSIV LCS Operability Test
ST-6-051-231-2	A RHR Pump, Valve and Flow Test
NUREG-0991	Limerick Safety Evaluation Report
Administrative Procedure A-8	Procedure for Control of Locked Valves and Devices
P&ID M-40	MSIV Leakage Control System
S40.1.A	Startup of MSIV-LCS Inboard Section
S40.1.B	Startup of MSIV-LCS Outboard Section
S40.3.A	Set up of MSIV-LCS Inboard Section for Normal Power Operation

(Continued) ATTACHMENT B

S40.3.B	Set up MSIV-LCS Outboard Section for Normal Power Operation
2S40.3.A(COL)	Equipment Alignment for Normal Nuclear Boiler Operation of the Inboard MSIV LCS
2S40.3.B(COL)	Equipment Alignment for Normal Nuclear Boiler Operation of the Outboard MSIV-LCS
IV40	MSIV-LCS Instrumentation Valve Lineup
GP-1	Preparation for Normal Plant Startup
GP-2	Normal Plant Startup
2GP-1(COL-2)	Primary Containment Manual Valve Alignment
2GP-1(COL-4)	Suppression Pool Manual Valve Alignment
GP-2 Appendix 2	Drywell/Suppression Pool Closeout
2S60.1.A	Primary Containment Integrity
1S60.1.A(COL)	Primary Containment Integrity (Unit 1)
2S60.1.A(COL)	Primary Containment Integrity (Unit 2)

Penetrations inspected

The following primary containment penetrations were inspected and reviewed for conformance to the GDCs:

X200A	Suppression Pool Access
X200B	Suppression Pool Access

Piping Penetrations:

X-21	X-63	X-11	X-40H
X-23	X-58A	X-62	
X-24	X-10	X-40G	
X-61	X-40F	X-227	

Electrical Penetrations:

X-100C
X-230A
X-222

Position on Test, Vent and Drain Valves

Question 480.33 (FSAR Section 6.2.4)

Verify that all normally closed manual valves in test, vent, drain and similar types of branch lines which serve as containment isolation barriers will be sealed closed, and will be under administrative control, as defined in Safety Review Plan (SRP) Section 6.2.4, Item II.3.f.

Response

Section 6.2.4.3 has been changed to clarify that the normally closed manual valves in test, vent, drain and similar types of branch lines that serve as containment isolation barriers will be under administrative control.

The test taps, vents, drains and similar types of branch lines that constitute containment isolation barriers are equipped with manually closed isolation valves and a screwed cap on the outboard side. The screwed cap is not considered as an isolation barrier; however, its presence ensures that inadvertently opening the valve will not result in degradation of containment integrity. Administrative controls in the form of surveillance test procedures will ensure that the valves are closed after use and that the caps are installed with a sealant on the threads.