U. S. NUCLEAR REGULATORY COMMISSION

REGION I

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Report No.	50-387/97-06, 50-388/97-06
Licensee:	Pennsylvania Power and Light Company 2 North Ninth Street Allentown, Pennsylvania 19101
Facility:	Susquehanna Steam Electric Station (SSES)
Location:	P.O. Box 35 Berwick, PA 18603-0035
Dates:	July 1, 1997 through August 16, 1997
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EXECUTIVE SUMMARY

Susquehanna Steam Electric Station, Units 1 & 2
NRC Inspection Report 50-387/97-06, 50-388/97-06

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support activities. The report covers a 6-week period of resident inspection.

Operations

- The NRC identified a configuration control problem with respect to the alignment of the "A" emergency diesel generator (EDG). The "A" EDG was found to be inoperable on July 11, 1997, in that the governor load limit setting for the "A" EDG was not in the 100% load position. PP&L had not implemented effective controls with regard to this setting, and therefore, was not aware that the load setting was changed from the as-left maintenance setting after June 16, 1997. This resulted in the "A" EDG being inoperable for an indeterminate period of time between June 16, 1997 and July 11, 1997. The licensee's investigation into the actual cause of the mispositioned load setting remained open, however, apparent violations of quality assurance, corrective action, and configuration control requirements were identified. (Section O2.1)

- Operator responses to several control room alarms were observed to be aggressive and generally in accordance with Susquehanna Steam Electric Station (SSES) operating procedures. Two plant alarm response procedure weaknesses were identified (loose parts monitor and high/low containment pressure). In the first instance no procedure existed and in the second case the procedure was inadequate. The inspector discussed the procedural weaknesses with SSES Operations management, who took aggressive corrective actions. In both cases, adequate procedures were established to eliminate the deficiencies prior to the end of the inspection report period. Both issues resulted in non-cited violations. (Section O2.2)

- The licensee identified a configuration control problem with a control room emergency outside air supply system (CREOASS) intake plenum door and initiated a status control event review, a security review, and a condition report. Although the CREOASS system was promptly realigned, the licensee's operability assessment of the misaligned condition was weak because: (1) the licensee was not able to discover the cause of the plenum door being open; (2) the consequences of a partially opened door were not analyzed in the operability determination; and (3) the licensee does not block system initiation or enter a Limiting Condition for Operation (LCO) Action Statement when the ventilation system is breached during normal operator rounds. These concerns remained unresolved. The licensee did not conduct a review team meeting within the time frame required by a site procedure. This was addressed as a non-cited violation. (Section O2.3)

Executive Summary

- The conduct of equipment "confidence checks" using system check lists before post maintenance runs of out-of-service EDGs, or other inoperable safety related equipment, was not specifically delineated in SSES administrative procedures. This practice created an apparent conflict with PP&L's expectation for strict compliance with system operating procedures because independent verification was not completed for confidence checks. However, an operations department administrative procedure provides an allowance for shift supervision to decide how prerequisites can be adequately met. Operations management initiated a procedure revision to clarify that an independent verification of equipment check lists is not required for post maintenance runs, but is required for operability or functional tests. Although no violation of NRC requirements occurred, this issue represented an example where an apparent conflict between station procedures and an ongoing activity was not appropriately corrected, or otherwise clarified, by SSES management in a timely manner. (Section O3.1)

Maintenance

- Technical specifications (TSs) require surveillance testing of the EDGs by verifying that the EDG starts from ambient condition and accelerates to at least 600 rpm in less than or equal to 10 seconds. In several instances between April and August 1997, EDG operability testing upon which TS operability and compliance were confirmed was preceded by activities, such as an EDG maintenance run, that removed the EDG from an ambient condition. The testing of EDGs at other than ambient conditions was cited as a violation. (Section M1.3)

- A maintenance activity on the lube oil heater for the "B" EDG was not correctly performed in accordance with the approved work plan. A maintenance technician incorrectly landed a temperature switch lead and a co-worker incorrectly performed the independent verification. The error was non impacting since the EDG was out of service for maintenance and the error was discovered prior to the EDG's return to service. The licensee implemented corrective actions for this event, and the technicians' failure to follow the maintenance procedure was considered a non-cited violation. (Section M4.1)

- The licensee's measures for identification and control of nonconforming items with Hold Tags were not implemented when required. In addition, the licensee's procedure for nonconforming items does not identify, as required, the responsibility and authority for disposition of nonconforming items, nor describe the process by which repaired and reworked items are reinspected. An NRC commitment in response to a 1994 violation regarding control of nonconforming items was also not maintained by PP&L. Licensee corrective actions for a 1996 Condition Report that previously identified these concerns were inadequate, and consequently, the NRC identified that a degraded ventilation damper motor was not properly controlled as a nonconforming component. This problem was cited as a violation. (Section M7.1)

Executive Summary

Engineering

- The NRC identified that PP&L failed to correct a standby gas treatment system (SGTS) design inadequacy which was self-identified in 1987. The loop seals designed to isolate the SGTS filter housing from the equipment room were not adequate to withstand the negative pressure created by operation of the SGTS fan. As a result, the current configuration does not meet the design requirements committed to by PP&L in the FSAR. However, the SGTS was operable, as shown by testing conducted in this condition. The failure to correct an identified condition adverse to quality is a violation of 10 CFR 50 Appendix B, corrective action requirements.

  The NRC determined that the licensee's on going Current Licensing Basis Review (CLBR) project would not have been expected to have identified this discrepancy in the plant configuration. This determination was based on the absence of CLBR guidance for system walk downs or standards for system engineer review of completed CLBR products. PP&L had no approved procedure for implementation of the CLBR project. (Section E1.1)

- The licensee performed several demonstration tests of communication equipment within the SSES protected area. The decision to perform the tests appeared to disregard compliance with established plant procedures. PP&L failed to establish a special test procedure approved by the plant operations review committee, and failed to formalize a safety evaluation for the communications equipment test in order to confirm no safety impact. The NRC determined that SSES management allowed activities to proceed when there were apparent conflicts with requirements of established procedures and that the apparent conflicts were contradictory to the standards and expectations set forth by PP&L for its workforce. The licensee failed to perform a required safety evaluation in support of the communication system demonstration tests and this is considered a violation of 10 CFR 50.59. (Section E1.2)

- The NRC identified that protective screens had been added to the residual heat removal service water and emergency service water pumps without the documented safety evaluation that is required by 10 CFR 50.59. None of the modifications affected the operability of the pumps. However, the NRC determined that the licensee's ongoing Current Licensing Basis Review project would not have been expected to have identified this discrepancy in the plant configuration. Therefore, the failure to perform required safety evaluations for these modifications to safety related pumps was cited as a violation. (Section E2.1)

Executive Summary

Plant Support

- The programs for radiological environmental monitoring (REMP) and meteorological monitoring (MMP) continued to be excellent. Oversight of the REMP and MMP was effective in that the licensee implemented good management controls and demonstrated management interest. The quality assurance audits were of excellent technical depth to effectively identify and assess program strengths and weaknesses. The audits evaluated the technical adequacy of implementing procedures, TS requirements, and practices. (Sections R1, R6, R7)

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Report Details

Summary of Plant Status

Unit 1 was at 100% power at the beginning of this inspection report period. On July 4, 1997, power was reduced to 70% in support of a control rod sequence exchange. On July 18, 1997, power was reduced to 40% power in support of reactor recirculation system single loop testing. At the close of the inspection period, Unit 1 remained at 100% power.

Unit 2 was at 100% power at the beginning of this inspection report period. On July 6, 1997, power was reduced to 80% power at the request of the Power Control Center. A minor power reduction was made on July 12 in support of turbine valve testing and on July 13, 1997, power was reduced to 80% in support of a control rod sequence exchange. At the close of the inspection period, Unit 2 remained at 100% power.

I. Operations

O2 Operational Status of Facilities and Equipment[1]

O2.1 Misalignment of the "A" Emergency Diesel Generator

a. Inspection Scope (71707)

The inspector toured the "A" through "D" Emergency Diesel Generator (EDG) rooms to observe general conditions and to verify the availability of the EDGs.

b. Observations and Findings

Susquehanna has five 100% capacity EDGs. SSES Technical Specifications (TSs) require four operable EDGs for continued power operation of both units. With one less than the required number of EDGs, TS 3.8.1.1 requires both units to be shut down within 72 hours. On July 11, 1997 both units were at 100% power and one of the EDGs (B) was disassembled for an 18 month overhaul. The remaining four EDGs (A, C, D, and E) were aligned to meet TS requirements.

During a tour of the "A" through "D" EDG rooms, on July 11, 1997, the inspector determined that the settings on the Woodward governor for the "A" EDG were different than the settings of the other three EDGs. The differences were in the load limit and speed potential settings. The as-found "A" EDG Woodward governor settings were as follows:

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[1] Topical headings such as O1, M8, etc., are used in accordance with the NRC standardized reactor inspection report outline. Individual reports are not expected to address all outline topics.

Speed Droop - Minimum
Load Limit - approximately 35%
Speed Potential - 3/63

The SSES Shift Supervisor was notified at approximately 4:00 p.m. At approximately 5:00 p.m., on July 11, 1997, the inspector and a licensee representative visually inspected each of the five EDG Woodward governor settings and verified the settings against as-left maintenance data. The as-left maintenance data matched all of the settings in the field, with the exception of the "A" diesel generator. A review of the most recent as-left "A" diesel maintenance data, from Work Authorization (WA) P61575, dated June 16, 1997, was conducted and the data were determined to be as follows:

Speed Droop - Minimum
Load Limit - Maximum (100%)
Speed Potential - 3/63

At 8:10 p.m., the licensee entered the appropriate TS Action Statement (3.8.1.1.d) after declaring the "A" EDG inoperable and initiated condition report (CR) 97-2233. At 9:43 p.m., the licensee made a four-hour Emergency Notification System (ENS) phone report to the NRC operations center. The ENS report was followed thirty days later by Licensee Event Report 50-387/97-17.

The Woodward governor settings were returned to their as-left maintenance condition at 10:30 p.m.. The inspector observed portions of SO-024-001, Diesel Monthly Operability Surveillance, which successfully demonstrated that the "A" EDG was operable after it was realigned. The licensee exited the TS Action Statement at 12:30 a.m., on July 12, 1997.

On July 12, 1997, the inspector verified that the licensee established an event review team (ERT) and was affecting a response in accordance with their status control process, contained in SSES procedure NDAP-QA-702, Condition Report. The licensee's corrective actions and root cause determination efforts continued throughout this inspection period.

The licensee promptly verified EDG alignment and later other system alignments through operator confidence checks using system check lists. After interactions with NRC regarding the fact that the governor knobs had no routine checks or controls, a team was formed to review other controls/settings whose misalignment could affect the operability of equipment. Several minor misalignments were identified as a result of the additional checks. However, none of these alignment issues affected the operability of plant equipment.

The licensee reached an interim conclusion, that the misalignment of the "A" EDG was not the result of an equipment failure and was the result of a human/machine interaction. Current licensee efforts are centered around characterizing the type of human/machine interaction.

On July 16, 1997, the inspector observed a special test, TP-024-152, "Diesel Generator "A" Investigation." designed to evaluate the abnormal condition found on July 11, 1997. The Woodward governor load limit setting was returned to the position found on July 11, 1997, and the EDG was test started. The test results confirmed that the "A" EDG was not operable when in the misaligned condition. The "A" EDG was capable of generating approximately 1300 kW, and took 22 seconds to start. TSs require an EDG to reach rated speed in 10 seconds and supply a load of 4800 kW.

The period of time that the "A" EDG could have been inoperable was determined to be from June 16 to July 11, 1997. The "A" EDG had last been tested in accordance with a TS required surveillance on June 16, 1997. During the time that the "A" EDG could have been inoperable, there were three other operable EDGs. TS 3.8.1.1 requires both units to be shut down within 72 hours if only three EDGs are operable.

10 CFR 50, Appendix B, Criterion II, Quality Assurance Program, requires activities affecting quality to be performed under suitably controlled conditions including special controls needed to attain the required quality. In July 1997, the load limit setting for the "A" EDG Woodward governor was not adequately controlled to prevent the setting from being changed and was not discovered by the PP&L Operations staff or supervision. This resulted in the "A" diesel being inoperable for an indeterminate period of time between June 16, 1997 and July 11, 1997.

TS 6.8.1 states that written procedures shall be established and implemented covering the activities recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978, including administrative procedures for equipment control, i.e., locking and tagging. PP&L Nuclear Department Administrative Procedure NDAP-QA-0302, "Equipment Status," was established to ensure maintenance of system status and equipment control as required by plant conditions and safety significance. NDAP-QA-0302 does not include alignment check requirements for the speed and load controls of the EDG Woodward governors.

Multiple events involving the functioning of Woodward governors have been identified in the industry between 1985 and the present. Three of the industry events involved SSES. As a result of the SSES events, an independent verification of Woodward governor settings at the completion of maintenance activities was added to the applicable maintenance procedure. SSES did not include controls such as tamper indicators or a routine periodic Operations department verification of the governor settings as part of their corrective actions. Specific events that include the mispositioning of the load setting on EDG Woodward governors include:

- Susquehanna Events

SOOR-1-90-071	1990		Maintenance activities
SOOR-1-91-207	1991		Operator error
SOOR-1-91-267	1991		Operator error

- Industry Events

Point Beach	1979		Root cause not determined
Beaver Valley	1985	LER 85014	Maintenance Activities
North Anna	1987	LER 87001	Maintenance Activities
Fermi	1988		Root cause not determined
Fitzpatrick	1988		Operating vibration induced
Pilgrim	1988		Operating vibration induced
Indian Point	1989		Operating vibration induced
Millstone	1990		Operating vibration induced
Quad Cities	1992		Root cause not determined
Limerick	1992	LER 92013	Maintenance Activities
Woodward	1996	notice	Summary of Issues

The inspector reviewed the corrective actions associated with the closure of the significant operating occurrence reports (SOORs) for the SSES events listed above. The licensee adequately addressed the Woodward misalignment issues that were associated with the performance of maintenance activities through the inclusion of independent verification of the restoration of governor settings following maintenance. However, the licensee's corrective actions did not ensure that the "A" EDG Woodward governor settings were kept in the as-left positions between maintenance activities. Subsequent to these corrective actions, the EDG vendor provided a summary of Woodward governor control problems to the licensee in January 1996. The licensee failed to establish an Industry Event Review Program (IERP) item from the vendor supplied summary and did not generate a Condition Report (CR). The licensee's ERT review included an evaluation of the IERP screening of the vendor provided summary of Woodward governor problems. The ERT concluded that the vendor provided information was "not issued for review by IERP process but was routed as industry information. There is info (sic) included that if applied may have prevented unintentional manipulation of governor control knobs." An IERP item (covering the vendor summary) was issued as a result of the SSES ERT efforts.

10 CFR 50 Appendix B, Criterion XVI, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. PP&L Nuclear Department Administrative Procedure NDAP-QA-702, Condition Report, requires all personnel to identify and report conditions adverse to quality. Nuclear Department Administrative Procedure NDAP-QA-0725, IERP, was written to meet the intent of NRC NUREG 0737, Section I.C.5 and FSAR Section 18.1.12, Feedback of Operating Experience. Section 6.3.3 of NDAP-QA-0725 states "if during the evaluation of the industry event, a deficiency is determined to exist at Susquehanna, immediately initiate the appropriate

deficiency document (e.g. Condition Report)". The licensee failed to perform an adequate IERP review of the vendor supplied 1996 industry summary, in that, no IERP item or CR was issued prior to the identified misalignment of the "A" EDG in July 1997.

c. Conclusions

The NRC identified a configuration control problem with respect to the misalignment of the "A" emergency diesel generator (EDG). The "A" EDG was found to be inoperable on July 11, 1997, because the load limit setting for the "A" EDG governor was not in the 100% load position. PP&L had not implemented effective controls with regard to this setting, and therefore, was not aware that the load setting was changed from the as-left setting after June 16, 1997. This resulted in the "A" diesel being inoperable for an indeterminate period of time between June 16, 1997 and July 11, 1997. The licensee's investigation into the actual cause of the mispositioned load setting remained open. However, apparent violations of quality assurance, corrective action, and configuration control requirements were identified. **(EEI 50-387,388/97-06-01).**

O2.2 Operator Response to Alarmed Conditions

a. Inspection Scope (71707)

During control room observations, the inspector observed plant control operator (PCO) and unit supervisor (US) response to alarmed conditions in order to determine compliance with TS and SSES operating procedures.

b. Observations and Findings

Operator responses to the following alarmed conditions were observed to be aggressive and in accordance with TSs and SSES operating procedures:

AR-206 F15 Radiological Waste Control Panel
AR-203-001 Hi Steam Pressure
AR-015-001 System Particulate Iodine Noble Gas (SPING)
OP-139-001 Condensate Demineralizer
AR-201-D01 RWCU Pump Axial Displacement
ON-272-001 Off Gas Low flow Alarm

The inspector determined that the operator responses were aggressive, and that the operators used logical approaches to resolve the indicated plant conditions. However, in two cases discussed below there were procedure weaknesses identified by the inspector.

- June 15, 1997 Unit 1

  Technical Specification (TS) 3.3.7.12 establishes the requirement for a reactor loose part detection system. TS 6.8.1 requires procedures to be established and implemented as described in Regulatory Guide 1.33, including alarm response procedures. While observing an operator response to an offnormal condition indicated by a loose part detection system alarm, the inspector determined that there was no guidance in the operating procedure (OP) to address this type of alarmed condition. The licensee developed procedure AR-051-001, Loose Parts Monitor, prior to the close of this inspection period. This new procedure includes requirements to document readings, notify shift management and obtain an engineering evaluation from Nuclear System Engineering. The inspector reviewed portions of the licensee's corrective actions and determined them to be adequate. In consideration of the safety impact and licensee corrective actions, this failure to establish an alarm response procedure as required by TS 6.8.1 is considered a violation of minor significance and is being treated as a non-cited violation, consistent with Section IV of the NRC Enforcement Policy. **(NCV 50-387,388/97-06-02)**

- July 31, 1997 Unit 2

  Technical Specification 3.6.1.6 establishes the internal pressure requirements for the drywell and suppression chamber. AR-204-001, Primary Containment Hi-Lo, addresses the offnormal condition of high or low containment pressure. While observing the operator response to an offnormal condition, the inspector determined that there were two requirements of AR-204-001, step 2.2.2. One of the requirements was to check the containment instrument gas (CIG) system compressor drains for leaks on an indication of decreasing containment pressure. Based on the initial containment pressure and the rate that the pressure decreased, the operator was able to eliminate CIG drains as a source of the decreasing pressure and therefore did not need to complete the step requiring a validation that the CIG system compressor drains were intact. The inspector discussed the procedure with the Operations group lead responsible for procedures. The procedure was determined to be inadequate, in that it did not allow for operator judgement regarding the difference in pressure response expected from a CIG drain leak and other possible leak sources. Licensee management agreed and updated the procedure. The rational used by the operator was valid and the procedure did not provide adequate guidance for implementation. In consideration of the safety impact and licensee corrective actions, the failure to establish an adequate procedure described above as required by TS 6.8.1 was considered a violation of minor significance and is being treated as a non-cited violation, consistent with Section IV of the NRC Enforcement Policy. **(NCV 50-387,388/97-06-03)**

In each of the above cases the inspector discussed the procedural weakness with SSES Operations management, who took aggressive corrective action. By the end of the inspection report period each of the issues was resolved.

c. Conclusions

Operator responses to several control room alarms were observed to be aggressive and generally in accordance with Susquehanna Steam Electric Station (SSES) operating procedures. Two plant alarm response procedure weaknesses were identified (loose parts monitor and high/low containment pressure). In the first instance no procedure existed and in the second case the procedure was inadequate. The inspector discussed the procedural weaknesses with SSES Operations management, who took aggressive corrective actions. In both cases, adequate procedures were established to eliminate the deficiencies prior to the end of the inspection report period. Both issues resulted in non-cited violations.

O2.3 Control Room Emergency Outside Air Supply System (CREOASS) Alignment

a. Inspection Scope (71707)

On July 24, 1997, the licensee identified an open intake plenum access door on the "A" train of CREOASS, which was contrary to the design of the system. The inspector observed the Shift Supervisor's and Operations Management's response to this condition in order to determine compliance with TSs and SSES operating procedures.

b. Observations and Findings

After identifying the open CREOASS plenum door, the licensee initiated a status control event review, a security review (97-07-025) and a condition report (CR-97-2408) in accordance with SSES procedure NDAP-QA-702, Condition Report.

The SSES response to restore the CREOASS to an operable condition and verify the integrity of this safety function was good. Similar to the site response to the misalignment of the "A" EDG (Section O2.1 of this report), a moderate level of NRC involvement was required to ensure that broader implications beyond the ventilation system misalignment received prompt action, and the common cause potential for the two events was addressed. The inspectors identified several other weaknesses during NRC review of the licensee's event response: (1) the licensee was not able to discover the cause of the CREOASS door being partially open; and (2) the operability determination for CR 97-2408 assumed that the door in question would have closed if the CREOASS train had initiated. However, the consequences of the door remaining partially opened were not analyzed in the operability determination. This omission was significant because the redundant train of CREOASS was out of service for maintenance and potential for obstruction of the open door could not be conclusively ruled out. These issues were considered weaknesses in the operability review process.

The inspector participated in a CREOASS walkdown with the Operations Manager and the on duty Assistant Unit Supervisor. During this walkdown the inspector observed that the licensee did not block system initiation or enter a TS Action Statement when the CREOASS system boundary was breached (plenum doors open and obstructed for inspection). This is considered a third weakness related to the licensee's evaluation of CREOASS operability. These three weaknesses were considered unresolved (URI 50-387,388/97-06-04) pending a PP&L final root cause, operability determination, and corrective action.

NDAP-QA-702, Attachment "G", Investigation of Permit and Tag/Status Control Event, establishes the licensee's program for the review of status control events. Item 8 of this attachment requires the initiator of Attachment "G" to schedule a review team meeting. It further states that the date should be the first normal work day following the occurrence (July 25). The licensee failed to perform this activity on July 25, 1997, which delayed the meeting for three days. This was significant because the cause of the misaligned door was yet to be determined, and another system misalignment ("A" EDG) event review was ongoing. The inspector reviewed the licensee's corrective actions in response to the delayed status control review and determined that the corrective actions were adequate. These corrective actions included operator shift training and counseling of the involved individuals. The failure to follow the procedure described above was considered a violation of minor significance and is being treated as a non-cited violation, consistent with Section IV of the NRC Enforcement Policy. (NCV 50-387,388/97-06-05).

c. Conclusions

The licensee identified the misalignment of a safety related ventilation system and initiated a status control event review, a security review, and a condition report. Although the ventilation system was promptly realigned, the licensee's operability assessment of the misaligned condition was weak because: (1) the licensee was not able to discover the cause of the CREOASS plenum door being open; (2) the consequences of a partially opened plenum door were not analyzed in the operability determination; and (3) the licensee does not block system initiation or enter a TS Action Statement when the system is breached during normal operator rounds. This issue remained unresolved at the end of the inspection. The licensee did not conduct a status control review team meeting within the timeframe required by procedure. This was determined to be a non-cited violation.

O3 Operations Procedures and Documentation

O3.1 Operation of Equipment to Support Maintenance Activities

a. Inspection Scope (71707)

The inspector reviewed the controls used by PP&L to operate emergency diesel generator auxiliary equipment in support of maintenance activities.

b. Observations and Findings

Mechanical and electrical system check lists (CLs) are used by PP&L to verify the proper equipment alignment before restoring systems to service. The CLs require confirmation of the "normal" condition of electrical circuit breakers, control switches, and valves. In some cases, independent verification of a component's condition is required based on the safety impact of the item.

As part of an EDG restoration following a major maintenance activity, a nuclear plant operator (NPO) will place the EDG's auxiliary equipment in service in accordance with OP-024-001, "Diesel Generators." This auxiliary equipment includes the compressed air starting system, the lubricating oil system, the jacket water system, and the fuel oil system. Typically, the auxiliary equipment is placed in service for several days before the post maintenance test of the diesel generator.

Operating procedure OP-024-001, Section 3.1.3, "Prerequisites," contains a line item for the electrical and mechanical component CLs to be complete. The PP&L practice has been to perform a "confidence check," making one pass through the CL, before starting equipment for post-maintenance runs. A second pass is later completed prior to conducting the surveillance test to reestablish operability. The inspector questioned the licensee's procedural compliance with OP-024-001, since the practice of "confidence checks" did not appear consistent with the prerequisites to complete the CLs. The requirement to complete the prerequisite CLs implied the completion of independent verification.

Operations Department administrative procedure OP-AD-001, "Conduct of Operations," step 6.18.3.c states, "A significant consideration in selecting the proper procedure to control an evolution is whether all the precautions and prerequisites can be adequately met." Operations management stated that OP-AD-001 was intended to allow Operations supervision the flexibility to make judgements, such as, which prerequisites are applicable to out-of-service equipment tests. For inoperable equipment, the inspector considered the determination of "can be adequately met" to be within the judgement of Operations supervision.

Operations management also stated that they believed the issue could easily be clarified. The expected practice for "confidence checks" to support system post maintenance runs was subsequently defined in a procedure change (PCAF 1-97-6492) to NDAP-QA-302, "System Status and Equipment Control." This change clearly delineates that CLs containing verification/independent verification steps need not have these steps performed to consider the CL "complete" for a post maintenance run. To support operability or functional testing, the confirmation (first pass) and verification/independent verification (second pass) are required.

The inspector determined that, prior to the NDAP-QA-302 change, the licensee's "confidence check" practice was not clearly defined in approved procedures and that this created the appearance of a conflict with system operating procedures. Operations supervision had not taken action to clarify the apparent conflict prior to NRC involvement. The licensee's practice of performing "confidence checks" is not in violation of NRC requirements.

c. Conclusions

The conduct of equipment "confidence checks" using system check lists before post maintenance runs of out-of-service EDGs, or other inoperable safety related equipment, was not specifically delineated in SSES administrative procedures. This practice created an apparent conflict with PP&L's expectation for strict compliance with system operating procedures because independent verification was not completed for confidence checks. However, an operations department administrative procedure provides an allowance for shift supervision to decide how prerequisites can be adequately met. Operations management initiated a procedure revision to clarify that an independent verification of equipment check lists is not required for post maintenance runs, but is required for operability or functional tests. Although no violation of NRC requirements occurred, this issue represented an example where an apparent conflict between station procedures and an ongoing activity was not appropriately corrected, or otherwise clarified, by SSES management in a timely manner.

O8 Miscellaneous Operations Issues (92700)

O8.1 Review of Licensee Event Reports

a. Inspection Scope (90712)

The inspector reviewed licensee event reports (LERs) submitted to the NRC to verify that the details of the event were clearly reported, including the accuracy of the event description, cause and corrective action. The inspector evaluated whether further information was required from the licensee, whether generic implications were involved, and whether the event warranted onsite followup.

b. Observations and Findings

The following LERs were reviewed and closed during this inspection period:

(Closed) LER 50-387/97-011: Loss of Turbine Building Ventilation Stack Flowrate

On April 22, 1997, with Unit 1 at 100% power, PP&L discovered that the indicated flowrate through the Unit 1 Turbine Building Ventilation Stack (TBVS) had decreased since the last monthly reading was taken on April 7, 1997. Consequently, the TBVS gaseous effluent monitoring channel was determined to be inoperable due to a crimped tube. The TS LCO action requiring manual sampling was invoked. The licensee determined that the low flow condition resulted in a

was invoked. The licensee determined that the low flow condition resulted in a nonconservative error in calculating the TBVS release rate and evaluating the result against TS requirements. The crimped tube occurred on March 31, 1997, during a maintenance activity unrelated to the TBVS flow monitor. The licensee's corrective actions included the replacement of crimped tubing, performance of the applicable surveillance requirements, training of maintenance personnel and counseling of the individuals that damaged the tubing.

The inspector reviewed portions of PP&L's corrective actions to prevent recurrence. The inspector also determined that based on the licensee's back calculated data, TS required release rates were not exceeded. However, the licensee failed to adequately control the maintenance activities on safety related equipment such that damage to unaffected equipment occurred. Consequently, the TS required compensatory grab samples were not taken until the problem was identified, well after the condition occurred. The nonrecurrent, licensee identified and corrected violation is being treated as a non-cited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy **(NCV 387/97-06-06)**. This NCV is closed.

(Closed) LER 50-387/97-012: Firewatch not Established.

On April 24, 1997, with Unit 1 at 100% power, PP&L discovered that a shutoff valve in the carbon dioxide fire protection system had been deleted from a surveillance procedure during a previous December 1996 revision. Since the required valve was not tested, the licensee considered the system inoperable. PP&L determined that TS Action Statement 3.7.6.3.a should have been entered in December 1996 and a continuous firewatch established. The licensee's corrective actions included updating the applicable TS surveillance, performance of the TS surveillance, and counseling the engineering staff involved in the engineering support activities.

The inspector reviewed portions of PP&L's corrective actions and determined that this event was a failure to perform an adequate TS required surveillance on a specific fire suppression system valve. The licensee failed to adequately control procedure review and approval activities on TS required equipment that resulted in equipment not being included in a TS required surveillance. Although this error resulted in a missed firewatch, it does not share the same root cause as a similar event discussed in LER 387/97-09 and closed in NRC inspection report 387,388/97-03. The root cause in this case lies in an inadequate engineering review that supported a TS surveillance change. This licensee identified and corrected violation is being treated as a non-cited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy **(NCV 387/97-06-07)**. This NCV is closed.

O8.2 Followup of Open Items

a. Inspection Scope (92901, 92902, 92903, 92904)

The inspector reviewed the licensee's response and corrective actions for open inspection items from prior NRC inspections.

b. Observations and Findings

The following violations were reviewed during this inspection period:

VIO 50-387,388/96-13-01 (Closed): failure to control high energy line break door position. The inspector verified portions of the corrective actions described in the licensee's response letter, dated March 3, 1997, to be reasonable and complete. The corrective actions included updating engineering calculational work, retracting existing PP&L guidance, and training engineering personnel. No similar problems were identified with the control of high energy line break door position. This violation is closed.

VIO 50-387,388/96-13-02 (Closed): failure to control a foreign potential (electrical power source) within a permit boundary. The inspector verified portions of the corrective actions described in the licensee's response letter, dated March 3, 1997, to be reasonable and complete. The corrective actions included procedural upgrades and personnel training. No similar problems were identified by the inspector during the resolution of this violation. This violation is closed.

VIO 50-387,388/97-01-01 (Closed): failure to implement an alarm response procedure. The inspector verified portions of the corrective actions described in the licensee's response letter, dated April 18, 1997, to be reasonable and complete. The licensee's corrective actions included upgrading annunciator response procedure AR-031-001, Hi Hi Hydrogen and training Operations department personnel. This violation is closed.

VIO 50-387,388/97-01-03 (Closed): failure to implement adequate corrective actions in two instances (1) "E" diesel generator bridge transfer switch degradation (2) inadequate "E" diesel generator trouble shooting plan. The inspector verified the portions of the corrective actions described in the licensee's response letter, dated April 18, 1997, to be reasonable and complete. PP&L established two action items one of which was determined to be completed, the second constituted a long term corrective action which was included as part of the SSES CR process. No similar problems were identified by the inspector during the resolution of this violation. This violation is closed.

VIO 50-387,388/97-04-01 (Closed): Adequacy of TS required charcoal testing. The inspector verified portions of the corrective actions described in the licensee's proposed exigent TS change were adequate and that enforcement discretion was granted by the NRC on June 25, 1997. There have been a number of recent cases where SSES has not correctly implemented its license requirements as written. Increased licensee sensitivity to this issue resulted in the identification of this event. The licensee's corrective actions were sufficient for the inspector to close this specific technical issue. However, the NRC will continue to monitor licensee effectiveness in resolving the root cause of these events. This violation is closed.

c. Conclusions

The appropriateness of licensee responses to several violations were reviewed. The licensee's initial responses to the above listed violations were adequate and the corrective actions completed, or being implemented, were reasonable.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Planned Maintenance Activity Review

a. Inspection Scope (62707)

A variety of maintenance activities were reviewed on the basis of their complexity, safety (or risk) significance, or other considerations. A sample of work permits, equipment tagouts, procedures, drawings, and vendor technical manuals associated with these maintenance activities were reviewed as part of the inspection. Through observation of the maintenance activities, review of appropriate documentation and/or interviews with maintenance personnel, the inspector sought to verify that the activities were performed in accordance with procedures and regulatory requirements, that personnel were appropriately trained and qualified, and that appropriate radiological controls were followed.

b. Observations and Findings

The following maintenance activities were observed/reviewed:

WA P64916	Core Spray System Check Valve
WA S70828	Control Structure Chiller Clean and Inspect
WA S71534	Control Structure Chiller Thermostat Replacement
WA S71918	GRRCCW Repair
WA P70099	ESS 2A201 RHR Pump A Current
WA A71405	Fire Protection Semi Annual Function Check of Ionization Detectors
WA C73207	"B" Emergency Diesel Fuel Oil Storage Sampling Piping
WA S64963	RHR Valve Stroke
WA S64965	RHR Valve Stroke

c. Conclusions

With respect to the selection of maintenance activities indicated in this section, the work activities were adequately controlled and observed portions were performed in accordance with station procedures.

M1.2 Surveillance Test Activity Reviews

a. Inspection Scope (61726)

The inspectors observed portions of selected surveillance tests involving different technical disciplines for safety-significant systems.

b. Observations and Findings

Through observation and/or review of records, the inspectors verified that the test activities were properly released for performance, that the test instrumentation was within its current calibration cycle, and that it was being performed by qualified personnel in accordance with approved test procedures. The inspectors also verified that the tests conform to TS requirements and that applicable LCOs were taken. The following activities were reviewed during this period:

SO 261-001 Unit 2	Reactor Water Clean Up (RWCU) system valve stroke testing
SE 251-004 Unit 2	Core Spray 18 Month Logic Functional Check
RE-1TP-012 Unit 1	Local Power Range Monitor Calibration

c. Conclusions

The routine surveillance activities observed during this inspection period were adequately performed.

M1.3 Operability Testing of Emergency Diesel Generators from an Ambient Condition

a. Inspection Scope (61726)

Technical Specification 3.8.1.1 establishes the operability requirements for the EDGs and is supported by surveillance requirements in TS 4.8.1.1.2. The inspector reviewed SSES EDG operability testing records between April and August 1997 to determine if the testing met TS requirements.

b. Observations and Findings

TS Table 4.8.1.1.2-1 establishes required EDG testing. In accordance with this table, TS 4.8.1.1.2.a.4 requires that the licensee verify the EDG starts from ambient condition and accelerates to at least 600 rpm in less than or equal to 10 seconds. The inspector reviewed SSES EDG operability testing between April and August 1997 and determined that in several instances the surveillances on which operability and TS compliance were confirmed were preceded by a maintenance test of the EDG that warmed the EDG above ambient conditions. For example, the inspector determined that in an April 18, 1997, test where the data includes a test

from ambient conditions followed by a test from non-ambient conditions there was a nonconservative change in start time of approximately 0.5 seconds. This departure from ambient conditions was different than the prelube activities specifically allowed by TSs. The failure to test the EDGs from ambient conditions is a violation of the TS surveillance requirement. **(VIO 50-387,388/97-06-08)**

c. Conclusions

Technical specifications (TSs) require surveillance testing of the EDGs by verifying that the EDG starts from ambient condition and accelerates to at least 600 rpm in less than or equal to 10 seconds. In several instances between April and August 1997, EDG operability testing upon which TS operability and compliance were confirmed was preceded by activities, such as an EDG maintenance run, that removed the EDG from an ambient condition. The testing of EDGs at other than ambient conditions was cited as a violation.

M1.4 Maintenance Work Scheduling

The inspector reviewed licensee generated work authorization statistical data for the period of July 21, 1997 through July 27, 1997 to evaluate the effectiveness of "on time starts" for maintenance activities.

For the period of July 21, 1997 through July 27, 1997 the licensee started and completed approximately 67% of the work scheduled to be started and completed during this period. Based on an overview of the work activities, there was no safety significance to the percentage of work not completed.

M4 Maintenance Staff Knowledge and Performance

M4.1 Calibration of the "B" Emergency Diesel Generator Lube Oil Temperature Switch

a. Inspection Scope (62707)

A planned maintenance outage for the "B" emergency diesel generator (EDG), which began in July 1997, included the removal and calibration of the EDG lube oil heater temperature switch. During system restoration on August 4, 1997, the lube oil heater would not energize when its hand switch was placed in the "auto" position and the oil temperature was below the low temperature set point. The inspector reviewed the maintenance activities associated with the temperature switch and discussed the occurrence with Instrumentation and Controls (I&C) personnel.

b. Observations and Findings

Work authorization (WA) P71041 directed the removal of temperature switch TSL-03458B, providing specific guidance for removal of each of its two leads. The work plan also directed the relanding and independent verification of the two temperature switch leads.

On August 4, CR 97-2552 was initiated to document that the lube oil heater did not energize, as expected, when its control switch was placed in "auto." An investigation of the temperature switch later that day found that one of the temperature switch leads was landed on the "normally closed" switch terminal and not on the "normally open" terminal as directed by WA P71041.

The inspector discussed the subject activity with the I&C technician responsible for the independent verification of the final condition of TSL-03458B. The technician stated that he did not bring the procedure to the switch with him because it was difficult, given the switch's location and that the area was not well lighted.

The inspector determined that both the technician who installed the switch and the technician who independently verified the switch failed to follow the procedure. The work plan clearly stated that TSL-03458B should have one lead landed on the normally open terminal and one lead landed on the common terminal. PP&L has initiated CR 97-2552 to determine the cause of this event and initiate corrective actions as appropriate.

NRC Inspection Report 50-387/96-09, section M1.3, "Electrical Maintenance Work Practice," discussed an apparent inconsistency between the observed electrical maintenance work practices and PP&L management expectations for work performance. This inconsistency was identified during discussions with PP&L managers following an NRC observation of maintenance on a safety related motor generator set. An Event Review Team (ERT) was formed to examine the apparent inconsistency. The ERT determined that three issues should be clarified for the workforce: procedural adherence levels with respect to work plans, independent verifications, and completion of work package paperwork. These concepts were incorporated into a training course entitled "Human Performance Tools/Work Package Usage" which, was approved on June 11, 1997. Although the activity observed did not meet PP&L management expectations, no violation of NRC requirements was identified in that instance.

The inspector found that the two workers involved in the more recent lube oil temperature switch wiring error had not completed the Human Performance Tools/ Work Package Usage training course. However, approximately 195 maintenance personnel have completed the training and the Maintenance Manager stated that approximately 200 additional maintenance personnel are expected to complete the training by the end of September 1997. PP&L management expectations reinforced during this training address self checking, at risk compensation, concentration on the job, communication, proper use of procedures, documentation and questioning attitude.

The technicians' failure to follow the procedure during the performance of emergency diesel generator maintenance is a violation of NRC requirements. However, in this case the error was non impacting because the "B" EDG was out of service for maintenance and the problem was identified by the licensee before the EDG operability surveillance. The licensee implemented short term corrective

actions that included counseling the involved parties, training for I&C personnel on self checking, and changes to I&C practices regarding personnel used to perform independent verifications. In the long term, completion of the human performance tools training is expected to prevent recurrence of these problems. The failure to follow procedures for the safety related maintenance activity is a violation of NRC requirements. This nonrecurrent, licensee-identified and corrected violation is being treated as a Non-cited Violation, consistent with Section VII.B.1 of the NRC Enforcement Policy. **(NCV 50-387,388/97-06-09)**

c. Conclusions

A maintenance activity on the lube oil heater for the "B" EDG was not correctly performed in accordance with the approved work plan. A maintenance technician incorrectly landed a temperature switch lead and a co-worker incorrectly performed the independent verification. The error was non impacting since the EDG was out of service for maintenance and the error was discovered prior to the EDG's return to service. The licensee implemented corrective actions for this event and the technicians' failure to follow the maintenance procedure is considered a non-cited violation.

M7 Quality Assurance in Maintenance Activities

M7.1 Control of Nonconforming Materials, Parts, or Components

a. Inspection Scope (62707)

The inspector reviewed the licensee's implementation of 10 CFR Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components" requirements and commitments to ANSI N18.7 as discussed in the FSAR.

b. Observations and Findings

10 CFR 50, Appendix B, Criterion XV, requires that licensees establish measures to control materials, parts, or components, which do not conform to requirements in order to prevent their inadvertent use or installation. These measures must include procedures for identification, documentation, segregation, and disposition of nonconformances. Nonconforming items must be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures.

NRC Regulatory Guide 1.33, February 1978, endorses ANSI N18.7 - 1976, as an adequate basis for complying with the quality assurance program requirements of Appendix B to 10 CFR 50. ANSI N18.7, Section 5.2.14, Nonconforming Items, requires that procedures include instructions for identification, documentation, segregation, and disposition of nonconforming items. The nonconforming items must be reviewed and accepted, rejected, repaired or reworked in accordance with procedures. This standard also requires that the responsibility and authority for disposition of nonconforming items are defined and that repaired or reworked items are reinspected in accordance with applicable procedures.

The SSES Operational Quality Assurance Manual, Policy OPS-5, Deficiency Control System, implements the requirements of 10 CFR 50 Appendix B, Criterion XV and the licensee's commitment to ANSI N18.7 - 1976 as discussed in SSES FSAR Chapter 17.2.15. No exceptions were taken to Section 5.2.14 of ANSI N18.7. Procedure NDAP-QA-702, Condition Report, Revision 2, Section 6.5 describes the licensee's process for controlling nonconforming components. Step 6.5.2 states that, in some cases, components described on a CR shall be identified by a Hold Tag to prevent inadvertent installation or reuse until the condition is corrected. This step provides examples of when Hold Tags are to be used. Items removed from the plant for which the disposition is not yet known and items removed from the plant that are to be reworked or repaired for return to the storeroom, are two examples of items for which Hold Tags are required.

The inspector identified that a specific example of failure to use a Hold Tag as required occurred when a degraded EDG ventilation recirculation damper actuator (TDM 08271D22) was removed from the plant on June 16, 1997. The initial damper failure was discussed in NRC Inspection Report 50-387/97-03. The degraded actuator had been removed from the plant and set aside for refurbishment, however no Hold Tag was applied as required by in NDAP-QA-702. In addition, the inspector noted in July 1997, that no work group had requested a Hold Tag be applied since the inception of the CR process in March 1995. Subsequently, a cursory review by knowledgeable PP&L personnel identified that approximately 230 CRs since 1995 would likely have required a Hold Tag in accordance with NDAP-QA-702.

The inspector also found that the licensee has not identified the responsibility and authority for dispositioning nonconforming items, and neither NDAP-QA-702 nor NDAP-QA-502," Work Control," describes a process by which repaired and reworked items are reinspected, prior to reinstallation or return to the storeroom.

Further NRC review of this issue found that PP&L previously identified an adverse trend of CRs related to control of nonconforming materials. On September 14, 1996, CR 96-1465 identified that breakers, valves, and piping had not been controlled in accordance with the requirements of 10 CFR 50 Appendix B, Criterion XV and licensing commitments made in response an NRC Notice of Violation (EA 94-022). CR 96-1465 identified five previous 1996 CRs that documented circumstances where nonconforming material was not segregated or controlled to prevent inadvertent installation or use. The licensee implemented minimal corrective actions for CR 96-1465, closing the CR based on a narrow change to NDAP-QA-702 and a focus on human performance with respect to implementation of this procedure. None of the corrective actions resulted in Hold Tags being properly applied. Also, PP&L did not address the programmatic weaknesses highlighted by CR 96-1465.

As described in CR 96-1465, the inspector found that PP&L had not maintained the controls for nonconforming items, as committed to the NRC in a violation response letter dated June 9, 1994. That violation involved the reuse of a nonconforming part because the Hold Tag was not affixed to the subject component. The

corrective steps taken to avoid further violations described in the PP&L response includes alternate methods of segregation control when tagging is not appropriate. Although these provisions were incorporated into the Nonconformance Report (NCR) process at that time, the provisions were not maintained when the NCR process was incorporated into the Condition Report process.

PP&L's corrective actions regarding the programmatic problems with the identification, segregation, and disposition of nonconforming materials, were ineffective. As a result, these corrective actions failed to prevent the inadequate tagging, control and segregation of the damper motor. This is a violation of 10 CFR 50 Appendix B Criterion XVI, "Corrective Action." **(VIO 387,388/97-06-10)**

c. Conclusions

The licensee's measures for identification and control of nonconforming items with Hold Tags were not implemented when required. In addition, the licensee's procedure for nonconforming items does not identify, as required, the responsibility and authority for disposition of nonconforming items, nor describe the process by which repaired and reworked items are reinspected. An NRC commitment in response to a 1994 violation regarding control of nonconforming items was also not maintained by PP&L. Licensee corrective actions for a 1996 Condition Report that previously identified these concerns were inadequate, and consequently, the NRC identified that a degraded ventilation damper motor was not properly controlled as a nonconforming component. This problem was cited as a violation.

M7.2 Condition Report Process

In review of the maintenance error discussed in Section M4.1 of this report, the inspector found that the Operating Experience Services (OES) evaluation of CR 97-2552 did not document that an independent verification of the DG lube oil temperature switch wiring was not properly performed. As a result, the management Corrective Action Team was not informed that two individuals had sequentially made the same error.

To assess whether the CR process would typically identify this type of information, the inspector discussed the CR evaluation coding and documentation with cognizant OES personnel. The inspector concluded that there was no clear programmatic requirement to identify events where both the confirmation and independent verification were incorrect. The inspector considered the absence of this ability a weakness in PP&L's capability to track and trend events where an administrative barrier for status control failed.

III. Engineering

E1 Conduct of Engineering

E1.1 Standby Gas Treatment System Mist Eliminator Drain Loop Seal

a. Inspection Scope (37551)

The operability of the standby gas treatment system (SGTS) and specifically the function of the loop seal for the mist eliminator compartment's drain were reviewed after an anomaly was noted during an NRC system walkdown.

b. Observations and Findings

The SGTS system consists of two 100% capacity subsystems. Each filter train has a demister section designed to limit the humidity from entrained moisture entering the filters to 70%. The demister compartments each have a 2" drain with a loop seal to isolate the filter train compartment from the open floor drains in the SGTS equipment room. A timer control system refreshes the loop seal every thirty days with service water.

FSAR Section 3.13 states that the SGTS system is subject to the requirements of Regulatory Guide (RG) 1.52, Revision 1, July 1976, with the stipulation of thirteen clarifications and/or exceptions. Exception number six to RG 1.52 states that for item C.3.h (regarding water drains) the reference to ORNL-NSIC-65 is understood to be ERDA 76-21 or ANSI N509, where appropriate. ERDA 76-21, section 4.5.8, "Housing Drains," states that "A separate drain is needed for each chamber of the filter house, and each drain must have its own water seal or trap."

During NRC system walkdowns, in May and June 1997, the inspector identified a discrepancy between indicating lights on the timer controls for the "A" and "B" SGTS trains. In a discussion with the inspector regarding the loop seal timers, PP&L personnel stated that the demister drain loop seals are not necessarily present, so the timers' operability was not critical to system performance. In response to the inspector's concerns, PP&L initiated CR 97-2143 on July 2, 1997, to document that the drain line loop seals do not function. The CR operability determination states that the system is considered operable based on the fact that the system has been tested in the present configuration and has proven to be capable of performing its design function. In addition, the buildup of water which could occur in the plenum has been evaluated and determined not to affect the operability of the system. This operability determination was considered to be adequate for the current plant configuration.

PP&L calculation SEA-ME-093, Revision 1, dated June 4, 1987, states that the height of the loop seal for the demister drains is insufficient. The SGTS fans can produce a negative pressure in the filter train of approximately 19" water gauge.

Since the loop seal water height is approximately 5", the seal is evacuated whenever a SGTS fan is operated. Calculation SEA-ME-093 concludes that the best solution would be a modification to increase the size of the loop seal.

Minor Modification Candidate number 87257 was identified in July 1987, to modify the loop seal height. This modification was classified as a reliability issue and was not scheduled for installation. In an August 1994 memorandum (PLIS-42926), PP&L canceled all modification candidates issued before 1991 on the basis that they had never received enough priority to be added to an installation plan.

The inspector determined that PP&L failed to implement corrective action for the design inadequacy identified in 1987. Further, PP&L's review of the loop seal modification in 1994 before its deletion was not adequate since it failed to identify that the modification was necessary to meet a design standard. The failure to correct a condition adverse to quality is a violation of 10 CFR Appendix B, Criterion XVI, "Corrective Action." **(VIO 387/97-06-11)**

The inspector questioned whether PP&L's program for review of the current licensing basis for SSES, would have identified this discrepancy, given the program's previously defined scope. PP&L personnel responsible for this review stated that they were unable to conclude that their program would have identified this design inadequacy. This FSAR departure was cited as a violation because the inspector determined that the licensee's ongoing Current Licensing Basis Review (CLBR) project would not be expected to have identified this discrepancy in the plant configuration. This determination was based on the absence of clear CLBR system walk down requirements, the failure to establish standards and requirements for system engineer review of completed CLBR design packages, and the failure to implement a final PP&L management approved CLBR implementing procedure.

PP&L canceled approximately 300 minor modification candidates in a 1994 memorandum (PLIS-42926). Organizations within the Nuclear Department were instructed to resubmit their requests if they felt the minor modification candidates should still receive consideration. The findings discussed above call into question the rigor with which the deleted modifications were reviewed. PP&L's commitment to revisit this issue is discussed further in Section X1 of this inspection report. The NRC inspection to close the violation described above will include verification, on a sampling basis, of PP&L's commitment to revisit and evaluate the 300 minor modifications deleted in 1994.

c. Conclusions

The NRC identified that PP&L failed to correct a standby gas treatment system (SGTS) design inadequacy which was self-identified in 1987. The loop seals designed to isolate the SGTS filter housing from the equipment room were not adequate to withstand the negative pressure created by operation of the SGTS fan. As a result, the current configuration does not meet the design requirements committed to by PP&L in the FSAR. However, the SGTS was operable as shown by testing conducted in the present condition. The failure to correct an identified

condition adverse to quality is a violation of 10 CFR Appendix B, corrective action requirements.

The NRC determined that the licensee's on going Current Licensing Basis Review (CLBR) project would not have been expected to have identified this discrepancy in the plant configuration. This determination was based on the absence of CLBR guidance for system walk downs or standards for system engineer review of completed CLBR products. PP&L had no approved procedure for implementation of the CLBR project.

E1.2 Protected Area Cellular Telephone Use

a. Inspection Scope (37551)

Between September and November 1996, the licensee performed several demonstration tests of cellular telephone equipment within the protected area. The inspector reviewed the approval processes, test controls, and the impact on safety related equipment in the operating units.

b. Observations and Findings

10 CFR 50, Appendix B, Criterion V states that activities affecting quality shall be prescribed by documented instructions, procedures or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. SSES Nuclear Department Administrative Procedure NDAP-QA-002, "Nuclear Department Procedure Program," establishes the SSES expectations for use of procedures including a requirement to use existing procedures. NDAP-QA-002 states that incorrect procedures are expected to be changed prior to use.

SSES Nuclear Department Administrative Procedure NDAP-00-316, "Station Communication Practices," was established, in part, to control cellular telephone activities in the protected area that could have an effect on the quality (operation) of safety related equipment. NDAP-00-316, section 6.3.8.a, describes the conditions under which cellular telephone use is acceptable in the protected area. These conditions include handheld cellular telephones with a maximum radio frequency (RF) power output of 0.6 watt in the 0.8 to 0.9 Hz band that are issued to on-call emergency plan personnel for call-out notification. Section 6.3.8.b of NDAP-00-316 states that cellular telephones other than as described in section 6.3.8.a are prohibited in the protected area.

Between September and November 1996 the licensee performed several demonstration tests of cellular telephone equipment within the protected area. The communication equipment had a power rating of approximately .006 watts, was provided by two cellular telephone vendors, and was not issued to on-call

emergency personnel for call-out notification. The equipment was referred to in the licensee's literature as a cellular phone. The tests therefore appeared to be prohibited by section 6.3.8.b of NDAP-00-316.

This issue was reviewed by PP&L, who found that SSES management and members of the Plant Operations Review Committee (PORC) were aware that the telephone demonstrations were being conducted to establish the acceptability of the new technology. The demonstration tests were performed based on an understanding that the demonstrations would not adversely impact plant operations due to the low power output of the phones. Further, PP&L found that there was an apparent procedural noncompliance with NDAP-00-316, but that there was no intentional disregard for procedural adherence.

The inspector performed an independent review of the issue and evaluated the results of the licensee's review. Based on these activities, it was determined that the licensee did not clearly define in its procedure what a cellular phone or a radio was; that an undocumented determination was made by management that the NDAP restrictions were not applicable to the tested cellular phones; and that testing these devices would not affect safety related equipment. The applicability of the NDAP was based on an SSES management determination that the cellular phones used in the tests were actually "special cellular phones" in that they were really "personal communication services" transceivers. This was an attempt to show subtle differences among a cellular phone, a radio, and a personal communication services transceiver. The technical basis for the determination that there would be no impact on safety related equipment appears to be technically valid. However, management communications to SSES employees following the completion of the tests referred to the tested devices as cellular phones and special cellular phones.

The inspector determined that:

- PP&L management did not ensure that the NDAP clearly controlled the use of different communication devices within the protected area.

- There is no documented review of the impact of the subject tests on safety related equipment, and there was no PORC approved special test procedure established to control the demonstration tests of the communication equipment between September and November 1996.

- Communications to SSES employees were unclear and gave the impression that a test had been conducted with cellular phone equipment in contradiction to the requirements of the NDAP. This is an example of PP&L experiencing difficulty communicating consistent performance expectations to SSES workers, in that PP&L published actions appeared to disregard compliance with an established plant procedure.

10 CFR 50.59, "Changes, Tests and Experiments," states that the holder of a license authorizing operation may conduct tests not described in the safety analysis report without prior Commission approval, unless the proposed test involves a change in the TS incorporated in the license or an unreviewed safety question (USQ). It further states that the licensee must maintain records of tests and that the records must include a written safety evaluation which provides the bases for the determination that the test does not involve a USQ. In the case of the communication system transmission demonstration tests conducted between September and November 1996 the licensee did not perform a written safety evaluation to confirm that the demonstration tests would not involve a USQ. This is a violation of 10 CFR 50.59. **(VIO 387,388/97-06-12)**

c. Conclusions

The licensee performed several demonstration tests of communication equipment within the SSES protected area. The decision to perform the tests appeared to disregard compliance with established plant procedures. PP&L failed to establish a special test procedure approved by the plant operations review committee, and failed to formalize a safety evaluation for the communications equipment test in order to confirm no safety impact. The NRC determined that SSES management allowed activities to proceed when there were apparent conflicts with requirements of established procedures and that the apparent conflicts were contradictory to the standards and expectations set forth by PP&L for its workforce. The licensee failed to perform a required safety evaluation in support of the communication system demonstration tests and this is considered a violation of 10 CFR 50.59.

E2 Engineering Support of Facilities and Equipment

E2.1 Residual Heat Removal Service Water (RHRSW) and Essential Service Water (ESW) Pump Motors

a. Inspection Scope (71707, 37551)

The system alignment and configuration of the four RHRSW and four ESW pumps were inspected to determine general operating conditions, compliance with design drawings, housekeeping and proper system alignment.

b. Observations and Findings

Housekeeping, system alignment and general operating conditions were determined to be adequate. The inspector identified that the Unit 2 "A" RHRSW pump motor had a screen on the motor that did not appear to be the original design. In addition, all of the inspected pump shaft areas were covered with what appeared to be after market screens. It was confirmed with the licensee that the motor screens were discussed in the vendor's manual for the RHRSW pump but that the screens do not appear on an SSES drawing or print. In addition, the licensee determined that the screens on the Unit 2 "A" RHRSW pump motor and on the pump shaft area of all eight pumps were the result of undocumented modifications. As a result, the

licensee issued CR 97-2387. By the end of the inspection report period, PP&L dispositioned the modifications to the safety related pumps through the resolution of CR 97-2387. None of the modifications affected the operability of the pumps.

10 CFR 50.59 requires a written safety evaluation prior to modifying the plant, to determine that the change does not involve a USQ. The failure to perform a prior safety evaluation for the modifications to the RHRSW and ESW pump motors is a violation. **(VIO 387/97-06-13)**

The inspector questioned whether PP&L's program for review the current licensing basis for SSES, would have identified this discrepancy, given the program's previously defined scope. PP&L personnel responsible for this review stated that they were unable to conclude that their program would have identified this design discrepancy. The inspector determined that the licensee's on going CLBR project would not be expected to have identified this discrepancy in the plant configuration. This determination was based on the absence of CLBR guidance for system walk downs or standards for system engineer review of completed CLBR products. PP&L had no approved procedure for implementation of the CLBR project. Therefore, these unapproved modifications to safety related pumps were cited as a violation for failure to perform a required safety evaluation.

c. Conclusions

The NRC identified that protective screens had been added to the residual heat removal service water and emergency service water pumps without the documented safety evaluation that is required by 10 CFR 50.59. None of the modifications affected the operability of the pumps. However, the NRC determined that the licensee's on going Current Licensing Basis Review project would not have been expected to have identified this discrepancy in the plant configuration. Therefore, the failure to perform required safety evaluations for these modifications to safety related pumps was cited as a violation.

E8 Miscellaneous Engineering Issues (92903)

A recent discovery of a licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected, and determined that there were two design basis nonconformance issues that are detailed in paragraphs E1 and E2 of this report.

The licensee has responded to the need for a verification of practices, procedures and or parameters discussed in the FSAR through its current licensing basis project (CLBP). As a result of the NRC identified design basis departures, the inspector examined whether the licensee's current licensing basis project would have identified these issues. The current licensing basis project did not require in-plant verifications to resolve design issues, and the project does not describe or control

verifications to resolve design issues, and the project does not describe or control the quality of system reviews performed by Nuclear System Engineering in support of the project. Further, the licensee had not implemented an approved procedure for the CLBP. Therefore, the NRC concluded that the CLBP would not have found these NRC-identified discrepancies.

IV. Plant Support

F8 Quality Assurance in Fire Protection Activities

F8.1 Fire Watch Program Corrective Actions

NRC Inspection Report (IR) 50-387/97-04 reviewed the licensee's corrective actions for two instances where roving fire watch patrols did not survey fire areas as required by TS Action 3.7.7.a. The causes for the missed surveys were 1) inadequate training and qualification of fire watch personnel and, 2) the methods used to document fire watch rounds did not provide timely feedback if an error should occur. In one case the fire watch personnel were not familiar with the plant layout causing one area to be missed and not detected. In the second case, the individual surveyed the same areas of Unit 2 twice and did not survey the required area in Unit 1. The short term corrective actions primarily involved training and the use of personnel already familiar with the plant. These actions were reviewed and determined to be adequate as documented in NRC IR 97-04.

The inspector reviewed the licensee's implementation of the long term corrective actions listed in LER 50-387/97-007. The refresher training for fire watch personnel reviewed the Condition Report on this event and the rolls/responsibilities of fire watches. This training was completed on June 3, 1997. A formal fire watch on-the-job (OJT) training and qualification program (WM655, Roving Firewatch OJT Guide) for all new fire watch personnel was approved on May 7, 1997. PP&L has established proficiency requirements in a self-assessment checklist (to be performed by effluents supervision) to retest fire watch personnel regularly. In addition, classroom training is provided on a two-year frequency. Training for Effluents department supervisors to be on-the-job training instructors and coaches was completed as of May 31, 1997. As committed in the LER, PP&L has evaluated and selected an upgraded system for tracking fire watch rounds designed to provide immediate feedback if a station has been missed.

The inspector reviewed the fire watch certification OJT package; records of the refresher training attendance, and discussed the new tracking device with Effluents supervision. The inspector determined that PP&L's long term corrective actions discussed in LER 50-387/97-007 have been implemented and that these actions should ensure more reliable completion of TS required fire watch patrols. This issue is closed.

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Implementation of the Radiological Environmental Monitoring Program

a. Inspection Scope (84750-2)

The following components of the radiological environmental monitoring program (REMP) were inspected against the Technical Specifications (TS) and Regulatory Guide 4.1, "Programs for Monitoring Radioactivity in the Environs of Nuclear Power Plants" to assess the licensee's performance of the program:

- Sample collection from selected sampling locations;
- REMP procedures and the ODCM, including any changes which pertained to REMP;
- Licensee's evaluation of sample results;
- Revisions to the program implemented in 1997;
- Annual Reports of the REMP;
- Material condition of air sampling equipment and automatic water compositors relative to function, operability, and calibration;
- Thermoluminescent dosimeter processing and handling;
- The land use census results; and
- Wind roses from the previous five years to assess any significant changes since pre-operation to the present.

b. Observations and Findings

The inspector, accompanied by the Health Physicist, Environmental Services, responsible for implementation and oversight of the REMP, visited selected sites where air samplers, water compositors, a milk farm, a garden, and thermoluminescent dosimeters were located. The inspector observed the contractor personnel, Ecology III: 1) exchange air particulate filters and charcoal canisters from the air samplers; 2) collect water from the automatic water compositors and perform calibration checks; and 3) collect milk from a milk farm. The inspector also discussed sample techniques not observed, such as collection of vegetables, fish, soil and sediment. The inspector noted that the contractor personnel maintained a Bachelor of Science and/or a doctorate degree in natural science. The contractors were knowledgeable and performed sampling duties appropriately.

The inspector reviewed the licensee's procedure manual, "Quality Assurance Program and Procedures for the REMP and EREMP at the SSES Environmental Laboratory." The manual contained sampling and sample preparation methods for the REMP for normal and emergency operations, and quality assurance responsibilities. The sampling procedures contained appropriate information to minimize chances of cross contamination. The contractor personnel reviewed the procedures annually for technical content, current practices, and requalification. Procedure revisions were consistent with the current REMP changes.

The analytical results of samples from 1995 and 1996 (documented in the annual reports) and from January through June 1997 were reviewed. The inspector noted that the types and frequencies of analyses were performed as required and the results showed no increases as a result of effluents from the plant.

The handling and processing of the environmental TLDs were reviewed. The TLDs were analyzed by the laboratory at the corporate office. The inspector discussed with the Senior Health Physicist handling and processing of the TLDs and calibration and maintenance of the TLD reader and irradiator. The inspector reviewed the associated procedures. The licensee's procedures and methods exceeded expectations of industry practices. For example, calibrations of the reader were performed more often than the expected annual calibration. Instrumentation were traceable to NIST as evidenced by the calibration certificates. The level of detail in the handling and processing of TLDs, and calibration and maintenance, provided assurance in the ambient radiation measurements of the TLDs. The inspector also noted that the responsible HP for the program periodically reviewed the data for any anomalies, performed periodic surveillances of sample collection and TLD exchanges. The inspector noted that the HP conducted a routine surveillance to observe the contractor personnel exchange the TLDs and the air particulate filters and charcoal canisters from the air samplers.

The 1995 and 1996 annual reports of the REMP was reviewed to verify the implementation of TS Section 6.9.1.7. The 1995 and 1996 annual reports provided a comprehensive summary of the results of the REMP around the site and met the TS reporting requirements. No omissions, mistakes, or obvious anomalous results and trends were noted.

The observed air sampling equipment was well maintained and calibrated at the time of the inspection. The automatic water compositors, one upstream at the intake structure (location 6S6) and two downstream (locations 6S7 and 2S7) in the Cooling Tower Blowdown Discharge (CTBD), were operable and collected surface water as required by TS. The inspector noted that, in 1995, the licensee had installed a water compositor (2S7) in the CTBD, upstream of 6S7 because the compositor at 6S7 was not continuously collecting the correct amount of water. During 1996 the new compositor operated effectively, however, in 1997 the licensee noted indications of sampling problems. The licensee has been working to identify the causes of the problems and are considering an alternative sample location in the river using a different type of water compositor. Only once, on October 7, 1996, was a sample not collected by either compositor because of a

loss of water resulting from the River Water Makeup Line Replacement Project work. The licensee collected a grab sample as a compensatory sample from location 6S5 downstream of the discharge for liquid effluents to the river. This was documented in the 1996 Radiological Environmental Monitoring Report.

The 1995 and 1996 land use census were performed during October and November according to TS and the Procedure, "Land Use Census." Performance of the land use census was thorough and complete. No program changes (e.g., changes in sample locations) were required as a result of the census.

The inspector reviewed the wind direction assessments (wind roses) from the past 5 years and compared them to the pre-operational wind roses to detect changes, if any, in the prevailing wind directions. No significant changes were evident. The environmental monitoring control station locations were reviewed against the prevalent directions and the inspector noted that the control locations remained valid in areas that are minimally impacted by the facility.

c. Conclusion

Based on the above review, observation, and discussions, the inspector determined the licensee's performance in implementing the REMP continued to be excellent. The licensee's sampling procedures contained appropriate information and methods compared to industry standards and good practices. The contractor personnel demonstrated a good working knowledge and understanding of the intent of the REMP. Samples were collected from the locations specified by the ODCM and at the frequencies required by the TS.

R1.2 Meteorological Monitoring Program (MMP)

a. Inspection Scope (84750-2)

The following components of the meteorological monitoring program (MMP) was inspected against TS, the UFSAR, and Regulatory Guide 1.23 commitments to assess the licensee's performance of the program:

- Calibration procedures including any changes to procedures;
- Calibration results of wind speed, wind direction and temperature sensors and any related components;
- Calibration methods;
- Physical condition of meteorological equipment;
- Operability and maintenance of instruments and equipment; and
- Modifications to the tower or associated instrumentation.

b. Observations and Findings

Calibration and maintenance of the meteorological monitoring instrumentation was the responsibility of the Instrument and Controls Department. Calibrations of the wind speed, wind direction, and temperature sensors were conducted using the appropriate procedures. The inspector reviewed the calibration results from 1995 through 1997. Calibration methods were acceptable and the results were within the required equipment tolerances. The meteorological instrumentation were calibrated at the semiannual frequency recommended in Regulatory Guide 1.23 and required in the TS. The physical condition of the equipment appeared to be good. The licensee maintained a preventive maintenance program to ensure equipment operability. No modifications to the tower and associated instrumentation had been made since the previous inspection. No modifications have been planned.

The Operations Department had the responsibility to perform daily channel checks of meteorological instrumentation in the control room. Channel checks were reviewed from June 22 through July 22, 1997 to verify performance. The licensee had strip chart recorders in the control room. The traces of the charts were used to gather data needed for the channel check. The licensee performed the channel checks in accordance with the associated procedure and TS. During discussions with a shift supervisor, the inspector noted that the persons in the control room understood the operation of the chart recorders and were responsible for routine maintenance (i.e., ample paper and inking pens).

c. Conclusions

Based on the direct observations, discussions with personnel, and examination of procedures and records for calibration of equipment, the inspector determined that overall, the licensee's performance of maintaining and calibrating the meteorological monitoring instrumentation was very good.

R6 RP&C Organization and Administration

R6.1 Organization Changes and Responsibilities

a. Inspection Scope (84570-2)

The inspector reviewed organization changes and the responsibilities relative to oversight of the REMP and MMP.

b. Observations and Findings

No changes in the organization regarding the oversight of the REMP were made since the previous inspection in this area. The responsibilities relative to oversight of the REMP and MMP have essentially remained the same.

A temporary change in reporting to the Supervisor, Operation Technology regarding the vacant position of the Supervisor, Environmental Services was discussed. The position had been vacant for one year. The inspector discussed this matter with the licensee management. The licensee stated the position would be filled after a qualified person had been chosen.

The Health Physicist of Environmental Services was responsible for oversight of the REMP. The individual was involved in the program through frequent periodic data review, identifying any anomalies in the analytical results, working toward timely and appropriate resolution, and performing independent surveillances. Contractor personnel from Ecology III collected and prepared the environmental media. All analyses of the environmental media were performed by a contractor Teledyne Brown Engineering (TBE), with the exception of analyzing for tritium in water. Commencing in January 1997, tritium analyses were performed by the Corporate Environmental Radioactivity Measurements Laboratory (CERNL). The TLD laboratory at the corporate office handled and processed environmental, personnel, and emergency thermoluminescent dosimeters (TLD). The laboratories, TBE and CERNL, maintained an interlaboratory comparison program and intralaboratory quality assurance programs. Calibration and maintenance of the meteorological monitoring instrumentation was the responsibility of the Instrument & Controls Department. Daily channel checks were performed by the Operations Department. Independent audits and surveillances of the REMP and MMP were performed by Nuclear Assessment Services.

c. Conclusion

Based on the above review and observations of the REMP and MMP, the inspector concluded that the licensee implemented good management controls and management interest. Negative impact due to the year long vacancy at the supervisory level regarding implementation of the REMP TS requirements was not apparent. Oversight of the REMP and MMP was effective.

R7 Quality Assurance in RP&C Activities

R7.1 Quality Assurance Audit Program

a. Inspection Scope (84750-2)

The following components of the quality assurance audit program were inspected against TS to assess performance in this area.

- Audit and surveillance reports of the REMP and ODCM;
- Vendor audit reports;
- Scope of audit relative to program audited;
- Technical depth and detail to assess the program; and

- Problem identification and followup.

b. Observations and Findings

The Nuclear Assessment Services (NAS) audits were conducted under the cognizance of the Site Review Committee (SRC). The auditors were responsible to conduct audits of the 1) REMP and the results thereof, 2) ODCM and implementing procedures, and 3) performance of activities required by the quality assurance program to meet the criteria of Regulatory Guide 4.15, according to the TS. NAS performed five audits from 1995 through 1997. The audits (listed chronologically) included one vendor audit, three REMP audits, and one ODCM audit.

- No. 95-030, "REMP Nuclear Technology Audit", April 25-May 2, 1995

- No. 96-063, "Audit of Nuclear Technology-Environmental Services' Implementation of the Environmental Protection Plan", April 23-26, 1996.

- No. 96-071, "Offsite Dose Calculation Manual and Meteorological Monitoring Program", June 10-21, 1996

- No. 96-087, "1996 REMP Vendor Audit"
  - Ecology III Environmental Facility (August 15-16, 1996)
  - NUPIC Audit 1996 (August 26-30, 1996)

- No. 97-027, "Radioactive Environmental Monitoring Program and Environmental Protection Program", (in progress)

The scope of each audit was focused and indicative of good planning. The audit findings, in most cases, were technical in nature and were compared to commitments of the UFSAR, procedures, TS, Regulatory Guides, and industry methods, rather than a cursory administrative review. The auditors demonstrated the ability to place findings in the appropriate level of significance and assigned findings to the appropriate responsible organizations.

During a surveillance of meteorological monitoring program (not listed above), an auditor identified that the meteorological instrumentation at the primary and backup tower required labels according to a continuous site-wide label program. During the No. 96-071 audit, the audit determined that the labels did not conform to the intent of the Label Request Forms (LRF) which required the installation of permanent labels to identify various instrument channels at the towers. The inspector noted that the responsible organization had not yet competed the corrective actions as of July 22, 1997 and that the auditor had recommended completion prior to the next calibration (October 1996). The inspector discussed potential for human error that may occur during calibrations with the licensee management. The licensee initiated the appropriate corrective during the inspection.

c. Conclusion

Based on the review of the audits and discussions with an auditor, the inspector concluded that the audits were of excellent technical depth to effectively identify and assess program strengths and weaknesses. The audits evaluated the technical adequacy of implementing procedures, TS requirements, and practices. Performance of the audits was thorough, objective and of high quality as evidenced through the report.

R7.2 Quality Assurance of Analytical Measurements

a. Inspection Scope (84750-2)

The inspector reviewed the following areas of the quality assurance (QA) and quality control (QC) programs of the contract analytical laboratory, Teledyne Brown Engineering (TBE), and the Corporate Environmental Radioactivity Measurements Laboratory (CERML).

- Performance of TBE and CERML in the Interlaboratory Comparison program.
- Performance of quality control program (split, spike, and duplicate samples).

b. Observations and Findings

The Teledyne Brown Engineering is the primary contract laboratory that performed the analyses of environmental samples. The Corporate Environmental Radioactivity Measurements Laboratory, performed analyses of tritium in water. The inspector reviewed the quality assurance and quality control programs of both laboratories through review of selected procedures, quality control charts, detector efficiency determinations, results of split and spiked samples and the interlaboratory comparison program. The procedures were technically correct and incorporated standard industry practices. The quality control program of TBE included split and spike samples provided to the laboratory technician for analysis. The results were compared to the known values by the Health Physicist responsible for oversight of the REMP. The Health Physicist demonstrated a good questioning attitude during these reviews. The TBE implemented an interlaboratory comparison program as part of the quality assurance program, required by TS, through continued participation with Environmental Protection Agency (EPA) drinking water program and a program provided by Analytics, Incorporated. The inspector reviewed the analytical results of the EPA drinking water program and the results of the Analytics program. The inspector noted that the results of the quality control and both interlaboratory programs were within the established acceptance criteria, with few exceptions. Some exceptions were investigated and resolved, and some issues were open. The open issues were discussed with the licensee. The inspector noted that the corrective actions are currently in progress.

c. Conclusion

Based on the above observations, the inspector determined that the performance of TBE and CERML was good overall and the interlaboratory programs were effective. The licensee had a good quality control program with respect to sampling, analyzing, and evaluating data for the implementation of the REMP.

R8 Miscellaneous RP&C Issues

R8.1 UFSAR

A recent discovery of a licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need from a special focused review that compares plant practices, procedures and/or parameters to the UFSAR description. While performing the inspection discussed in this report, the inspector reviewed the applicable portions of the UFSAR that related to the radiological protection and chemistry areas inspected. The inspector verified that the UFSAR wording was consistent with the observed practices and procedures and/or parameters.

V. Management Meetings

X1. Exit Meeting Summary

The inspectors presented the inspection results to members of PP&L management at the conclusion of the inspection on August 26, 1997. On September 11, 1997, a supplemental exit meeting was held to discuss the findings in Section F8.1 of this report. The licensee acknowledged the findings presented, with no exceptions taken. No proprietary information is included in this inspection report.

During the exit meeting, the SSES General Plant Manager committed to a comprehensive review of cancelled modification scoping review candidates and design change packages to ensure no ties exist to design requirements or previous commitments. PP&L's review will determine whether any canceled modifications are similar to the example discussed in Section E1.1 of this inspection report. If additional examples are identified, PP&L will enter them into the Condition Report process for corrective action.

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

387,388/97-06-01	EEI	Root Cause and Corrective Action for a Misalignment of a Diesel Generator
387,388/97-06-02	NCV	Inadequate Loose Parts Monitoring Procedure.
387,388/97-06-03	NCV	Inadequate Annunciator Response Procedures.
387,388/97-06-04	URI	Safety Related System Operability Review and LCO Entry
387,388/97-06-05	NCV	Failure to Implement a Status Control Meeting within the Procedural Requirements
387,388/97-06-06	NCV	LER - Loss of Turbine Building Ventilation Stack Flowrate
387,388/97-06-07	NCV	LER - Firewatch not Established
387,388/97-06-08	VIO	Failure to Adequately Implement Technical Specification Required Surveillance Testing
387,388/97-06-09	NCV	Diesel Generator Switch Miswiring
387,388/97-06-10	VIO	Failure to Implement Effective Corrective Actions Regarding Nonconforming Materials Control
387,388/97-06-11	VIO	Failure to correct a condition adverse to quality - Design Basis
387,388/97-06-12	VIO	Failure to Perform a 50.59 Evaluation for a Communications Test
387, 388/97-06-13	VIO	Failure to Perform 50.59 Evaluations for Modifications to RHRSW and ESW Pump Motors

Closed Items

387,388/96-13-01	VIO	Failure to control high energy line break door position
387,388/96-13-02	VIO	Failure to control foreign potential within a permit boundary
387,388/97-01-01	VIO	Failure to implement an alarm response procedure
387,388/97-01-03	VIO	Failure to affect adequate corrective actions in two instances (1) E diesel generator bridge transfer switch degradation (2) inadequate E diesel generator trouble shooting plan
387,388/97-04-01	VIO	Adequacy of TS required charcoal testing
387,388/97-06-02	NCV	Inadequate Loose Parts Monitoring Procedure.
387,388/97-06-03	NCV	Failure to Follow Annunciator Response Procedure.
387,388/97-06-05	NCV	Failure to Implement a Status Control Meeting within the Procedural Requirements
387,388/97-06-06 (LER 50-387/97-11)	NCV	Loss of Turbine Building Ventilation Stack Flowrate
387,388/97-06-07 (LER 50-387/97-12)	NCV	Firewatch not Established
387,388/97-06-09	NCV	Diesel Generator Switch Miswiring

LIST OF ACRONYMS USED

AR	Alarm Response
CERNL	Corporate Environmental Radioactivity Measurements Laboratory
CFR	Code of Federal Regulations
CIG	Containment Instrument Gas
CL	Check Lists
CR	Condition Report
CREOASS	Control Room Emergency Outside Air Supply System
DG	Diesel Generator
EDG	Emergency Diesel Generator
EREMP	Emergency Radiological Environmental Monitoring Program
ERT	Event Review Team
FSAR	Final Safety Analysis Report
IERP	Industry Event Review Program
I&C	Instrumentation and Controls
LCO	Limiting Conditions for Operation
LER	Licensee Event Report
MMP	Meteorological Monitoring Program
NAS	Nuclear Assessment Services
NCR	Nonconformance Report
NCV	Non-Cited Violation
NPO	Nuclear Plant Operator
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
ODCM	Offsite Dose Calculation Manual
OES	Operating Experience Services
OP	Operating Procedure
PCO	Plant Control Operator
QA	Quality Assurance
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
SGTS	Standby Gas Treatment System
SOOR	Significant Operations Occurrence Report
SPING	System Particulate Iodine Noble Gas
SSES	Susquehanna Steam Electric Station
TBVS	Turbine Building Ventilation Stack
TLD	Thermoluminescent Dosimetry
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
USQ	Unreviewed Safety Question
WA	Work Authorization