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SUBJECT: Provides update on items completed by util at plant during Cycle 16 refueling outage.

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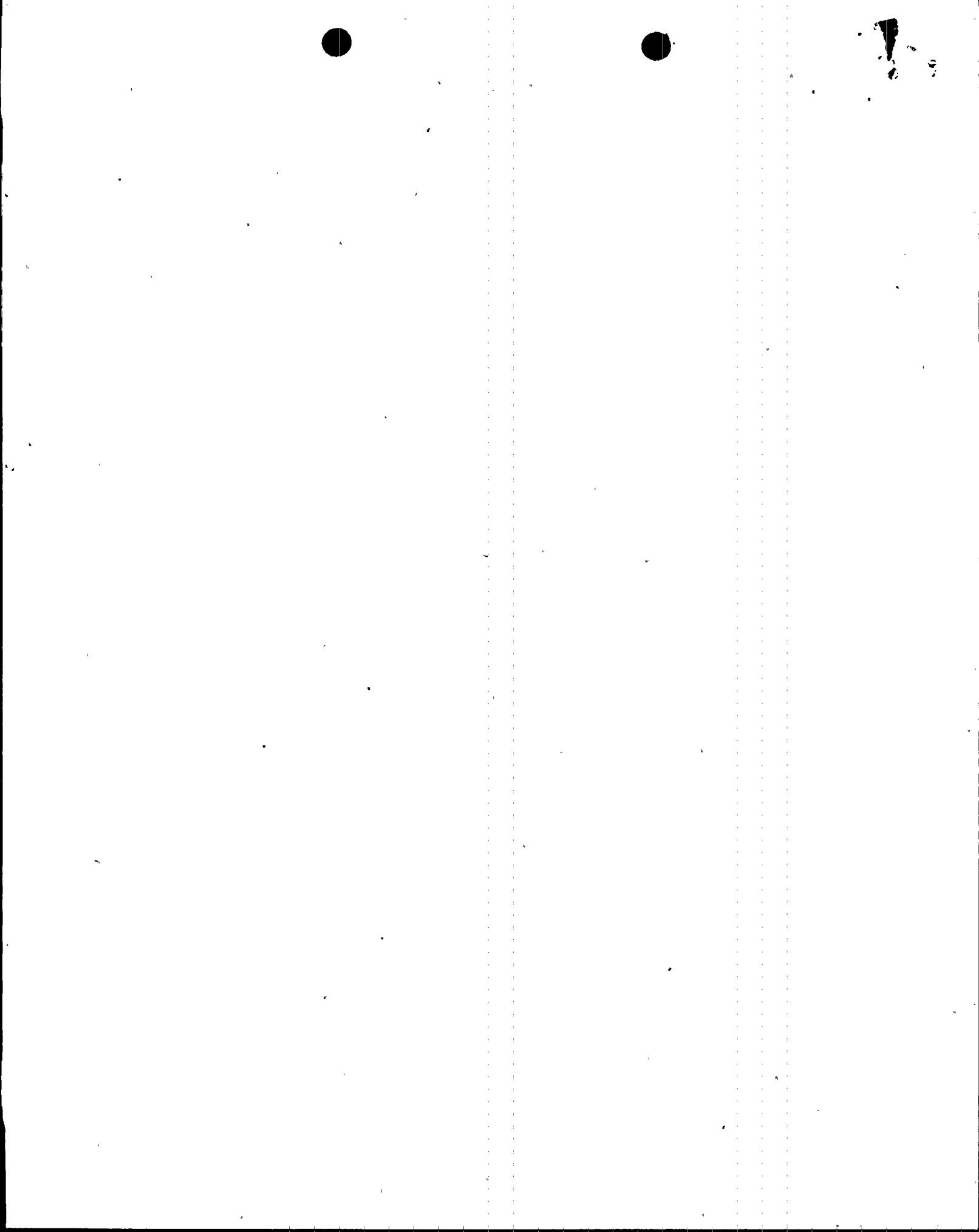
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FPL

L-96-125

AUG 07 1996

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Unit 4
Docket No. 50-251
Activities Completed During Unit 4 Cycle 16 Refueling Outage

The purpose of this letter is to provide an update to the NRC on items completed by Florida Power & Light Company (FPL) at Turkey Point Unit 4 during the Cycle 16 refueling outage.

FPL conducted a refueling outage of Turkey Point Unit 4 from March 4, 1996, to April 8, 1996. Regulatory activities and items of regulatory interest for which action was taken during this refueling outage are summarized in the attached.

Should there be any questions concerning this information, please contact us.

Very truly yours,

R. J. Hovey
Vice President
Turkey Point Plant

CLM

Attachment

cc: S. D. Ebnetter, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey Point

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ACTIVITIES COMPLETED DURING TURKEY POINT UNIT 4 CYCLE 16
REFUELING OUTAGE

NRC Generic Letter 93-04: "Rod Control System Failure and
Withdrawal of Rod Control Cluster Assemblies" (TAC Numbers M86873
and M86874)

NRC Generic Letter (GL) 93-04, "Rod Control System Failure and Withdrawal of Rod Control Cluster Assemblies," dated June 21, 1993, requested that licensees address short and long term activities and implement corrective actions addressing rod control current order timing.

By letter L-93-186, dated August 4, 1993, FPL responded to the requested information of GL 93-04 by addressing the licensing basis of the plant with regard to a failure in the rod control system, and specified the type of short and long term corrective actions that have been taken or are planned for resolution of this issue.

By letter dated November 15, 1993, the NRC requested additional information (RAI) to support the review of FPL's response to GL 93-04 as provided in L-93-186. FPL responded to the RAI by letter L-93-319, dated December 28, 1993.

By letter dated December 7, 1994, the NRC requested FPL to commit to implementing the current order timing modification and the new surveillance test recommended by the Westinghouse Owners' Group. In response to this request, FPL responded by letter L-94-328, dated December 28, 1994. FPL committed in L-94-328 to implement the recommended modification during the next refueling outage for each unit, i.e., for Unit 3 September 1995 and for Unit 4 March 1996. The new current order surveillance test is an aspect of the modification and is implemented during the refueling outages. The NRC confirmed this commitment in a letter dated January 12, 1995 and requested that FPL inform the staff of any changes to the implementation and surveillance testing schedule.

The modification of the rod control current order timing was completed as Plant Change Modification (PC/M) 95-087 on Turkey Point Unit 4 on April 5, 1996. Ongoing periodic surveillance of the Control Rod Drive Mechanism (CRDM) current order timing will be conducted on a refueling outage basis. The periodic surveillance was performed during the Unit 4 refueling outage.



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Licensee Event Report (LER) 50-250-94-005: Design Defect in Safeguards Bus Sequencer Logic Timing Places Both Units Outside the Design Basis

On November 3, 1994, Turkey Point Unit 3 was in Mode 1 at 100% power, and Unit 4 was in Mode 5 during a refueling outage. During the Unit 4 Integrated Safeguards Test, the 3A sequencer failed to respond to the Unit 4 Safety Injection signal. A defect was found in the sequencer software logic which, for a limited period of time, could inhibit any or all of the four sequencers from responding to specific valid signals. This defect only affects the sequencers during manual or automatic testing. FPL submitted LERs 94-005-00, -01 and -02. FPL committed in LERs 94-005-01 and -02 to implement a design modification to eliminate the identified problem during the next refueling outage for each unit.

Hardware and software modifications were completed on the Unit 3 sequencers during the last Unit 3 refueling outage (PC/M 95-032). These changes involved eliminating the sequencer auto test feature, by replacement of the sequencer test selector switch and changes to the sequencer annunciator. Minor changes were also implemented to address sequencer failure modes previously detected by auto test. During this last refueling outage, the same modifications were completed on Unit 4 (PC/M 95-033).

NRC Bulletin 89-01, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs"

Our letter L-95-28, dated January 31, 1995, provided our Unit 4 plug repair plan regarding Westinghouse Alloy 600 mechanical tube plugs. According to Westinghouse WCAP-12245, Revision 3, Addendum 4 to the Steam Generator Tube Plug Integrity Summary Report, May 1995, all hot leg Westinghouse Alloy 600 mechanical tube plugs were recommended for remedial action during the March 1996 refueling outage. All cold leg Westinghouse Alloy 600 mechanical tube plugs are recommended for remedial action by the end of the year 2000. This letter documents that all Unit 4 hot leg and cold leg Westinghouse Alloy 600 mechanical tube plugs were replaced with Alloy 690 plugs.

Please note that L-95-28 stated there were 22 hot leg and 22 cold leg Westinghouse Alloy 600 mechanical tube plugs remaining. Additional review of our records show this number was not correct. The correct number is 21 hot leg and 21 cold leg plugs. One hot leg plug in the 4B steam generator was replaced with an Alloy 690 plug in 1991. One cold leg plug in the 4B steam generator was a welded preservice plug.



NRC Inspection Report 50-250/94-17 and 50-251/94-17: Residents Monthly Exit

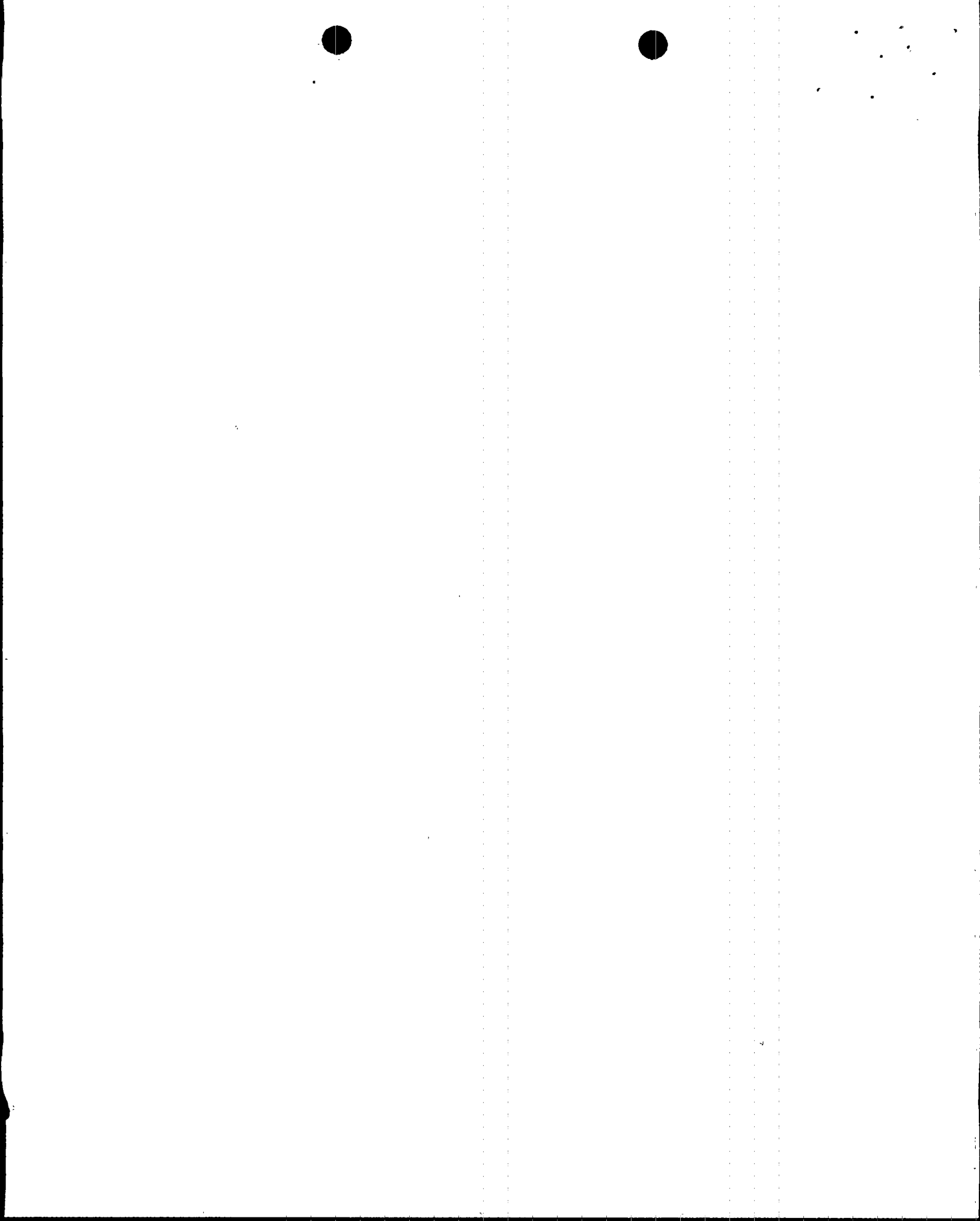
By letter dated September 16, 1994, the NRC transmitted the Residents Monthly report for the period of July 31 through August 27, 1994. The inspection report addressed an event which occurred during a periodic containment air lock test on Unit 3. The emergency escape hatch door linkage malfunctioned, which resulted in the inoperability of the inner door. FPL committed to review the design of the interlock and key lock arrangement of the emergency containment air lock and implement design changes, as appropriate. During this Unit 4 refueling outage the interlock and key lock arrangement of the emergency escape and personnel air locks were modified in accordance with PC/M 94-097. Unit 3 modifications were completed last fall, as reported in L-95-307.

Generic Letter 92-08: "Thermo-Lag 330-1 Fire Barriers"

By letter L-95-200, dated July 13, 1995, FPL committed to perform a walkdown of the raceways in the containments during the next scheduled refueling outages and evaluate the continued requirements for a raceway fire barrier/radiant energy shield. In response to this commitment, FPL conducted the walkdown of the Unit 4 containment. The Unit 3 walkdown was completed last fall, as reported in L-95-307. The evaluation is in progress and will be completed later this year.

Intake Structure

By letter L-93-153, dated June 23, 1993, FPL provided the staff with a status update of the six year plan developed in December 1990 to ensure that the Turkey Point Units 3 and 4 Intake Structure can perform its function under all design basis conditions including seismic events for the duration of the remaining plant life. The plan included the installation of reinforcing beams under the Intake Cooling Water (ICW) pump support beams, various modifications to features above the deck that will significantly reduce the rate of intrusion of chloride into the ICW pump support beams, and performance of regular inspections of the bays, including visual inspection of the bay walls. In addition, L-93-153 indicated that FPL would implement a procedure for inspection and testing of the walls to confirm their structural integrity for the duration of the remaining plant life.



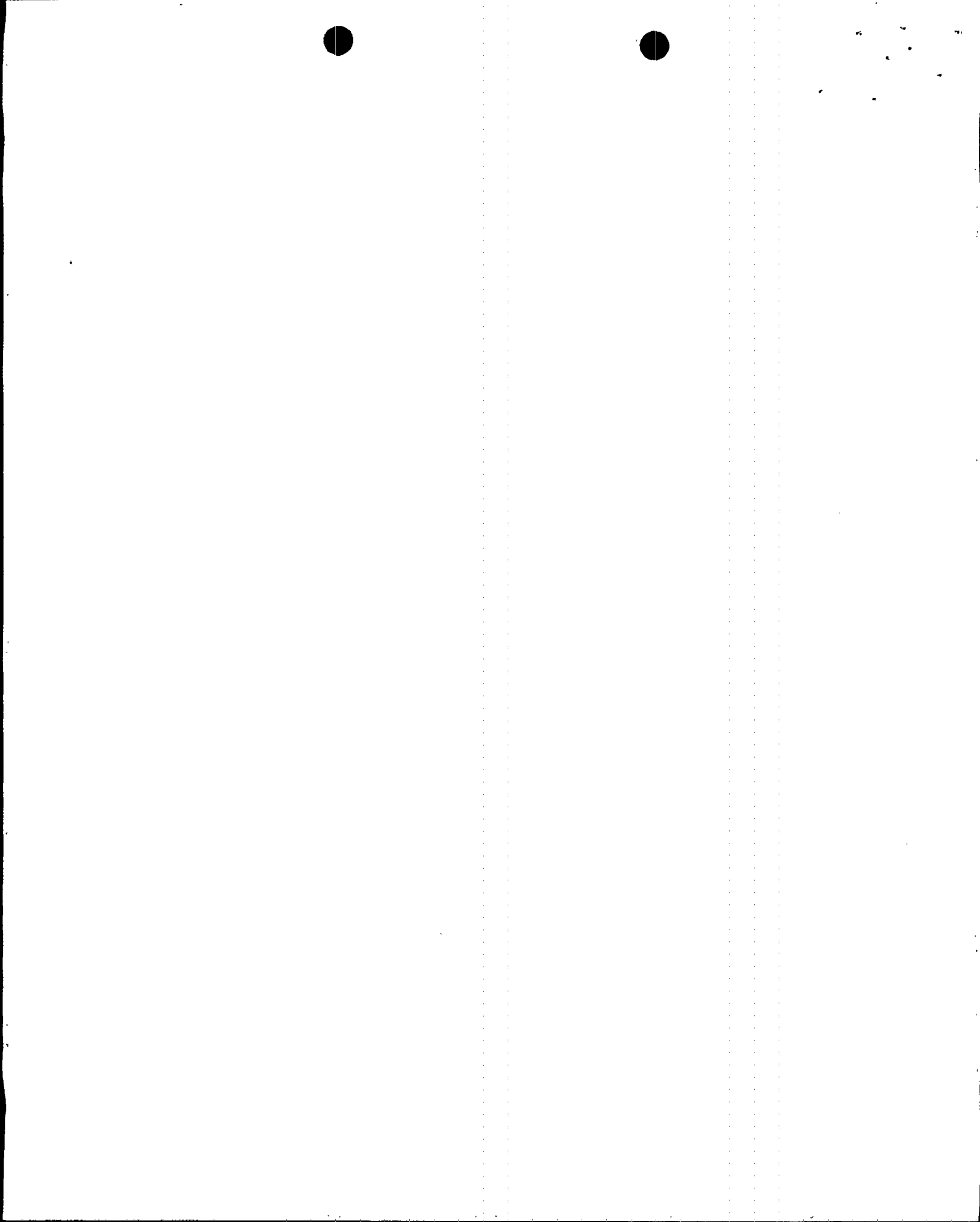
As indicated in previous correspondence, all modifications to features above the deck had been completed, and reinforcing beams have been installed under 3 of 4 deck support beams in Unit 4, and all 4 support beams in Unit 3. Inspections and testing of the structural concrete walls in the 3B2 Circulating Water Pump (CWP) bay were performed.

Corrosion rate tests were performed utilizing linear polarization resistance technology to determine the rate of corrosion of the reinforcing steel at various locations within the intake bay walls. The tests concluded that corrosion of the reinforcing steel in the 3B2 intake bay walls may be occurring, but at a very low rate. The average corrosion rate was measured to be less than 1 mil per year or 0.45 microamperes per square centimeter. Based on this evaluation the intake structures will perform their intended design function for the currently licensed plant life. Continued monitoring will verify stable corrosion rates per JPN-PTN-SECS-95-056.

During this outage, the degraded concrete slab supporting Screen Wash Pump 4P14 was restored under PC/M 95-101 (the slabs supporting the Intake Cooling water pumps in the 4A2, 4B1, and 4B2 CWP bays have already been modified under PC/Ms 94-003, 89-006 and 92-079, respectively). The structural concrete walls in the 4A1 CWP Bay were also inspected and tested under this PC/M. Corroded rebar found during the inspection was evaluated under Condition Report 96-252, and found to be acceptable as is. Engineering is performing a comprehensive assessment of the 4A1 CWP Bay, as in past outages. Long term actions to be reviewed and considered include additional inspections, cathodic protection of the reinforcement (active or passive), repair or replacement of the screen wash branch lines, concrete sealing/coating, or additional wall reinforcement, as required.

LER 95-004-00: Manual Reactor Trip Due to Failed Rod Control Power Supplies

On April 7, 1995, Turkey Point Unit 3 was being shutdown to investigate recurring non-urgent failure alarms from the redundant rod control power supplies. Unit 3 was subcritical in Mode 2 with reactor power at 1×10^{-9} amps decreasing. As soon as Control Bank C rods were demanded to drive in, an Urgent Failure Alarm was received. The urgent failure was verified valid, which precluded continued normal rod insertion in the affected rod drive cabinet. The reactor was manually tripped to complete the shutdown. The cause of the Urgent Failure Alarm was the failure of power supplies PS-3 and PS-4 in the 2AC Rod Control Power Cabinet. In response to this event FPL submitted LER 250/95-004.



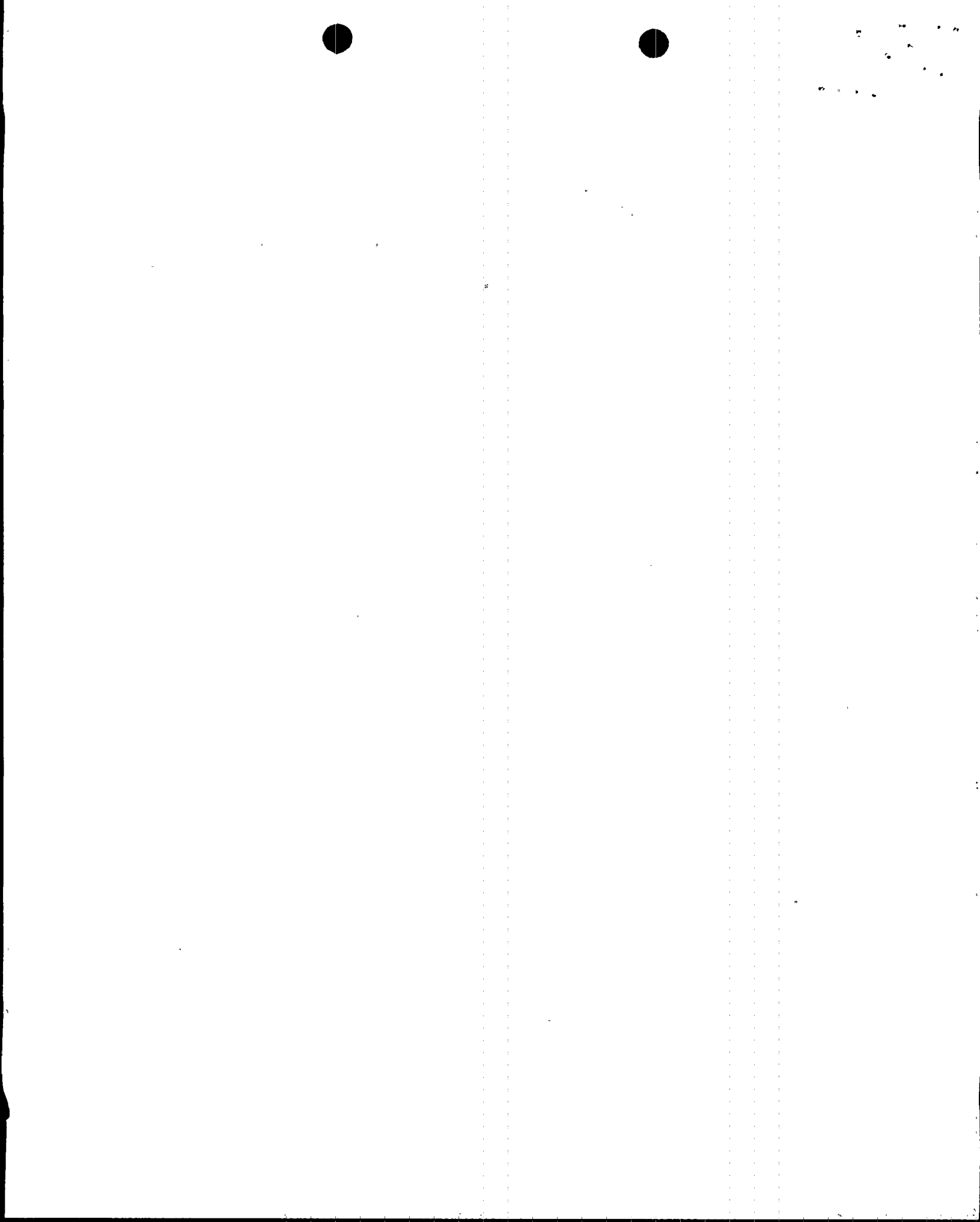
The original PS-3 and PS-4 power supplies were manufactured by Lambda. The PS-3 power supplies were replaced with more reliable power supplies, manufactured by Abbott, immediately following the event. FPL committed to replace all PS-4 power supplies during the next outage of sufficient duration. During this Unit 4 refueling outage the remaining Lambda power supplies (PS-4) were replaced with more reliable Abbott power supplies. This completes the replacement of all PS-3 and PS-4 power supplies in both units.

LER 94-006-00: Automatic Reactor Trip/Turbine Trip Due to Main Feedwater Control Valve Failing Closed

On December 26, 1994, the 3C main feedwater control valve failed closed. After the valve closed an automatic reactor trip/turbine trip occurred after a Steam Generator Water Level - Low Coincident With Steam/Feedwater Flow Mismatch trip signal was received. The valve closed because a loose screw terminal on the electro-pneumatic transducer caused an intermittent open circuit which resulted in a closed valve position demand to the feedwater control valve. The terminal strip on the transducer was mounted by means of rivets. In the case of this transducer the rivet mounting was found loose, which may have contributed to the loose wire connection. As part of the corrective action, FPL committed to replace the Unit 4 main feedwater control valve transducers of the failed connection type during the next Unit 4 refueling outage. That activity was completed during this refueling outage. The transducers in Unit 3 were replaced in 1994 following the trip.

Containment Surface General Inspection

By letter L-95-206, dated August 8, 1995, FPL requested a one-time schedular exemption from the Type A testing interval (Integrated Leak Rate Test). In the letter, FPL committed to perform a visual inspection of the containment surfaces in accordance with 10 CFR 50, Appendix J, Section V.A. The visual inspection was performed on March 30, 1996. All acceptance criteria were met, although Plant Work Orders were generated for a few minor items, such as some general rust on the liner plate.



L-96-125
Attachment
Page 6

Component Cooling Water (CCW) Reanalysis

During the design evaluation performed under the Thermal Power Uprate project, a potential single failure of a solenoid valve was identified which could result in a section of CCW piping exceeding its analyzed temperature (and therefore stress). The solenoid valves, SV-3/4-2923, 4, and 5, are on the CCW return line from the Emergency Containment Coolers. This discrepancy was reported in FPL letter L-95-202, dated July 14, 1995, forwarding the Final Report of the Turkey Point Units 3 and 4 Service Water System Operational Performance Inspection Self Assessment. The discrepancy was resolved during the last outage by the modification of supports in accordance with Stress Problem CCW-14 (PC/M 95-089).

