

ENCLOSURE 1
SALP BOARD REPORT

U.S. NUCLEAR REGULATORY COMMISSION
REGION II

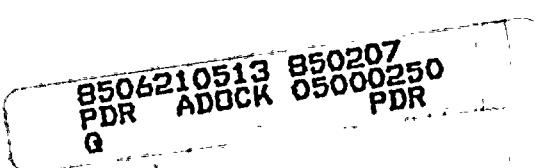
SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION
REPORT NUMBERS

50-250/85-01, 50-251/85-01

Florida Power and Light Company
Turkey Point Plant Units 3 and 4

July 1, 1983 through October 31, 1984



I. INTRODUCTION

The Systematic Assessment of Licensee performance (SALP) program is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance to NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

An NRC SALP Board, composed of the staff members listed below, met on January 10, 1985, to review the collection of performance observations and data, and to assess the licensee's performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at the Turkey Point Plant for the period July 1, 1983 through October 31, 1984.

SALP Board for Turkey Point Plant:

J. A. Olshinski, Director, Division of Reactor Projects (DRP),
Region II (RII) (Chairman)
A. F. Gibson, Chief, Operations Branch, Division of Reactor Safety, RII
J. P. Stohr, Director, Division of Radiation Safety and Safeguards, RII
V. L. Brownlee, Chief, Project Branch 2, DRP, RII
A. C. Thadani, Chief, Reliability and Risk Assessment Branch, Division of
Safety Technology, Office of Nuclear Reactor Regulation (NRR)

Attendees at SALP Board Meeting:

S. A. Elrod, Chief, Project Section 2C, DRP, RII
K. D. Landis, Chief, Technical Support Staff (TSS), DRP, RII
T. A. Peebles, Senior Resident Inspector, Turkey Point, DRP, RII
D. R. Brewer, Resident Inspector, Turkey Point, DRP, RII
K. M. Jenison, Project Engineer, Project Section 2A, DRP, RII
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D. G. McDonald, Jr., Project Manager, Operating Reactors Branch 1,
Division of Licensing, NRR

II. CRITERIA

Licensee performance is assessed in certain functional areas depending upon whether the facility has been in the construction, preoperational, or operating phase. Each functional area represents areas which are significant to nuclear safety and the environment, and which are programmatic

areas. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observations.

One or more of the following evaluation criteria were used to assess each functional area:

- A. Management involvement and control in assuring quality
- B. Approach to resolution of technical issues from a safety standpoint
- C. Responsiveness to NRC initiatives
- D. Enforcement history
- E. Reporting and analysis of reportable events
- F. Staffing (including management)
- G. Training effectiveness and qualification

However, the SALP Board is not limited to these criteria and others may have been used where appropriate.

Based upon the SALP Board assessment, each functional area evaluated is classified into one of the three performance categories. The definitions of these performance categories are:

Category 1: Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used so that a high level of performance with respect to operational safety or construction is being achieved.

Category 2: NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective so that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3: Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used so that minimally satisfactory performance with respect to operational safety or construction is being achieved.

The SALP Board has also categorized the performance trend over the course of the SALP assessment period. The trend is meant to describe the general or prevailing tendency (the performance gradient) during the SALP period. This

categorization is not a comparison between the current and previous SALP ratings. It is a determination of the performance trend during the current SALP period irrespective of performance during previous SALP periods. The categorization process involves a review of performance during the current SALP period, and categorization of the trend of performance which occurred during the course of that period. The performance trends are defined as follows:

Improving: Licensee performance has generally improved over the course of the SALP assessment period.

Constant: Licensee performance has remained essentially constant over the course of the SALP assessment period.

Declining: Licensee performance has generally declined over the course of the SALP assessment period.

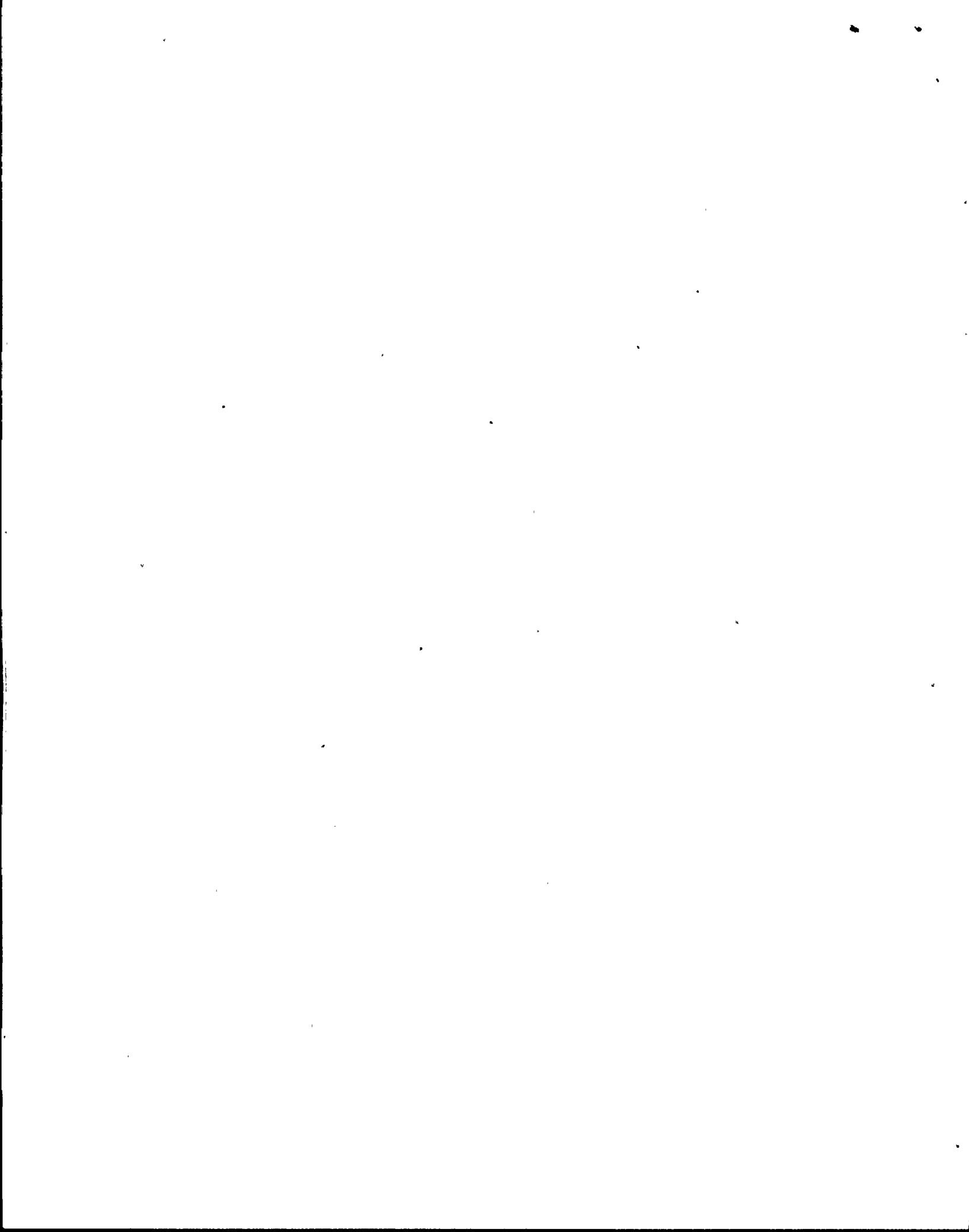
III. SUMMARY OF RESULTS

Overall Facility Evaluation

Major weaknesses in facility performance were noted in the areas of plant operations, radiological controls, maintenance and Quality Programs. A major strength was observed in the licensing activities area.

Turkey Point has reorganized since the last SALP, and has different personnel in most management positions. The Performance Enhancement Program (PEP) was implemented by the licensee to improve regulatory and operational performance as a result of issues in the area of Auxiliary Feedwater Pump Technical Specification compliance. Management attention to plant operation has been energetically pursued, but as in any program of this magnitude, implementation and startup exigencies have precluded immediate indications of improvements. As with any new program, the PEP is experiencing startup problems and has many improvements to make. The Program for Improved Performance (PIP), a second licensee initiative to improve facility performance, was implemented as a result of an enforcement conference on Intake Cooling Water System Technical Specification compliance and Plant Nuclear Safety Committee deficiencies. The program has not been implemented long enough to have demonstrated significant improvements.

<u>Functional Area</u>	<u>July 1, 1982 - June 30, 1983</u>	<u>July 1, 1983 - October 31, 1984</u>	<u>Trend During Latest SALP Period</u>
Plant Operations	3	3	Improving
Radiological Controls	1	3	Constant
Maintenance	2	3	Constant
Surveillance	2	2	Improving
Fire Protection	Not Rated	2	Improving
Emergency Preparedness	2	2	Improving



<u>Latest Functional Area</u>	<u>July 1, 1982 - June 30, 1983</u>	<u>July 1, 1983 - October 31, 1984</u>	<u>Trend During Latest SALP Period</u>
Security and Safeguards	2.	2	Constant
Refueling	2	2	Declining
Quality Programs and Administrative Controls Affecting Quality	1	3	Improving
Licensing Activities	2	1	Improving

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

During the evaluation period, inspections of plant operations were performed by the regional and resident inspection staffs. Activities associated with the Performance Enhancement Program (PEP) and the Program for Improved Performance (PIP) were closely monitored. The major licensee activities at Turkey Point included routine commercial operation for Units 3 and 4, with refueling and maintenance outages conducted on both units.

As a result of identified deficiencies, the licensee developed an informal program to improve site performance. Formalization and expansion of the program by the licensee to improve regulatory performance developed into the PEP which was confirmed by Confirmatory Order on July 13, 1984. The PEP was intended to address NRC concerns and violations, and improve regulatory compliance. The PEP coordinated corrective actions in several areas. It represented a massive commitment of manpower and resources which will continue through 1987. The licensee developed an additional program designed to improve operations. Specific discussion of these programs is included in the QA section.

Review of the below listed violations and deviations, inadvertent reactor trips, Licensee Event Reports (LERs), and observation of operator actions indicated inadequate management attention with respect to adequate procedures, procedural compliance, Technical Specification (TS) and Code compliance, and regulatory commitments. However, management attention has improved dramatically recently since personnel were made changes and greatly increased management involvement is evident at the site.

The licensee's approach to the resolution of technical issues was not adequate as illustrated by violations g and l, where post trip reviews were not done or not done adequately. Violations j and m are examples of an inadequate resolution of a technical issue as technical guidance was not adequate to closely predict reactor startup critical conditions. Technical Specifications were not adequately understood by the plant staff and interpretive guidance by management failed to provide adequate guidance as shown by violations a and k, where plant management did not require that certain TS be implemented. Recently a long term program was developed to revise the TS to conform to standard TS as a part of the PEP program. There has been minimal short term administrative guidance given to the operating staff with respect to the preferred TS interpretations.

Operational errors made by the licensee's staff resulted in two cases where events were repeated without technical resolution following the initial event. These errors resulted in inadvertently and unknowingly deenergizing the Unit 3 spent fuel pool exhaust monitor and improperly valving the gas analyzer moisture collection system. The radiological issues associated with these events are discussed in the Radiological Controls section of this SALP report.

The licensee's responsiveness to NRC initiatives has improved recently as a result of the new operations management and their implementation of the PEP program. The deviation documenting the licensee's inadequate implementation of an independent verification program relates to past performance. Several enforcement conferences have been held in the areas of TS compliance and management controls of operations. The main subjects were violations a, b and o. A Confirmatory Order of July 13, 1984, assured the implementation of the licensee's PEP.

Of the 82 LERs that were submitted during this assessment period, 21 were related to personnel error or inattention to job performance. Additionally, of the 15 unplanned reactor trips, 7 were related to personnel error, 3 were related to procedural noncompliance and 5 were related to material deficiencies.

In the area of control room operations, improvements have been noted in annunciator control and shift turnover procedures. Insufficient logging of operating information and maintenance of records were identified by violation f. Control room logs have not contained sufficient information to adequately document operational events. Several examples of equipment clearance deficiencies were cited in violations h and i. Improvement has

been noted in this area, and an equipment identification program was implemented. Control Room identification of equipment has improved; however, progress in other areas of the plant has been limited due to manpower. The on-shift staff has been increased with the addition of shift technicians who have reduced the administrative burden of on-shift operating personnel. The operations staff attitude and enthusiasm has seen several ups and downs during the period due to the various enforcement conferences and their subsequent corrective actions. At the close of the assessment period morale was high due to operator recognition of improvement in plant programs.

Operator licensing examinations were conducted during the evaluation period, including both written and oral examinations. Twelve Reactor Operator and fifteen Senior Reactor Operator examinations were given; five Reactor Operator and six Senior Reactor Operator candidates passed their examinations and received licenses. These test scores showed that improvement in operator license training was required in all areas, especially reactor physics. A management meeting was held with members of the Turkey Point staff to discuss training program improvements. Facility management presented plans for overall training program enhancements and upgrades. The NRC staff reviewed requalification examinations given to three Reactor Operators and four Senior Reactor Operators by the licensee; all operators passed. The staff found that the requalification program was acceptable, but contained several weaknesses.

Training on design changes improved throughout the SALP period due to a policy of not implementing the design change until the associated training had been developed.

Certain significant weaknesses were identified in the licensees training programs during a comprehensive training assessment conducted on August 13-17, 1984. The assessment identified a major deficiency in the licensee's General Employee Training program. This required the retraining of a large number of plant personnel which has been accomplished. Several weakness were also identified in the program for Shift Technical Advisor training. The devotion of significant resources to an effort to achieve Institute of Nuclear Power Operations (INPO) accreditation has yielded general improvements in plant training. The resolution of the identified weaknesses is expected when INPO accreditation is achieved.

Violations c, d, e and f indicated procedural deficiencies which were programmatic and were being addressed for the long term by the Performance Enhancement Program procedure upgrade effort. Interim procedure revisions were being made as the need was identified.

Nineteen violations, and two deviations were identified as follows:

- a. Severity Level III violation for inoperability of Auxiliary Feedwater pumps on three occasions.
- b. Severity Level III violation for several examples of failure to control the operation of safety-related equipment.
- c. Severity Level IV violation for failure of start-up procedures to specify steps for movement of shutdown rods.
- d. Severity Level IV violation for failure to implement the operating procedure for reactor coolant system filling and venting.
- e. Severity Level IV violation for inoperability of both Unit 4 Containment Spray pumps.
- f. Severity Level IV violation involving several examples of procedural problems.
- g. Severity Level IV violation for failure to conduct a post trip review prior to plant re-start.
- h. Severity Level IV violation for several examples of failing to follow the procedure for equipment clearance tags.
- i. Severity Level IV violation for failure to follow an equipment clearance tag procedure in that tags were not filled out, placed, or lifted properly.
- j. Severity Level IV violation for an inadequate procedure for reactor start-up estimated critical conditions.
- k. Severity Level IV violation for failure to determine Technical Specification operability of the charging pumps.
- l. Severity Level IV violation for failure to perform an adequate post-trip review in that reactor trip breaker time discrepancies were not identified.
- m. Severity Level IV violation for inadequate start-up procedures in that reactor criticality could not be readily predicted.
- n. Severity Level IV violation for two examples of failures to report to NRC.

- o. Severity Level IV violation for failure to provide adequate plant training to general employees.
 - p. Severity Level IV violation for failure to provide procedurally required on-the-job training to Shift Technical Advisor candidates.
 - q. Severity Level IV violation for failure to have two qualified Senior Reactor Operators approve procedure changes.
 - r. Severity Level IV violation for failure to properly turn over Plant Change Modifications.
 - s. Proposed violation in that Technical Specification Limiting Conditions of Operation for the Intake Cooling Water system were not met. The Severity level of the proposed violation has not yet been determined and the enforcement correspondence has not been issued to the licensee. This item may involve escalated enforcement.
 - t. Deviation for failure to implement independent verification.
 - u. Deviation for failure to provide committed simulator training hours to Shift Technical Advisor candidates.
2. Conclusion

Category: 3

Trend During This Period: Improving

3. Board Recommendations

Performance in this area had been poor at the beginning of the assessment period. However, substantial progress toward improvement has been made. The Board recommends that NRC staff resources applied to the routine inspection program be increased. Increased licensee management attention to this area is also recommended.

B. Radiological Controls

1. Analysis

During the evaluation period, inspections of radiological controls were performed by the resident and regional inspection staffs. This included inspections of chemistry and of confirmatory measurements using the Region II mobile laboratory.

Licensee performance in the area of Radiological Controls has declined since the previous SALP assessment. The failure of licensee personnel to correctly interpret and incorporate the requirements of a Technical Specification specifically requiring a Radiation Work Permit (RWP) prior to entering a high radiation area ultimately resulted in the issuance of a Severity Level III violation. The licensee reacted decisively in the case of the Severity Level III violation; however, the licensee had identified but not aggressively pursued the corrective actions necessary to prevent radiological incidents from recurring. Health Physics (HP) personnel liberally interpreted an administrative procedure which allowed them to routinely deviate from the protective dress requirements of a task-specific RWP.

Radiological cleanliness controls have declined during the period. Licensee programs intended to keep the units radiologically clean were not aggressive as demonstrated by the Unit 4 charging pump area, the cask wash down areas and the RHR pump rooms. Multiple examples of inadequate control of contaminated material within the assigned work area were identified. Procedural guidance appeared to be adequate to prevent the discrepancies from occurring. Failure to implement existing administrative cleanliness procedures has been a continuing problem. Radiological cleanliness improved in the RHR pump area during the later part of the evaluation period.

The licensee's health physics staffing level, both at the corporate office and plant site, was adequate and compared favorably to other utilities that have a facility of similar size. The licensee has an adequate number of ANSI qualified contract and plant health physics technicians. However, the findings of this reporting period, including the Severity Level III violation, indicate a need for increased on-site training of contract technicians and increased supervisory control over the activities of all technicians.

The licensee had a total radiation exposure for 1983 of approximately 3300 man-rem with approximately one-half received during the Unit 3 refueling outage in the fourth calendar quarter. Approximately two-thirds of the total exposure received in 1983 was the result of special maintenance (e.g. hanger repairs, reactor head modifications, and the Unit 4 steam generator replacement). The exposure for 1983 was about 19% higher than 1982. Through the end of the reporting period, the licensee's 1984 exposure was 1280 man-rem or 96% of the estimated exposure for 1984. The ALARA program though formalized, was not effective. Although an ALARA specialist was on the radiation protection manager's staff, a more aggressive program involving all plant supervisors and managers should have resulted in significant

exposure reductions. The licensee's staff has not taken significant action to reduce the approximately 60 man-rem received by plant workers each month in the performance of routine non-outage tasks. The licensee also has not taken appropriate action to incorporate such dose reduction techniques as post-shutdown decontamination of systems, flushing or removal of hot spots in systems carrying radioactive materials, installation of permanent shielding, and modification of surveillance frequencies, which were discussed in the previous SALP report.

The licensee has initiated a program to reduce the number and degree of radiological contaminated areas in the plant. The licensee has made an effort to reduce the quantity of radioactive waste stored on site. During the evaluation period 26,652 cubic feet of radwaste was shipped off-site.

Split sample analyses were conducted between the licensee and Region II Mobile Laboratory gamma spectroscopy systems. One unresolved item concerning systematically high gaseous effluent measurements was identified during the analysis and is being addressed by the licensee. NRC identified the need for more comprehensive review of the interlaboratory cross check results and trending of chemistry and radiochemistry quality control data. Licensee performance on Sr-89, Sr-90 analyses of spiked liquid samples supplied by the NRC has been poor. Improvements in the radiostrontium methodology are needed and are being undertaken by the licensee. A need to develop and test the methodology for Fe-55 analyses in advance of the new radiological technical specifications was also identified. Licensee responses to previously identified violations and inspector identified items were adequate. All other aspects of the radiological measurements and environmental programs were satisfactory.

Two chemistry related issues were identified. These items resulted in violations d and h. One issue, an unplanned gas release from the Unit 3 volume control tank, was repeated within two weeks of its initial occurrence. Both releases stemmed from inadequate procedural control of the gas analyzer moisture collection system. Development of short term corrective action for the first incident was not aggressively pursued or implemented during the two weeks preceding the second occurrence. The second issue was a failure to obtain a required iodine sample. This was identified by the licensee in November 1983, and was the result of poor communications between the Operations and Chemistry departments. In May 1984, after the second occurrence of a missed iodine sample, it was determined that the corrective actions proposed in November 1983 had yet to be implemented.

Considerable corporate and plant management involvement was evident in developing a new water chemistry program based on Electric Power Research Institute (EPRI) guidelines. However, several weaknesses were observed in the implementation of this program. For example, none of the supervisors in the Chemistry Group had formal academic training in chemistry; the laboratory facilities were inadequate in that no provisions to remove radioactive sample waste were made and facilities appeared to be too small; and the sampling panel for the secondary water system was located in the open and exposed to adverse environmental conditions such as rain and salt spray.

Nine violations were identified during the evaluation period:

- a. Severity Level III violation for failure to adequately control an entry into a locked high radiation area.
- b. Severity Level IV violation for failure to have an approved procedure to transfer radioactive resin from the spent fuel pool demineralizer to a temporary collection facility in the cask wash down area.
- c. Severity Level IV violation for failure to complete adequate High Efficiency Particulate Air filter testing and charcoal filter testing for the emergency containment filter system and the control room ventilation system.
- d. Severity Level IV violation for chemistry technicians who were not qualified per ANSI N18.1-1971 serving in responsible positions.
- e. Severity Level IV violation for failure to meet technical specification requirements for the analysis of carbon samples for each emergency containment filter plenum.
- f. Severity Level IV violation for failure to have an approved RWP in place for decontamination work being performed in the dry storage warehouse.
- g. Severity Level V violation for making radioactive waste shipments using an unapproved draft procedure, and failure to use laboratory qualification guides to document chemistry technician qualifications.
- h. Severity Level V violation for failure to obtain an iodine sample between two and six hours following a thermal power change exceeding 15 percent of the rated power within a one hour period.

i. Severity Level V violation for failure to package a shipment of low specific activity material in a Department of Transportation specification 7A package or a strong, tight package.

2. Conclusion

Category: 3

Trend During This Period: Constant

3. Board Recommendations

Licensee resources appeared to be strained in this area. The Board recommends that NRC staff resources applied to the routine inspection program be increased. Increased licensee management attention to this area is also recommended.

C. Maintenance

1. Analysis

During the evaluation period, inspections were performed by the resident and regional inspection staffs. Improvements in performance, which were noted during the previous SALP assessment period, have not continued at the same rate into the current evaluation period. Improvements in the following areas are warranted, as illustrated by: violation a, preplanning and procedures; violations b and e, training in procedural compliance; and violations c and d, procedure upgrade.

Staffing levels appeared to be adequate to handle the normal maintenance work load. Areas of responsibility and authority were defined and promulgated. An improved training program has been included in the PEP, but specific goals have not been determined.

Source and intermediate range nuclear instrument maintenance was poor and resulted in several turbine runbacks and reactor trips. These nuclear instruments were routinely out of service and repeated repair efforts have not resulted in long term increases in reliability. Corrective action was not aggressively pursued because the non-standard Technical Specifications did not require the operability of intermediate range instruments and only required source range instrument operability during refueling. Two reactor trips within eight months were due to failure of the same source range instrument.

The licensee has ordered replacement components to prevent intermittent electrical transients in the 4A static inverter which supplies 120 VAC instrument power. In June, September and October of 1984, the loss of the 4A static inverter resulted in nuclear instrument power supply transients which caused either a runback or a reactor trip.

Improvement in the control of maintenance activities was needed as evidenced by the following examples: In October 1984, the 4A static inverter was returned to service prior to the completion of maintenance, and its subsequent failure resulted in a reactor trip; and violation b in the operations section resulted from maintenance performed on Auxiliary Feedwater pump controls without adequate control and communication.

Management's approach to the resolution of some technical issues resulted in symptom correction rather than the repair of the fundamental maintenance problem. Corrective actions for the following long standing problems were not timely and consequently no near term resolution of these problems is expected.

- Flow oscillations experienced by two of three Auxiliary Feedwater pumps caused the flow control differential pressure cells to be disconnected. A study of the Auxiliary Feedwater pump differential pressure cell problem has been ongoing since February 1982, without conclusive results;
- Numerous turbine runbacks have resulted in reactor trips as automatic rod drive control was disabled, and turbine control oil pressures have not been maintained as designed. While a firm timetable has not been established, long term plans call for the eventual restoration of the automatic rod control system; and
- Several turbine runbacks resulted from spurious nuclear instrument signals and losses of the 4A static inverter. Corrective action has been to disconnect the nuclear instrumentation rod drop runback circuitry and to extensively trouble shoot and repair the 4A static inverter. Long term action is to replace the static inverter.

In two instances (violation b of the operations section) lack of control of maintenance resulted in a reactor trip and a safety system was altered with no evaluation made or compensatory action taken. In violation e of the Quality Assurance (QA) section, maintenance procedure quality control holdpoints were not established. In violations h and j of the QA section, gauges were outside their calibration period and not identified or segregated, and deletions to a procedure were not controlled. Short term actions taken by the licensee to compensate for weak maintenance procedures included daily review of upcoming maintenance to identify and correct procedural deficiencies.

Violations a, c and d document examples of management failure to provide adequate procedural guidance during maintenance on safety related equipment. Violations b and c are indicative of management failure to ensure that maintenance personnel adequately implement approved procedures.

Seven violations were identified during the evaluation period:

- a. Severity Level IV violation for failure to use the proper packing during maintenance on the pressurizer power operated relief valve block valves.
- b. Severity Level IV violation for commencing instrument maintenance while shutdown rod banks were not on the core bottom.
- c. Severity Level IV violation for several examples of procedural inadequacy.
- d. Severity Level IV violation for use of an inadequate procedure during maintenance on the component cooling water and intake cooling water systems.
- e. Severity Level IV violation for failure to implement procedures during the repair of the residual heat removal pump.
- f. Severity Level IV violation for failure to follow a maintenance procedure for completing temporary change documentation.
- g. Severity Level V violation for failure to follow a maintenance procedure.

2. Conclusion

Category: 3

Trend During This Period: Constant

3. Board Recommendations

Only minimally satisfactory performance with respect to operational safety was achieved in this area. Licensee management should evaluate incorporation of maintenance activities into the PEP, dependent upon the impact of incorporation on previously scheduled items. The Board recommends that NRC staff resources applied to the routine inspection program be increased.

D. Surveillance

1. Analysis

During the evaluation period, inspections were performed by the resident and regional inspection staffs. Review of the snubber surveillance test program disclosed that corporate management was involved in resolution of multiple mechanical snubber test failures and that the licensee had a clear understanding of the issues. The approach to resolution of the problem was conservative, technically sound, thorough, and timely. Records were complete, legible, well maintained, and retrievable. Procedures were adequate for control of snubber test and surveillance activities.

Management involvement and control in assuring quality in the area of inservice inspection (ISI) and inservice testing (IST) was adequate in that audits were generally complete and thorough; reviews were generally timely, thorough and technically sound. The training and qualification program for ISI and IST examiners contributed to an adequate understanding of work and adherence to procedures with few personnel errors.

Management involvement and control in assuring quality in the area of TS surveillance was not satisfactory. Violations a, b, d and e document examples of inadequate surveillance tests. Some tests were not sufficiently detailed to prove that the tested component would serve its intended function as required by the TS. The approach to resolution of technical surveillance issues from a safety related standpoint was not always thorough. The licensee maintained that if a component was tested to the requirements of ASME Section XI, the component test also met the operability requirements of TS. NRC did not agree with this opinion in that code covered activities are primarily intended to assure the integrity of the pressure boundary and do not cover requirements to assure operability of components. The licensee was responsive to NRC initiatives in this area and developed several short term corrective action programs intended to upgrade the surveillance program to assure that component and system testing was adequate. These are addressed in the QA section below.

Staffing was adequate to perform surveillance requirements. Reportable events associated with missed surveillances were timely, complete and accurate. However, corrective actions in two of the LERs were not adequate to prevent recurrence of the missed surveillances.

Seven violations were identified as follows:

- a. Severity Level IV violation for inadequate testing of the emergency containment filter system and the control room ventilation system.
- b. Severity Level IV violation for inadequate emergency diesel generator testing.
- c. Severity Level IV violation for a Safety Injection System hydrostatic test not including safety relief valves in the valve line-up.
- d. Severity Level IV violation for inadequate operability tests of the Residual Heat Removal and High Head Safety Injection pumps.
- e. Severity Level IV violation for failure to perform visual inspection of Unit 4 snubbers prior to removing the snubbers for functional testing.
- f. Severity Level V violation for failure to provide criteria in an Inservice Testing procedure.
- g. Proposed violation in that tests for operability of the Intake Cooling Water (ICW) system and the Component Cooling Water (CCW) system were inadequate. The Severity Level of the proposed violation has not yet been determined and the enforcement correspondence has not been issued to the licensee. This time may involve escalated enforcement.

2. Conclusion

Category: 2

Trend During This Period: Improving

3. Board Recommendations

Licensee management attention in this area was evident. No change in the level of NRC staff resources applied to the routine inspection program is recommended.

E. Fire Protection

1. Analysis

During this assessment period, inspections were performed by the resident and regional inspection staffs. The licensee's procedures for the control of the fire protection program were

reviewed and found to meet NRC guidelines, with the exception of the procedures covering the control of open flame ignition sources such as welding and cutting operations. The licensee has agreed to reevaluate these procedures for possible revision to meet NRC guidelines.

Those personnel assigned to coordinate and implement the fire protection program appeared well qualified, through experience and training to accomplish their assigned responsibilities. The fire brigade organization consisted of a sufficient number of personnel from operations, health physics and chemistry to assure that the minimum required brigade members were available on each shift. The brigade members participated in the required drills and received training.

The surveillance inspection, testing and maintenance of the plant fire protection systems appeared satisfactory. A limited review of the surveillance data on the fire protection system indicated that the systems were being inspected and tested in accordance with the requirements of the Technical Specifications. An adequate quantity of fire brigade equipment was available onsite and appeared to be properly stored and satisfactorily maintained.

Implementation of the plant's fire protection and prevention procedures for the control of flammable and combustible materials and general housekeeping has improved. However, continued management attention is still required in this area.

Overall, the management involvement and control of the key fire protection program elements was adequate. The responsiveness to NRC initiatives was timely with no major violations identified. An inadequate number of fire protection events occurred during this assessment period to evaluate the licensee's reporting of fire protection events. Staffing of the fire protection program was adequate.

In December 1983, a small fire occurred in the lagging on the bowl of the 3C Reactor Coolant Pump. This resulted in no equipment damage or personnel injury. Oil soaked lagging was identified as a potential fire hazard; however, a decision was made to heat up the unit without removing the oil soaked lagging. This is an additional example of violation f in the operations section of this report.

Several fire drills were inspected with examples of deficiencies identified. Lack of security participation was identified to licensee management and was corrected. Fire fighting strategies were available for use in August 1983, but they were not implemented for use until June 1984.

Two violations were identified during this evaluation period:

- a. Severity Level V violation for failure to meet the fire prevention requirements of the plant procedure for the safe control of welding and cutting operations.
- b. Severity Level V violation for failure to have the staff review and approve a revision to a fire prevention procedure.

2. Conclusion

Category: 2

Trend During This Period: Improving

3. Board Recommendations

Licensee resources in this area were adequate. No change in the level of NRC staff resources applied to the routine inspection program is recommended.

F. Emergency Preparedness

1. Analysis

During the evaluation period, inspections were performed by the resident and regional inspection staffs. Routine inspections identified no major impediments to emergency response. The corporate and plant emergency response organizations appeared to be adequately staffed. With the one exception below, personnel assigned to the emergency organizations were adequately trained in the required areas of emergency response. NRC reviewed the licensee's training for the annual emergency drill. The training was reasonable and properly participated in by site personnel. A special inspection was performed which focused on the ability of the plant supervisors to make protective action decisions. A weakness in the licensee's ability to make these decisions was identified in addition to a procedural weakness which allowed improper protective actions to be recommended for certain conditions.

Corporate management was committed to maintaining an effective emergency response program. They participated in the preparation for an exercise. Full time personnel were assigned responsibility for administration of the emergency preparedness program at both plant and corporate offices. No significant offsite emergency planning issues existed. A cooperative working relationship existed with State of Florida authorities.

The licensee was responsive to NRC initiatives in emergency planning. Corrective action was prompt and all issues resolved.

Two violations were identified during the evaluation period:

- a. Severity Level IV violation in that Nuclear Plant Supervisors were not adequately trained.
- b. Severity Level IV violation for implementing procedures that failed to address protective actions.

2. Conclusion

Category: 2

Trend During This Period: Improving

3. Board Recommendations

Satisfactory performance with respect to emergency preparedness was achieved in this area. No change in the level of NRC staff resources applied to the routine inspection program is recommended.

G. Security and Safeguards

1. Analysis

Inspections in this area were performed by the resident and regional inspection staffs. Licensee corporate management has been very responsive to NRC concerns raised by a Safeguards Regulatory Effectiveness Review conducted during the previous assessment period. The licensee has made notable improvements in several physical security barriers and was actively evaluating methods for addressing other NRC concerns. The last SALP report identified a program weakness in the maintenance of the electronic security system. It received management planning and procurement attention. However, a final upgrading schedule has not been established.

The licensee's approach to the resolution of technical issues was sound and reflected a good understanding of the issues. The security organization was staffed with properly trained and qualified personnel. The licensee had difficulty maintaining portions of the Intrusion Detection System to ensure its operability. This was a result of equipment age and condition. The licensee intends to upgrade this system.

Reportable security events were promptly and accurately reported and adequately addressed by appropriate corrective actions. The licensee has experienced continuing difficulty complying with existing procedural requirements, as evidenced by violations a through c below.

Four violations were identified during the evaluation period:

- a. Severity Level IV violation for failure to provide positive access control to a Vital Area.
- b. Severity Level IV violation for failure to maintain a portion of the electronic security system in an operable condition.
- c. Severity Level IV violation for having an unescorted visitor.
- d. Severity Level V violation for failure to display a security badge.

2. Conclusion

Category: 2

Trend During This Period: Constant

3. Board Recommendations

The conduct of activities showed a proper concern for nuclear safety. No change in the level of NRC staff resources applied to the routine inspection program is recommended.

H. Refueling

1. Analysis

During this evaluation period, inspections were performed by the resident and regional inspection staffs. Refueling operations were observed for Unit 3 and Unit 4 in March 1984. Spent Fuel Pool (SFP) conditions were also inspected.

During the Unit 3 refueling outage, fuel sipping was performed on 158 fuel assemblies. Several poor practices were noted during the performance of fuel sipping procedures designed to identify cladding failures in the Unit 3 fuel elements. These practices included communications, procedural compliance and health physics requirements.

The Unit 3 fuel off-load began in March 1984, and was completed in April 1984. After removing only one fuel element from the reactor vessel, licensee management determined that a complete refurbishment of the fuel transfer system was necessary prior to off-loading any additional fuel elements. A lack of preventive maintenance on the fuel transfer system culminated in the

unexpected failure of several components. System testing prior to use was not extensive enough to identify the gradual degradation of these components. The rebuilding of the refueling transfer system represented a major refueling inconvenience and adversely impacted the preplanned outage schedule.

During the Unit 4 core reload of May 1984, numerous long-standing SFP discrepancies were brought to the attention of licensee management. A detailed list of thirteen discrepancies was itemized by NRC. Areas of concern involved the operation of the skimmer system, level monitoring float operability, use of valve identification tags, crane door seal operability, crane hold down bolt corrosion, and ventilation louver operability. In addition it was determined that Final Safety Analysis Report (FSAR) conditions in the areas of ventilation and radiation monitors were not verified.

During fuel movement in May 1984, material discrepancies readily apparent to licensee personnel working in the area, went uncorrected until the NRC brought them to the attention of senior supervisors. In July 1984, some housekeeping improvements had been accomplished in the SFP buildings but numerous maintenance items remained unaddressed. A section of ventilation duct work was removed to allow maintenance on the SFP ventilation fan. Air that normally exited the plant exhaust stack was forced into the SFP building. The licensee was not aware of this potential release path.

Licensee performance in spent fuel pool activities has generally declined over the course of the SALP assessment period. Plant personnel, aware of the many SFP discrepancies prior to NRC identification, did not initiate corrective action. NRC identified discrepancies were not aggressively pursued by licensee management.

Spent fuel storage rerack safety analysis submittals for a license amendment assumed operability of the systems described in the submittals and the FSAR. However, many of the systems assumed to be operable required refurbishment and maintenance schedules had not been determined.

One violation was identified during the evaluation period:

Severity Level V violation for failure to provide adequate procedures for the procurement of materials.

2. Conclusion

Category: 2

Trend During This Period: Declining

3. Board Recommendations

Although this area received a Category 2 rating, there was a trend toward a declining level of performance. The Board noted that the low number of violations in this area was due in part to the lack of regulatory requirements. Management attention should be increased to ensure satisfactory performance. No change in the level of NRC staff resources applied to the routine inspection program is recommended.

I. Quality Programs and Administrative Controls Affecting Quality

1. Analysis

During this evaluation period inspections were performed by the resident and regional inspection staffs. Management control of quality activities was the subject of several enforcement conferences and civil penalties. Subsequent to enforcement discussions held in January 1984, licensee management developed the Performance Enhance Program (PEP) which the NRC formalized by a Confirmatory Order on July 13, 1984. An overall lack of Quality Assurance (QA) effectiveness, identified prior to the origination of the PEP, resulted in key personnel changes and an administrative reorganization which caused the QA department to report to the Group Vice President-Nuclear Energy. The PEP was intended to address NRC concerns, improve regulatory compliance and implement regulatory corrective actions, and it is scheduled to continue into 1987. The PEP coordinated improvements in several areas such as organization structure and personnel changes, QA program changes, upgrade of the Technical Specifications, establishment of safety engineering groups, allocation of additional resources and upgrade of facilities, operations enhancement, procedures upgrade, improvement of the plant configuration control program, and training in improvements to maintenance management. As a result of other enforcement action, the licensee has undertaken a separate program for improved operation. This will include reviewing the FSAR to assure operation within the safety analysis, identification and correction of instrument calibration program deficiencies, correction of surveillance program deficiencies, and increased management awareness and overview of operations.

Inspection of procurement activities identified that procedures did not consistently assure that all purchased materials met or exceeded original requirements or resolve differences between corporate and plant staff requirements concerning certain safety classifications. No examples were identified of improper hardware problems; however, management was needed to assure that existing procedural requirements accurately reflected existing requirements. The licensee's response and programs to meet Generic Letter (GL) 83-28, Salem Anticipated Transient Without Scram (ATWS) Event, were being upgraded. These programs were being revised to control post trip reviews, post maintenance testing, vendor interface, and reactor trip system reliability.

The licensee's large-scale audits have not identified significant weaknesses, but their short term program has begun to assist the improvement of plant operation. Changes and upgrading of the QA and Quality Control (QC) personnel was on-going and positive effects were evident. However, all programmatic deficiencies have not been resolved. The QA staff has not developed an adequate program for independently investigating plant events to determine if significant deficiencies existed.

The Plant Nuclear Safety Committee (PNSC) has not been effective in reviewing and evaluating facility operations to detect potential safety hazards as evidenced by violations f, l, and m. Specifically, the PNSC was not sufficiently familiar with regulatory requirements pertaining to operation of the plant as described in the FSAR. Appropriate training of the PNSC staff has begun.

The previous SALP report discussed a corrective action status report system designed to provide timely resolution of identified problems. During this evaluation period, it was found that this program was inadequate. Consequently, in conjunction with the revised QC organization, a corrective action tracking system was implemented to assign responsibility for problem area corrective actions. The intent of this system was to assure that proposed schedules were met and to track the progress of an item until closeout. The QC staff was implementing this program, and QA staff was auditing it.

The verification and oversight activities to assure the quality of plant activities, structures, systems and components were not adequate as indicated by violations a, b, c, d and h. Changes to the facility were made that were not in accordance with the FSAR. Procedures and all drawings were not updated to conform to recent plant changes, and design changes did not properly identify components.

QC involvement in maintenance was addressed in the maintenance section and violation e was an example of the need for better understanding of the QC role in maintenance. QC holdpoints have generally not been established for all critical measurements. Short-term corrective actions are discussed in the maintenance section.

Violations g, j and k were examples of QA program problems involving test records not containing the required information, records of facility operating parameters not retained, and temporary procedure changes not receiving required reviews and approvals.

Fourteen violations were identified during the evaluation period:

- a. Severity Level III violation for failure of PNSC to review design changes which changed the FSAR description of the electrical distribution system and contributed to two reactor trips.
- b. Severity Level IV violation for failure to incorporate a design change in the procedure for control room inaccessibility which caused the procedure to be inadequate for operation of the Auxiliary Feedwater System.
- c. Severity Level IV violation for failure to revise procedures for control of valves, locks, switches and for reactor start-up to reflect the configuration of the Emergency Containment Filter system as modified by design change.
- d. Severity Level IV violation for failure to provide operating and as-built drawings for modifications to the Safety Injection system, Containment Spray system and the Emergency Safeguards Features buses.
- e. Severity Level IV violation for failure to establish QC holdpoints for several critical measurements during Safety Injection pump maintenance.
- f. Severity Level IV violation for failure to perform an unreviewed safety question evaluation.
- g. Severity Level IV violation for failure to require that a test record have necessary information.
- h. Severity Level IV violation for several examples of procedural inadequacy: design changes were not properly implemented in that components were not properly labeled and a drawing was not changed; gauges were not calibrated and segregated; and tank level readings were not taken as specified.

- i. Severity Level IV violation for failure to establish procedures, instructions and drawings for the interfacing of the nitrogen capping system with the Auxiliary Feedwater system.
- j. Severity Level IV violation for failure to treat deletions to a procedure as a temporary procedure change.
- k. Severity Level IV violation for failure to complete temporary change documentation for a temporary alteration to a pressurizer safety valve tail pipe temperature circuit.
- l. Severity Level V violation for failure to maintain records of facility operating parameters, specifically the Curve Book.
- m. Proposed violation in that facility changes were made to operate the Intake Cooling Water (ICW) system different from FSAR assumptions, and an unreviewed safety question evaluation was not conducted. The Severity Level of the proposed violation has not yet been determined, and the enforcement correspondence has not been issued to the licensee. This item may involve escalated enforcement.
- n. Proposed violation for failure of the Plant Nuclear Safety Committee to review or evaluate facility operations for potential safety hazards. The Severity Level of the proposed violation has not been determined, and the enforcement correspondence has not been issued to the licensee. This item may involve escalated enforcement.

2. Conclusion

Category: 3

Trend During This Period: Improving

3. Board Recommendations

Licensee resources were not effectively applied in this area. The Board recommends that NRC staff resources applied to the routine inspection program be increased.

J. Licensing Activities

1. Analysis

NRC noted in the previous SALP assessment that there had been effective attention and an aggressive effort given by management toward nuclear safety in the licensing area. The concern previously identified in the area of requesting amendments under

the guidelines of 10 CFR Part 50.91, as amended pursuant to Public Law 97-415, has been corrected. This was evidenced by the detailed "No Significant Hazards Consideration" findings provided with requests for amendments. NRC completed 32 of the 34 amendments requested since issuance of the 10 CFR Part 50.91 guidelines. Two of the requests have been petitioned and final "No Significant Hazards Consideration" determinations were made. The completion of 96 actions during this evaluation period provides strong evidence of management involvement in the prior planning and assignment of priorities. One goal established with the licensee at the beginning of this rating period was to complete the oldest outstanding multi-plant and plant specific actions. Of the 46 oldest active actions at the beginning of the period, 40 have been closed. The remaining six require action by the NRC staff for final resolution.

An example of specific licensing actions where the licensee's management involvement was evidenced was in the environmental qualification of electrical equipment. The submittal included well stated, controlled and explicit procedures for the control of equipment qualification activities. It was also significant that all the electrical equipment important to safety for Unit 4 had been qualified and only nine switches remained to be qualified for Unit 3. Detailed Justifications for Continued Operation (JCO) were provided for these nine switches.

Detailed discussions, at the licensee's request, were held with the licensee and NRC management to assure that licensing actions were receiving the appropriate priority and resources necessary to meet the changing safety needs, which further demonstrated management involvement and control by the licensee.

The increased interaction of the licensee, including frequent visits, management discussions and meetings with the NRC staff, resulted in clear understanding of safety issues. Sound technical approaches were taken by the licensee's technical staff toward safety resolution. Conservatism was exhibited in relation to significant safety issues on a routine basis. Thoroughness in the approach to the technical issues was demonstrated by the number and complexity of the licensing actions completed during this period.

Consistently sound technical justification was provided by the licensee for deviations from staff guidance. The improved communications between the licensee and NRC staffs has been beneficial to both organizations in the processing of licensing actions and minimizing the need for additional information.

The initial submittals and responses to NRC requests for information consistently met the projected schedules, or a sound justification and a revised schedule were provided. NRC noted that the licensee's corporate structure involved a large number of organizational units requiring both internal coordination and a cooperative attitude to achieve timely resolution of safety issues in the licensing area. A significant improvement was noted in the licensee's technical staff's attitude in responding to NRC requests concerning safety issues. NRC consistently achieved timely resolutions of safety issues in the licensing area as a result of this improvement.

The licensee has increased the licensing staff to assure timely responses and the quality of their submittals in relation to licensing actions. In addition, the technical staff has increased at the site which enhanced the quality and timeliness of the licensee's submittals.

2. Conclusion

Category: 1

Trend During This Period: Improving

3. Board Recommendations

Licensee management involvement was aggressive in this area.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

The major licensee activities at Turkey Point included routine commercial operation for Units 3 and 4, with refueling and maintenance outages conducted on both units.

B. Inspection Activities

The routine NRC inspection program was conducted during this period by the resident and region based inspection staffs. Activities associated with the Performance Enhancement Program and the Program for Improved Operation were closely monitored. One special inspection covered operator emergency preparedness qualifications and one special team training assessment was conducted.

C. Licensing Activities

There were a total of 84 active actions at the beginning of the rating period for the Turkey Point Plant. Actions were added to the multi-

plant and plant specific actions for a total of 156 actions by the end of the rating period. NRC closed 96 actions during the rating period and had 60 active actions at the end of this rating period. These actions and a partial list of completions consisting of amendment requests, exemption requests, responses to generic letters, TMI items, and licensee initiated actions are:

54 Multi-Plant Actions (30 complete). Some of the completed actions in this category are:

- o Control of Heavy Loads - Phase I
- o Appendix I (RETS) Technical Specifications
- o Mechanical Snubber Technical Specifications
- o Environmental Qualification of Electrical Equipment
- o Alternate Shutdown - Appendix R
- o Degraded Grid Technical Specifications
- o Pressurized Thermal Shock
- o Vent and Purge Valve Operability
- o NUREG-0737 Technical Specifications - Generic Letter 82-16
- o NUREG-0737 Technical Specifications - Generic Letter 83-37

64 Plant Specific Actions (48 completed). Some of the completed actions in this category are:

- o ECCS Single Failure Technical Specifications
- o Fire Protection - Appendix R
- o Safety System Walkdown Technical Specifications
- o Fuel Design (OFA/WABA) Technical Specifications
- o Operational Limits ($F_{\Delta H}/F_Q$) Technical Specifications
- o RHR Emergency Technical Specifications
- o Reactor Vessel Material Data
- o Fuel Enrichment Technical Specifications
- o Electrical Design Changes
- o Safety-Related Snubber Technical Specifications

38 TMI (NUREG-0737) Actions (18 completed). Some of the completed actions in this category are:

- o I.C.I.2.A Inadequate Core Cooling
- o II.B.3 Post Accident Sampling
- o II.D.3.4 Control Room Habitability
- o II.K.2.17 Potential Voids in the RCS

D. Investigation and Allegations Review

No major investigation or allegation activities occurred during this review period.

E. Escalated Enforcement Actions

1. Civil Penalties

One civil penalty of \$150,000 was assessed for the following three Severity Level III violations which involved several examples: inoperability of the auxiliary feedwater system; numerous examples of failure to follow procedures; and failure to conduct an adequate review of a design change that led to degradation of electrical equipment. (Issue Date: July 20, 1984)

2. Orders

July 13, 1984. This order was issued confirming the Licensee's Performance Enhancement Program.

F. Management Conferences Held During Appraisal Period

1. Conferences

January 10, 1984. An enforcement conference was held to discuss two Auxiliary Feedwater System Events.

March 9, 1984. A meeting was held to discuss the status of Turkey Point Plant Performance Enhancement Program (PEP review).

March 15, 1984. A meeting was held to discuss two Auxiliary Feedwater System events.

March 22, 1984. A PEP review meeting was held.

March 30, 1984. A PEP review meeting was held.

April 4, 1984. A meeting to discuss QA management changes was held.

April 12, 1984. A PEP review meeting was held.

April 15, 1984. A PEP review meeting was held.

April 26, 1984. A meeting to discuss SRO eligibility requirements was held.

May 17, 1984. A PEP review meeting was held.

May 24, 1984. An enforcement conference was held to discuss security interface activities.

July 12, 1984. A PEP review meeting was held.

August 14, 1984. A PEP review meeting was held.

September 10, 1984. A PEP review meeting was held.

September 19, 1984. An enforcement conference was held to discuss Intake Cooling Water System events.

October 24, 1984. A PEP review was held.

October 29, 1984. A PEP review was held.

2. Confirmation of Action Letters

February 16, 1984. This letter concerned the design changes involved in certain electrical systems.

G. Review of Licensee Event Report and 10 CFR 21 Reports Submitted by the Licensee

During the assessment period, there were 42 LERs reported for Unit 3 and 40 LERs reported for Unit 4. The distribution of these events by cause, as determined by the NRC staff, was as follows:

<u>Cause</u>	<u>#LERs</u>	
	<u>Unit 3</u>	<u>Unit 4</u>
Component Failure	15	20
Design	2	1
Construction, Fabrication, or Installation	3	3
Personnel		
- Operating Activity	6	4
- Maintenance Activity	2	1
- Test/Calibration Activity	5	2
- Other	0	1
Out of Calibration	1	2
Other	<u>8</u>	<u>6</u>
TOTAL	42	40

It was noted that for both units, 68% of the LERs fell into just two categories: component failure and personnel error. For Unit 3, the component failure category accounted for 36% and personnel error accounted for 31%. For Unit 4, the breakdown was 50% and 20% respectively.

H. Inspection Activity and Enforcement

FUNCTIONAL AREA	NO. OF VIOLATIONS IN EACH SEVERITY LEVEL				
	V	IV	III	II	I
Plant Operations		16	2		
Radiological Controls	3	5	1		
Maintenance	1	6			
Surveillance	1	5			
Fire Protection		2			
Emergency Preparedness			2		
Security and Safeguards	1		3		
Refueling		1			
Quality Programs and Administrative Controls Affecting Quality	1	10	1		
TOTAL	10	47	4		