ENCLOSURE

INITIAL SALP BOARD REPORT

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION REPORT NUMBER

50-250/93-03 AND 50-251/93-03

FLORIDA POWER AND LIGHT

TURKEY POINT UNITS 3 AND 4

SEPTEMBER 29, 1991 - JANUARY 30, 1993

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I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated Nuclear Regulatory Commission (NRC) staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance on the basis of this information. The SALP program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocation of NRC resources and to provide meaningful feedback to the licensee's management regarding the NRC assessment of their facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on March 15, 1993, to review the observations and data on performance, and to assess licensee performance in accordance with NRC Manual Chapter 0156, "Systematic Assessment of Licensee Performance."

This report is the NRC's assessment of the licensee's safety performance at Turkey Point Units 3 and 4 for the period September 29, 1991, through January 30, 1993.

The SALP Board for Turkey Point was composed of:

J. R. Johnson, Deputy Director, Division of Reactor Projects (DRP), Region II (RII) (Chairman)
J. P. Stohr, Director, Division of Radiation Safety and Safeguards (DRSS), RII
A. F. Gibson, Director, Division of Reactor Safety (DRS), RII
M. V. Sinkule, Chief, Reactor Projects Branch 2, DRP, RII
R. C. Butcher, Senior Resident Inspector, Turkey Point, DRP, RII
H. N. Berkow, Director, Project Directorate II-2, Office of Nuclear Reactor Regulation (NRR)
L. Raghavan, Project Manager, Turkey Point, Project Directorate II-2, NRR (by telephone)

Attendees at SALP Board Meeting:

K. D. Landis, Chief, Project Section 2B, DRP, RII
W. H. Rankin, Chief, Facilities Radiation Protection Section (FRP), DRSS, RII
A. T. Boland, Radiation Specialist, FRP, DRSS, RII
G. B. Kuzo, Senior Radiation Specialist, Radiological Effluents and Chemistry Section (REC), DRSS, RII
W. M. Sartor, Senior Radiation Specialist, Emergency Preparedness Section (EP), DRSS, RII
A. Gooden, Radiation Specialist, EP, DRSS, RII
W. J. Tobin, Senior Physical Security Specialist, Safeguards Section (SS), DRSS, RII
D. H. Thompson, Physical Security Specialist, SS, DRSS, RII
G. A. Hallstrom, Reactor Inspector, Materials and Processes Section, DRS, RII

R. P. Schin, Project Engineer, Project Section 2B, DRP, RII

II. SUMMARY OF RESULTS

During this 16-month assessment period, Turkey Point continued to demonstrate improved performance. Preparations for and recovery from Hurricane Andrew were conservative, timely, and effective.

Excellent performance in the Plant Operations area continued. Operators performed well during plant startups, plant shutdowns, and transient conditions. Conservative management actions in preparing operators and the plant for Hurricane Andrew, control room oversight, verification of operator log keeping, control of shared systems (fossil/nuclear), and comprehensive plan of the day meetings contributed to the strong performance in this area. Conservatism was also demonstrated by the performance of full-scale post-refueling type startup tests on Unit 3 following the dual-unit outage. Post-hurricane morale problems, staff attrition, and personnel errors were aggressively addressed by management actions but continued to be a challenge.

Improved performance was noted in the area of Radiological Controls. Personnel exposure controls and collective doses were improved by effective As Low As Reasonable Achievable (ALARA) Program efforts including resistance temperature detector (RTD) bypass removal and effective contamination control. A strong environmental monitoring program, effective management of liquid and gaseous effluents, and a substantial reduction in onsite radwaste volume also contributed to this improvement. Areas for further improvement included procedural adherence and resin transfer controls.

Improvement continued in the Maintenance/Surveillance area. Work planning and scheduling, equipment reliability initiatives, corrective maintenance backlog reductions, and general plant material condition and housekeeping were improved. Areas for further improvement included surveillances and the quality of maintenance work.

Superior performance in Emergency Preparedness (EP) was maintained. Strengths included preparation for and recovery from Hurricane Andrew, management support for the EP program, and performance during EP exercises. Areas for further improvement included originality of exercise scenarios and in-plant paging audibility.

Superior performance in Security was also maintained, with strengths in site management, tactical response training, equipment condition, and the Fitness-For-Duty program.

Improved performance in Engineering/Technical Support was demonstrated by the quality of modification packages, reduction in engineering backlogs, prioritization of engineering work, training, self-assessments, and excellent support for Hurricane Andrew recovery. Conservative actions were demonstrated by the performance of 100% eddy current testing on steam generator tubes. Areas for further improvement included drawing

.. quality, contractor oversight, and equipment selection and procurement.

The Safety Assessment/Quality Verification area performance continued to be excellent. Management involvement and support, a strong quality organization, effective audit programs and self-assessments, and good root cause evaluations directly contributed to this performance. Areas for further improvement included timeliness and quality of licensing submittals.

Overall, performance continued to improve in almost all areas. This improved performance was due to the licensee's continued commitment to self-identification and correction of potential problems; a strong management team; and a dedicated, experienced staff.

Facility Performance Summary

Functional Area	Rating Last Period	Rating This Period
Plant Operations (Operations & Fire Protection)	1	1
Radiological Controls	2 improving	1
Maintenance/Surveillance	2 improving	2 improving
Emergency Preparedness	1	1
Security	1	1
Engineering/Technical Support	2	2 improving
Safety Assessment/ Quality Verification	1	1
Outage	1	NA

III. CRITERIA

The evaluation criteria which were used, as applicable, to assess each functional area are described in detail in NRC Manual Chapter 0516. This chapter is in the Public Document Room. Therefore, these criteria are not repeated here, but will be presented in detail at the public meeting to be held with licensee management.

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

This functional area addresses control and performance of activities directly related to operating the unit, as well as fire protection.

During this assessment period, there were no reactor trips due to operator errors. Unit 3 had one manual reactor trip in response to a mechanical failure of a fitting in the turbine control oil piping, and Unit 4 had one automatic reactor trip due to a switch failure during surveillance testing of the containment isolation racks.

During the previous SALP period, Unit 4 had one automatic trip due to a personnel error. On an operating time basis, this represented a performance improvement over previous SALP periods.

Operations personnel performed well during plant startups, shutdowns, and transients. Performance on NRC-administered operator license examinations was excellent (all five crews and 41 of 42 operators passed), as further discussed in the Engineering/ Technical Support section. Several positive operator actions were noted during this SALP period. For example, during a surveillance that inappropriately permitted axial flux deviations outside the target band at 100% power, an operator recognized the discrepancy and immediately reduced reactor power to less than 90%. In addition, when Unit 3 entered Mode 3 following the dual-unit outage, an oncoming operator recognized that the Unit 4 refueling water storage tank did not meet the technical specification-required water volume. Also, prompt operator actions aided in preventing two reactor trips following plant transients due to equipment failures.

The licensee routinely made conservative decisions affecting plant operations. For example, following the dual-unit outage, the licensee performed a full-scale post-refueling type startup test program even though Unit 3 had not been refueled. The Unit 3 fuel had been offloaded and reinstalled in the same configuration. In addition, the stationing of managers in the control room during critical plant evolutions and the use of shutdown risk management controls during shutdowns were noted as strengths. In response to industry events and prior to a related NRC Information Notice, the licensee aggressively initiated operator log reviews. These reviews identified problems with non-licensed operator logs, for which prompt corrective action was taken. In preparation for Hurricane Andrew, licensee management required all operating crews to attend simulator training to practice the most likely scenarios they might encounter (i.e., loss of offsite power, loss of intake cooling water, etc.). Operator and reactor plant performance during Hurricane Andrew was excellent.

During previous SALP periods, the NRC expressed concern regarding high operator turnover and overtime. During the last SALP period, the licensee increased the licensed operator training class size and increased incentives to retain personnel such that six shifts could be implemented. During this period, the operating staff remained on a six-shift rotation with eight-hour shifts. A second Assistant Nuclear Plant Supervisor (ANPS) position was added, creating a Unit 3- and a Unit 4-specific ANPS position. This provided additional supervisory oversight for each unit. The increase in operations staffing and six-shift rotation aided in reducing operator overtime from 14% in 1991 to 12% in 1992. However, the attrition rate for operations personnel increased after Hurricane Andrew. From August 24, 1992, to January 30, 1993, eight licensed and three non-licensed operators resigned. To compensate for the loss of licensed operators, a licensed operator training class of nine career path

non-licensed operators was started in October, 1992. To fill the operator career path, a non-licensed entry-level class of 20 was authorized to start in February, 1993.

The licensee had addressed operator attention to detail and equipment clearance problems during the last SALP period. During this SALP period, there were an increased number of operator errors after Hurricane Andrew (i.e. inadvertent power operated relief valve lifts and a clearance error with personnel contamination). To further address the operator error and clearance problems during the post-hurricane Unit 3 refueling outage, licensee management formed a configuration control review team to review evolutions requiring increased management attention. Prior to performance of a task, the team was chartered to review all clearances to ensure that adequate boundaries existed and that all vents and drains were located within the isolation boundary, to review clearance releases for correct order, to review all clearance boundary modifications and test releases prior to implementation, and to review complex evolutions to ensure that all precautions were taken to minimize any risks. Pre-evolution briefings were conducted prior to releasing clearances to ensure system integrity. Also, a third (independent) verification was performed on all clearances on radioactive systems. Poor quality drawings were noted as contributing to several personnel errors. The licensee has prepared upgraded and computerized plant operating drawings, which are scheduled to be in place early this year. At the end of the SALP period, operator personnel errors were still being observed, indicating a continuing need for management attention.

The plan-of-the-day (POD) meeting continued to be comprehensive and well controlled such that all disciplines were involved in the planning and defining of the next few days' work objectives and critical path work. This helped minimize the time spent in limiting conditions for operation when equipment was taken out of service. The POD tracked several critical indicators such as off-normal annunciators, control room green tags, the leak list, open temporary system alterations, and equipment out of service. To emphasize the need to address the plant work order backlog, the ten oldest plant work orders in each discipline were highlighted. The number of control room deficiency tags was reduced from about 65 during the last SALP period to about 15 at the end of this SALP period.

During the last SALP period, control of work on shared systems (between the fossil and nuclear units) was noted as a problem. The licensee initiated program changes to control work in the switchyard and on other shared systems. One of the controls was a requirement to notify the nuclear plant supervisor prior to any work in the switchyard. There were no fossil/nuclear interface problems identified during this SALP period.

An inspection of the fire protection program was conducted following the recovery from Hurricane Andrew. The results indicated that the

fire protection program improved over the previous SALP period. For example, the number of fire protection system impairments, which had averaged between 40 and 60 in 1990, was reduced to an average of less than 10 by the end of 1991 and was maintained at about that level during this assessment period. Missed surveillances in the fire protection area were noted as a problem in the last SALP period; there were none noted during this SALP period. The licensee's response to Bulletin 92-01 (Thermo-lag insulation) was prompt and effective. That response included the installation of video camera coverage for Thermo-lag areas that did not have installed fire detection.

Five violations were cited in the Operations area during this assessment period.

2. Performance Rating

Category: 1

3. Recommendations

None

B. Radiological Controls

1. Analysis

This functional area addresses those activities directly related to radiological controls, radioactive waste management, environmental monitoring, water chemistry, and transportation of radioactive material.

The radiation protection (RP) program was effective in controlling personnel exposure to radioactive materials and protecting the health and safety of plant personnel and the public. No internal or external exposures in excess of 10 CFR 20 limits occurred during the assessment period.

During the assessment period, the licensee's RP department was reorganized. The restructuring established the ALARA and dosimetry groups as separate entities, reporting directly to the Health Physics Supervisor, and facilitated management involvement in these areas. Adequate numbers of qualified staff were available to support both routine and outage activities. The technician training program continued to be a strength as indicated by comprehensive job performance measures for contractor technicians, the inclusion of integrated mock-ups and systems orientation in continuing training, and licensee support for National Registry of Radiation Protection Technicians certification. The Chemistry Department staff was well-trained, and staffing levels remained stable.

The RP and chemistry self-assessment programs were generally

proactive during the assessment period. Audits of both programs were well-planned and documented with detailed information and recommendations to facilitate implementation of required corrective actions. In addition, the Radiological Incident Report System and the recently-initiated Supervisory Surveillance Program were used effectively by the licensee to appropriately identify, trend, and correct health physics problem areas.

Overall, the licensee continued to effectively manage collective dose, expending approximately 419 person-rem during the assessment period. Collective doses for 1991 and 1992 were 938 and 325 person-rem, respectively (both under the estimated person-rem goals for the periods). For 1991, the majority of the dose expended was associated with the dual-unit outage which included dose-intensive work such as resistance temperature detector (RTD) removal. For 1992, the dose primarily reflected operating conditions, with approximately 64 outage days. The dose was consistent with work scope, and the licensee realized a dose reduction from previous assessment periods, particularly with respect to dose during non-outage conditions.

Efforts in ALARA during the assessment period were effective in reducing overall collective dose. The licensee realized significant reduction in steam generator channel head and reactor coolant system loop piping dose rates (by approximately one half) due to the effective implementation of a lithium/boron coordinated chemistry shutdown program, as well as reduced dose rates due to the removal of the RTDs during the previous assessment period. The licensee's improved performance of repetitive refueling tasks during the 1992 Unit 3 refueling outage resulted in the completion of many tasks with less dose than their past best performance. In particular, the use of new reactor vessel head tensioning equipment reduced dose considerably. Other ALARA efforts were undertaken during this assessment period, such as the implementation of digital alarming dosimeters, to further reduce doses.

The licensee's radiation protection work planning and program implementation were generally good; however, several examples of lack of attention to detail as regards procedural compliance were identified during the review cycle. These included the failure to conduct ALARA pre-job briefings for workers in accordance with radiation work permit (RWP) and procedural requirements; the failure to perform routine radiological surveys consistent with procedural requirements; and the failure to adequately leak test Iron-55 sealed sources. Corrective actions associated with these areas were completed or in progress at the end of the assessment period. Weaknesses identified during the previous assessment period related to the respiratory protection program were corrected.

Continued improvement was noted in the licensee's control of contamination. During the assessment period, the licensee decreased contaminated surface area to an average of approximately 6110 square

feet, approximately five percent of the radiation-controlled area. In addition, personnel contamination events for 1992 were approximately 66, as compared to a goal of 100, which was a decrease from previous years. The licensee continued to pursue improvement in laundry/protective clothing monitoring for further reduction in personnel contamination events. Overall, improvements were observed in general housekeeping and radioactive material control, particularly in yard and radioactive material storage areas.

Plant water chemistry was maintained within Technical Specification (TS) limits and an accurate radiochemical analysis program continued during the assessment period. Initiatives included the development of methods to upgrade plant operations, including the use of a reverse osmosis process to produce very high quality water for the Water Treatment Plant for use in the primary and secondary plant. During the assessment period, the licensee took steps to correct long-standing problems with the operation of the secondary system polishers for removal of filterable solids. Water chemistry controls contributed to the fact that very few steam generator tubes have required plugging. The radiochemical analysis program effectiveness, including sample collection and analyses accuracy, was demonstrated by overall agreement between results for analyses conducted using licensee and the Region II mobile laboratory systems during a confirmatory measurements inspection.

During the assessment period, the liquid and gaseous effluents release program was managed effectively. Plant effluent releases were small fractions of their allowable regulatory limits, with no unplanned releases reported. Preparation and recovery actions regarding effluent control and monitoring associated with the August 24, 1992, hurricane were timely, met TS requirements, and were considered appropriate. These actions included initially securing all effluent release pathways and implementation of supplemental monitoring as a result of damage to the main stack and radioactive waste (radwaste) building ventilation systems from the storm.

The licensee's Radiological Environmental Monitoring Program (REMP), a program strength, verified that facility operations resulted in minimal environmental impact. For the assessment period, measured doses and radionuclide concentrations were significantly less than TS reporting values or the specified lower limit of detection. No trends in the environmental monitoring data were noted compared to previous assessment periods. Accuracy of sample analyses was confirmed independently by favorable comparison of licensee analytical results with values for selected environmental samples sent to the NRC contractor laboratory. Licensee actions to restore the REMP following the hurricane were considered timely and appropriate.

With the exception of a July 9, 1992, spent resin transfer spill event, improvements in the processing, storage, and shipping of radwaste were noted during the assessment period. The resin spill

contaminated approximately 2000 square feet (ft^2) of floor space due to the failure to follow procedures for equipment set-up and verification. Poor housekeeping in the area, weak interfaces between licensee and vendor procedures, and partially blocked floor drains also contributed to the spill.

No concerns were identified for shipping activities and improved compliance with posting and labeling requirements were noted as compared to the previous assessment period. Further, management commitments and staff actions resulted in a significant reduction of contaminated equipment and dry active waste maintained onsite. From June 1992 through October 1992, the licensee effectively reduced the volume of radioactive waste stored onsite from 52,000 to 2,500 cubic feet (ft^3). This reduction contributed to the lack of radioactive waste problems during Hurricane Andrew.

One violation was cited in the area of Radiological Controls during this assessment period.

2. Performance Rating

Category: 1

3. Recommendations

None

C. Maintenance/Surveillance

1. Analysis

This functional area addresses activities related to equipment condition, maintenance, testing, and surveillance. In addition to routine inspections, a special inspection of the motor operated valve program was conducted.

Although equipment failures continued to impact plant operations, equipment reliability was improved over previous SALP periods. This was evidenced by reliable plant operation prior to the shutdown of both units for Hurricane Andrew and by the fact that all necessary equipment functioned as required during the hurricane. Additionally, unit availability was improved significantly over previous SALP periods. During this assessment period, there were no reactor trips due to maintenance or surveillance personnel errors. Equipment problems requiring plant shutdowns or power reductions during this assessment period included: piping failures in the turbine control oil system, oil leakage from the 3B and 4C reactor coolant pumps, and a leaking weld joint on a 4C steam generator flow transmitter.

The licensee implemented several programs to improve equipment reliability and reduce the impact of equipment malfunction on plant

operation, which resulted in improved plant operations as noted above. A procedure was established between the Maintenance, Engineering, and Technical Departments to require a root cause analysis of equipment failures which recur following maintenance action and/or engineering resolution. Examples of specific issues which were analyzed for root cause and resolution during this period include failures in the following systems: residual heat removal pump mechanical seals, area radiation monitoring system, main turbine control oil piping, spent fuel pump shaft, intermediate range nuclear instrumentation, turbine auxiliary oil pump, and small bore piping welds in the charging system. Also, the licensee's aggressive approach to a comprehensive Generic Letter 89-10 Motor Operated Valve program continued to improve equipment reliability.

Equipment availability was enhanced by using a quarterly schedule. This method allowed each discipline to ensure that all necessary maintenance was performed and coordinated as one equipment outage. This program also reduced the number of hours safety-related equipment was in a Limiting Condition for Operation for planned maintenance. In addition, the quarterly schedule activities were reviewed from a Probabilistic Risk Assessment standpoint to evaluate risk peaks associated with out-of-service equipment. The Reliability Group of the Maintenance Department started a new program in December 1992 to perform a reliability-centered maintenance analysis on an entire system rather than just at the component level. The feedwater system, which was under review at the end of this SALP period, was the first system chosen based on the number of corrective maintenance manhours expended and the potential reliability gains.

The licensee's attention to reducing the backlog of corrective maintenance plant work orders (PWOs), control room deficiency tags, and out-of-service control room instruments improved during this period, as all three indicators reached all-time lows. The non-outage corrective maintenance PWO backlog was reduced from 750 at the end of the last SALP cycle to approximately 425 at the end of this cycle, which was significantly below the licensee's goal of 700. In addition, the ten oldest of these PWOs for each maintenance discipline were tracked at the daily POD meeting, which resulted in completing the oldest ones (from 1986 to 1989). The Maintenance Department continued to complete more than 50% of the non-outage corrective maintenance PWOs within 3 months of initiation. In addition, the total number of these PWOs older than 12 months was reduced to 374 at the end of 1992, which was well below the licensee's goal of 580. Control room deficiency tags were reduced from a low of 44 in the last SALP period to 12 at the end of this SALP period. Out-of-service control room instruments were reduced from a low of 28 in the last SALP period to 5 at the end of this SALP period. In August 1992, licensee management established a dedicated Maintenance/Engineering task team on PWO reduction. During the assessment period, the team processed 136 PWOs that were previously on hold for Engineering input. In addition, the team

issued nine standard engineering specifications that allowed the maintenance disciplines to perform certain activities without waiting for direct engineering support.

The Maintenance Department continued to focus on upgrading the material condition of the facility. During this SALP period, significant progress was noted in this area both prior to and after Hurricane Andrew. The formal weekly management walkdowns with area supervisors continued to be effective. Followup inspections were conducted to ensure that identified deficiencies were either promptly corrected or entered into the plant work control system. Improvement in the material condition was evident throughout the plant. The licensee formalized an insulation upgrade program which contributed to this improvement. The Maintenance Department also provided extensive support to the licensee's efforts on reducing the amount of contaminated floor space. Plant management increased emphasis on reducing plant leaks by establishing a leak reduction task force responsible for maintaining a data base of leaking components which resulted in a reduced number of leaks. This program received direct management attention when it was discussed at the daily POD meeting.

Quality of maintenance work had been a problem in the last SALP period and deficiencies continued throughout this period. However, improvement has been noted. A number of rework issues were noted during this assessment period, including: intake traveling screen transmission installed backwards, charging pump failures, electric fire pump workmanship deficiencies, and auxiliary feedwater pump B vendor information deficiency. In some cases, Maintenance failed to adequately prioritize work activities once identified. Two recent examples included the failure to adequately seal the Unit 3 generator housing (allowing water entry during heavy rains), requiring a shutdown of the unit and the failure to repair a corroded lube oil storage tank pipe, resulting in subsequent failure and leakage of oil into the discharge canal. In addition, during calibration of a refueling water storage tank level transmitter, a maintenance technician removed the wrong unit, wrong train level transmitter from service.

The Maintenance Department implemented several actions to improve the quality of work during this SALP cycle. The responsibilities for the preparation, review, and revision of department procedures were returned to the Maintenance Department (as well as other departments) from a separate procedures group to provide direct ownership. During critical maintenance activities, the Maintenance Department provided around-the-clock on-shift management coverage. The Department also implemented a self-checking policy during this cycle to enhance the quality of work.

The routine preventive maintenance (PM) program was maintained current (except for approximately one month immediately following the hurricane) with an average of less than 10 overdue PMs per

month. The success of the PM program contributed to the previously noted reduction in the corrective maintenance PWO backlog. The licensee began an engineering review of the PM program to reverify the basis for the existing program, delete unnecessary PMs, add PMs where warranted, and establish the groundwork for implementation of the new NRC Maintenance Rule. The first system under review was the chemical and volume control system. The PM program continued to be an asset by identifying potential problems prior to failure; for example, detecting increasing vibrations of the 3B reactor coolant pump. The pump motor and rotating assembly were subsequently replaced during a refueling outage.

Maintenance Department overtime, training, staffing levels, and turnover rates were adequate throughout this assessment period. Overtime was reduced from approximately 25% at the beginning of this SALP period to 18% at the end. The majority of the supervisors completed formal classroom training to help improve supervisory performance. Mock-up training (reactor coolant pump seals, conoseals, and moisture separator reheater drain line repair) and vendor training for newly installed equipment (MOVATS, Eagle 21, and the area radiation monitoring system) significantly improved the quality and duration of critical maintenance activities and also contributed to reduced radiation doses for maintenance personnel. Training instructors were used on-shift during the Unit 3 refueling outage to both enhance the technical expertise on shift and provide current plant experience to the instructors. Staffing levels for the four maintenance disciplines were adequate.

Overall performance in the surveillance area was adequate. During the previous SALP period, the licensee identified problems with missed surveillances due to surveillance scheduling and tracking. The licensee developed a computerized surveillance tracking program for the tracking and scheduling of all TS-required surveillances with test intervals of one week or more. Although this computerized program was effective in eliminating missed TS-required surveillances which were caused by tracking and scheduling errors, the number of surveillance-related problems attributed to other causes increased since the last assessment period.

During this assessment period, the licensee issued 14 Licensee Event Reports (LERs) regarding surveillance-related problems. These problems were caused by a series of unrelated personnel errors and procedural deficiencies. Examples of personnel errors included three missed ASME Code required tests, two missed mode change required tests, and the failure of a vendor to test diesel fuel oil for sulfur content in accordance with the method specified in the TS. Examples of procedural deficiencies included an inadequate analog channel operating test of the overpressure mitigation system; failure to adequately recirculate the contents of the waste monitor tank prior to sample acquisition; inadvertent automatic start of the 4B emergency diesel generator; and inadvertent de-energizing of the 3A safeguards bus. The licensee's corrective actions for these

issues resulted in a decrease in the number of surveillance-related problems during the later part of this SALP assessment period and no missed surveillances have occurred since September 1992.

During this period, there was one violation cited in the area of Maintenance/Surveillance.

2. Performance Rating

Category: 2 Trend: Improving

3. Recommendations

None

D. Emergency Preparedness

1. Analysis

This functional area addresses activities related to the implementation of the Emergency Plan and procedures, training of onsite and offsite emergency response organizations, licensee performance during emergency exercises and actual events, maintenance of facilities, and staffing. There were four actual emergency events: one Alert (Hurricane Andrew) and three Notices of Unusual Events.

Overall, the emergency preparedness (EP) program received strong management support, thereby ensuring a state of readiness for responding to emergencies. For example, the licensee took actions to improve activation and staffing of the Emergency Operations Facility (EOF) by assigning several members of the plant staff to fill minimum required positions within the EOF formerly filled by corporate office personnel. In addition, following Hurricane Andrew, the allocation of resources for restoration efforts to ensure a state of readiness for the emergency preparedness program was prompt and well organized.

The licensee continued to maintain adequate emergency response facilities (ERFs) and equipment, with appropriate equipment surveillance and functional testing. ERF communications were enhanced by the utilization of video monitoring capability to transmit incident status updates from the Technical Support Center to the Emergency Operations Facility and Operational Support Center.

The licensee continued to experience audibility problems with the plant paging system during the assessment period. Plant paging problems have been identified by the licensee and the NRC for several years, including during the 1991 emergency exercise. Previous corrective actions have not eliminated the problem. During the assessment period, the licensee identified additional corrective actions for the paging problems that will be completed during the

next SALP period.

The licensee's performance during annual exercises, as well as during an NRC-observed simulator drill and interviews with response personnel, demonstrated an emergency response organization that was well trained and prepared to carry out the Emergency Plan and implementing procedures. The licensee demonstrated an effective response capability during both the calendar year 1991 and 1992 exercises. During these exercises, the emergency classification procedures were effectively used to promptly and correctly classify the scenario accidents. The response organization demonstrated timely and effective communications with State and local authorities. Accident mitigation information flow was effective between the ERFs and, with one exception, the appropriate protective action recommendations (PARs) were made for onsite personnel and the public. The one exception resulted in an exercise weakness due to overly conservative PARs based on erroneous data provided to the EOF by the engineering accident assessment team. The licensee's critique was effective in the identification of the PAR weakness and improvement items. A computerized tracking system was implemented for tracking exercise findings to resolution.

During the assessment period, observed exercise strengths included interface with State and local officials; ERF staffing; emergency classification; notification; Operational Support Center operations (team assembly, briefings, and deployment); facility status boards; and control room staff responding in the simulator. The licensee used the simulator during an annual exercise for the first time, and it performed well. The exercise scenarios were detailed and posed challenges to the entire emergency organization. However, review of the scenario by the NRC disclosed that the initiating conditions for the graded exercise of 1991 contained similarities to that of the previous year, and the 1992 NRC-evaluated exercise contained similar initiating events as those of training exercises conducted during April 1992. The licensee acknowledged the exercise similarities and committed to scenario reviews to preclude recurrence.

Four emergency declarations were made during the SALP period. The most significant event during the period was the Alert declaration made on August 24, 1992, as a result of Hurricane Andrew. The remaining events were classified as Notifications Of Unusual Events (NOUEs). In each event, classifications were correct and timely. With the exception of the Alert classification, notifications to offsite authorities were made in accordance with requirements. During the hurricane, the licensee's communications systems became disabled, resulting in loss of the capability to notify offsite authorities. Consequently, the facility was unable to make the notifications as specified in 10 CFR Part 50. After the hurricane, the licensee took prompt corrective actions to restore all communications systems. Corrective actions included enhancements as well as replacements. For example, the previous phone lines were replaced with an underground fiber optic cable; a microwave system

was added as a backup; and two new radio systems were installed with replaceable antennas. In addition, prompt actions were taken to repair and/or replace all sirens used for alerting the public. The licensee performed extremely well in hurricane-related response activities, including: storm preparation; facility activations (including decision-making regarding relocation of ERFs); protection of plant personnel and the identification of potential safety hazards; approach to identification and resolution of issues affecting onsite and offsite emergency preparedness; and the prompt well-organized restoration efforts (affected ERFs, communications, staffing, and offsite interface).

During the assessment period, one exercise weakness and no cited violations were identified in the Emergency Preparedness area.

2. Performance Rating

Category: 1

3. Recommendations

None

E. Security

1. Analysis

This functional area addresses security activities associated with the plant's safety-related vital equipment and the Fitness-For-Duty program.

The site's security force was fully staffed to meet the licensee's security manning commitments of the Physical Security Plan and continued to perform security functions very well. The licensee's security force was effectively managed, well supervised, and had very good procedures. A thorough self-assessment program concluded that the Security Section was well managed and met the commitments of the Physical Security Plan and procedures.

Security training was well planned and executed. The Weapons Qualification Program exceeded the requirements of the Security Training and Qualification Plan. The progressive security training program has contributed to outstanding personnel performance in daily operations and responses to contingency drills. A major strength of the training program was the continued joint tactical response training conducted with local law enforcement agencies. The most recent joint training culminated in a large-scale contingency exercise involving Federal, State, and local agencies including maritime response units. Site management's continued support was demonstrated by funding and beginning construction of a new firing range and training facilities to replace facilities destroyed by the hurricane. Additional management support included

the availability of site personnel and resources to participate in the joint contingency exercises and the priority given to the replacement and repair of security systems and equipment damaged by the hurricane.

During this assessment period, the licensee completed the major upgrade of the security system that was ongoing during the previous assessment period. The system upgrade significantly improved security program effectiveness through enhancement of intrusion detection and assessment, access controls, and operational management of the security force. Completion of the security system upgrade resulted in the elimination of nine long-term compensatory posts; a significant savings in security manpower requirements. Additional improvements in the security system during the assessment period included the addition of a video capture system to the closed circuit television assessment equipment which greatly enhanced the ability of the alarm station operators to assess perimeter fence alarms.

The operational capability and survivability of the upgraded security system was severely tested by Hurricane Andrew. Although a major portion of the system withstood the hurricane winds, security system components and facilities sustained considerable damage, necessitating extensive use of compensatory measures. The licensee aggressively responded to the challenge to promptly restore the security system to full operational status. Through the aggressive rebuilding effort, which was strongly supported by senior management, the licensee restored the physical security system to operation and reduced compensatory measures to a minimum within 28 days.

The licensee's Fitness-For-Duty program continued to be effective in meeting the objectives of a drug-free workplace and licensee commitments relative to access authorization and the prevention of the introduction of contraband items into the protected area. Random testing for drugs and alcohol was conducted in accordance with procedural requirements and the confidentiality of test results was assured. Reportable events were thoroughly addressed and reported in a timely manner.

No violations were cited in the Security area during this assessment period.

2. Performance Rating

Category: 1

3. Recommendations:

None

F. Engineering/Technical Support

1. Analysis

This functional area addresses activities associated with the design of plant modifications and engineering and technical support for operations, maintenance, outages, and licensed operator training. In addition to routine inspections, four special inspections were conducted: Allegation Team Inspection, Procurement Engineering, Structural Design Audit, and Hurricane Andrew Recovery.

The licensee's performance in providing engineering and technical support was good during this assessment period, with some improvements noted over the previous period. The engineering and technical support groups generally took a proactive approach to resolving difficult engineering problems. Emergent issues for both operations and maintenance were generally aggressively identified and resolved. However, weaknesses continued from the previous SALP period in contractor oversight and the selection and specification of reliable plant equipment. Weaknesses were also identified in other areas including procedure review, technical communication, and plant drawings.

Notable actions completed by engineering and technical support during the period included elimination of the drawing update backlog ahead of schedule, issuance of new computer-generated piping and instrumentation drawings that superseded existing plant operating drawings, reduction in the number of temporary system alterations (TSAs) from approximately 30 in the last SALP period to 14, and successful completion of the senior reactor operator certification training by the engineering manager and the technical support manager.

Engineering and technical support for plant modifications was generally good. A documented design bases for Turkey Point Units 3 and 4 has been developed and the design bases documents were updated and programmatically controlled. The quality and technical content of the modification packages were good.

The Project Review Board effectively prioritized engineering work. High priority design changes and emerging technical support activities were documented in the top 20 list for each unit, to be worked during outages, and the top 30 list to be worked while the units were on line. New work items could only be added when an item was completed on one of the above lists. The result was more active engineering involvement in providing timely day-to-day support to the plant and a very low backlog of items on hold for engineering and technical support by the end of the period. For example, the backlog of Non-conformance Reports (NCRs) decreased from 300 in 1990 to an average of less than 20 by the end of 1992 and, as noted previously, the backlog of TSAs decreased.

The licensee's assessments of Architect-Engineering (AE) activities, Plant Engineering Group (PEG) actions, design reviews, Quality Assurance (QA) audit support, and the Technical Alert Program (an engineering communication tool) were effective in identifying areas for improvement within the design organization. These efforts demonstrated the licensee's ongoing proactive approach toward enhancing the quality of engineering support.

During this assessment period, the licensee initiated several actions to help improve performance in the engineering and technical support area. These actions included: developing generic engineering specifications to support routine repetitive maintenance/construction activities (i.e. temporary lead shielding, conduit routing, mounting standards, etc.); involving the system engineers and the Probabilistic Risk Analysis (PRA) Group in the Maintenance Department quarterly schedule of activities; and issuing a Nuclear Policy that restricted the use of unproven or one-of-a-kind designs and required testing if proven components were not available.

The plant-specific PRA model for Turkey Point was applied to the design control and the preventive maintenance programs during this assessment period. PRA information was used for the evaluation of plant modifications to the instrument air system.

Engineering and technical support staff provided excellent plant support for the damage appraisal, recovery, and restart efforts following Hurricane Andrew. The engineering evaluations for the fossil Unit 1 chimney demolition, the Unit 2 chimney condition, and the required plant change/modification packages for the fire protection system recovery effort were timely and well done.

Other proactive actions in the Engineering/Technical Support area included: continuation of 100 percent eddy current testing of all steam generators each outage, performance of a post-refueling startup test program on Unit 3 after the dual-unit outage even though no refueling or core design change had occurred, and development of an outage shutdown risk management procedure that controlled equipment to be taken out of service.

Weaknesses in drawings and operator training contributed to plant events during this assessment period. For example, an oil spill of approximately 100 gallons on the Unit 4 turbine deck was caused by an inadequate clearance attributed to the lack of plant operating drawings and insufficient operator training on the turbine bearing, control, and guarded oil systems. Poor quality drawings contributed to an inadequate clearance and the subsequent spill of slightly radioactive water in the auxiliary building. A drawing error in the fire protection system and discrepancies in control of temporary system alterations and controlled diagrams were also noted during this period.

Weaknesses in engineering oversight of contractors were noted both early and late in the SALP period. The early event was associated with a Westinghouse Eagle 21 system that replaced several Hagan reactor protection system (RPS) racks. Westinghouse was contracted to design, install, test, and provide procedures and training for the Eagle 21 modification. Due to inadequate communications and followup, problems with discrepancies in tuning constants used to process excore detector signals for overtemperature delta temperature and overpower delta temperature were identified during low power physics testing. Subsequently, during Incore/Excore nuclear detector calibration at 50% reactor power, the range of adjustment for the scaling factor for the overtemperature delta temperature setpoint exceeded the acceptance capability of the Eagle 21 hardware. Late in the SALP period, a licensee investigation into an unexpected increase in the local peaking factor and a more positive power distribution following a Unit 3 post-refueling startup determined the cause to be improperly manufactured wet annular burnable absorbers (WABAs). The WABA rod absorber centerlines were incorrectly positioned for both units.

There was evidence of inadequate procedure review. During the Unit 3 startup from the dual-unit outage, an operator observed that operating procedures permitted axial flux deviations outside the target band while at 100% reactor power. However, TS did not permit operation outside the target band at or above 90% reactor power. The operators realized this and reduced power to less than 90% after violating the TS requirement while following the procedure.

Problems were observed in the engineering selection and specification of reliable equipment. There were problems with new equipment installed during the dual-unit outage. The new emergency diesel generator (EDG) air compressors required engineering redesign to operate properly. Also, the auto test feature on the new safeguards sequencer failed and a redesign was required. FPL engineering subsequently completed adequate redesigns.

Effective licensed operator training was demonstrated during this assessment period by performance on licensing examinations. In October 1992, initial examinations were administered to eight Reactor Operators (ROs) and nine Senior Reactor Operators (SROs). In April 1992, initial examinations were administered to three ROs and two SROs. A 100% pass rate was attained for both examinations. Six of seven operator candidates passed the Generic Fundamentals Examination. Requalification examinations were administered in February 1992, to two ROs and eighteen SROs. Seventeen SROs and all ROs passed the examinations. All five crews evaluated passed the requalification simulator examinations.

Five violations were cited in the Engineering/Technical Support area during this assessment period.

2. Performance Rating

Category: 2 Trend: Improving

3. Recommendations

None

G. Safety Assessment/Quality Verification

1. Analysis

This functional area addresses licensee implementation of safety policies; license amendments, exemptions, and relief requests; responses to Generic Letters, Bulletins, and Information Notices; resolution of safety issues; reviews of plant modifications made under 10 CFR 50.59; safety review committee activities; and use of feedback from self-assessment programs and activities.

During this assessment period, the licensee demonstrated a proactive and conservative approach to nuclear safety in preparing for and coping with Hurricane Andrew. Comprehensive procedures, early severe weather preparations, and reinforcement training of reactor operators at the simulator for various accident scenarios as the storm approached were examples of good planning. The licensee's damage assessment and restart efforts following the storm were also thorough, demonstrating technical capabilities and commitment to plant safety.

Licensee corporate management maintained direct involvement with plant status by monthly status meetings. The meetings were beneficial in ensuring that issues were forwarded to the appropriate level of management and in ensuring that assignees of recommended actions were held accountable for their responses. Increased management and supervisory presence in the field was also evidenced by the stationing of managers in the control room during critical plant evolutions and by the development of an off-hours tour program for managers.

The licensee's self-assessment oversight groups, including the Plant Nuclear Safety Committee (PNSC), the Company Nuclear Review Board (CNRB), and the Independent Safety Engineering Group (ISEG), performed well during this period. The PNSC provided a comprehensive overview of plant performance and effectively ensured that matters concerning nuclear safety were brought to the attention of plant management. The CNRB effectively provided a comprehensive and independent overview of plant performance by experienced personnel with varied backgrounds. CNRB members attended PNSC meetings, reviewed NRC and Quality Assurance audit findings, and reported on observations during site tours. Special ISEG reviews and CNRB meetings were conducted to assess plant readiness for restart following Hurricane Andrew.

During this assessment period, the licensee's Quality Department audit program continued to be comprehensive and effective in identifying problems. The Quality Department conducted performance-based evaluations which contributed to the facility's overall assessment efforts. The group's audits identified several issues of non-compliance with NRC regulations which were then promptly corrected. Examples included the failure of a subcontractor to test diesel fuel oil for sulphur content in accordance with the test method specified in the technical specifications, the failure to perform post-maintenance testing of a component cooling water heat exchanger drain valve and of the Unit 4 spent fuel pool purification pump, and the inadequate line supervisory capability of the intrusion detection system. In addition, investigations were initiated based on reports of industry events and resulted in findings related to deficiencies in operator log-keeping. As a result, the Operations Department instituted a monthly audit program and the Quality Department began random quarterly independent audits of log-keeping.

For major problems, the Quality Department performed independent root cause analyses using management oversight risk tree techniques. The Quality Department also provided on-shift coverage during major plant evolutions, utilized outside technical experts for audits in the areas of environmental qualification and security to provide current industry knowledge, and performed post-Hurricane Andrew reviews in support of recovery and restart activities. In addition, there was an improvement in the amount of time audit findings remained open awaiting corrective action. At the end of the previous SALP period, there were no open findings older than 180 days, while at the end of the current assessment period, there were no open audit findings older than 60 days. This indicated a continued improving trend in timeliness of correcting issues.

Event Review Team reports and Nuclear Division Performance Monitoring Management Information Reports were reviewed at various levels of management for the effectiveness of self-assessment activities. The Event Review Team reports identified several areas for improvement in plant procedures and processes based on the root cause analysis of problems. Some of the problems analyzed during this assessment period by the Event Review Team included the auxiliary feedwater pump outboard thrust bearing failure, the 3B feedwater heater tube failures, an exciter field ground, an inadvertent safety injection during a containment isolation rack surveillance, and high sodium concentrations in the steam generators. Nuclear Division Performance Monitoring Management Information Reports, which were distributed to upper management on a monthly basis, were effective for monitoring plant performance, defining corrective actions, and tracking and trending nuclear safety issues.

During this assessment period, the licensee took several initiatives to help improve plant performance. To strengthen management

operating knowledge, five managers completed a Senior Reactor Operator certification class which began in February 1992. Another group of managers was scheduled to attend this course later in 1993. The Operations Manager also attended a five-week Senior Management Course. In addition, the CNRB Chairman attended a Senior Reactor Operator certification class at St. Lucie. To focus resources and efforts, the licensee initiated annual strategic planning tasks with assigned task teams and periodic progress reviews during the monthly status meetings. One of the 1992 tasks involved developing and implementing a new consolidated reporting system to provide a single reporting process by which conditions of concern to the plant staff may be identified, evaluated, analyzed, and corrected. This system reduced the number of different types of reporting systems and provided a mechanism for all employees to easily identify problems to site management for corrective actions. Another 1992 task involved the development and implementation of a detailed quarterly work schedule to improve maintenance efficiency and equipment reliability (See Section IV.C.).

The licensee's submittals to the NRC during the previous SALP period included some which were not of good quality. During this assessment period, the quality of the licensee's submittals in support of licensing activities was again mixed. Many of these submittals were comprehensive, timely, and reflected a sound understanding and appreciation of the technical issues, regulatory requirements and the NRC licensing processes. For example, three requests for temporary waivers of compliance were comprehensive, timely, and well-supported. During the recovery period following Hurricane Andrew, the licensee prepared and submitted several excellent and timely safety evaluations supporting activities such as the interim fire protection system, demolition of the Unit 1 chimney, and an assessment of the Unit 2 chimney condition. Licensee Event Reports submitted during this period were generally timely, well-written, and adequately addressed root causes and corrective actions.

On the other hand, there were a number of licensing submittals during the period which were inadequate. For example, a request for a TS change to modify relays in the 480-volt degraded voltage protection scheme in the engineered safety features actuation system was deficient in scope and justification and did not reflect a sound understanding of the technical issues. The licensee's evaluation in support of a relief request to enable a non-Code repair of a leaking main steam drain pipe did not properly consider the loads on the pipe necessary to demonstrate structural integrity. The licensee requested and was granted interim approval of certain inservice inspection testing relief requests, but failed to follow up promptly with revised permanent relief requests. When submitted, the permanent relief requests were not adequate, needed several iterations, and required a last-minute expedited staff review to support the licensee's schedule needs.

No violations were cited in the Safety Assessment/Quality Verification area during this assessment period.

2. Performance Rating

Category: 1

3. Recommendations

None

V. SUPPORTING DATA

A. Licensee Activities

Units 3 and 4 began this assessment period in a dual-unit outage for electrical upgrades and both units ended the period at power.

Unit 3 was placed on line on October 1, 1991. It remained on line for the remainder of the period, with the exception of one manual reactor trip, three unplanned shutdowns, two other occasions when the unit was taken off line for maintenance, and a combined Hurricane Andrew/refueling outage late in 1992. Unit 3 availability for the period was 74%.

Unit 4 was placed on line on October 29, 1991. It remained on line for the remainder of the period, with the exception of one automatic reactor trip, five unplanned shutdowns, three other occasions when the unit was taken off line for maintenance, and a Hurricane Andrew outage late in 1992. Unit 4 availability for the period was 83%.

The licensee's Quality Department was reorganized in November 1991 with Quality Assurance and Quality Control becoming one organization reporting to a Site Quality Manager.

B. Reactor Trips and Unplanned Shutdowns/Unit Taken Off Line

Reactor Trips:

October 3, 1991: Unit 3 was manually tripped in response to a mechanical failure of a piping nipple in the turbine control oil system. The unit was down for 26 hours.

March 26, 1992: Unit 4 tripped automatically due to a switch failure during surveillance testing of containment isolation racks. The unit was down for 39 hours.

Unplanned Reactor Shutdowns/Unit Taken Off Line:

December 10, 1991: Unit 4 was manually shut down for 24 hours due to a load sequencer failure. The unit remained down for an additional 165 hours to repair a conoseal leak. Unit 4 was returned on line on

December 18.

January 3, 1992: Unit 3 was manually shut down to repair 3B RCP oil leakage. The unit was down for 24 hours.

January 28, 1992: Unit 4 was manually shut down for repairs to a leaking welded joint on a flow transmitter on the 4C steam generator. The unit was down for three days.

March 25, 1992: Unit 4 was taken off line to correct a turbine generator exciter water intrusion problem. The unit was off line for 12 hours.

April 27, 1992: Unit 3 was manually shut down to replace the 3C RCP seal. The unit was down for 15 days and was returned on line on May 12, 1992.

May 7, 1992: Unit 4 was taken off line due to steam generator chemistry problems. The unit was off line for eight hours.

August 23, 1992: Unit 4 was manually shut down for Hurricane Andrew. The unit remained down for post-hurricane repairs for 37 days and was restarted on September 29.

August 23, 1992: Unit 3 was manually shut down for Hurricane Andrew. The unit remained shut down for post-hurricane repairs and a refueling outage. The unit was down for 102 days and was returned on line on December 3.

September 29, 1992: Unit 4 was manually shut down from Mode 2 in response to the identification of two missed TS surveillances and problems with the B AFW pump overspeed trip. The unit was down for eight hours, then restarted.

October 1, 1992: Unit 4 was manually shut down from 30% power - this was a voluntary licensee action until FEMA completed an evaluation of offsite state and county emergency preparedness. The unit was down for 23 days and was restarted on October 24.

December 4, 1992: Unit 3 was taken off line for turbine overspeed testing and to correct a main generator exciter fan problem. The unit was off line for two days.

January 7, 1993: Unit 4 was taken off line to repack the 4A steam generator feed regulating valve. The unit was off line for 8 hours.

January 8, 1993: Unit 3 was taken off line to repair a steam leak on a 3B moisture separator reheater drain line. The unit was off line for 32 hours.

C. Direct Inspection and Review Activities

During the assessment period, 35 routine and seven special inspections were performed at Turkey Point by the NRC staff. The special inspections were:

- Allegation Team Inspection of Engineering Actions
- Procurement Engineering
- Structural Design Audit
- MOV Program Inspection
- Hurricane Andrew Recovery (three inspections)

D. Escalated Enforcement Actions

1. Orders

None

2. Civil Penalties

None

E. Confirmatory Action Letters

None

F. Licensee Conferences

During the SALP period, 17 meetings were held with the licensee to discuss active licensing issues, other issues of interest, and licensee self-assessments, accomplishments, and plans. The subjects of the more significant meetings included:

October 15, 1991	-	Eagle 21 problems during Unit 3 startup
January 9, 1992	-	Engineering initiatives
April 3, 1992	-	New load sequencers and instrumentation setpoints
July 9, 1992	-	Proposed temporary non-Code repairs to main steam drain line
Sept. 10, 1992	-	Status of restoration of nuclear units after Hurricane Andrew
Sept. 22, 1992	-	Interim fire protection configuration; Unit 2 chimney evaluation, and Unit 4 restart plan after Hurricane Andrew
November 2, 1992	-	Licensee self-assessment presentation
November 16, 1992	-	Unit 3 restart plan after Hurricane Andrew and refueling

G. Licensing Activities

During the assessment period, the staff completed 51 licensing activities, while 44 new ones were opened. Eight of the closed items were amendments and the remainder were multi-plant and other regulatory activities, including NRC Bulletins and Generic Letters.

H. Review of Licensee Event Reports

For the assessment period, a total of 34 LERs were analyzed. The distribution of these events by cause, as determined by the NRC staff, is as follows:

Cause	Unit 3 or Common	Unit 4
1. Component Failure	1	3
2. Design	4	3
3. Construction, Fabrication, or Installation	1	0
4. Personnel Error		
a. Operating Activity	2	0
b. Maintenance Activity	1	1
c. Test/Calibration Activity	10	4
d. Other	1	1
5. Other	2	0
Total	22	12

Note 1: With regard to the area of "Personnel Error," the NRC considers lack of procedures, inadequate procedures, and erroneous procedures to be classified as personnel error.

Note 2: The "Other" category is comprised of LERs where there was a spurious signal, a totally unknown cause, or an external cause such as natural phenomena.

Note 3: In addition to the above, one voluntary LER was submitted, which was not considered in this report.

I. Enforcement Activity

Functional Area	No. of Violations in Each Severity Level V IV III II I Unit 3/Unit4
Plant Operations	5/5
Radiological Controls	1/1
Maintenance/Surveillance	1/1
Emergency Preparedness	0/0
Security	0/0
Engineering/Technical Support	5/5
Safety Assessment/Quality Verification	0/0
TOTAL	12/12
Net total (each Violation counted once)	12