U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/95006

FACILITY

Perry Nuclear Power Plant, Unit 1

License No. NPF-58

LICENSEE

Cleveland Electric Illuminating Company
Post Office Box 5000
Cleveland, OH 44101

DATES

May 27 through July 14, 1995

INSPECTORS

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APPROVED BY

R. D. Lanksbury, Chief — 9/8/95
Reactor Projects Section 3 — Date

AREAS INSPECTED

A special announced inspection of operations, engineering, maintenance, and plant support was performed. Safety assessment and quality verification activities were routinely evaluated. Follow-up inspection was performed for non-routine events and for certain previously identified items.

RESULTS

Assessment of Performance
Performance within the area of OPERATIONS was good - see Section 1.0. No violations, deviations, or significant problems were found. Operators performed well during routine operations and transients. The operators were faced with fewer operational challenges than in the past. Operator performance was good following a regulating transformer failure and when a reactor recirculation flow control valve opened further than expected.

Past improvements in communications within operations and with other plant organizations were maintained; additional improvement was still needed in communicating with other organizations. Past improvements in reducing personnel errors was maintained, however several errors occurred which did not raise immediate safety concerns.

Performance within the area of MAINTENANCE was good with continuing improvement - see Section 2.0. No violations, deviations, or significant problems were found. However, work management problems and personnel errors continued, indicating a need for continued improvement.

Performance within the area of ENGINEERING was good - see Section 3.0. No violations, deviations, or significant problems were found. Perry's systems based instrument and control self-assessment, performed in lieu of an NRC team inspection, was very good. The self-assessment was comprehensive, with appropriate corrective actions and operability determinations. Perry management support for this effort was evident. The motor operated valve (MOV) program made good progress towards closure, but challenges remain. Although management commitment to program completion was evident, the NRC was concerned with the completion of the 100 remaining static and dynamic tests between now and the end of the upcoming refueling outage. The NRC expects all MOV testing to be completed before startup from the refueling outage.

Performance within the area of PLANT SUPPORT was good - see Section 4.0. No violations, deviations, or significant problems were found. The primary containment building was decontaminated allowing unimpeded access to the building. The corrective action program was effectively used to identify a deficiency which significantly contributed to the site's collective dose. A radioactive fluid leak was not promptly identified and mitigated.

Performance of SAFETY ASSESSMENT and QUALITY VERIFICATION activities was good - see Section 5.0. No violations, deviations, or significant problems were found. One Non-Cited Violation (NCV) was identified. Although the NCV involved a failure to follow a requirement of the radiation protection program administrative procedure it represented a broader weakness. Licensee management's expectations, that each member of the Perry Organization promptly bring problems to the attention of the responsible party and that they be promptly corrected, have not been accepted by all personnel. Several examples of delays in identifying minor issue were identified by the inspectors.

When it became apparent that progress in reducing personnel errors had stopped, the plant manager stopped all work on site until discussions with workers were held and short term improvement plans could be developed. This was an excellent initiative. However, success depends on the quality of long term improvement methods. The licensee continued to identify important issues with a variety of methods and organizations. However, the resulting large backlog of corrective actions requires continued attention and not all personnel are meeting management expectations for reporting of problems.

Summary of Open Items
Violations: Not identified in this report
Unresolved Items: Not identified in this report
Inspector Follow-up Items: Not identified in this report
Non-cited Violation: Identified in Section 5.1

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INSPECTION DETAILS

1.0 OPERATIONS

NRC Inspection Procedures 71707, 71500, and 92901 were used to perform an inspection of plant operations activities. No violations or deficiencies were identified and overall performance in this area was good.

1.1 Operations Summary

The licensee operated the unit continuously at power levels up to 100 percent with brief power reductions for testing, load following, and control rod positioning. On June 3, 1995, power was briefly reduced as a result of a regulating transformer failure. On June 4, 1995, there was a momentary neutron flux increase above 100 percent caused by a problem with the hydraulic control system for a reactor recirculation flow control valve.

1.2 Operator Control of Routine Plant Operations Was Good

The inspectors observed routine plant operations and concluded that overall performance was good. Communications within operations and with other plant organizations continued to improve, but there was still room for improvement. Problems with communications between organizations are not limited to operations (see Sections 4.1 and 5.1).

The licensee maintained past progress in its efforts to minimize personnel errors, however no additional progress was evident. As a result of continuing problems in this area (see below), the plant manager stopped all work on site (see Section 5.2). The licensee's threshold for identifying personnel errors continued to be appropriately low, with emphasis being placed on self-identification by the operations section. Personnel errors identified by the licensee during the inspection included greasing the wrong ventilation fan in the Division 3 emergency diesel generator room, failure to follow the tagout procedure when using a "human red tag" during regulating transformer work, and mispositioning a valve during containment air lock testing. None of the errors had a safety impact and Potential Issue Forms were used to document each error for trending and corrective actions. As in the past, each of the errors could have been prevented by better individual use of the STAR (**S**top, Think, **A**ct, and **R**eview) program which the licensee has been using to minimize personnel errors.

1.3 Operator Control During Transients Was Good

At about 11:16 p.m. on June 3 Regulated Transformer (480/120 VAC) 1R23 S025 failed, causing a loss of 120 VAC Instrument Bus EB-1-A1. This caused a partial loss of indication for safety-related equipment and placed the plant in an 8-hour to re-energize the bus Technical

Specification (TS) Limiting Condition for Operation (LCO) Action Statement (3.8.3.1). TS 3.8.3.1 also required that if the bus was not re-energized that the plant be in Hot Shutdown within the next 12 hours and Cold Shutdown within the following 24 hours. Several other, less limiting, TS LCO action statements were also entered. In order to provide ample support for restoration of the bus, the licensee held the operating shift over, called in its forced outage team, and developed a formal troubleshooting and repair plan with a 12 noon (about 5 hours into the 12 hours to Hot Shutdown action requirement) decision point. This was an excellent initiative. The licensee contacted the transformer vendor for troubleshooting advice but was unable to repower the bus within 8 hours. The scope of the vendor's troubleshooting guidance was limited. The licensee entered the 12-hour shutdown TS LCO Action Statement and began replacing transformer components with components from a new spare transformer. As the noon decision point was approached the transformer failed a post-maintenance test. During a concurrent staff meeting, licensee management did not make a clear decision on when to shut down the plant and the Shift Supervisor exhibited an excellent initiative in reminding the attendees that he needed a firm decision on plant shutdown. The Shift Supervisor was directed to begin preparations for a plant shutdown while additional troubleshooting was attempted. Although the problem with the transformer was identified a short time later, the inspectors observed the licensee begin a plant shutdown at 3 p.m. because post maintenance testing had not been completed. Upon successful completion of post maintenance testing, normal power operation was resumed at 5:20 p.m. with reactor power at 79 percent. The operators' response to this transient was good.

At about 1:22 p.m. on June 4, during a small power increase, the operators observed an unexpected larger power increase. The licensee determined that a fault in the hydraulic position controls for the "B" Recirculation Flow Control Valve (FCV) had caused it to rapidly open further then expected and then "lock up." Neutron flux spiked from about 94 percent power to about 112 percent power. Thermal power increased from about 94 percent power to about 96 percent power and stabilized. The suspect subloop of the hydraulic position controls was administratively blocked from use and the "B" FCV was returned to automatic operation. The nature of the control fault was not identified and additional troubleshooting was being planned for performance during a future plant power reduction.

1.4 Performance of Non-licensed Operators Was Good

A "nuclear island" operator was accompanied on a portion of his normal plant rounds. The operator was thorough and attentive to plant conditions as he made his rounds. He appeared familiar with all aspects of his watch station except for a boron salt buildup on a flange for a standby liquid control borated water tank heater.

During another plant walkdown the inspectors observed several barrels of Fyre Quel electro hydraulic system oil in the turbine building with an expired "Transient Combustible Permit" form taped to an adjacent wall. The licensee audited all the existing transient combustible permits and found three other problems with transient combustibles. This indicated that operators had not paid sufficient attention to accumulations of transient combustibles during earlier rounds. During other inspector tours few deficient items were observed that did not have material deficiency tags in place. This indicated that the operators and other personnel were generally sensitive to the need to identify abnormal plant conditions. However, additional observation discussed in Section 5.1 indicated that some operators needed to be more aggressive in identifying plant problems. The inspectors monitored operator communications by radio and paging phones from the control room and face to face communications. Communications clarity and discipline was excellent.

2.0 MAINTENANCE AND SURVEILLANCE

NRC Inspection Procedures 62703, 61726, and 92902 were used to perform an inspection of maintenance and testing activities. No violations or deficiencies were identified and overall performance in this area was good.

2.1 Ability to Get Work Done

The following observations indicate that work activities continued to suffer from a history of failures to identify and effectively resolve repetitive problems associated with equipment and work instructions.

Work to replace the oil heater gasket on one of three "chillers" for control room heating, ventilation, and air conditioning (HVAC) failed to stop an oil leak. The work supervisor indicated that all the chillers had historically leaked from this gasket with repetitive replacements of the gaskets not resolving the problem. Close examination during this work activity indicated that the gasket seat was not properly machined and a tool was fabricated to machine the seat surface. The oil leak was stopped. This was the first time that the cause of the leaks had been identified. The tool was to be maintained for future repair of the remaining chiller heater oil leaks.

A repetitive task for an air sample motor on one of two hydrogen analyzers called for removal of an oil drain plug. This step required removing the rear cover plate (described as a very difficult task). Upon removal of the plate, the technicians discovered the motor did not have or need a drain plug. After discussions with the system engineer a revision to the repetitive task was initiated. A memo from System Engineering concerning the quality of repetitive tasks that requested feedback from the field to identify problems had been issued and would have provided an opportunity for earlier identification of this problem had this mechanism been used.

2.2 Foreign Material Exclusion

On June 16, 1995, the licensee determined that a ground on a Division 2 battery charger had been caused by a small metal filing which had been wedged under a capacitor. This foreign material had not been excluded from the work area when the capacitor was replaced during recent periodic maintenance of the charger. This was another indicator (see Inspection Report No. 440/95005) that the licensee's programs for foreign material exclusion (FME) were not yet fully effective.

2.3 Personnel Errors

The licensee maintained past success in its efforts to minimize personnel errors, however no additional progress was evident. As a result of continuing problems in this area (see below), the plant manager stopped all work on site (see Section 5.2). Errors identified by the licensee during the inspection included building scaffold under the wrong ventilation fan in the Division 3 emergency diesel generator room, inadequate planning for instrument air work, and an error in a work instruction that allowed work on the wrong radiation monitor.

2.4 Regulated Transformer Repair

When regulated transformer (480/120 VAC) 1R23 S025 failed, causing a loss of 120 VAC Instrument Bus EB-1-A1, expedited repairs were begun. Maintenance performance was excellent despite limited troubleshooting information provided by the equipment vendor. After a replacement component from a spare new transformer was installed the transformer failed post-maintenance testing. A forced shutdown of the plant was avoided when the maintenance technicians determined that the internal wiring on the new component was different from the original component.

3.0 ENGINEERING

NRC Inspection Procedures (IP) 37550, 37551, 40501, 92903, and TI2515-109 were used to perform onsite inspections of the engineering function. No violations or deficiencies were identified and overall performance in this area was good.

3.1 System Based Instrument and Control Self-Assessment

Objectives: The NRC performed a reduced scope followup inspection of the licensee's systems based instrument and control (I&C) audit, No. PA 95-23. The inspectors used IP 40501, "Licensee Self-Assessments Related to Team Inspections," to complete their effort. Key elements evaluated by the inspectors included the licensee's immediate and proposed corrective actions to resolve identified concerns; the audit team's ability to identify programmatic, design, and performance issues; the licensee's ability to respond and determine the operability status for identified audit concerns; and management support for the audit.

Results: Overall, the inspectors concluded the licensee's audit was very good. The audit fulfilled IP 93807, "Systems Based Instrumentation and Control Inspection," objectives and met NRC expectations described in IP 40501. The inspectors concluded that the audit was comprehensive, that the proposed short and long term corrective actions usually were acceptable, and that the licensee's operability determinations were acceptable. In addition, the audit team and plant staff appeared to have the experience and knowledge to conduct a comprehensive performance based audit. Perry management fully supported this effort and assured that timely responses were usually provided to the audit team.

The inspectors made several observations regarding 1) the acceptability of engineering judgement instead of a formal calculation and 2) the need to develop a more questioning attitude. These areas may warrant increased management and engineering staff attention during engineering activities and are discussed in the Inspection Details section.

Background: The licensee's audit team primarily used Perry's Individual Plant Examination to identify the dominant accident sequences. The top ten accident sequences were examined in detail and plant systems involved in the dominant accident sequences were identified. Systems whose failure could affect these accident sequences were selected, and ten instrument loops in these systems that initiate and control protective actions for accident mitigation were selected. These included the following:

- Drywell high pressure, high pressure core spray (HPCS) initiation
- Reactor pressure vessel level, HPCS initiation
- Degraded voltage protection
- Condensate storage tank level, transfer to suppression pool
- Low pressure core spray minimum flow
- Main steam line tunnel high ambient temperature
- Emergency diesel generator (EDG) starting air
- Main steam line high flow
- Suppression pool temperature
- Scram discharge volume level

Inspection Details: An NRC in-process inspection performed the week of February 13, 1995, was documented in Inspection Report No. 440/95002(DRP). The final inspection was performed during the weeks of June 12, and 26, 1995. The inspectors reviewed the licensee's corrective actions proposed for the more significant assessment findings and audit team recommendations. Instrument loops reviewed were evaluated against criteria, such as the setpoint calculation methodology, logic configuration, testability, isolation, channel independence, installation verification, surveillance and calibration procedures, and maintenance.

The audit report was well documented and identified 33 problem areas and made 26 recommendations. Problems identified included programmatic items such as setpoint control and vendor manual control weaknesses. In addition, performance based items such as instrument sensing lines not meeting slope criteria and the identification of a potential reset concern with the degraded voltage relays were identified. The audit team's recommendations were improvements or enhancements to existing programs. Engineering management acknowledged that the recommendations were reasonable and would help their effort. The recommendations were prioritized and were being addressed by the licensee.

Several positive attributes were noted by the inspectors:

- Engineering's resolution of the degraded voltage relay reset concern was especially good.

- Instrument loop and protective relay calculations were very thorough. Cable leakage currents due to high energy line breaks were included and current transformer saturation effects were considered.

- The audit team's observations were good and they appeared to be receiving appropriate management attention.

The following observations were made by the inspectors:

- Previous corrective actions were not effective in resolving problems with the setpoint change program. During the review of the licensee's self-assessment, the inspectors found that 400 setpoint change requests (SCR) remained open; several had been issued in 1986 and 1987. Though most of the SCRs were designated nonsafety-related, the administrative controls for SCRs were poor. The licensee indicated that the setpoint control procedure was being revised to simplify the SCR process and to detail ownership of the SCR program. This should resolve past setpoint control concerns. This program will be reviewed during future routine NRC inspections.

- Engineering's initial resolution of an unapproved installation configuration for several panel mounted relays, using unsubstantiated engineering judgement, was considered inappropriate. After the audit team identified this problem, the licensee walked-down the panels and, based on engineering judgement, concluded that the configuration was sufficiently rigid from a seismic perspective. They also determined that no design documents needed to be changed. Although the inspectors eventually agreed that sufficient margin existed in the seismic qualification report to use the relays as-is, they were concerned because the basis for the engineering judgement was not given in any design document and the drawings were not updated. The licensee acknowledged the inspectors' concerns during the inspection debrief conducted in February 1995, and later provided a seismic calculation and design change notice for the relay installation drawing. The inspectors considered these acceptable. However, the initial less-than-rigorous resolution warranted additional management attention to assure engineering judgement is properly applied and documented.

- The licensee's original corrective actions to address potential common mode freezing of condensate storage tank level transmitter sensing lines were considered marginally adequate. After discovering frozen sensing lines on January 6, 1995, the licensee took no additional corrective actions during the remaining winter months other than a field walkdown on February 17, 1995, to verify the heat trace was operating.

  During document reviews, the inspectors noted that an unrelated temperature monitor failure complicated the initial power loss to the heat trace circuit which had allowed the lines to freeze. Instead of reading approximately 100°F, the monitor erroneously read 198°F before and after power was restored to the circuit. The licensee issued a work order to repair the temperature monitor, but no immediate work was begun and no compensatory measures were initiated to verify continued operation of the heat trace circuits. The inspectors were concerned because the engineering staff had not questioned the need to identify steps to prevent recurrence of a frozen sensor line. The issue was compounded because the erroneous temperature reading had the potential to mislead the operators into thinking that the sensing lines were being provided with adequate freeze protection. Although the licensee's long term corrective actions were acceptable, the licensee's immediate corrective actions were marginally adequate for addressing this concern.

- The inspectors noted that the audit team was concerned with timely responses to several concerns. Although it was concluded that as-installed equipment was operable, the inspectors stressed the importance of timely responses when operability determinations were required. Perry management acknowledged the inspectors observation and indicated they could improve in this area.

<u>Inspector Plant Walkdowns</u>: The inspectors conducted independent walkdowns to validate the site inspection portion of the licensee's audit. The following issues were identified:

- Many material condition type repair tags were hung in the Division I and II emergency diesel generator (EDG) rooms. Many tags involved leaks that had been identified over a year ago. The inspectors noted that plant personnel may become reluctant to identify plant problems when such items are not resolved promptly. Perry management acknowledged the inspectors' concern.

- All three EDG fuel oil day tanks had "magic marker" marks that annotated different level switch (LS) trip points. The inspectors were concerned that uncontrolled points were being used to calibrate the LSs. In response, the licensee identified the calibration process control points and repainted the tanks to remove the uncontrolled calibration marks. The licensee also developed rulers that could be easily aligned to a controlled survey point on each tank. I&C technicians indicated that the rulers would make it easier to obtain consistent LS calibration readings. The licensee's corrective actions were excellent in addressing this item.

- While reviewing calibration instructions for the Division I and II EDG Calcon vibration sensors, the inspectors noted that uncontrolled adjustment in the nonconservative direction (more sensitive) was permitted by the procedure. This concern was expressed by the inspectors to Perry management in February 1995.

  The licensee had not resolved this issue by June 15, 1995, so the inspectors noted that it was unknown if the Division I and II EDGs would remain operable during a loss of offsite power (LOOP) and a seismic event. The licensee provided the inspectors with a revised calibration instruction containing acceptance criteria that quantitatively demonstrated the as-left acceleration force setting of the vibration sensor. In addition, the licensee removed three sensors from the warehouse and rigorously tested them at their BETA testing laboratory. The measured data demonstrated that the sensors would not have tripped during a Perry safe shutdown earthquake concurrent with a LOOP. The inspectors were satisfied with the results.

  Although the licensee's final product was good, it was overshadowed by an initial lack of a questioning attitude by engineering. The inspectors discussed the need to question and follow though on issues such as the vibration sensor and the importance of management's expectations to maintain a good self-assessment program. Perry management acknowledged the inspectors' comments and indicated that they could improve in this area.

3.2 Generic Letter (GL) 89-10 Motor Operated Valve (MOV) Program

Objectives: The NRC inspectors reviewed the status of Perry's GL 89-10 program implementation activities since the Phase 2 inspection and evaluated progress towards program closure.

Results: Management's commitment to program completion was evident, and although good progress had been made towards program closure, challenges remained. Resources devoted to the program were effective and reflected a high level of management attention. The schedules for pre-outage MOV activities (including on-line testing), planned outage activities, and program closure initiatives were well organized and previously identified weaknesses were being appropriately addressed. A significant amount of MOV testing ([illegible] static and 29 dynamic tests) remained to be completed and was the primary obstacle to program closure. The inspectors informed the licensee that all valve testing was expected to be completed before startup from the January 1996 refueling outage. No difficulties with program closure were anticipated as long as test data did not differ significantly from the grouping data currently used to justify the design basis capability of non-differential pressure (dP) tested MOVs. Information related to the acceptability of removing several MOVs from the program scope was forwarded to NRR for review and resolution via action item tracking (AIT) system number 95-0283.

Inspection Details: The inspectors performed a cursory review of the grouping methodology and found it to be generally consistent with NRC guidance. Valves were grouped by vendor, size, and type. Valves appeared to have been or were scheduled to be dP tested where practical and meaningful; however, the justification for not dP testing valves due to insufficient pressure was not well supported. The MOV Program Plan stated that MOVs will not be dP tested if a dP value of at least 50 percent of the design basis cannot be attained. However, the plan was silent on minimum dP loads. Also, some groups deviated from the guidance because the valve groups did not contain the recommended benchmark dP sample size of 30 percent of the valves in the group, with a minimum of two dP tested valves. In spite of these differences, the inspectors' initial review of this area indicated that, upon completion of the scheduled testing, the design basis assumptions for each group should be sufficiently justified. In light of the minimal dP testing information that will be available for some valve groups, alternate justification of design basis capability, such as the use of analytical models, industry dP testing information, or available margin arguments, would be required. A more detailed review of the valve groups will be performed prior to program closure.

Program documentation, including test procedures, Phase 2 evaluations, and auditable file packages contained the necessary elements and was considered good. The Phase 2 evaluations, yet to be completed for all non-dP tested valves, provided detailed justification of the assumptions used to verify the design basis capability of each non-dP tested valve based on the best available data. The inspectors reviewed several of these Phase 2 evaluations and determined that the evaluations were thorough and would facilitate program closure. Other documents, such as Post Maintenance Testing requirements and Periodic Verification plans, were still under development and were expected to be completed prior to program closeout.

One Potential Issue Form (PIF), pertaining to dimensional tolerances on Borg Warner gate valves, was reviewed during the inspection. The identification of this issue and the ongoing evaluation was good; however, the evaluation seemed to focus only on 6-inch valves, even though there were indications that other sizes of valves may also have dimensional tolerance discrepancies. The licensee performed preliminary calculations to assess the potential impact of these tolerance discrepancies on the thrust and torque output of the valves and determined that the impact was not significant. The completed evaluation will be reviewed prior to program closure.

The scope of the MOV program included 161 valves. Since the previous inspection, 19 MOVs had been removed from the program. Of these, the inspectors questioned the removal of valves in the fuel pool cooling and cleanup (FPCC) and the emergency closed cooling water (ECCW) systems. Safety evaluation 94-213 documented the 10 CFR 50.59 evaluation performed to remove four FPCC valves from the GL 89-10 program. This evaluation attempted to take credit for manual operator actions to close these valves and argued that the failure of the automatic isolation function of these valves would not result in significant adverse consequences. DCC-003 documented the removal of twelve ECCW valves from the GL 89-10 program and presented similar arguments to attempt to justify the acceptability of manual operation of these valves. The inspectors were unable to determine whether or not the removal of these valves was acceptable and forwarded this issue to NRR for review and resolution via AIT number 95-0283.

The design basis capability verification of various Edwards Hermavalves was reviewed and found to be satisfactorily supported by the data available to date. Due to the design of these valves, the vendor provided a unique equation to determine the required thrust and torque, instead of using the standard industry equation. Perry had already dynamically tested one 2-inch valve and intended to dynamically test two additional 2-inch valves to establish the conservatism believed to exist in the vendor's equation. The inspectors noted that the 1-inch and 1½-inch valve groups also required justification. Perry committed to review industry data and experience with these valves prior to program closeout.

The positions taken on generic programmatic assumptions, such as torque switch repeatability and stem factor degradation, had not been fully justified and needed to be addressed prior to program closure.

4.0 PLANT SUPPORT

NRC Inspection Procedures 71750, 81700, 84750, and 92904 were used to perform an inspection of Plant Support Activities. No violations or deficiencies were identified and overall performance in this area was good.

4.1 Radiation Protection Performance

The licensee achieved a significant milestone in their Radiation Protection improvement program described in the Perry Course of Action as the primary containment building was decontaminated during this inspection period. This action allowed unimpeded access for operators and other personnel who enter the building at least twice a day to check, adjust, and maintain equipment. A significant reduction in radioactive waste and laundry should result from this initiative. Early on in the decontamination, minor communication problems between the decon crew and operators resulted in some confusion on the proper clothing requirements for areas in the process of being deconned. This was another indication that inter- and intra-Departmental communications need to be improved at the plant.

Potential Issue Form (PIF) 95-1154, which addressed multiple leak sealant injections of a high pressure heater drain and vent system check valve, was issued by Health Physics Planning personnel. It identified that this work contributed almost five percent of the total year-to-date dose at the station. This was a good example of effective use of the self-identification process to identify a problem and seek a solution to minimize dose. It was also an example of a situation where other work groups (e.g., Operations, Maintenance, and Engineering) were involved with identifying and correcting a known leak but did not identify that significant dose was being expended without accomplishing an effective repair. This was a missed opportunity for departments other that Radiation Protection to get involved with identifying and correcting a situation which led to unnecessary dose.

Personnel dose expenditure was routinely trended and remained low for the year. The inspectors observed that engineering personnel testing motor operated valves demonstrated excellent sensitivity to unnecessary dose accumulation. Minor errors in radiation protection practices indicated that individual performance needed further improvement. One example of a slow response to identified leaks is discussed in Section 5.1.

4.2 Fire Protection

The inspectors observed transient combustibles in a balance of plant (BOP) area with expired permits (see Section 5.1). Similar examples had been identified in the previous inspection report, indicating poor control of transient combustibles in BOP areas. The inspectors observed scaffold components stored in a manner that could threaten fire protection piping (see Section 5.1). Increased management attention resulted in fewer impairments to fire protection systems. This was an excellent initiative, but continued attention was needed.

5.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (SAQV)

NRC Inspection Procedures 40500, 92720, 92901, 91902, 91903, and 91904 were used to perform an inspection of Safety Assessment and Quality Verification activities. No violations or deficiencies were identified and overall performance in this area was good. However, a Non-Cited Violation was identified. The quality of audits was excellent but there were continuing problems with corrective actions.

5.1 Identifying and Responding to Anomalies in the Plant

In general, there had been aggressive identification of problems by a wide variety of individuals and organizations. However, over the past year the inspectors had identified failures on the part of the Perry Organization to identify and respond to equipment and work performance problems. In most cases, several individuals from different departments (including management, operations, maintenance, health physics, and engineering) had opportunities to identify and respond to the problems. The inspectors were concerned that the failure to promptly identify and respond to these problems indicated that some individuals were narrowly focused on their assigned tasks with a limited sense of responsibility for the overall performance of the plant. The following are recent examples:

- On July 3, 1995, the inspectors observed a leak from a "leak seal device" on the discharge check valve for one of four reactor feedwater booster pumps (RFBP). In the same general area, another RFBP (isolated for maintenance) was also leaking. Neither leak had been identified and the inspectors reported them to health physics (HP). The floor beneath another leak on the downcomer for the isolated pump had been marked as a contaminated area but the floor drain was blocked and water was approaching the posted boundaries. On July 5, the inspector observed that the two previously unidentified leaks were still not posted or contained. Maintenance and HP personnel in the area clearing the floor drain for the posted leak were not aware of the two unposted leaks. Other personnel had opportunities to observe one of the leaks as it was next to a stairway. There was poor communications between HP and decon personnel after the leak was first reported. Followup by HP revealed one of the unposted leaks was radioactive fluid and appropriate actions were taken, including management discussions with workers on the need for effective communications and prompt identification and correction of fluid leaks. The initial failure to identify and mitigate the leaks constituted a violation of minor significance and was being treated as a Non-Cited Violation, consistent with Section IV of the NRC Enforcement Policy.

- In May, 1995, Inspection Report No. 440/95004 identified five negative examples where identification and communication of anomalies in the plant, either with equipment or work performance, were not promptly resolved.

- In October, 1994, Inspection Report No. 440/94013 described five small radioactive water and steam leaks found by the inspectors where, in all but one of the cases, workers in the area had either not noticed the leaks or had not reacted properly to them.

- In July, 1995, the inspectors observed that scaffold parts at several designated storage locations were stacked high enough so that it appeared possible for the scaffold parts to damage fire protection piping if the scaffold parts were to fall. All the storage areas were visible to anyone in the vicinity. The licensee could not immediately determine if this potential problem had been evaluated and wrote a PIF to evaluate several scaffold storage locations.

- In July, 1995, the inspectors, based on repeated observations of the poor general condition of the service building hot shop, questioned the maintenance manager about his expectations for the general conditions and housekeeping of the hot shop. Various individuals had used the hot shop without adequate consideration for other users of the area and the maintenance manager had assigned work to improve the general condition of the hot shop.

- In June, 1995, the licensee found a plant paging system speaker that was disconnected. This was another example of similar speaker problems which had been identified during other inspection periods by the inspectors and licensee personnel. The licensee issued a PIF and applied additional management attention to correction of these recurring problems.

- In July, 1995, the inspectors observed electro hydraulic (EHC) fluid stored as a transient combustible with a transient combustible permit that had expired several weeks earlier. In this case the permit was not required because the fluid was stored in an area that was designated for storage of EHC fluid. However, in May, 1995, the inspectors had identified four examples of material stored with expired transient combustible permits. The licensee found three more examples during this inspection period when it audited its program after the July example was identified.

The individual significance of the above examples was minimal. However, any equipment and work performance problems are potentially significant. Perry management's expectation is that each member of the Perry Organization has a duty to promptly bring such problems to the attention of the responsible party so that the problems can be promptly evaluated and resolved. The inspectors have seen ample evidence of this expectation at the manager level and above. Although many individuals accept this duty, the examples indicate that others need to improve their sensitivity and willingness to identify problems outside their immediate areas of responsibility and that the Perry management team has not effectively transferred this expectation to all personnel.

5.2 Work Stopped Due to Personnel Errors

On July 12, 1995, the Plant Manager stopped all work on site due to personnel errors by individuals in several plant organizations. The plant manager and operations manager explained their concerns with all site personnel in a series of meetings. The inspectors observed several of the meetings and discussed the issues with the plant manager. Worker response to the managers' concerns was good. Individual activities were released after specific plans were presented on how the activities could be conducted without error. After each organization developed short term and long term plans for reducing personnel errors, general work activities were resumed. Management oversight of activities was increased. This was an excellent initiative. However, success depends on the quality and persistence of long term improvement methods, effective communications of management expectations, and individual commitment to improvement.

5.3 Quality Assurance Audits and Corrective Actions

Quality assurance audits reviewed were thorough with detailed findings. Progress had been made on reducing the large backlog of corrective actions, however continued improvement was necessary to ensure timely and complete corrective action. This was highlighted by repetitive problems with foreign material exclusion (see Section 2.2), control of the plant paging system, control of transient combustibles (see Section 5.1), and control of setpoint changes (see Section 3.1); although improvements had been made.

Corrective actions for maintaining the full functions of the plant paging system were weak. During past inspection periods the inspectors and the licensee had identified several cases where paging system speakers had been muffled with rags or disconnected without authorization. During this inspection period the licensee found another speaker disconnected. Corrective actions for this problem had not convinced all individuals that they should not intentionally disable this plant equipment.

6.0 LICENSEE ACTION ON PREVIOUSLY IDENTIFIED ITEMS

NRC Inspection Procedures 92700, 92701, 92702, 92901, 92902, 92903 and 92904 were used to perform follow-up inspection of the items below.

6.1 Action on Licensee Event Reports (LER)

(Closed) LER 50-440/95-001-00: Loss of PNPP's Airlock Leakage Control System Resulted in the Potential to Exceed TS Containment Leakage Rates. This event was discussed in Inspection Report No. 440/95004. This item is closed.

(Closed) LER 50-440/95-004-00: Potential for Containment Airlock to Exceed Design Limits. An improperly supported local leak rate test connection could have failed during a seismic event. The licensee modified a support on the test line to prevent rotation and ensured that the properties of the copper tubing used were properly reflected in design calculations. This item is closed.

6.2 Review of Previously Opened Items (Violations, Unresolved Items, Inspection Followup Items)

(Closed) Violation (50-440/92004-01(DRS)): Main Steam Line Local Leak Rate Test Excessive Leakage. The corrective actions to this violation included mid-cycle testing of the main steam isolation valves as well as maintenance procedure changes. The adequacy of the corrective actions was reviewed during the 1994 outage as discussed in Inspection Report No. 440/94004. This item is closed.

7.0 Persons Contacted and Management Meetings

The inspectors contacted various licensee operations, maintenance, engineering, and plant support personnel throughout the inspection period. Senior personnel are listed below.

At the conclusion of the inspection on July 14, 1995, the inspectors met with licensee representatives (denoted by *) and summarized the scope and findings of the inspection activities. The licensee did not identify any of the documents or processes reviewed by the inspectors as proprietary.

D. C. Shelton, Senior Vice President
R. D. Brandt, General Manager Operations
*N. L. Bonner, Engineering Director
R. W. Schrauder, Nuclear Services Director
*K. R. Pech, Nuclear Assurance Director
*M. B. Bezilla, Operations Manager

8.0 Non-Cited Violations

The NRC uses the Notice of Violation as a standard method for formalizing the existence of a violation of a legally binding requirement. However, because the NRC wants to focus attention on more safety significant issues, the NRC will not generally issue a Notice of Violation for an NRC identified violation that is consistent with Section IV of the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), (60 FR 34380, June 30, 1995), which requires that:

(1) the violation is of minor safety significance;

(2) the violation was or will be corrected, including measures to prevent recurrence, within a reasonable time; and

(3) it was not a willful violation.

A violation of regulatory requirements identified during this inspection for which a Notice of Violation will not be issued is discussed in Section 5.1.