



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-250/89-13 and 50-251/89-13

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33102

Docket Nos.: 50-250 and 50-251 License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point, Units 3 and 4

Inspection Conducted: March 13-17, 1989

Inspector: M. V. Sinkule

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Division of Reactor Projects
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5/4/89
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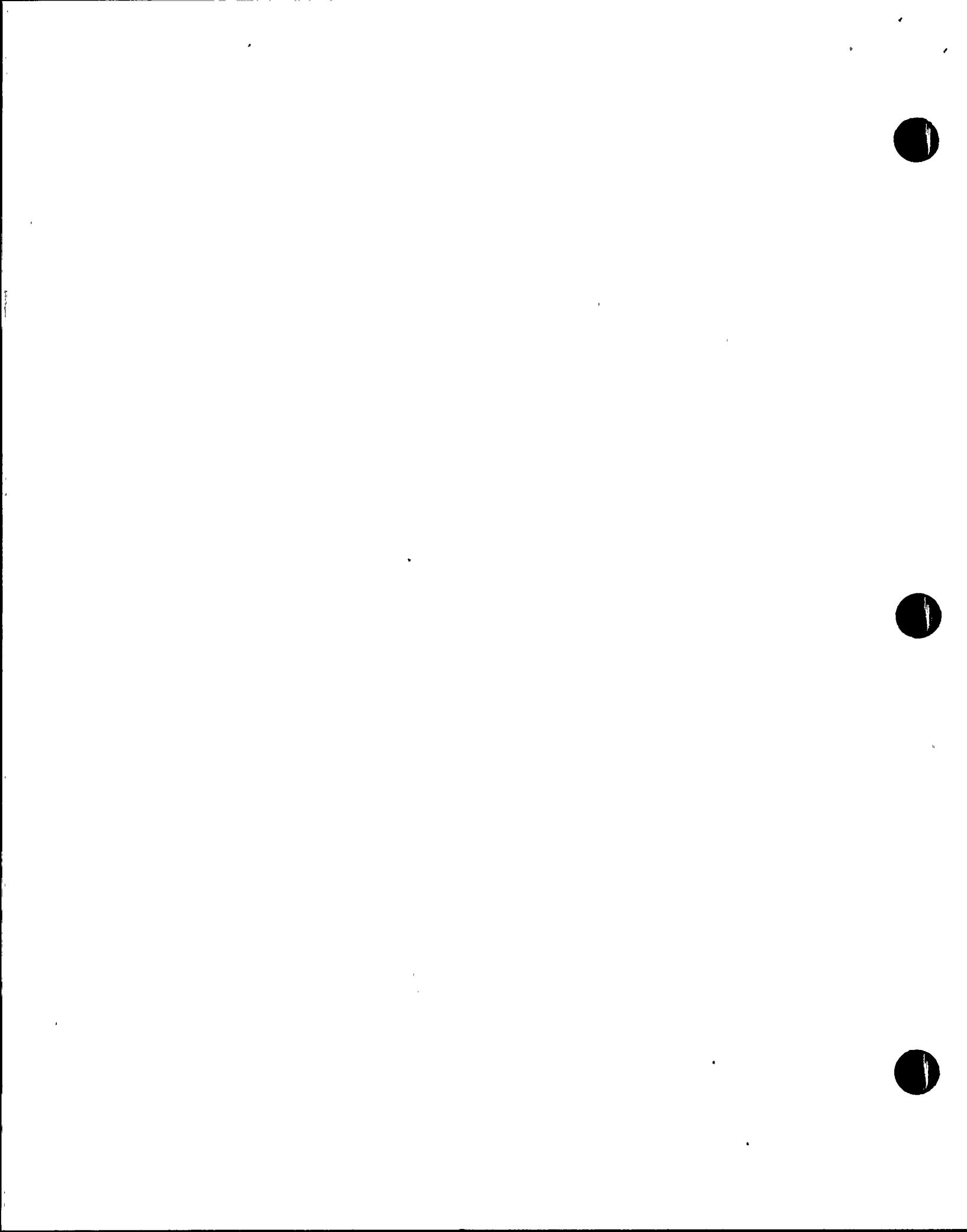
Approved by: P. Fredrickson

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5/5/89
Date Signed

SUMMARY

Scope: This special, announced inspection was conducted at the Turkey Point Nuclear Plant near Florida City, Florida to followup on allegations submitted to the NRC. The first of these were submitted on December 5, 1988. The majority of the allegations were submitted to the licensee in a letter dated January 9, 1989, and the licensee responded to the allegations in a letter dated February 27, 1989. The scope of the inspection included a review of the adequacy of the licensee's February 27, 1989, response and an examination of the licensee's program for resolving and documenting nuclear safety concerns submitted by employees.



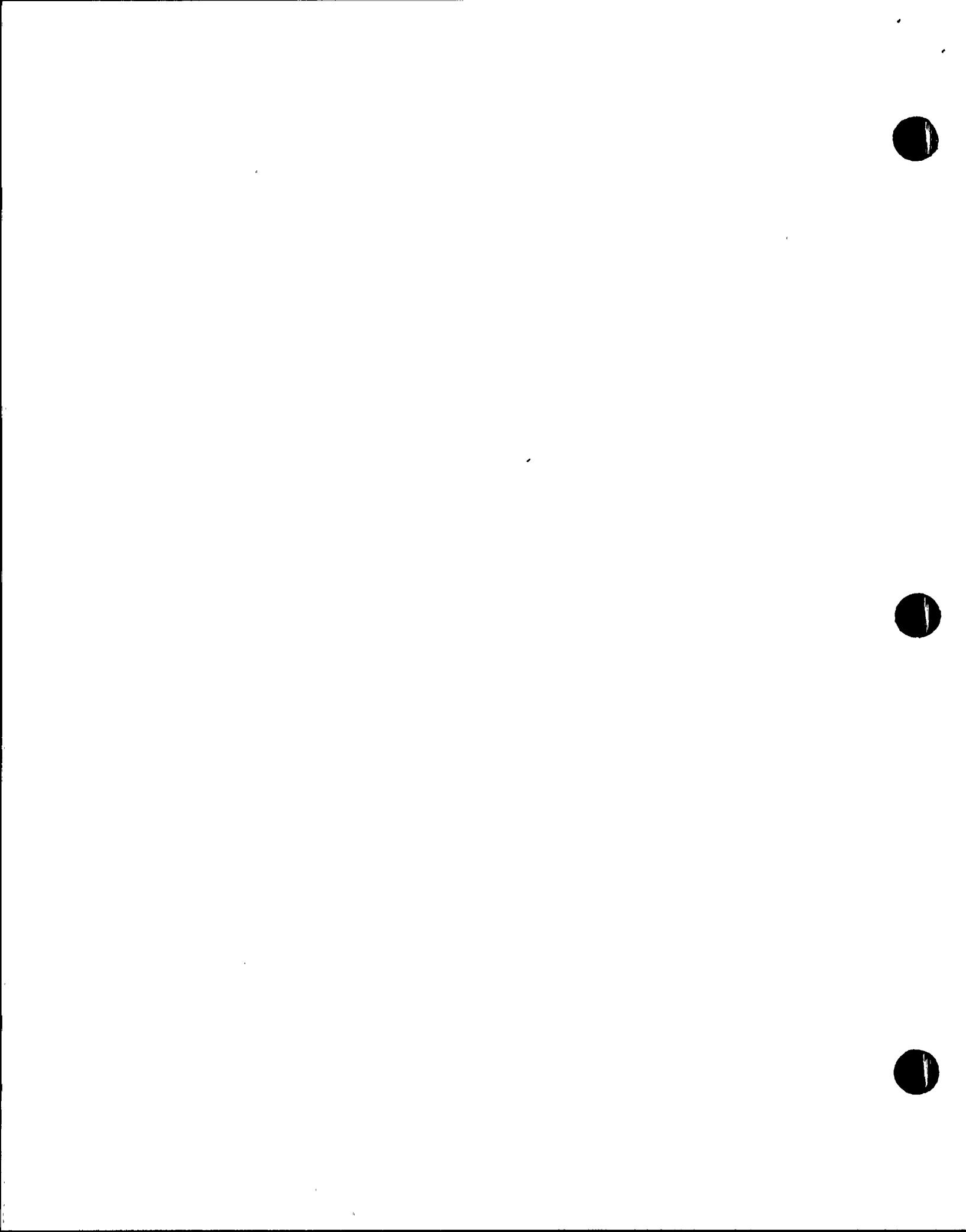
Results: The team concluded that:

- The licensee's program for resolving safety concerns was adequate; however, five improvements to the program were recommended (paragraph 2.0).
- The licensee's response dated February 27, 1989, was adequate; however, the responses to five allegations were marginal (Concern Nos. 8, 12e, 12g, 12h, and 23c; paragraphs 3.6.2, 3.6.5, and 3.6.6). These weaknesses were noted in the health physics area in that a review of doses received by personnel was not conducted by licensee personnel prior to submittal of the response. Subsequent review by the inspector did not indicate excessive doses to personnel.
- Forty-three (43) of the concerns were substantiated. Of these, 12 concerns had been previously identified and corrective actions had been or were being implemented by the licensee. The remaining thirty-one (31) concerns had little or no safety significance, although corrective action had been or was being implemented for many of these.
- Thirty-nine (39) of the concerns were not substantiaed.
- One concern remains opening pending additional review.

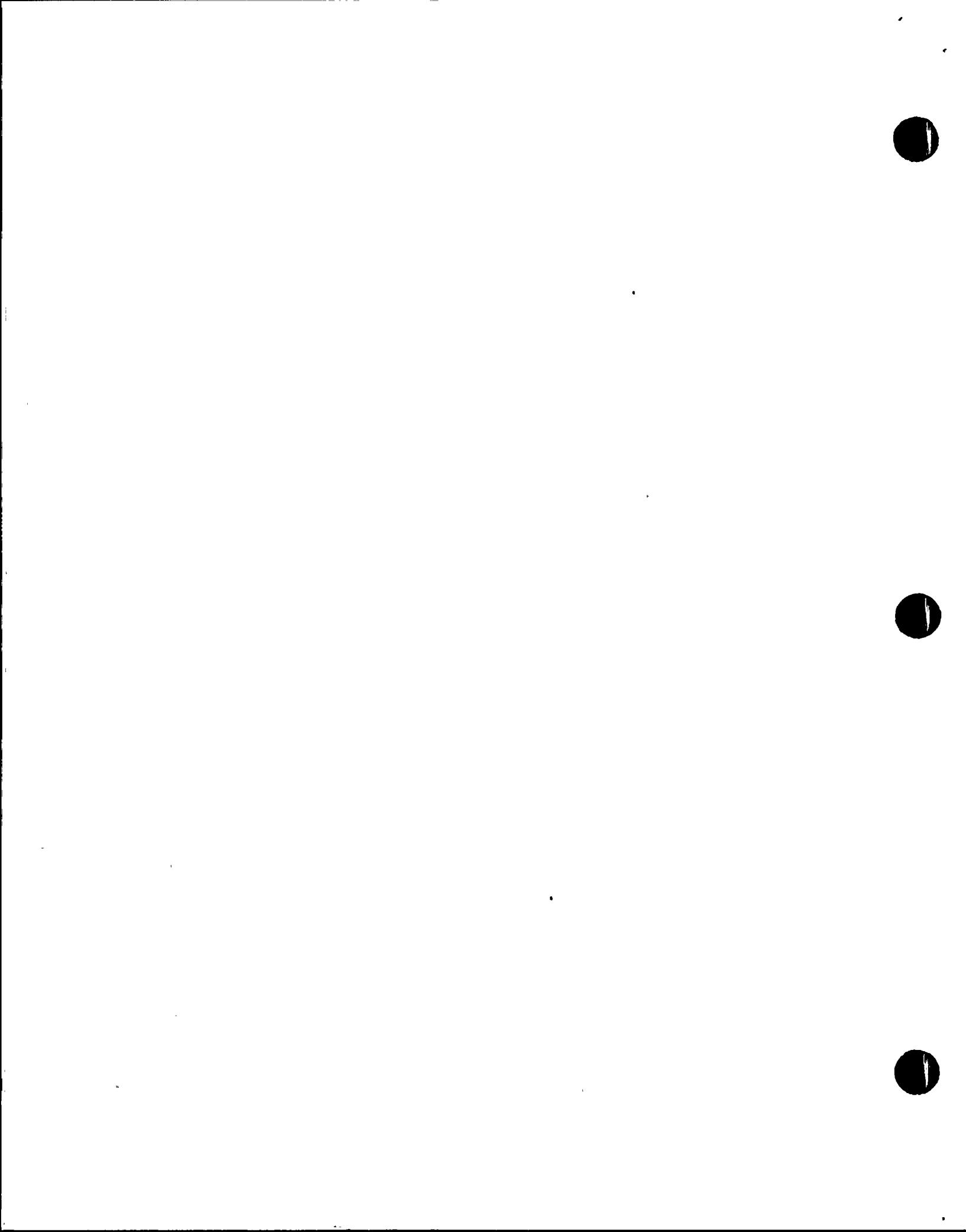
In the areas inspected, no deviations were identified. However, one licensee-identified violation, which is not being cited, was identified involving a failure of an individual contractor health physics technician to wear a paper suit over cotton protective clothing as required while providing health physics job coverage on January 9, 1986 (Concern No. 9, paragraph 3.6.3). Additionally, the inspectors concluded that the allegations raised no new safety issues that had not been previously addressed. All allegations followed up on will be closed upon issuance of this report except one unresolved item (Concern No. 49, paragraph 3.6.9), which will remain open pending an evaluation by the licensee. This unresolved item involved the evaluation of shielding requirements for the R-15 radiation monitor.

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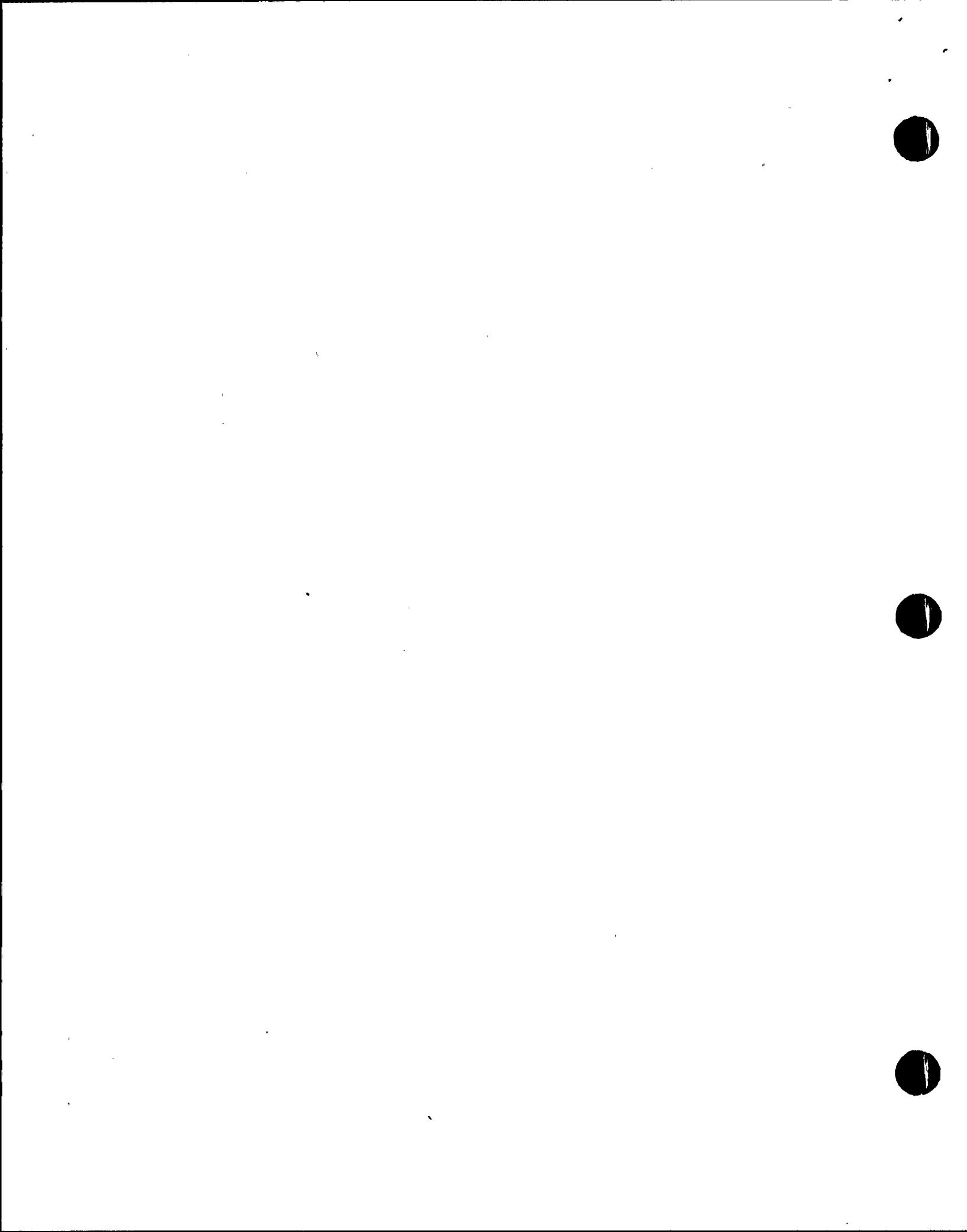
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REPORT DETAILS

1.0 Persons Contacted

Licensee Employees

*J. Anderson, Supervisor of QA Regulatory Compliance
*J. Arias, Jr., Assistant to Plant Manager
*W. Bladow, QA Superintendent
*W. Conway, Senior Vice President
*J. Cross, Plant Manager
*J. Danek, Corporate Health Physics
*R. Earl, QC Supervisor
T. Finn, Training Superintendent
*S. Franzone, Lead Engineer
J. Gianfrancesco, Maintenance Superintendent
*T. Grozan, Principal Engineer - Licensing
*S. Hale, Engineering Project Manager
J. Halverson, Production Supervisor
*R. Hart, Regulation and Compliance Supervisor
B. Koran, Planning Supervision
*E. Lyons, Compliance Engineer
B. Mackay, I&C Training Lead Instructor
*G. Madden, Licensing
*J. Odom, Site Vice President
J. O'Neil, I&C Instructor
*L. Peace, Operations Superintendent
M. Powell, Maintenance Training Coordinator
*F. Southworth, Assistant to Site Vice President
M. Stanton, I&C Department Supervisor
*R. Stevens, Manager, Plant Licensing
J. Strong, Assistant Superintendent, Mechanical Maintenance
*K. VanDyne, Compliance
F. Varona, Electric Lead Engineer
M. Wayland, Assistant Superintendent, Electrical Maintenance
A. Zielonka, Site Engineering Supervisor

Other licensee employees contacted during this inspection included supervisors, engineers, craftsmen, operators, mechanics, technicians, and administrative personnel.

NRC Region II Personnel

*O. DeMiranda, Regional Allegation Coordinator, EICS
*G. Jenkins, Director, EICS
*G. Kuzo, Senior Radiation Specialist
*M. Miller, Reactor Inspector
*A. Ruff, Reactor Inspector
*M. Sinkule, Chief, Reactor Projects Section 3B

NRC Office of Nuclear Reactor Regulation Personnel

*R. Brady, NRC Allegations Program Manager
*G. Edison, NRC Licensing Project Manager

NRC Resident Inspectors

*R. Butcher, Senior Resident Inspector, Turkey Point
*P. Holmes-Ray, Senior Resident Inspector, Crystal River
*T. McElhinney, Resident Inspector, Turkey Point
*G. Schnebli, Resident Inspector, Turkey Point

*Attended exit interview

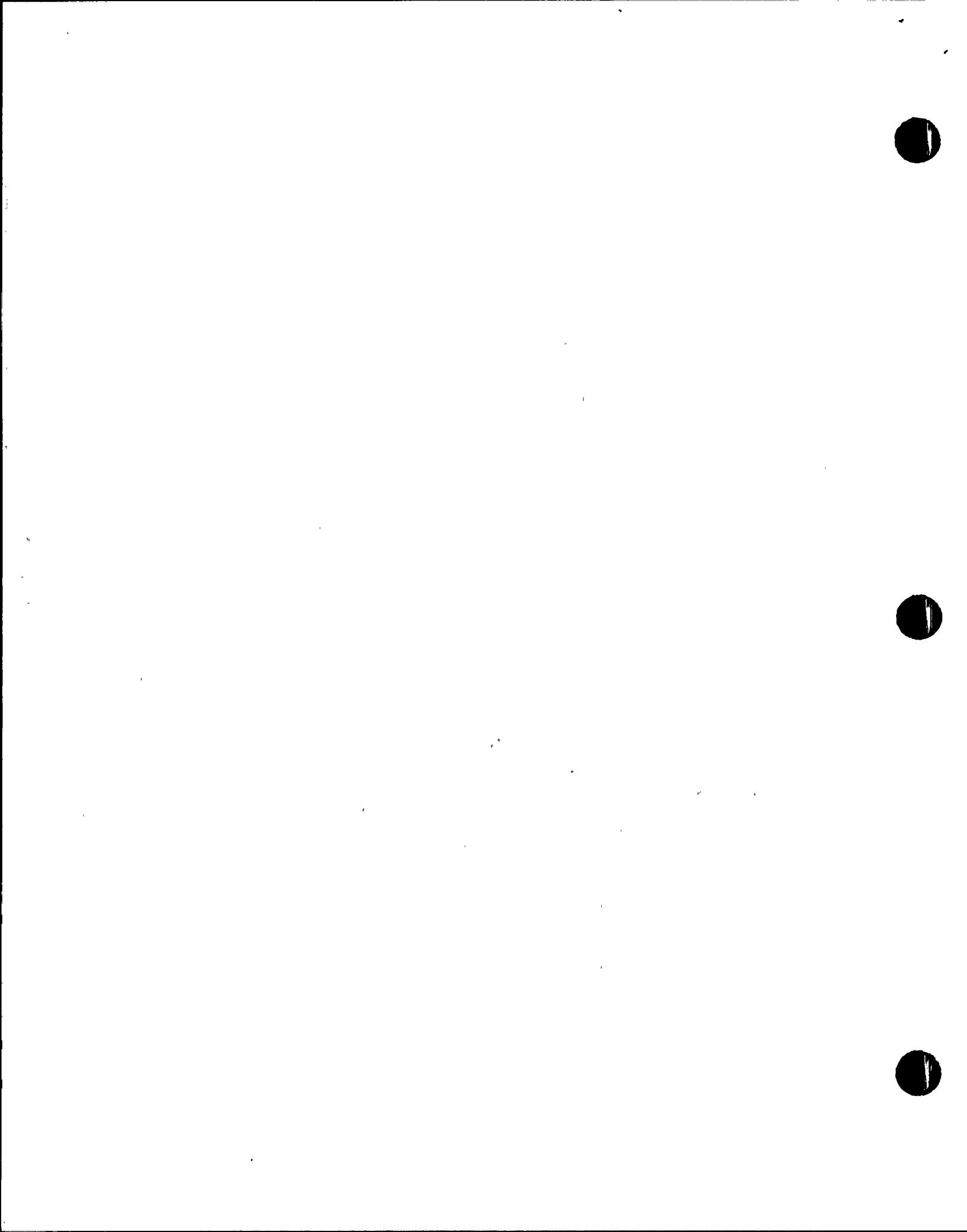
Acronyms and initialisms used throughout this report are listed in the last paragraph.

2.0 Review of Employee Concerns Reporting System (592701) Units 3 and 4

The inspectors reviewed the licensee's "Employee Concern Reporting System" (ECRS) primarily to determine its effectiveness for resolving safety concerns identified by licensee employees. The licensee's procedure O-ADM-002, Employee Concern Reporting System, was issued on January 11, 1989; and since the inception of the program, there have been five total employee concerns of which four were open and one was closed at the time of the inspection. In the case where the employee concern file was closed, there was documented evidence that the employee had received a written response to the concern. The inspectors performed an assessment of short-term ECRS effectiveness due to the short period of time that the system has been in effect. The inspectors walked through the facility and randomly approached approximately 60 site employees working in mechanical maintenance, I&C, electrical maintenance, Wakenhut Security, and Health Physics. Auxiliary Operators, Bechtel Craft personnel, control room personnel, and various individuals working on the turbine deck were also included in this assessment to determine their awareness of the licensee's ECRS and their willingness to use the ECRS for reporting safety concerns. The inspectors concluded that the majority of the employees were aware of the ECRS and would use the ECRS if they had a safety concern. The strengths of the ECRS are in the management commitment to determine the root cause and corrective actions associated with employee concerns.

The following five observations/recommended improvements were discussed with the licensee during the team inspection exit interview:

- There are no written approved procedures within the scope of the ECRS that describe how allegations of wrongdoing will be processed. The individual involved with the ECRS may not be skilled or trained in the areas necessary to conduct this type of investigation. It should be noted that the individual responsible for the ECRS (QC Supervisor)



responded to questions in this area, stated that he would escalate this category of concern to his management, and stated that outside expertise would be brought in to investigate concerns of wrongdoing.

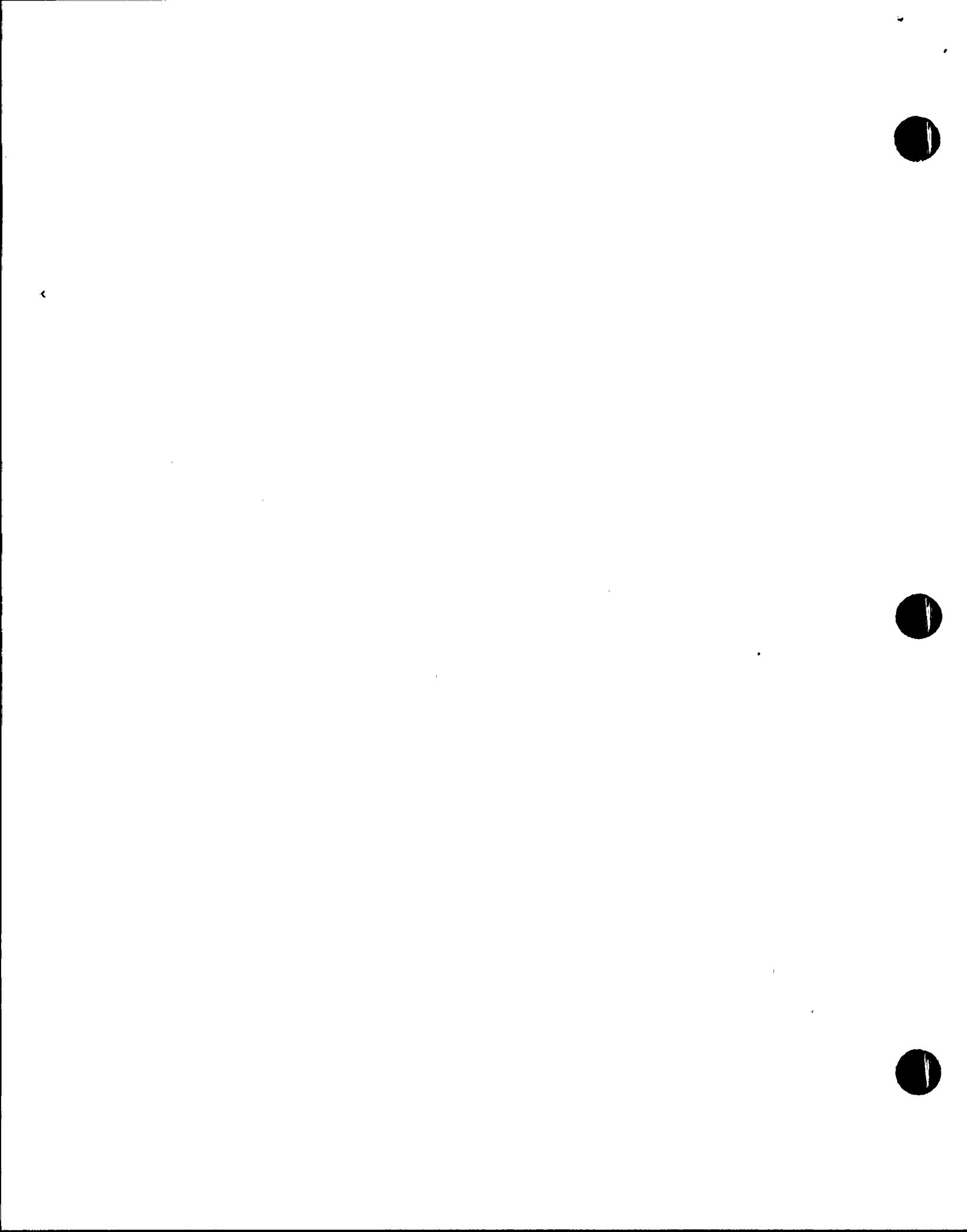
- The licensee had dedicated no specific resources to the ECRS. The QC Supervisor, his staff, and the concerned employee's immediate supervisor are expected to absorb the activities of the ECRS. The licensee indicated that resources would be made available if the volume of employee concerns increased.
- There are no specific training, experience, and qualification requirements specified for individuals performing work activities in the ECRS. Appropriate training in interviewing techniques, documenting results of the interviews, conducting followup, etc., are minimum essentials for an effective employee concerns program.
- The ECRS makes no provision for an exit interview to provide departing employees with an opportunity to voice concerns they may have. The exit interview provided by the personnel department is not designed to function in this capacity and does not provide an appropriate means to collect safety concerns from departing employees.
- During the General Employee Training session provided for the inspection team, no evidence was presented of the existence of the ECRS. New site employees should be individually acquainted with the ECRS during the General Employee Training and badging process via the video training, flyers/circulars, etc. There should also be periodic reminders of this program. This information should provide potential users of the ECRS with reassurances that they can remain anonymous and that the company will ensure that individuals who use the program are protected from any retaliation or discrimination as a result of using the ECRS.

In the areas inspected, no violations or deviations were identified.

3.0 Followup of Allegations (592701) Units 3 and 4

Approximately ninety allegations were received concerning Florida Power and Light Company's Turkey Point Nuclear Plant. After conducting an inoffice review, the majority of these allegations were referred to the licensee in a letter dated January 9, 1989, and the licensee responded to these allegations in a letter dated February 27, 1989.

This inspection was conducted to determine if the licensee's response was adequate and to verify that corrective action was in place for identified problem areas.



For each allegation, the inspectors determined whether the allegation was substantiated or unsubstantiated. For allegations that were substantiated the inspectors made a determination of whether or not the concern had sufficient safety significance to warrant corrective action; and if so, had adequate corrective actions been taken to correct the concern.

The inspectors followed up on the allegations by performing discussions with managers, supervisors, and craftsmen, as applicable, and by reviewing documents and records. In several cases, the condition of plant material was also reviewed. The concern number is an internal tracking number utilized by the NRC and in most cases is referred to in the licensee response dated February 27, 1989.

3.1 Management Response to Employee Concerns (592701) Units 3 and 4

The following allegations concern lack of licensee response to concerns raised by licensee employees. Concern Nos. 12i, 20, 41e, and 41f were referred to the licensee by the Region II Office, and Concern Nos. 22d, 42a, and 43a were not referred to the licensee for a response.

3.1.1 Concern No. 12i

Our understanding of this concern is that the local joint Safety Committee did not address the issues noted in 12a - 12g, nor did the committee follow-up the safety Memorandums issued on April 5, 1988, and May 25, 1988. In addition, the local joint Safety Committee is not adequately staffed to receive and respond to concerns about "Nuclear Safety Issues" that it receives.

Discussion

The licensee's response states that the Memorandum of Agreement between FPL and the IBEW, Paragraph 45(b), establishes a joint safety committee system for the purpose of developing and recommending to the company an effective industrial safety program including changes or additions to present safety rules and conducting investigations of accidents when deemed necessary. The Safe Work Practices Book (Safety Rule book), Rev. 8, 1987, Administrative Section 4, identifies members of the local Joint Advisory Safety Committee and further specifies their responsibilities. Item 4.B.3 of these responsibilities requires, "analyzing reports (which shall be required from all employees) on all near accidents which potentially could have caused serious injuries and in those cases where it is felt necessary to, conduct an investigation."

As indicated in the response to Concern No. 12d (paragraph 3.5.2), the August 1988 meeting minutes of the monthly safety meeting indicate that one of the individual's concerns was clearly addressed. FPL has not, however, been able to ascertain whether the individual's other concerns were specifically addressed by the Committee. FPL is continuing to pursue this matter.

The appropriate committee adequately staffed to receive and respond to concerns about "Nuclear Safety Issues" is the Plant Nuclear Safety Committee (PNSC). The responsibilities and scope of the PNSC are prescribed in technical specifications and plant procedures.

Conclusion

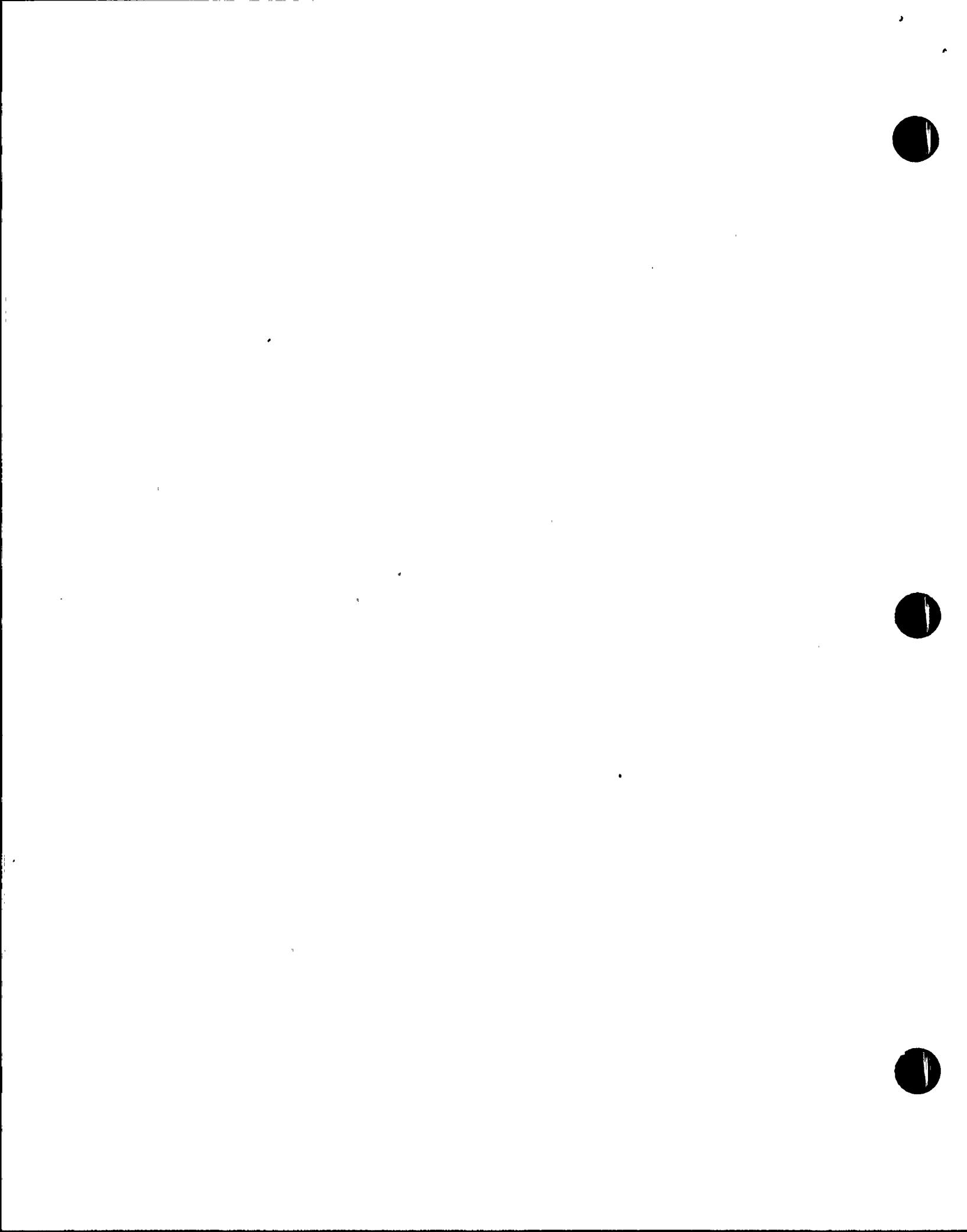
This concern is considered to be substantiated in that even though the licensee had evidence that one of the individual's concerns had been resolved, there was no indication that the licensee had responded to the individual. The portion of the concern regarding staffing of the local joint Safety Committee is viewed more as a recommendation, by the individual, than as a concern. This segment of the concern is considered unsubstantiated in that it is the PNSC that is the responsible organization as delineated in Technical Specifications 6.5.1, which lists the Plant Manager, Operations Superintendent, Technical Department Supervisor, Maintenance Supervisor, I&C Supervisor, Health Physics Supervisor, and Reactor Supervisor, whose function is, "to advise the Plant Manager on all matters related to Nuclear Safety." The inspectors determined that the PNSC was adequately staffed. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.1.2 Concern No. 20

It is our understanding that this concern involves a letter that a licensee employee sent to the Maintenance Superintendent dated May 31, 1988. The employee's letter contained a number of improvements to the operation of the maintenance department. The employee stated that he received no response to this letter.

Discussion

The licensee's response to the NRC notes that the May 31, 1988, letter requested the addressee to "review these at your leisure" and did not request, in the licensee's words,



"a specific written response." The licensee apparently did not respond to the employee's suggestions either in writing or otherwise.

Conclusion

Although this concern was substantiated, it has minimal safety significance. Further, a specific response was not requested by the employee. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.1.3 Concern No. 22d

It is our understanding that this concern deals with the individual's immediate I&C Field Supervisor's general lack of feedback regarding employee concerns.

Discussion

Per discussions with the QC Supervisor regarding the I&C Field Supervisor and the concerned individual, it was noted, that there was an apparent difference of opinion between these two individuals and that there was no evidence of a wide spread lack of feedback pertaining to other workers with concerns.

Conclusion

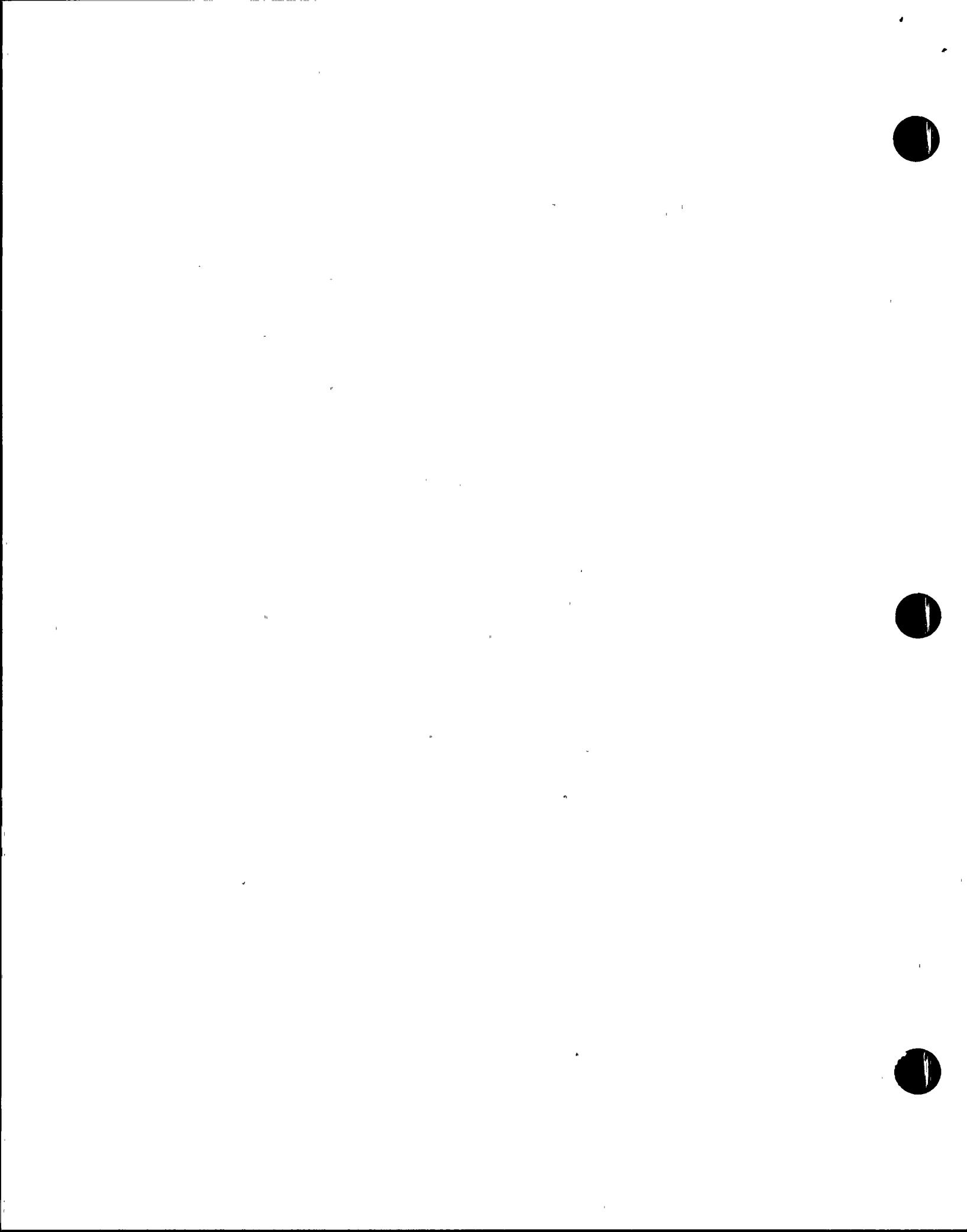
This concern is considered to be partially substantiated in that the individual was not provided feedback in regard to his concerns even though there may have been a difference of opinion during that time period. No evidence was found that indicated the subject supervisor was lax in responding to workers' concerns. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.1.4 Concern No. 41e

This concern as stated by the aleger is, "The journeyman assigned felt hurried."

Discussion

The licensee's response stated that the updated journeyman's letter provides a discussion of the "rushed" nature of the work assigned. Although there was a belief by the journeyman that he was being hurried to complete the



job, there was some dispute in this regard among the other individuals involved. The work was nonetheless completed in a manner consistent with the need to adequately complete the work in a timely manner in accordance with applicable requirements.

Conclusion

This concern is considered to be substantiated in that the journeyman had a perception of being "hurried" although there was disagreement of this perception by the other individuals involved. The inspector concluded that the work was performed properly in accordance with plant procedures, and no safety issues were identified. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.1.5 Concern No. 41f

This concern was written up by the aleger in two different ways. One version was defined as "no response to concerns" and the other was "the journeyman assigned felt that his safety issues were not acknowledged by the licensee."

Discussion

The allegation statement provided to the licensee for this concern did not address the issue of lack of response by the licensee. Even so, the licensee's response to the NRC for this concern states that the safety concerns expressed by the journeyman were acknowledged by the shift management.

Conclusion

This concern was not substantiated. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.1.6 Concern No. 42a

This concern is stated by the aleger as, "the licensee's constant lack of concern when employee's bring safety issues to the licensee's attention demonstrates the licensee's failure to acknowledge these issues and resolve these issues."



Discussion

This concern was not referred to the licensee for response. The only specifics available to address this question are in the licensee's response to Concern Nos. 20 and 41f. In the first instance of alleged nonresponsiveness, Concern No. 20, the licensee apparently did not respond and points out that the individual's letter did not request a response and was only transmitting the individual's improvement suggestions. In the second instance, Concern No. 41f, the licensee stated that the journeyman's safety concerns were acknowledged.

Conclusion

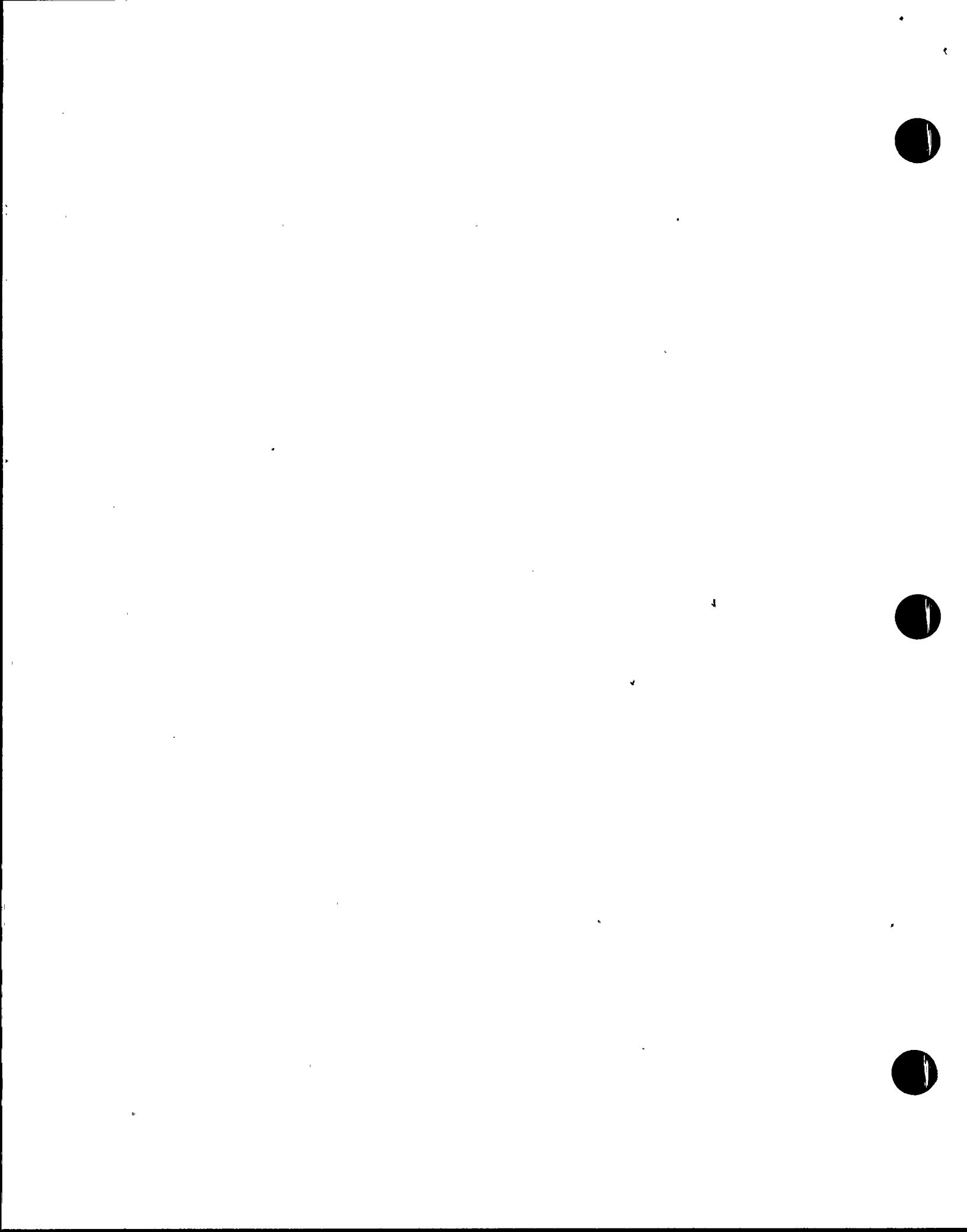
The licensee's response to Concern Nos. 20 and 41f is considered to be adequate. While it may have been more appropriate for the licensee to respond in writing to an employee's written suggestions for improvement, the licensee had established no requirements to do so prior to January 1989. It should also be noted that on January 11, 1989, the licensee instituted an Employee Concerns Reporting System which will provide employees with written responses to their concerns. Although Concern No. 42a was substantiated, the licensee has implemented adequate corrective actions to prevent recurrence. This item is considered to be closed.

3.1.7 Concern No. 43a

Our understanding of this concern is that the individual stated that an attempt was made to assist the licensee in addressing and correcting concerns with the Turkey Point procedures. The licensee took aggressive steps which prevented the Quality Improvement Team titled, Dog Catchers, from continuing their task, and in fact, the licensee stopped the progress of the team completely.

Discussion

This concern was not referred to the licensee for a response. The inspectors reviewed the subject "Quality Improvement Team Action Report." It was noted that on January 10, 1989, the "QIP Team Profile Sheet" was revised to delete the individual from the team as he was no longer an employee. On January 30, 1989, the new team leader wrote an inter-office memo to management stating, "with no support from the I&C Management, the team has agreed to disband." In accordance with the licensee's Quality



Improvement Team Program, an employee initiated team can voluntarily disband without the approval of management. The lack of I&C Management support issue was brought to the attention of the QC Supervisor by the inspectors. The QC supervisor indicated that he was not aware of this matter and that it should have been brought to his attention; however, during the inspection, the QC Supervisor later reported that the lack of management statement on the QIP was a result of management not supporting the broad scope of the subject the team was attempting to address. The Performance Enhancement Program (PEP) was a licensee commitment for the upgrading of procedures and the Procedure Upgrade Program (PUP) was tasked with the overall plant procedure review. The licensee considered the QIP team's task to be redundant and consequently did not support the QIP team. Coincidentally, management initiated a QIP team to determine the root cause of employees not participating on QIP teams and the results of that team's findings were lack of dedicated management support and lack of training for QIP team members. As a result, the plant manager and superintendent are apprised of all teams that disband due to a lack of management support.

Conclusion

The inspectors concluded that the allegation was not substantiated in part due to the team voluntarily disbanding; however, it was substantiated that one of the reasons for the team disbanding was due to lack of support from I&C Management which was also substantiated by the licensee on a generic basis. The fact that the particular QIP was not brought to the attention of the QC supervisor is considered to be an isolated occurrence. The licensee's corrective action was prompt and appropriate. This item is considered to be closed.

Summary of Management Response to Employee Concerns

It was substantiated that there was a general lack of management feedback to employees who had voiced safety concerns during the time period prior to institution of the licensee's formal Employee Concerns Reporting System on January 11, 1989. Since the initiation of the ECRS, no apparent evidence was found that there was a lack of feedback to employees.



3.2 General Concerns and Concerns Pertaining to Maintenance Management and Maintenance Planning (562700) Units 3 and 4

3.2.1 Concern No. 1

Our understanding of this concern is that Maintenance Instruction MI-700, "Conduct of Maintenance," (page 5, Revision 0, Sections 2.1.10 and 2.1.11), provides for monitoring and supervising Instrument and Controls (I&C) work crews using both a Field Supervisor (re., Section 2.1.10) and an I&C Field Supervisor (re., Section 2.1.11). However, no position of Field Supervisor currently exists. This forces the additional burden and work load of this position onto the I&C Field Supervisor. This additional burden affects the ability of the I&C Field Supervisor to properly and effectively perform his/her function(s). This ultimately results in poor maintenance, confusion, work delays, lack of inter-department coordination, and procedure compliance problems.

Discussion

The inspector reviewed MI-700, Revision 0, and the FPL response to this concern dated February 27, 1989. The inspector also conducted interviews with maintenance management regarding this concern.

Conduct of Maintenance Procedure, MI-700, Revision 0, Section 2.0 states the responsibilities for various management levels in the maintenance organization. Section 2.1.10 describes the duties of the Field Supervisor, and Section 2.1.11 describes the duties of the Foreman/Chief/I&C Supervisor. Attachment 1 to the procedure contains the organizational chart for the maintenance organization.

The I&C Department has the first line supervisor designated as the Field Supervisor, while the Electrical Department has the first line supervisor designated as the Chief Electrician. The Mechanical Department first line supervisor is designated as the Foreman. In the case of the Mechanical and Electrical Maintenance Departments, the Chief Electrician/Foreman reports to the Field Supervisor, who reports to the Production Supervisor. In the case of the I&C Department, the Field Supervisor reports to the Production Supervisor. Therefore, the I&C Department does have, according to MI-700, one less level of supervision than the Mechanical and Electrical Departments. Discussions with the I&C Production Supervisor indicated that the I&C coordinators have been established to assist the I&C Field Supervisors in the overview of work activities.



Conclusion

This concern was substantiated in that the I&C Department does not have both Field Supervisors and I&C Field Supervisors. The inspector concluded that MI-700, Revision 0, does not require both a Field Supervisor and an I&C Field Supervisor. The intended maintenance organization is contained in Attachment 1 to the procedure which shows Field Supervisor's for the I&C Department. The responsibilities for that position are prescribed under Section 2.1.11, Foreman/Chief/I&C Field Supervisor. The licensee response to this issue was adequate, and this item is considered to be closed.

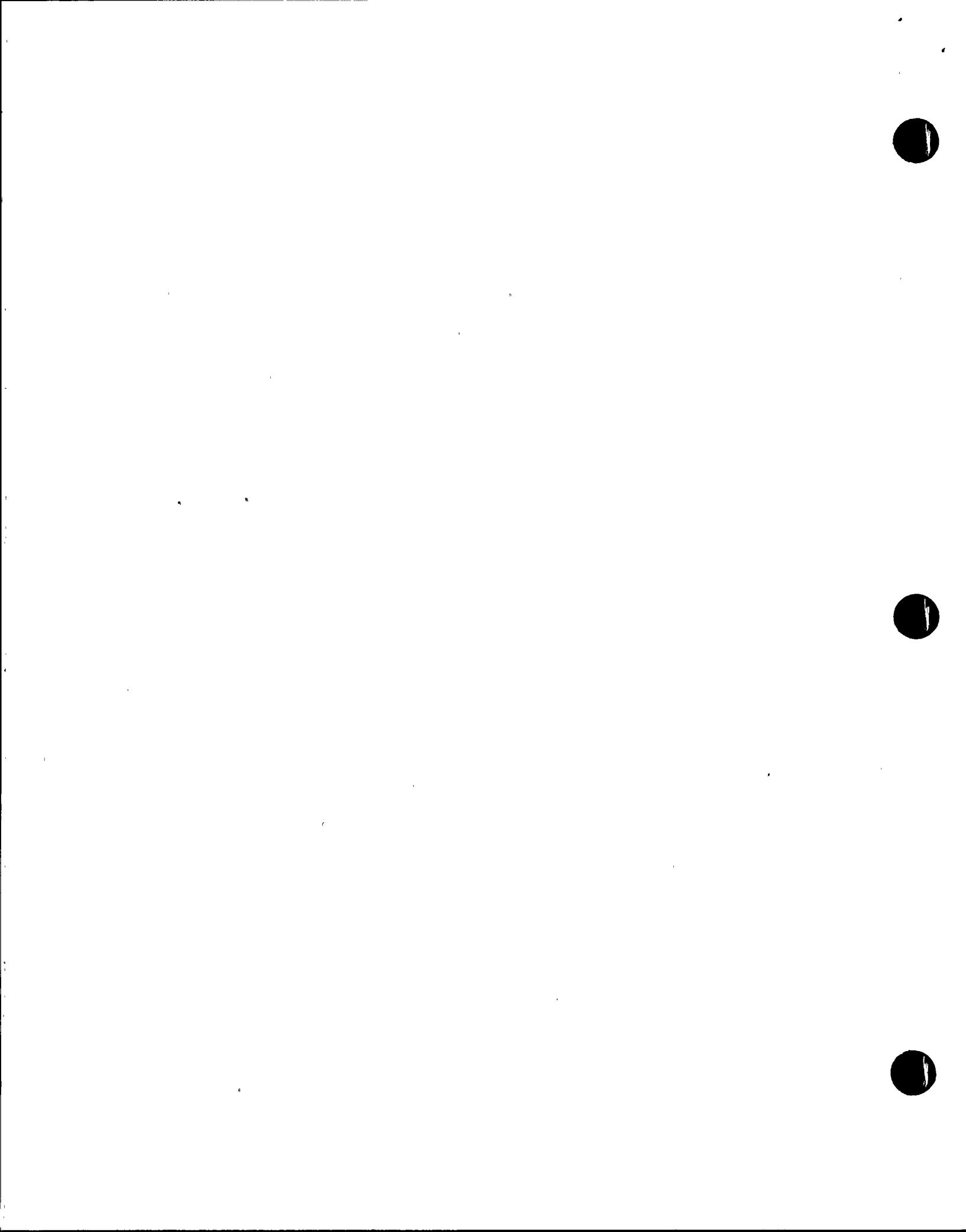
3.2.2 Concern No. 2

Our understanding of this concern is that although MI-700 (page 7, Revision 0, Section 3.2) addresses the administrative controls and detailed responsibilities concerning planning and scheduling, the alleger finds that the day-to-day operation and functions of the Instrument and Controls Department to be other than completely organized and smoothly operated. Plant Work Order (PWO) packages are issued without proper planning. Supervision fails to properly coordinate maintenance work with other departments. Supervision fails to obtain required equipment clearances prior to issuing job assignments. Supervision fails to consistently complete the supervisors' checksheet. Supervision fails to conduct pre-job and post-job crew briefings. Supervision fails to keep abreast of work progression by actually going into the field (plant) for direct work observation.

Discussion

The inspector reviewed the licensee's response to this concern dated February 27, 1989. The licensee acknowledges that the assertions in this concern were either self-identified and previously identified by others or are being addressed.

The inspector conducted discussions with members of licensee management and determined that measures are being taken to improve coordination with other departments, improve planning, and improve supervision of maintenance activities.



Conclusion

This concern was substantiated by the licensee and corrective action is being taken. No safety issues were identified. The licensee response to this concern was adequate, and this item is to be considered closed. (Refer to the response to Concern No. 4 (paragraph 3.2.3) of this report for additional details concerning the area of planning. Also see the response to Concern No. 5 (paragraph 3.2.4 of this report) for details regarding changes regarding maintenance management.)

3.2.3 Concern No. 4

This concern as stated by the al-leger is, "Although job packages have recently improved, poor planning of these job packages still remains as the chief reason for job delays, confusion, coordination problems, etc." (Refer to paragraph 3.6.1 in the Concerns Involving Radiological Safety section of this report for Concern No. 4e.)

3.2.3.1 Concern No. 4a

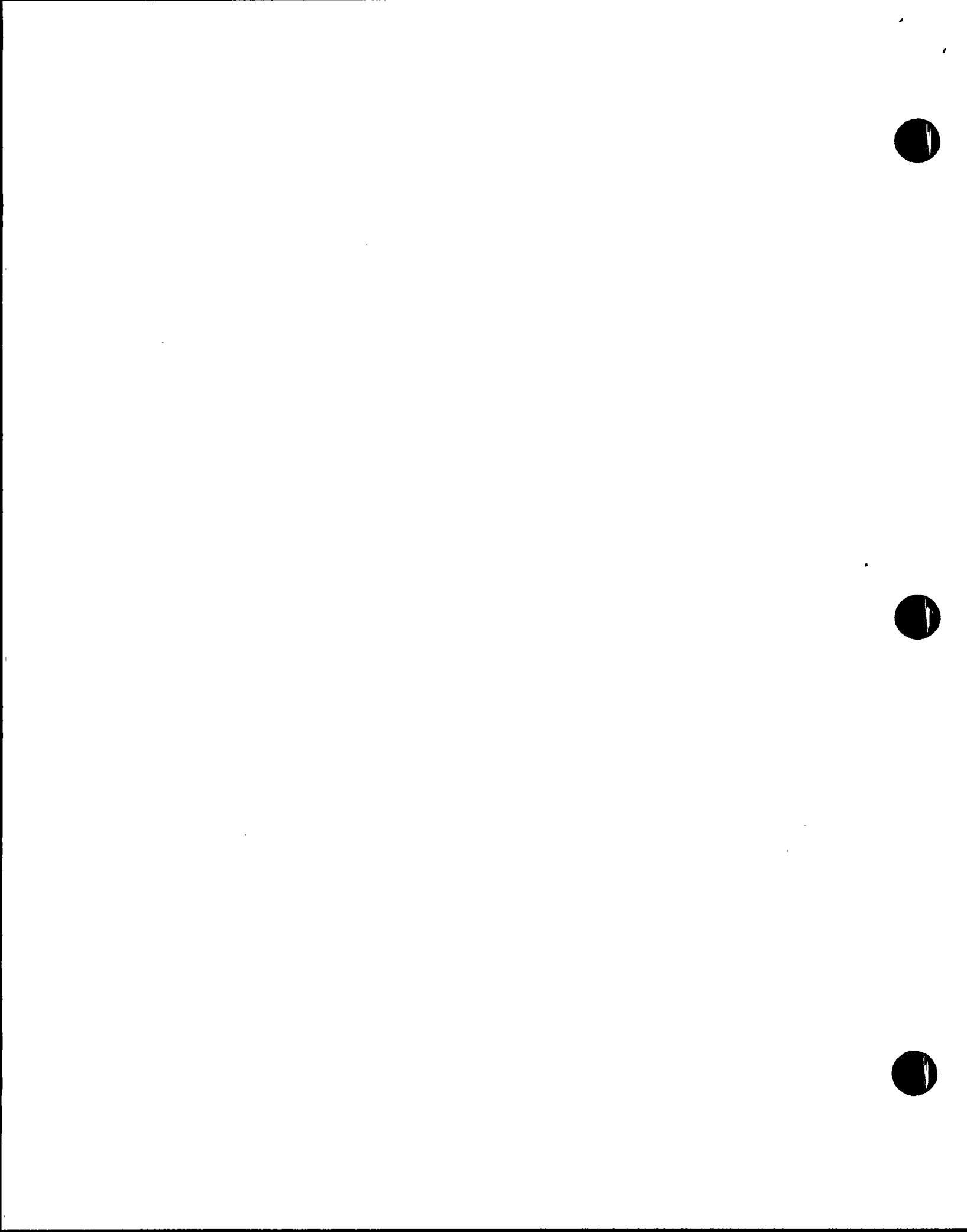
This conern as stated by the al-leger is, "Planners have now started to go into the field (plant) to more effectively plan the work; however, specific tools required to effect repairs are not detailed in the job packages."

Discussion

The licensee did not respond to this issue. The inspector reviewed MI-700, Revision 0, and O-ADM-701, dated June 30, 1988, and conducted interviews with FPL personnel. Several maintenance procedures were also reviewed. The inspector determined that internal requirements have not been established by the licensee for the planners to specify tools required to perform a particular job; however, when special purpose tools are required, they generally are specified by the I&C maintenance procedure. Tools normally utilized by the qualified journeyman are not specified.

Conclusion

This concern could not be substantiated and is considered to be closed.



3.2.3.2 Concern No. 4b

This concern as stated by the alleger is, "Equipment repair history data sheets are not included with every trouble and repair work order as this information is needed to ascertain and correct the root cause of equipment failure."

Discussion

The licensee did not respond to this issue. A licensee sponsored audit identified this issue in August 1988. The licensee took corrective action to ensure that this was done. More recently the NRC Maintenance Team Inspection (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32) reviewed equipment failure history data and determined that the following weaknesses were evident:

- o apparently insufficient training in the use of equipment and history records,
- o very little use of the historical data for determining root cause, and
- o inadequate entries of historical data in the system.

The inspection concluded, however, that the program for maintaining equipment failure history and implementation was satisfactory.

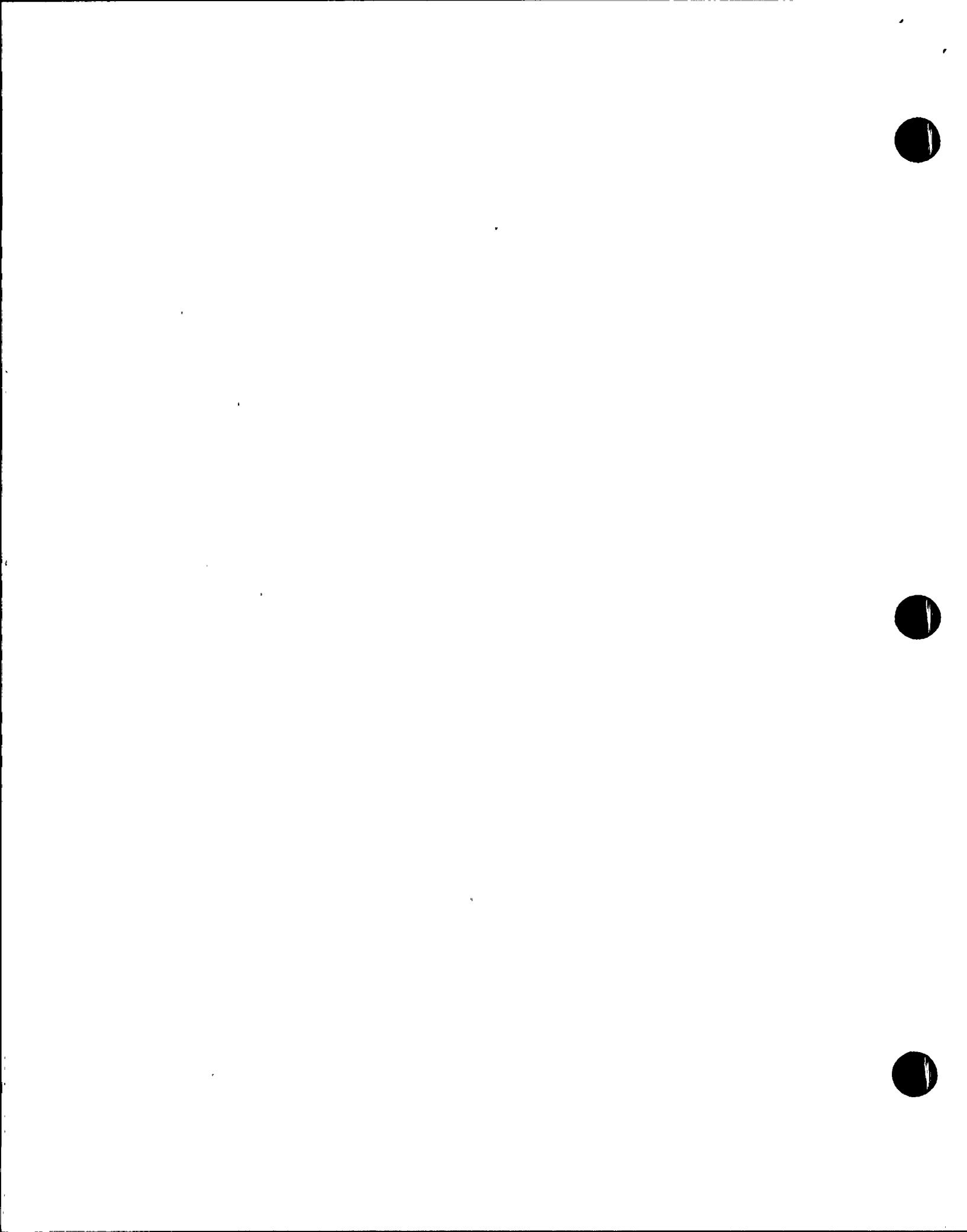
The inspector reviewed several work order packages and concluded that equipment failure history data was being provided.

Conclusion

This concern was substantiated; however, it was previously identified by the licensee and corrective action was taken. No safety significant issues were identified. This item is considered to be closed.

3.2.3.3 Concern No. 4c

Our understanding of this concern is that part numbers and stock numbers are not always supplied with the job packages, and when these numbers are supplied, they are not always correct.



Discussion

The inspector interviewed licensee personnel and reviewed the licensee's response dated February 27, 1989, and procedures O-ADM-701, AP 0190.19, and MI-700. FPL procedures do not require that the planners specify spare parts although it is their practice to do so. The NRC Maintenance Team (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32) concluded that the general area of material control was weak, and licensee sponsored audits also concluded that this area needed improvement. Discussions with licensee personnel indicate that the licensee is aware of the importance of providing the correct spare parts. The licensee has included this area in the Quality Improvement Plan and periodic updates of progress in this area are being provided to NRC management.

Conclusion

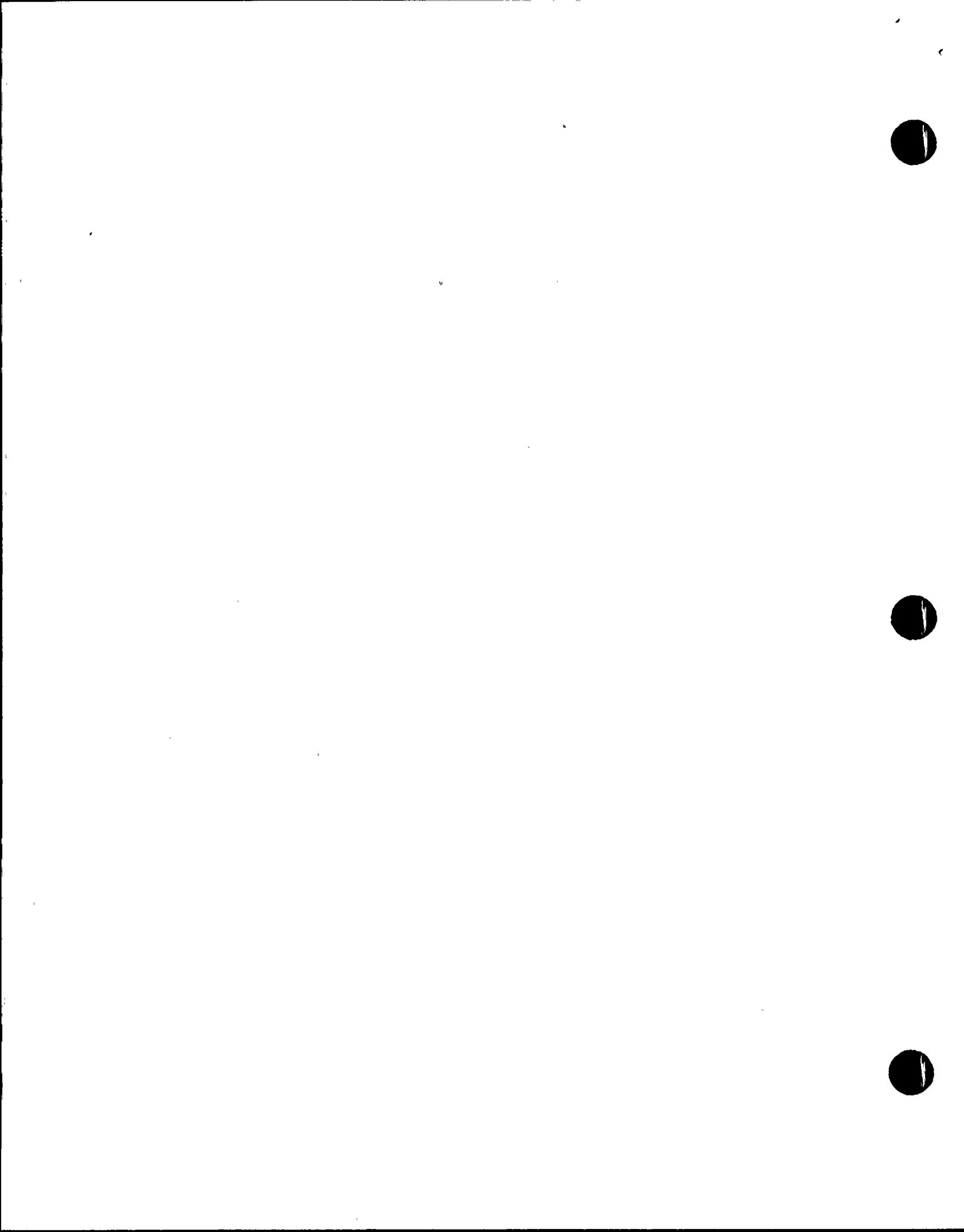
This concern could not be substantiated by the inspector because of the broadness of the concern. The licensee response was adequate, and corrective action is being implemented to improve this area. This item is considered to be closed.

3.2.3.4 Concern No. 4d

Our understanding of this concern is that clearances required to perform the work are not always initiated prior to the packages being issued for work initiation.

Discussion

The licensee did not respond to this concern. There are no NRC requirements that specify that the clearance must be issued with the job package. The Nuclear Watch Engineer (NWE) issues the clearance at his discretion. The important issue here is that the clearance be in place, if required, prior to starting the actual work. (Refer to the response to the concerns in Section 3.5 of this report for additional details on clearances).



Conclusion

This concern could not be substantiated and is considered to be closed.

3.2.3.5 Concern No. 4f

Our understanding of this concern is that job access is not always detailed into the job packages such as scaffolding, ladders, safety equipment, etc., and if scaffolding is specified, it usually is not erected at the time the job package is issued to the journeyman which results in a job delay.

Discussion

The licensee did not respond to this concern. There are no NRC requirements in this area. This concern is related to work efficiency and industrial safety.

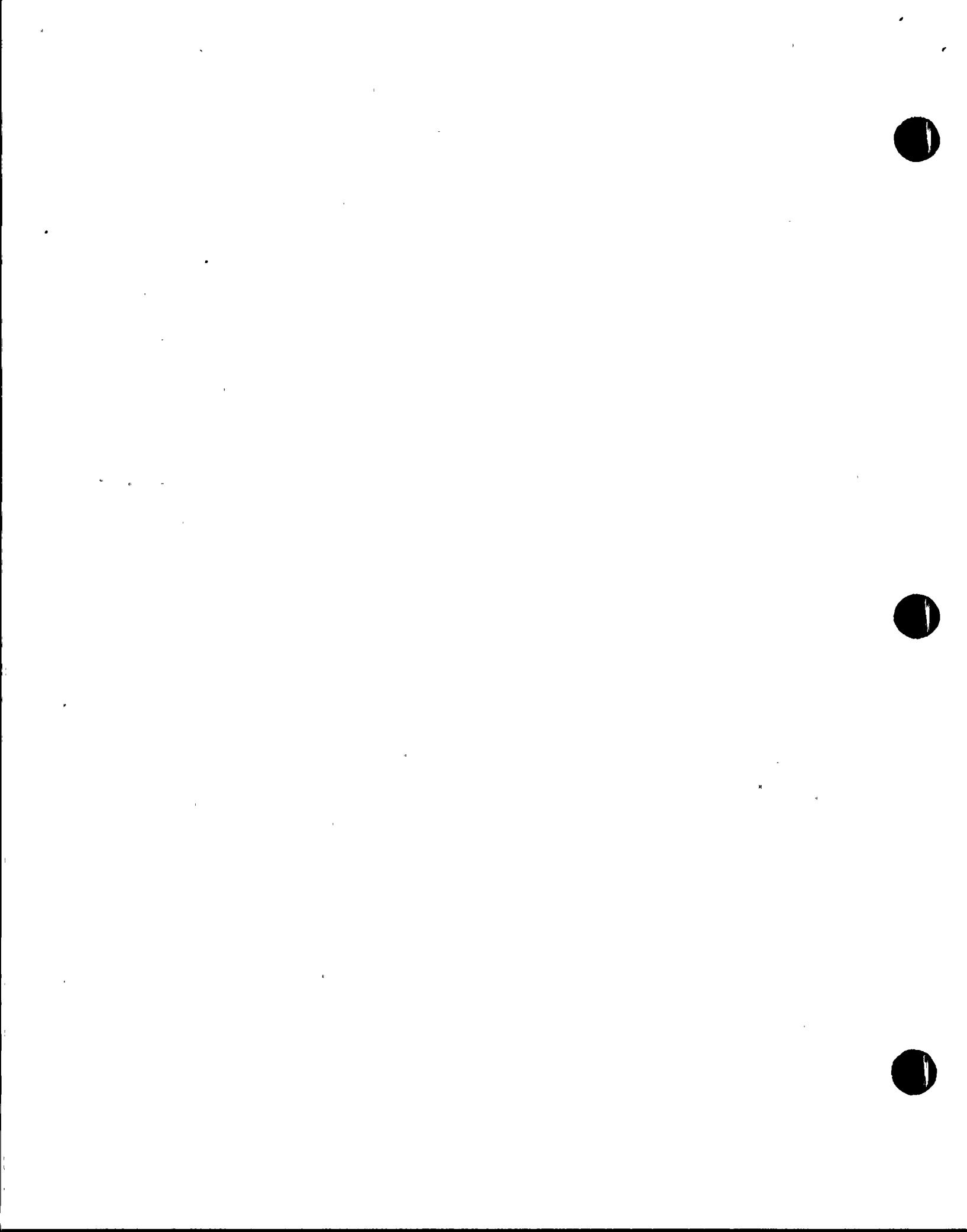
Conclusion

This concern could not be substantiated and is considered to be closed.

Summary of Concern Nos. 4a, 4b, 4c, 4d, and 4f

Concern Nos. 4a, 4b, 4c, 4d, and 4f were related to effective planning of Maintenance Work such that the confusion and work delays would be minimized. It appears to the inspector that although some of these concerns could not be substantiated, the problem did indeed exist. A response to an internal audit (by a licensee contractor) reviewed by the inspector indicated that the licensee was committed to make a number of changes involving: increased staffing and experience levels of planners and supervision and improvements in the planning program. The inspector verified by discussions with the licensee that a number of these changes had taken place.

During an NRC Maintenance Team Inspection (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32 which was conducted during December 1988, the inspectors concluded that job planning was poor; however, the program (what should be done in the area of maintenance planning) was satisfactory.



3.2.4 Concern No. 5

Our understanding of this concern is that the backlog of plant work orders specific to the I&C Department has been abnormally and consistently high. The work order ratio of repair maintenance to preventive maintenance is about 2.33.

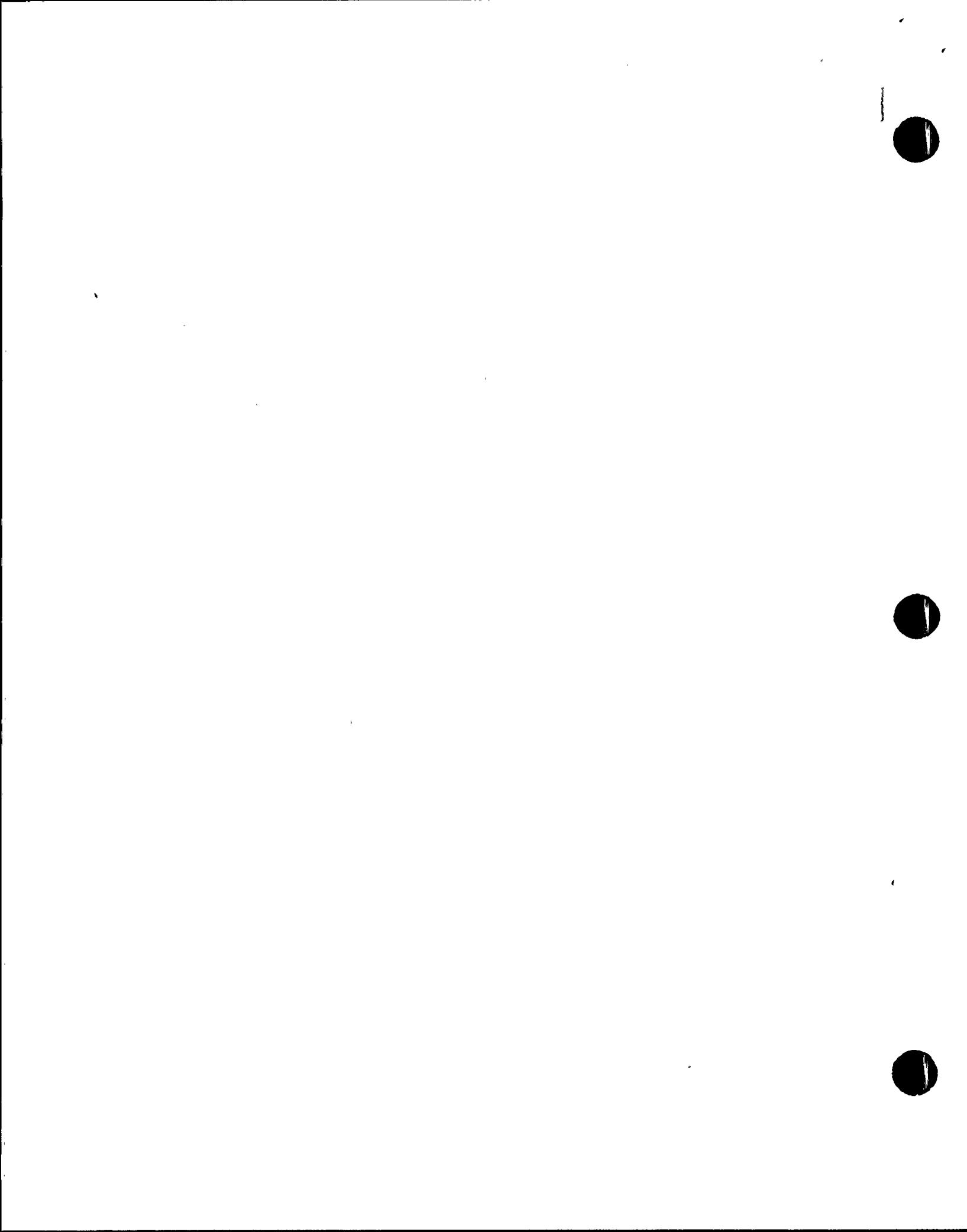
Part of the reason for this abnormally high ratio is that production within the I&C Department is hampered by Turkey Point's inability to plan and coordinate activities in a professional manner. Additionally, morale within the department is low because personnel are overworked, poor work conditions exist, procedures are poorly written, documentation is sometimes inaccessible, and management is overly apathetic toward employee concerns and new ideas. I&C personnel are tired of poor work packages, job delays, and rushed jobs. A prerequisite to overall plant morale improvement is better inter-department cooperation.

Discussion

There are no NRC requirements regarding maintenance ratios. Management has established indicators and a goal to lower the corrective maintenance to preventive maintenance ratio. This ratio fluctuates depending on activities at the plant. During 1988, the licensee has made significant progress in lowering the ratio. The licensee has also established a performance indicator and a goal to lower the maintenance work backlog.

The licensee had identified that personnel overtime was high in the Independent Management Assessment which was conducted in 1988. As a result of this finding, the licensee established a goal to lower personnel overtime. The progress that the licensee is making in this area is reported to the NRC in periodic management meetings. In addition, the NRC Maintenance Team Inspection (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32) conducted in December 1988 concluded that overtime rates were excessive. A discussion of operator's overtime is provided in Concern No. 29 (paragraph 3.4.4 of this report).

The licensee has identified that the quality of job planning, which includes the documentation provided to the craftsman, needed to be improved; and measures are being taken to improve this area. The licensee has established a controlled drawing program where important drawings are maintained in the maintenance shop areas. If a particular drawing is not available in this area, it may be necessary



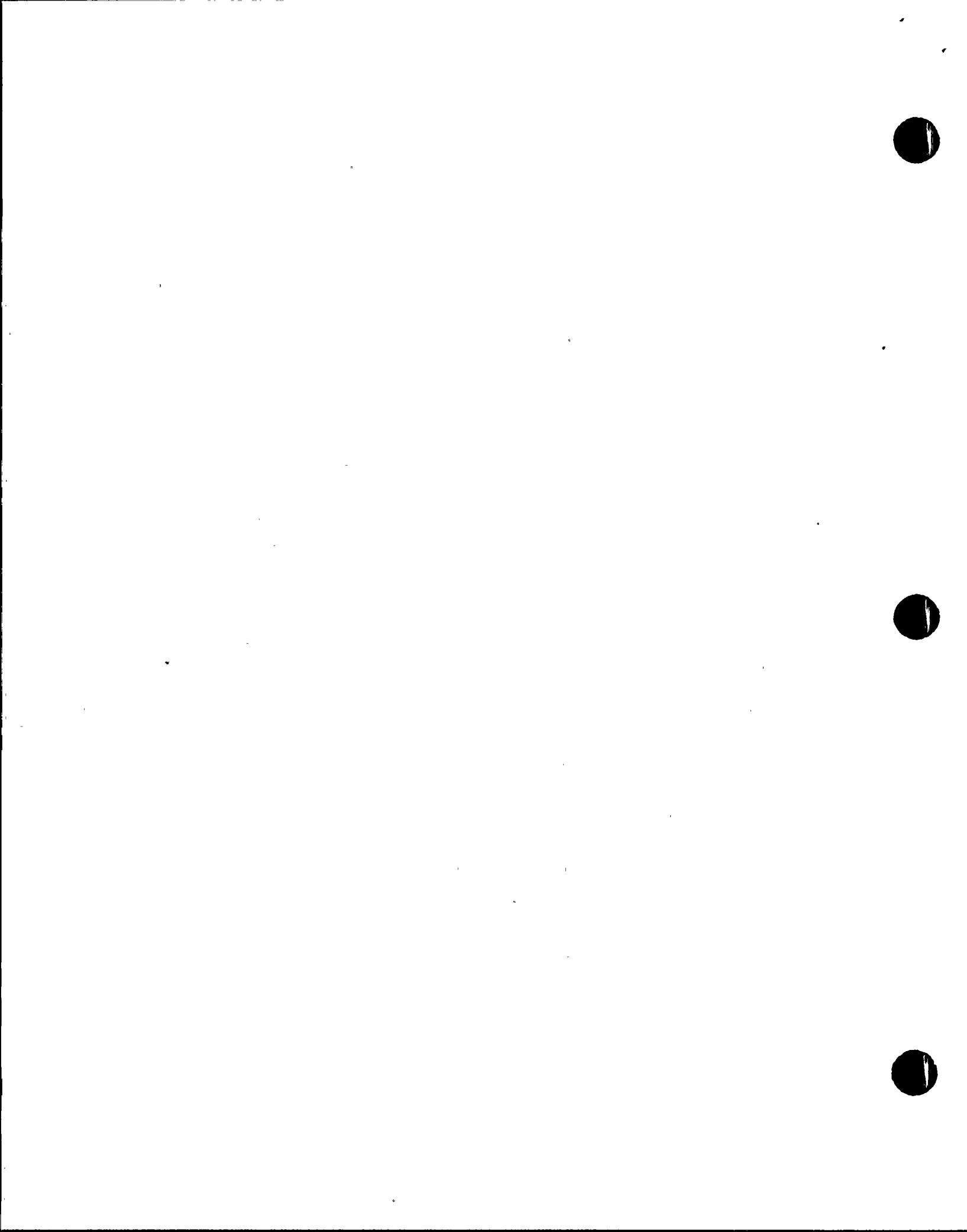
to obtain it from the Document Control Center where all drawings are maintained. For the one example of a drawing that could not be located, the drawing was available in the Document Control Center. (Refer to Concern Nos. 17a, 15d and (paragraphs 3.2.9.4 and 3.3.8) for additional details).

While performing this inspection a number of I&C Craftsman were interviewed to determine if the employees were aware of a program for employees to lodge safety concerns. In the majority of the cases, the FPL employees stated that they were aware of the program and that they would use the program if they had the need for it. A more detailed description is contained in Section 2.0 of this report.

Licensee sponsored audits have determined that the areas of maintenance work planning needed interdepartmental and intradepartmental communication. As a result of these findings, a number of initiatives are in the process of being implemented by the licensee to include: organizational changes in the Maintenance Department in the positions of Maintenance Manager, I&C Supervisor, I&C Production Supervisor, and I&C Planning Supervisor; increase in the number of planners in the I&C Maintenance area; institution of a monthly meeting by the Plant Manager with the Maintenance craftsman; institution of a weekly meeting by the I&C production supervisor with the craftsman; supervisor training; and retention of a consultant to study maintenance supervisor practices. More discussion of maintenance planning is contained in Concern Nos. 2 and 4 (paragraphs 3.2.2 and 3.2.3 of this report).

The inspectors conducted interviews with licensee personnel and reviewed several I&C procedures. Licensee personnel stated that a PUP was established to improve procedures. A number of the procedures have been rewritten and the licensee has instituted a program of "first use verification" of the procedures. The interviews with personnel using the procedures indicate that they may be too detailed and do not effectively utilize the skill of the craftsman. This was brought to the attention of the plant manager who stated it was his desire to revise the procedures such that the craftsman were comfortable with them. The inspectors review of I&C procedures indicated that the procedures were adequate. This area is discussed in paragraph 3.3.1 (Concern No..3) of this report.

The NRC Maintenance Team Inspection (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32) concluded that maintenance procedures were adequate; however, they were poorly implemented. This inspection primarily covered mechanical and electrical procedures.



The inspectors found that the morale of I&C maintenance personnel was low; however, it appears that the licensee is implementing proper corrective action to rectify the situation.

In summary, the licensee is taking action to improve preventive maintenance ratios, lower overtime, improve procedures, improve responsiveness to employee concerns, improve drawings, and improve maintenance planning. These initiatives were brought about by NRC and licensee sponsored audits which were performed during the past year.

Conclusion

It appears that these concerns can be partially substantiated; however, corrective action is being taken. No safety issues were identified in these areas. The licensee's response in this area was adequate, and this concern is considered to be closed.

3.2.5 Concern No. 6a

Our understanding of this concern is that improvements are needed in the maintenance training area to include the addition of qualified instructors, improved course materials, and consistent evaluation and monitoring of employee training and qualifications to provide ongoing training in a manner consistent with progressive advanced equipment and system training courses.

Discussion

There are no NRC requirements in the area of maintenance training course content, course materials, and the number of qualified instructors. There are requirements for the establishment of a maintenance training program and for safety-related work to be performed by qualified craftsman. The maintenance training program was reviewed by the NRC Maintenance Team Inspection (NRC Inspection Report Nos. 50-25/88-32 and 50-251/88-32) and was found to be satisfactory. The licensee's training program has also been accredited to INPO.

The recommendations in this area have been forwarded to the licensee for disposition as appropriate. The licensee did not respond to this issue.

Conclusion

This item was not substantiated and is considered to be closed.



3.2.6 Concern No. 6b

Our understanding of this concern is that I&C apprentices are currently not being trained to their full capabilities as these employees are given assignments in the I&C calibration lab, or told to run for parts, or instructed to do some trivial tasks.

It is recommended that the apprentices should each be permanently assigned to an experienced journeyman to ensure the proper training and knowledge is given to the apprentice.

The licensee should make every effort possible to enhance this program to provide for an end result of a fully trained and qualified journeyman as the current program no longer qualifies the apprentice upon the completion of his training in that the licensee's performance based training does not acknowledge the apprentice training program.

Discussion

There are no NRC requirements for the apprentice training. The inspector determined by discussions with licensee management representatives that FPL has developed the program in conjunction with the labor union which represents the apprentice craftsman. This item was forwarded to the licensee for disposition.

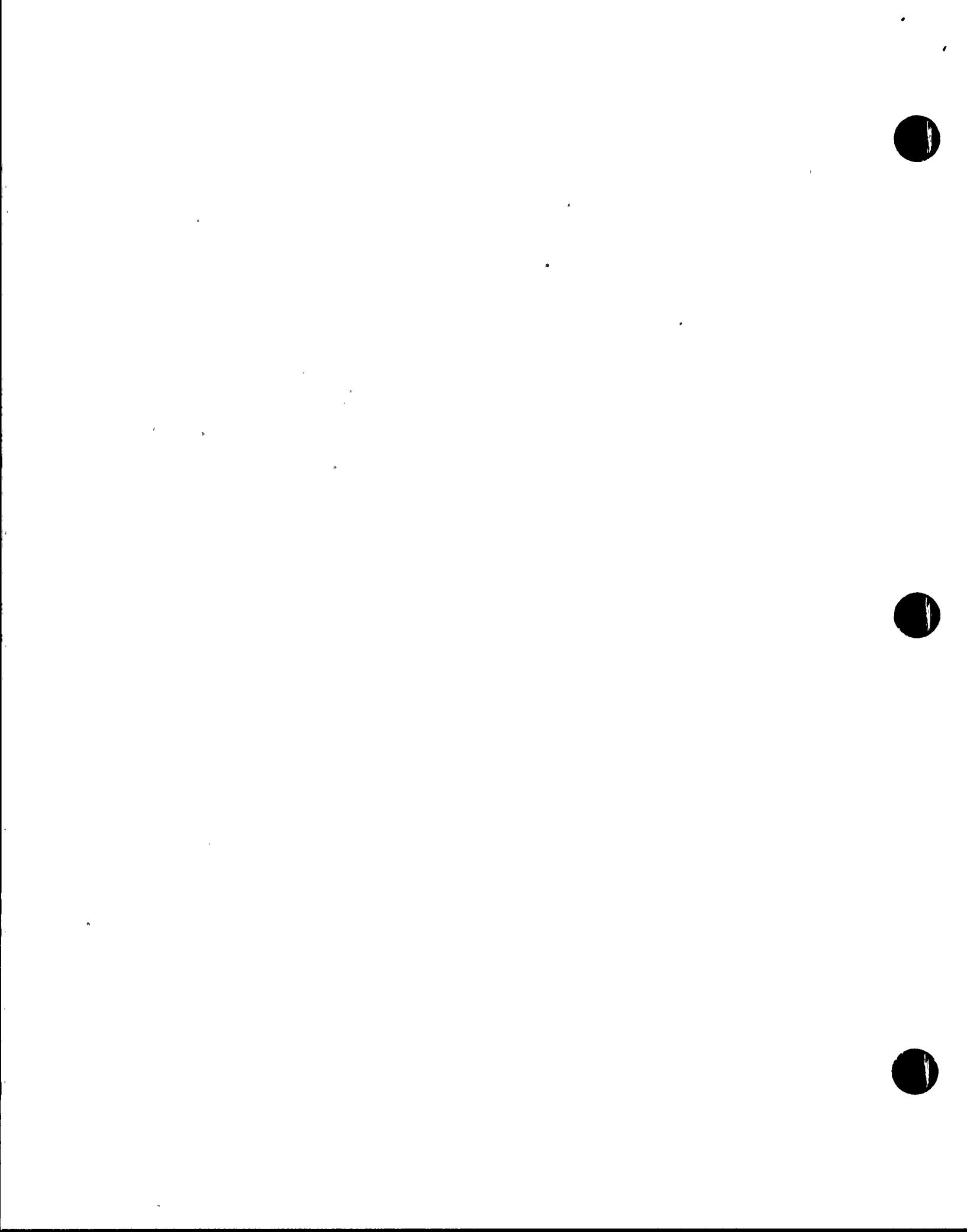
Conclusion

This item was not substantiated and is considered to be closed. The licensee did not respond to this issue.

3.2.7 Concern No. 7

Our understanding of this concern is that due to the enormous scope of the contracted maintenance; routine, non-contracted maintenance is poorly coordinated as management frequently changes the amount of work contracted out. Furthermore, it does not appear that management can effectively oversee and control the enormous amount of contracted work being performed in addition to the in-house maintenance work being performed.

It is recommended that the licensee should make all reasonable efforts to discontinue the use of contracted maintenance work as the licensee has the support of in-house maintenance personnel and in addition the licensee



has the resources of obtaining further support from soliciting personnel from other plants utilizing the itinerant system.

Discussion

There are no NRC requirements restricting the use of contractors. Licensee management has the perogative of utilizing contractors, soliciting personnel from other plants, or assigning the work to the plant personnel as long as the work is controlled and performed by qualified personnel. The NRC Maintenance Team Inspection conducted in December 1988 (NRC Inspection Report Nos. 50-250/88-32 and 50-257/88-32), concluded that the licensee's program for controlling the qualifications of contractor personnel was adequate. Other aspects of this program were not addressed.

Conclusion

This concern could not be substantiated. No examples were furnished where maintenance work performed by contractor personnel resulted in non-quality work. This item is considered to be closed.

3.2.8 Concern No. 12a

Our understanding is that this concern involves inadequate planning of a maintenance task on a fitting on a line to the Reactor Coolant System. The concern references Work Authorization (#WA 873321358), which was performed while being observed by two INPO inspectors at the time of the occurrence, but the event was not adequately documented in the INPO exit report. As this event did not appear to be a major concern to the INPO investigators, the licensee also did not acknowledge the event as a concern.

Discussion

The inspector reviewed the licensee response of February 27, 1989, the associated work package, and the 1988 INPO Evaluation Report. The work authorization package contained notations by the I&C journeyman that no leak was found. The 1988 INPO report indicated that the job in question was cited as an example of a package that did not provide correct procedures or accurate guidance to ensure proper maintenance. In their response, the licensee substantiated that the package was poorly planned by stating that management action was taken to have planners walkdown corrective maintenance work orders.

It appears that if the maintenance planner had done an adequate walkdown of the area, that the expenditure of the maintenance journeyman's time on this assigned task could have been avoided.

Conclusion

This concern was substantiated. The licensee response to this concern was adequate, and this item is considered to be closed.

The ALARA aspects of this concern are addressed in the response to Concern Nos. 12e, 12g, and 12h in paragraph 3.6.5 of this report.

3.2.9 Concern No. 15

Concern Nos. 15a, 15b, 15c, 15d, and 15e were submitted to an INPO evaluation team on May 9, 1988. These concerns were also submitted to the licensee. The concerns were followed up by the licensee's QC Department, and an internal report was issued to the Manager of Maintenance on May 9, 1988.

3.2.9.1 Concern No. 15a

Our understanding of this concern is that the I&C supervision does not have the experience level to properly and effectively manage the crews. Of the seven supervisors currently in the shop, only four of the supervisors are permanent, and the others are journeymen temporary relieving into the supervisory position which causes a certain amount of instability. In addition, the shop has a compliment of about 60 journeymen which creates day shift crews of about 7 journeymen to a single supervisor. This ratio of journeymen to supervisors is extreme in that the supervisor has far too many jobs being performed concurrently and struggles to maintain a handle on the days work load. The result is that job packages are not properly reviewed by the supervisors and package check sheets are not filled out by the supervisors prior to job assignments. Furthermore, the supervisors are not assigned particular systems and, therefore, can not become more proficient as any system can be assigned on any given day of the week.



Discussion

The inspector reviewed the licensee response dated February 27, 1989, and concludes that it is adequate. The inspector also reviewed the qualifications of the I&C Field Supervisors in those organizational positions on March 17, 1989, and concluded that the experience level of the I&C Field Supervisors is in conformance with the requirements of ANSI 18.1, 1971. The inspector also concluded that 5 to 7 craftsman is not an unusually high number of I&C craftsman for a supervisor to overview. I&C journeymen do not require as much overview as do journeymen from other disciplines because of the educational and experience level requirements established by the licensee for I&C journeymen. This appears to be in line with the practices at other plants. There are no requirements governing the size of maintenance crews. In addition, as a result of a company sponsored audit, the licensee is taking measures to raise the experience levels of I&C journeymen and supervisors..

Conclusion

This concern could not be substantiated. The inspector determined that requirements in this area were being met. This item is considered to be closed.

3.2.9.2 Concern No. 15b

Our understanding of this concern that the I&C Production Supervisor is not technically competent and relies heavily on his field supervisors for support. His management style is to manage the field supervisors who should be able to manage the crews. This style of management can not succeed here at Turkey Point Nuclear Plant because of the limited experience level of the I&C supervision and the limited experience level of the journeymen.

Discussion

Licensee management has made a number of personnel changes in the maintenance organization during the past three months. The supervisor in



question here, however, meets the experience and qualification requirements of ANSI 18.1, 1971. Additionally, during the maintenance reorganization, the supervisor was placed in the position of I&C Planning Supervisor.

Conclusion

This concern was not substantiated, and this item is considered to be closed.

3.2.9.3 Concern No. 15c

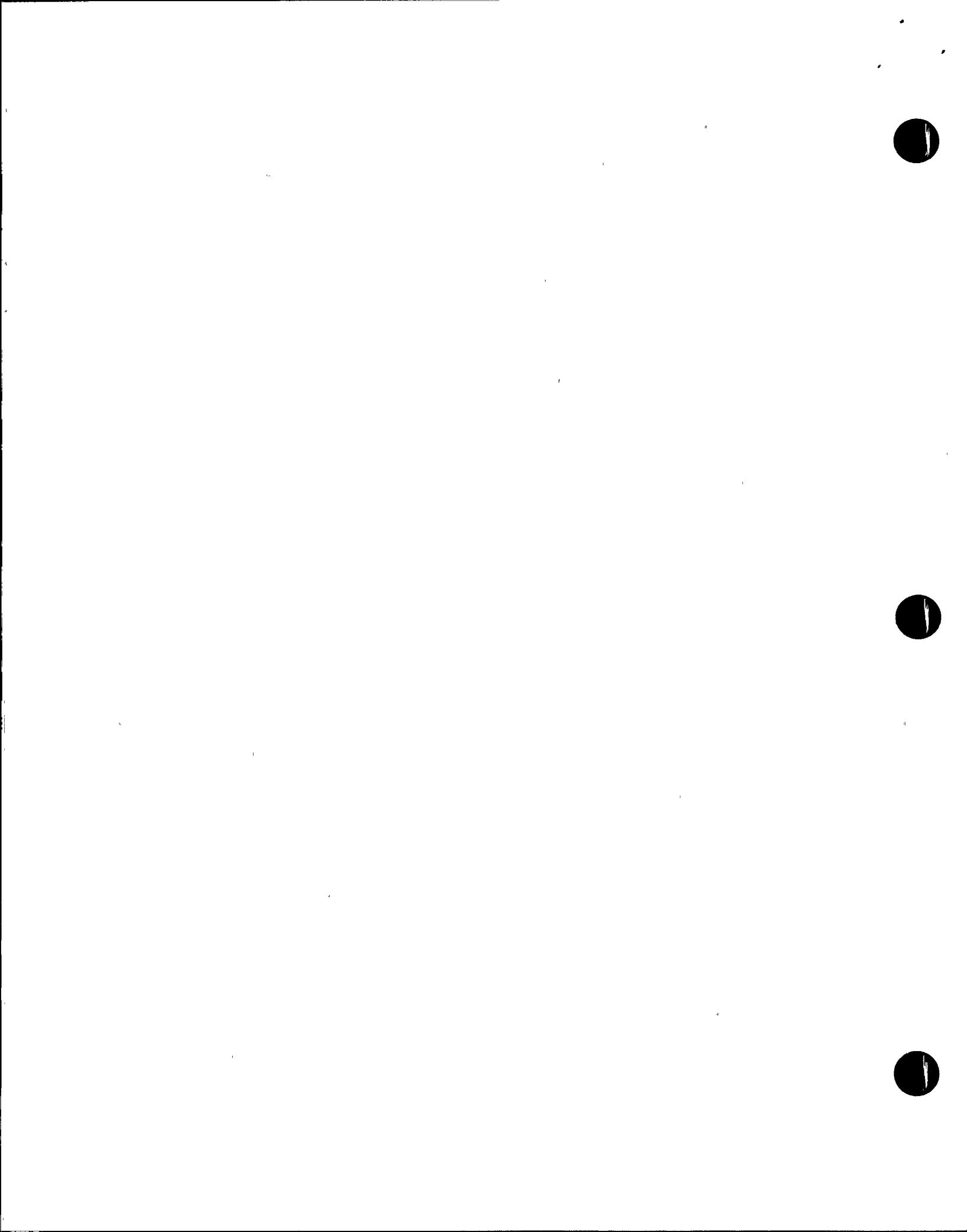
This concern as stated by the aleger is, "The I&C GEMS Department does not provide its customer the needed support when preparing job packages. Procedures in the packages contain various inconsistencies and the job planner does not always provide clear directions as to what specific steps are required in the procedure to complete the job. Information on the TEDB sheets is not always accurate and specific to the job requirements. Instruction on the Plant Work Orders are sometimes confusing and not in a logical order to perform the job. Planners are trying to plan jobs from their desks instead of actually going into the field (plant) to evaluate the jobs first hand and ascertain required parts, clearances, RWPs, test connections, etc. Even the most experienced planner can not effectively plan a job from his desk, unless of course it is a routine job task."

Discussion

The broad concerns stated here are addressed in response to specific concerns in this report; therefore, they will not be addressed here. The licensee is taking measures to improve programs in maintenance planning as discussed in Section 3.2.3 (Concern No.4) of this report.

Conclusion

Portions of this concern were substantiated; however, the concern was previously identified by the licensee and corrective action is being implemented. This item is considered to be closed.



3.2.9.4 Concern No. 15d

This concern as stated by the alleger is, "Management fails to support the journeymen with needed plant drawings, technical manuals, electrical wiring diagrams, flow diagrams, and P&IDs. The stick prints in the shop are very poorly maintained, and although these prints are supposed to be controlled, these prints have not been updated as per plant changes and set points. Additionally, the electrical wiring drawings are very poorly maintained and in need of replacement. The Instrument Index is also in very poor condition and set points have not been update as this is also a controlled document. Instrument arrangement drawings are hard to find and do not always provide instrument locations for both units. The shop has a film display unit which provides a display of selected drawings and prints from (fiche type) film cards. These drawings are also supposed to be controlled. This film system is confusing to the majority of the shop personnel including supervision and does not provide a printed output for a hard copy of the display. The TEDB is not currently updated with all plant equipment, and its use is therefore limited at this time. Finally, drawings for both units are combined in the same references which provides additional confusion and possible error."

Discussion

At the time this concern was identified to the licensee, a licensee audit was conducted. The audit concluded that these concerns had been previously identified and corrective action was being implemented to correct them. The audit also concluded that the TEDB program was a relatively new program and that the system was undergoing data input.

In a letter to the NRC dated August 15, 1988, the licensee prescribed a program that would be implemented to improve drawings including correction of discrepant drawings. The program included: the assignment of additional resources to eliminate the backlog of revisions to be incorporated into drawings, development of

changes to the process to enable updating of the drawings in a shorter time frame, separation of electrical and I&C drawings into unit specific drawings, streamlining of the entire "as-built" drawing update process, and prioritizing the order of the drawing update.

During an inspection in September and October 1988 (NRC Inspection Report Nos. 50-250/88-30 and 50-251/88-30), the NRC identified that several operating events had occurred because of deficiencies in safety-related plant drawings. At this time, a program was implemented to upgrade all safety-related plant drawings. These drawings have now been upgraded (red-lined) and progress of the finalization of the drawings is being reported to NRC management in periodic management meetings.

The inspectors reviewed the condition of controlled drawings in the I&C shop and concluded that they were adequate. In addition, interviews were conducted with approximately twenty (20) I&C journeyman and I&C Supervisors to determine if information provided to the craftsman to perform their tasks (such as work packages, vendor manual, drawings, etc.) was adequate, and no problems were identified.

Conclusion

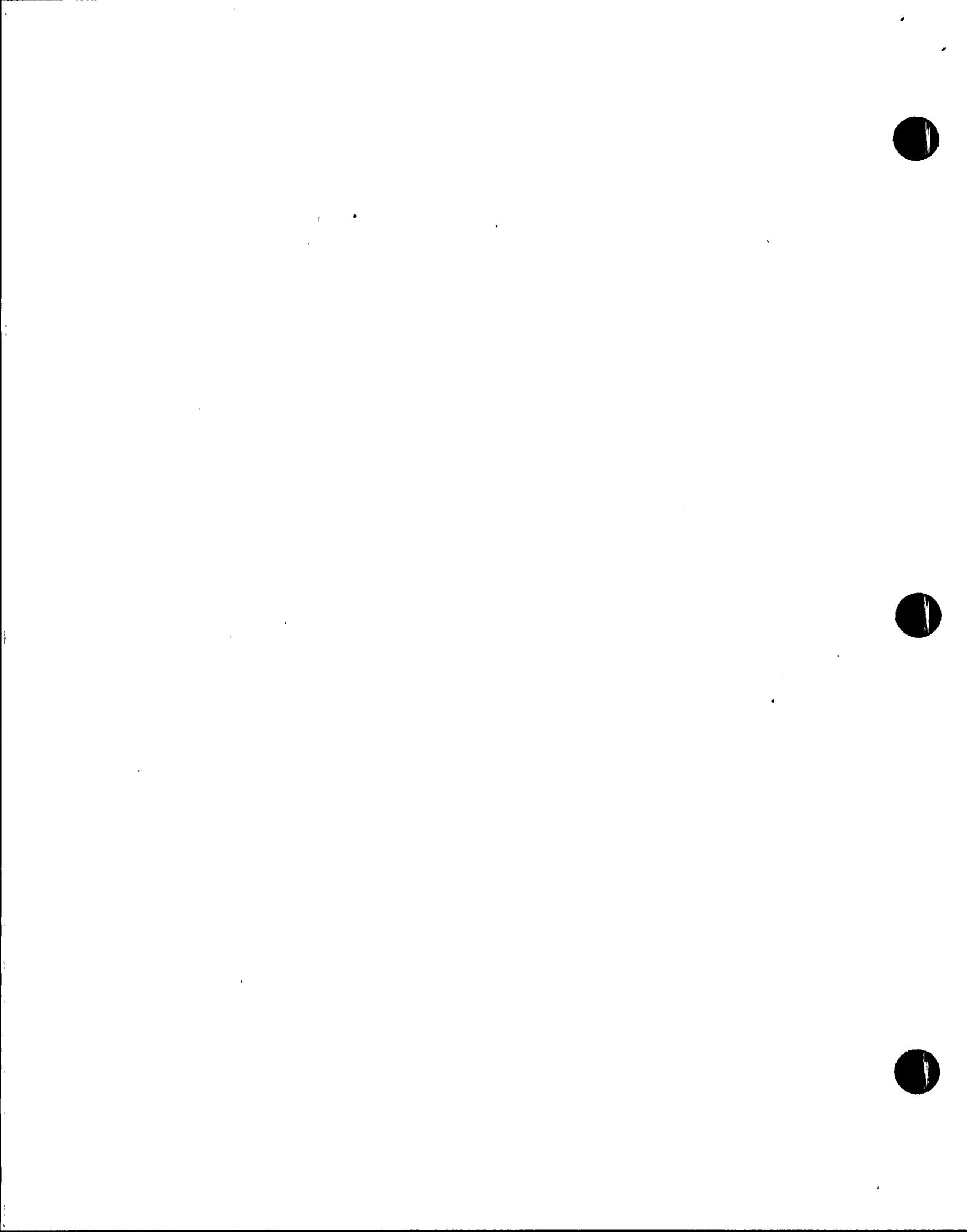
This concern was substantiated by the licensee although the specific details were not addressed in the licensee response dated February 27, 1989. The inspector concluded that adequate corrective action was being taken by the licensee. This concern is considered to be closed.

3.2.9.5 Concern No. 15e

This concern as stated by the aleger is, "Overall shop morale is low due to extensive overtime, poorly planned job packages, confusion, and frustration in obtaining required information and drawings to perform a job."

Discussion

This concern was repeated in the package of concerns; therefore, the response is not addressed here.



Conclusion

This concern was substantiated and is addressed in paragraph 3.2.4 (Concern No. 5) of this report.

3.2.10 Concern No. 28a

This concern as stated by the aleger is, "No equipment history sheet was supplied with the job package." Reference was made to Plant Work Order #WA 880930062741.

Discussion

This concern is an example of where the licensee was not providing failure data with the job package. This was identified in a licensee sponsored audit and corrective measures have been taken. This item is more fully discussed in paragraph 3.2.3.2 of this report (Concern No. 4b).

Conclusion

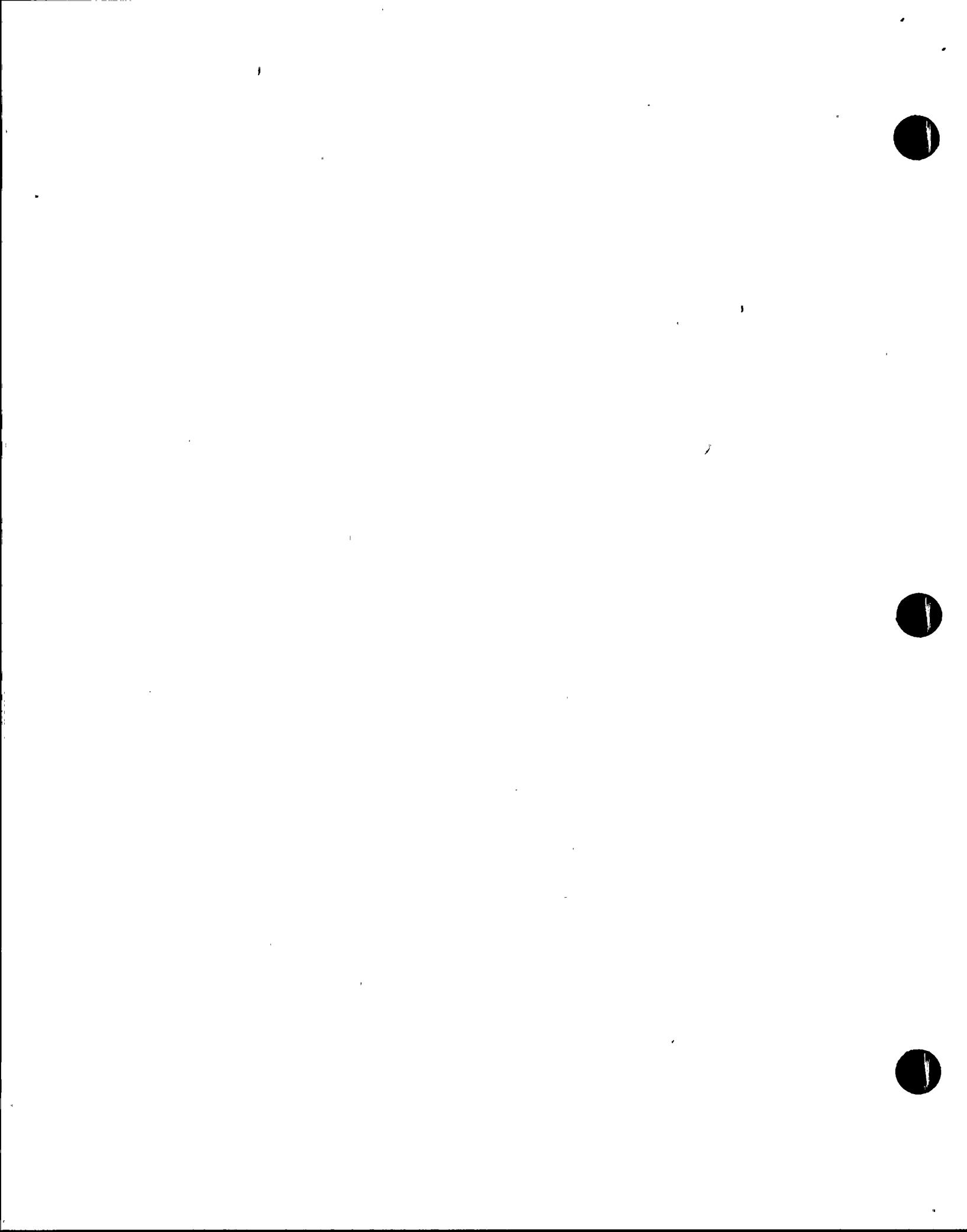
This concern is substantiated; however, the licensee had also identified this and was implementing corrective action to correct the problem. This item is considered to be closed.

3.3 Adequacy and Implementation of Plant Maintenance Procedures (562700)
Units 3 and 4

The NRC inspectors interviewed approximately 20 I&C journeymen and I&C supervisors. Personnel in the Training Department, QC Department, and Engineering Department were also interviewed. Additionally, procedures and records were also examined in the inquiring of the employee concerns listed below. It should be noted that none of the people interviewed considered that Turkey Point was unsafe. The results of the inquiries are discussed in the following section.

3.3.1 Concern No. 3

Our understanding of this concern is that procedures utilized at the Turkey Point Nuclear Station are not always adhered to in the manner prescribed in AP 0109.1 and in accordance with FPL Information Bulletin 88-02 dated June 6, 1988. Prior to the creation of O-ADM-715, Maintenance Procedure Usage, supervision was authorizing procedure steps to be skipped or N/Aed in accordance with O-ADM-201. O-ADM-201 is an operations procedure and not applicable to maintenance procedures.



The procedures are very poorly written and do not provide the following parameters required in a procedure: clear, concise directions; constant linear progression of procedure steps; technically correct steps to accomplish the desired task; allowable usage of trade knowledge; specific tools required to perform the job; and details of specific fittings.

Much like the maintenance procedures, maintenance instructions are also poorly written. They provide little direction, few tool requirements or test fitting connection determination information.

The Procedure Upgrade Program (PUP) does not support I&C by ensuring that procedure requirements are properly written and easily understood by I&C personnel".

Discussion

The concern sets forth very few details capable of a specific response.

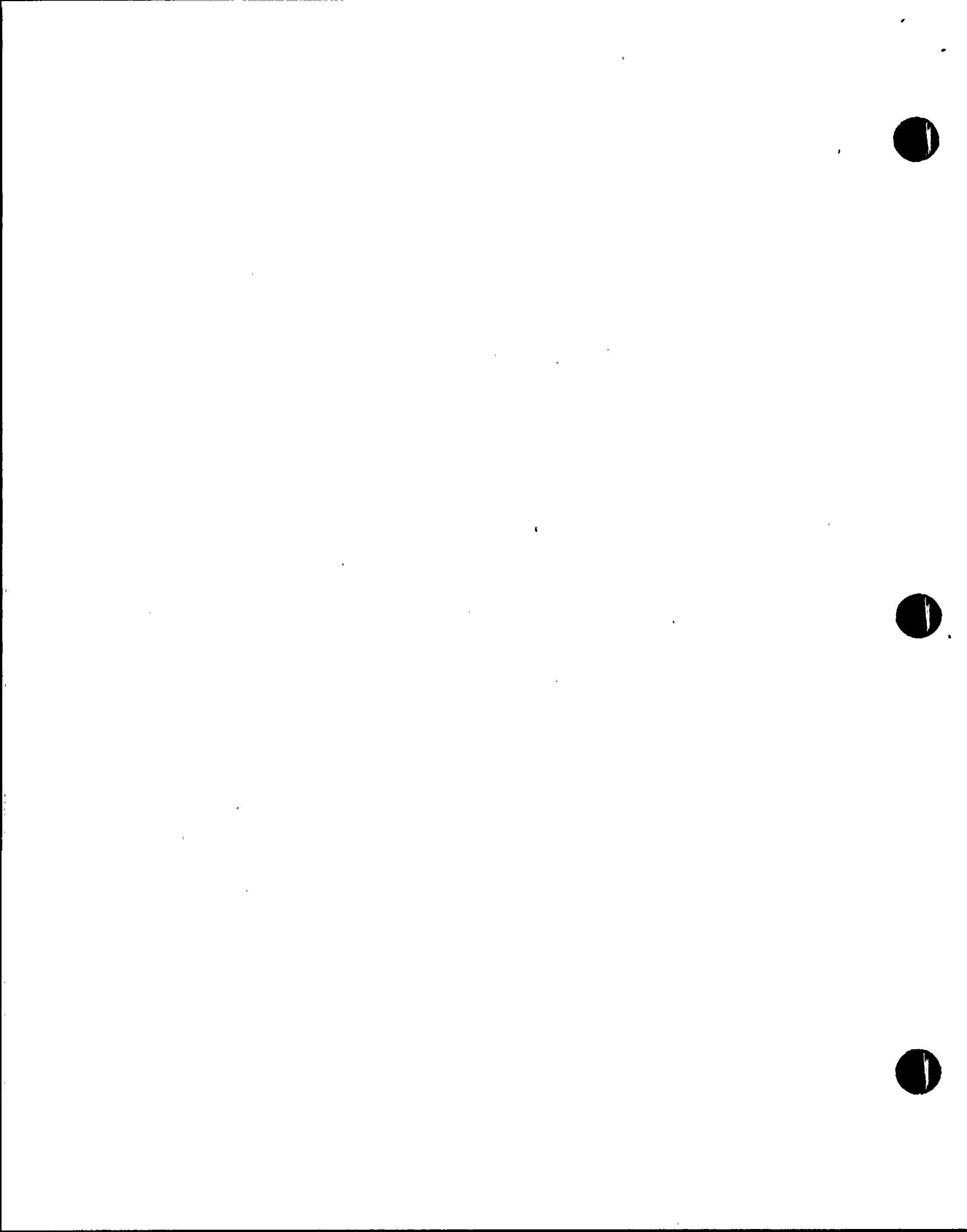
- As to the quality of procedures, they are developed using the requirements contained in O-ADM-107, "Writers Guide for Maintenance Procedures." The requirements of O-ADM-107 meet the guidelines of QA Manual QP5.1, and have used as a reference for the procedure INPO Guideline 85-026, dated June 1985. Maintenance procedures are written to the level of a newly qualified individual who possesses a standard set of hand tools. Additional special tooling required outside of normal hand tools (and special test fittings) is identified in the specific procedures. Use of test fittings and tools that are standard in nature, such as compression fittings and standard tubing connections, are assumed to be within the skill and knowledge of the journeyman doing the work and, as such, are not specifically identified in either maintenance procedures or maintenance instructions.
- As to the use of procedures and authorized deviations, the assertion is in error. When Training Bulletin 88-02 was published to provide training on how to comply with the station procedures, FPL management recognized that rules specific to the use of maintenance procedures did not exist. The rules that management desired the journeyman to follow were combined in both AP 0109.1 for original plant proce-

dures and O-ADM-201 for upgraded plant procedures. Since this created some confusion, management implemented O-ADM-715 in October 1988, which provides specific guidance as to Maintenance Procedure Rules of Usage. A mechanism to provide feedback on usage of preventative maintenance procedures was also developed and incorporated on August 30, 1988, in O-ADM-710.

- The maintenance instructions are used when the activity being performed is within the skills of qualified personnel and is considered a minor maintenance activity. They are not formal maintenance procedures. They are written and reviewed in accordance with plant procedures and then copied for each use. Maintenance instructions are not written to the same level of detail as procedures. This, however, does not mean that they are poorly written. They are intended as a guideline for qualified journeymen to utilize within their developed skills to ensure uniform results. Standard tool and test fitting usage is considered to be within the skills of a qualified journeyman, and thus, detailed instructions are not required.

The inspectors interviewed approximately twenty (20) I&C journeymen and I&C supervisors. Personnel in the Training Department were also interviewed. Training and qualification records for I&C personnel were examined. Maintenance I&C procedures and instructions were reviewed to determine if these instructions and procedures were as stated by the concerned employee. It should be noted that none of the personnel interviewed considered the Turkey Point Station to be unsafe. However, many of the I&C journeymen and supervisors commented there were problems with the I&C procedures. In addition, the licensee's management agreed there were problems with the procedures and the verbatim compliance policy using these procedures.

The inspectors determined that PUP wrote the procedures with reference to INPO Guideline 85-026 and within the requirements of O-ADM-107. O-ADM-107 meets the guidelines of QA Manual OP5.1. These procedures were written in a format where all activities to be performed are specified in very detailed sequential steps. After the procedures were written by PUP, they were sent to the I&C group for review and approval. When I&C completed the review, the procedures were approved and issued. The failure of I&C management to have had the procedures adequately reviewed and validated (debugged) created problems in their usage.



In conjunction, the I&C journeymen (all plant personnel) were required to adhere to the verbatim compliance policy outlined in Information Bulletin 88-02 (work control). It appears that the I&C journeymen did not fully understand the intent of 88-02. These two items, new detailed procedures which were issued without being validated, and the verbatim compliance policy created a transition period considered detrimental to the I&C group but not to plant safety.

The I&C journeymen stated that although procedures needed correction, in no case was work performed where the plant was left in an unsafe condition. One employee interviewed by the NRC concerning inadequate I&C procedures is in the process of using the licensee's Employee Concern Program to resolve his concerns.

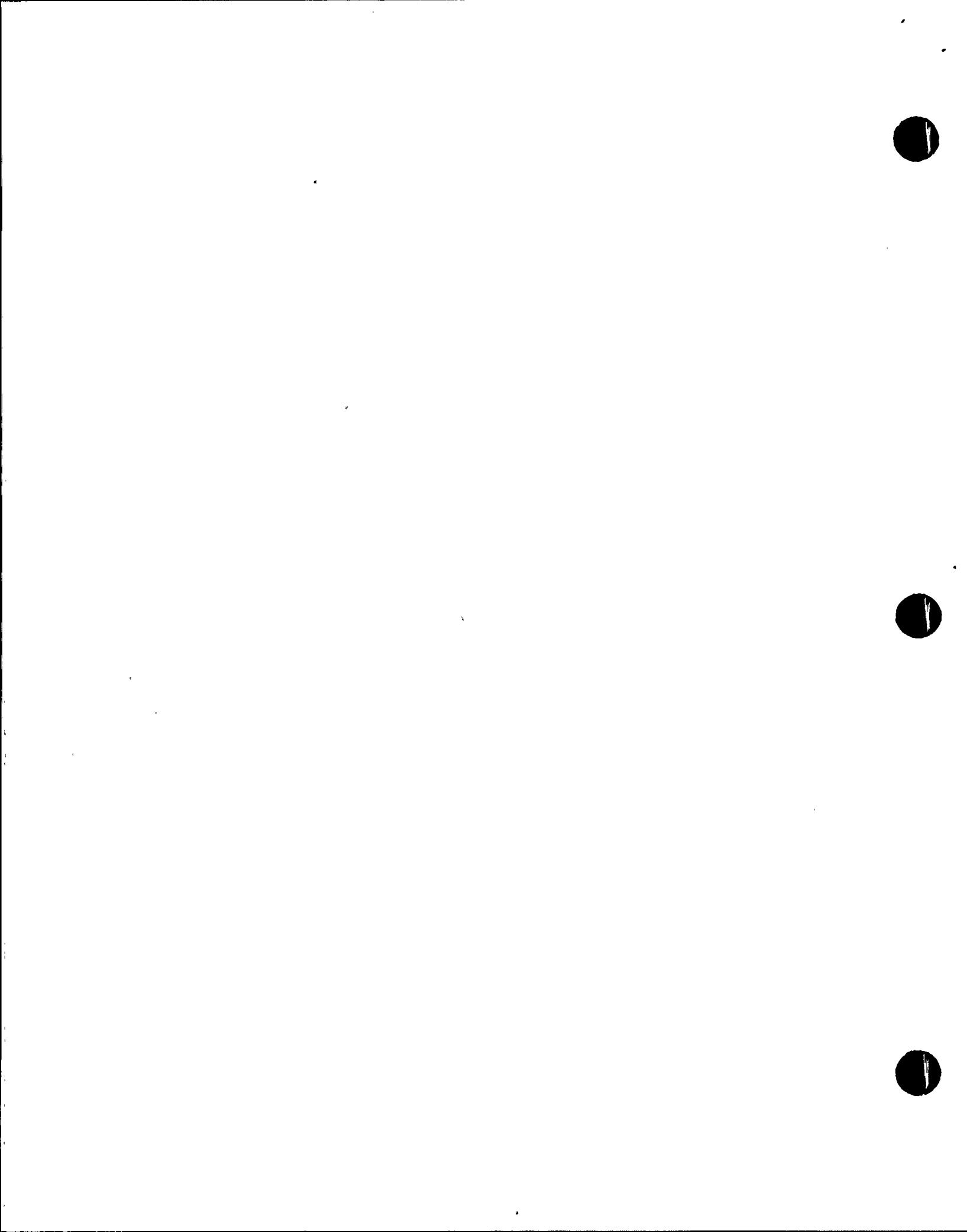
The licensee stated that INPO identified the need to upgrade their procedure review program and validate the procedures since the maintenance department had not adequately performed this task. The PUP supervisor stated the licensee now has a program requiring procedures to be validated before being issued.

The inspectors could only substantiate and the licensee agreed that minor technical errors did indeed exist in several of the procedures. However, the licensee has a program where these deficiencies have been and can be corrected using an On-The-Spot Change (OTSC). In several areas, where work can be performed in many different ways, the procedures have been written using a specific method using detailed sequential steps. These specific methods and detailed steps appeared to be awkward for the journeymen to perform. However, the procedures when properly validated, appear to be adequate and have two exceptional features, the Loop Diagram and the Test Sequence Logic Flow Diagram.

Conclusion

The inspector could not substantiate the employees concern that the procedures and instructions are poorly written and that PUP does not adequately support I&C. The inspectors have substantiated that problems exist with the procedures and some of the sequential steps may be awkward to perform. The licensee has stated these problems have been and are being identified and corrective action taken.

No plant safety issues have been identified with these concerns. The licensee's response to this concern was adequate, and this item is considered to be closed.



3.3.2 Concern No. 11

Our understanding to this concern is that a 6 lb ASCO solenoid valve (Automatic Switch Co.) was replaced with a 2 lb MAC solenoid value (MAC Valves Inc.) that does not meet manufactures installation instructions nor seismic considerations.

Discussion

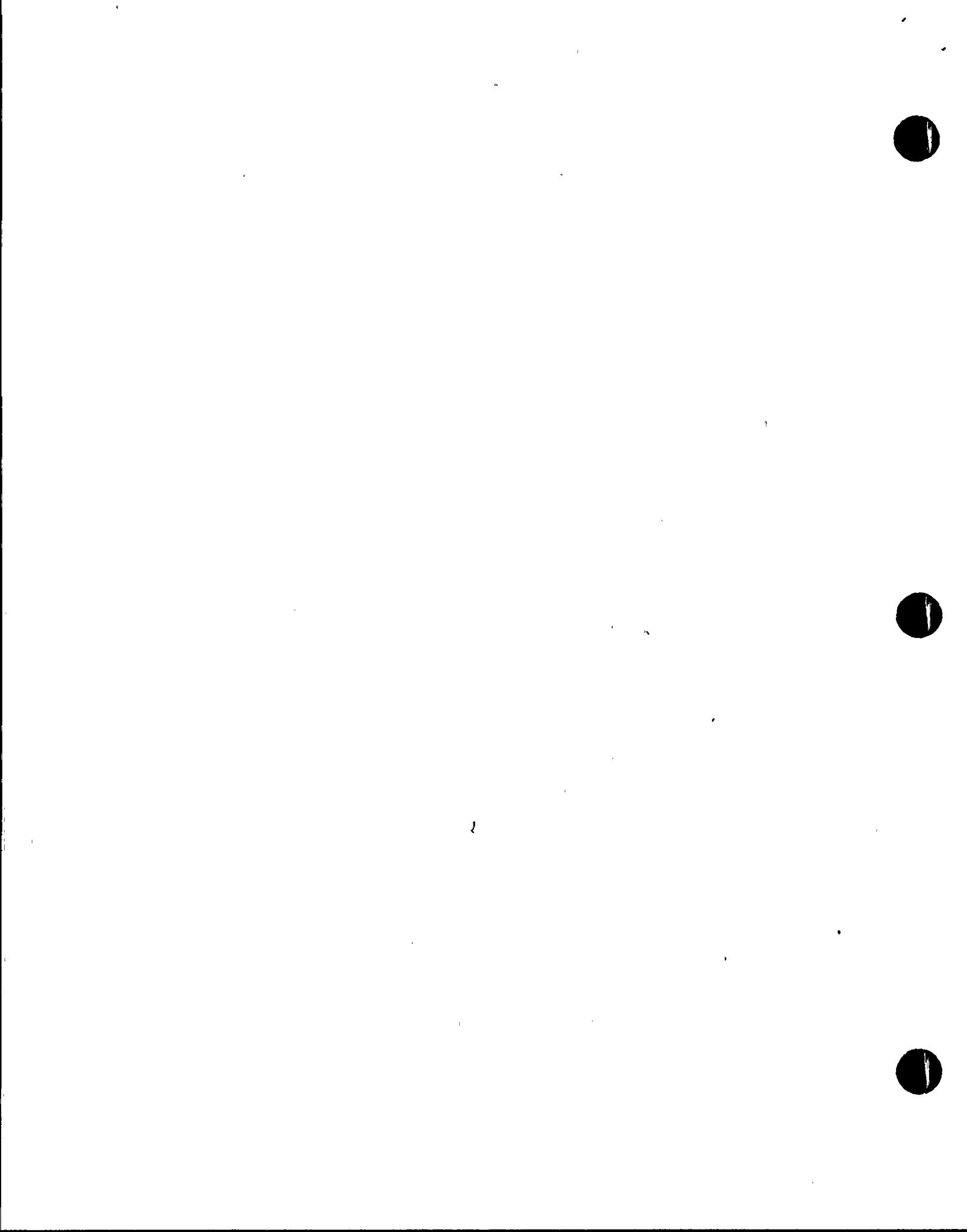
The concern misstates the actual situation. In this case a MAC solenoid valve was replaced with an ASCO solenoid valve. The original design indicated that an ASCO solenoid valve was installed. The fact that a MAC solenoid valve was installed was documented on NCR 86-435.

The inspector determined that the concern is substantiated in part in that the manufacturer's mounting bracket on the solenoid valve was not initially used at Turkey Point. The mounting bracket on the solenoid valve implies that they should be used in the installation of the solenoid valve, and the manufacture's catalog and instructions show that a bracket is provided for mounting purposes. However, these documents do not specify a mounting requirement.

The Turkey Point FSAR, Section 2.1, states, "Turkey Point is located in a seismological quiet region, as all of Florida is classified Zone 0 (the zone of least probability of damage) by the Uniform Building Code, published by International Conference of Building Officials." The initial design for Turkey Point was done in the 1960s, and the two units have been in operation since 1972 and 1973. Seismic analysis and design based on the above was performed, and an in-line installation of the solenoid valve without using the mounting brackets was acceptable.

In the application of replacing of the MAC solenoid valve with an ASCO solenoid valve, the Design Engineer had determined that existing installation was acceptable, and therefore, the one-for-one component substitution was acceptable. The NRC inspector considered that the in-line installation of the replacement solenoid valve without brackets being used was poor engineering in that a heavier solenoid valve was replacing a lighter valve. It is recognized that the replacement valve was similar in weight and configuration to the initial design.

As a result of the I&C journeyman's efforts, the management on shift's efforts, and the management on shift report dated January 5, 1988, engineering relooked at the



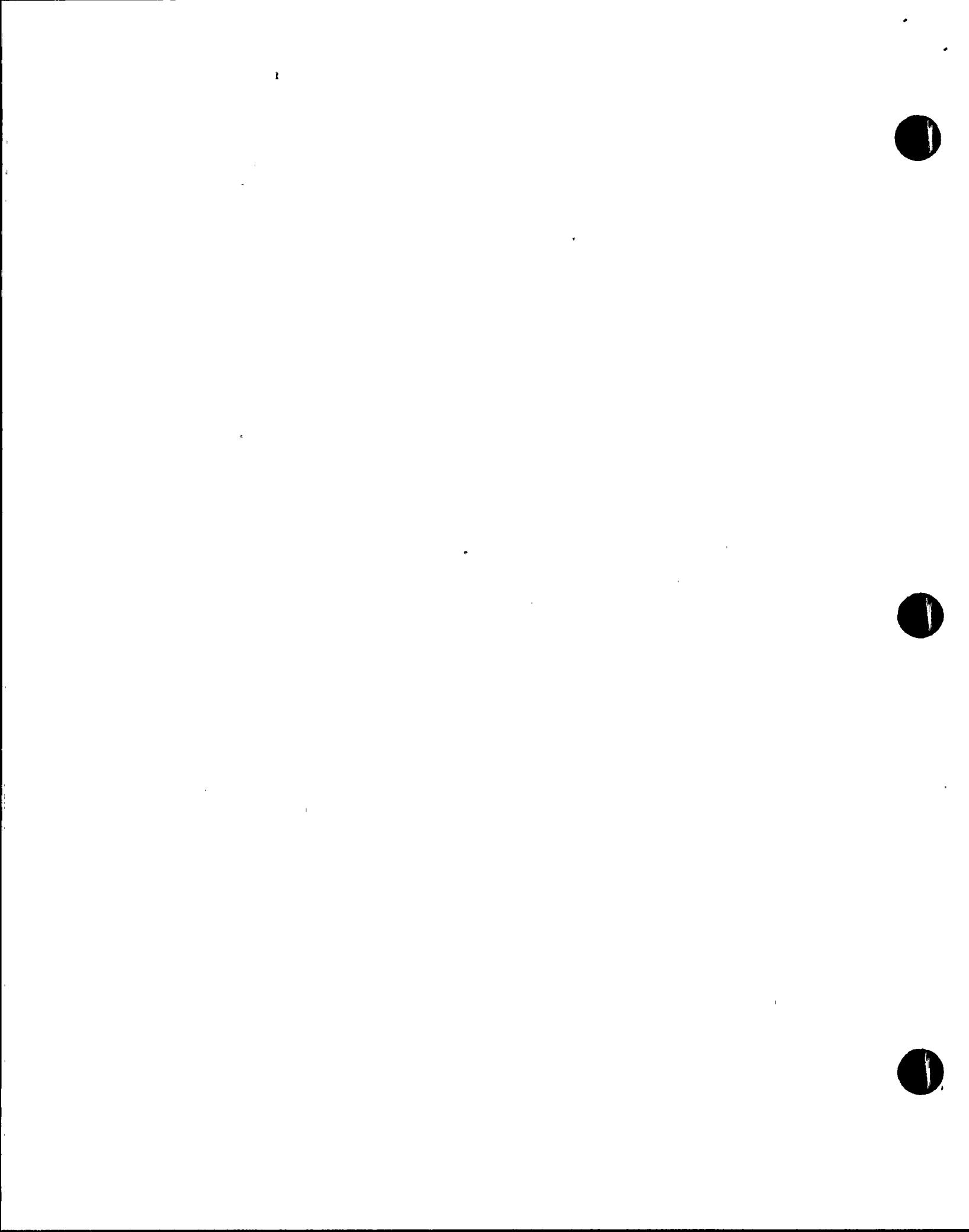
installed configuration. Consequently, the installation was upgraded to use the solenoid valve mounting bracket and stainless steel tubing replaced the copper tubing.

In summary, 10 CFR Part 50, Appendix B, Criteria III, states, "measures shall be established to assure that applicable regulatory requirements and design as defined in 10 CFR 50.2 and specified in the licensee application for structure, systems, and components....are correctly translated into....procedure and instructions." The inspector determined that the design control for this installation met the original requirement.

Conclusion

The concern is substantiated in part, but the inspector determined that there was no safety significance based on the above and the following:

- The valve is class 1E but is not required to be environmentally qualified.
- The valve is in an air system that controls the air for a pneumatic valve in a primary system sample line. With a loss of air, as discussed in the "as found" analysis performed on the valve by Bechtel Engineering on January 8, 1988, the pneumatic valve fails closed in the safe position..
- Seismic qualification is based on a seismological Zone 0 and the installation met the original design.
- An engineering operability evaluation was performed on the MAC solenoid valve on December 30, 1986, and the valve was determined to be operable.
- An "as found" evaluation was performed on the valve by Bechtel Engineering on January 8, 1988, as part of a system and design basis upgrade. The evaluation concluded that the copper instrument lines would remain functional during and following a design basis safe shutdown earthquake (SSE) at Turkey Point. The solenoid valve and instrument lines were operable at all times, and as indicated above, the installation was upgraded to use mounting bracket and stainless steel tubing (which provides superior strength) has replaced the copper tubing.



- The solenoid valve is used to control a pneumatic valve in a primary fluid sample line. This pneumatic valve is isolated by a closed upstream valve in the containment and is only operated in conjunction with the upstream valve when a sample is being taken. (Refer to FPL's letter of June 6, 1983, No. 2-83-347, to NRC and to Drawing 5610-T-E-4515, Sheet 2.)

This concern was partially substantiated; however, it was handled correctly by the licensee. The licensee's response was adequate, and this item is considered to be closed.

3.3.3 Concern No. 13

Our understanding of this concern is that procedure O-PMI-047.29, Chemical And Volume Control System RCP A Seal Injection Flow Indicator Calibration/Replacement, Approval Date (revision number) January 1, 1988, Page 18, was corrected by an On the Spot Change (OTSC). The OTSC added step 6.5.10, "close indicator equalizing valve." How was the procedure previously performed?

Discussion

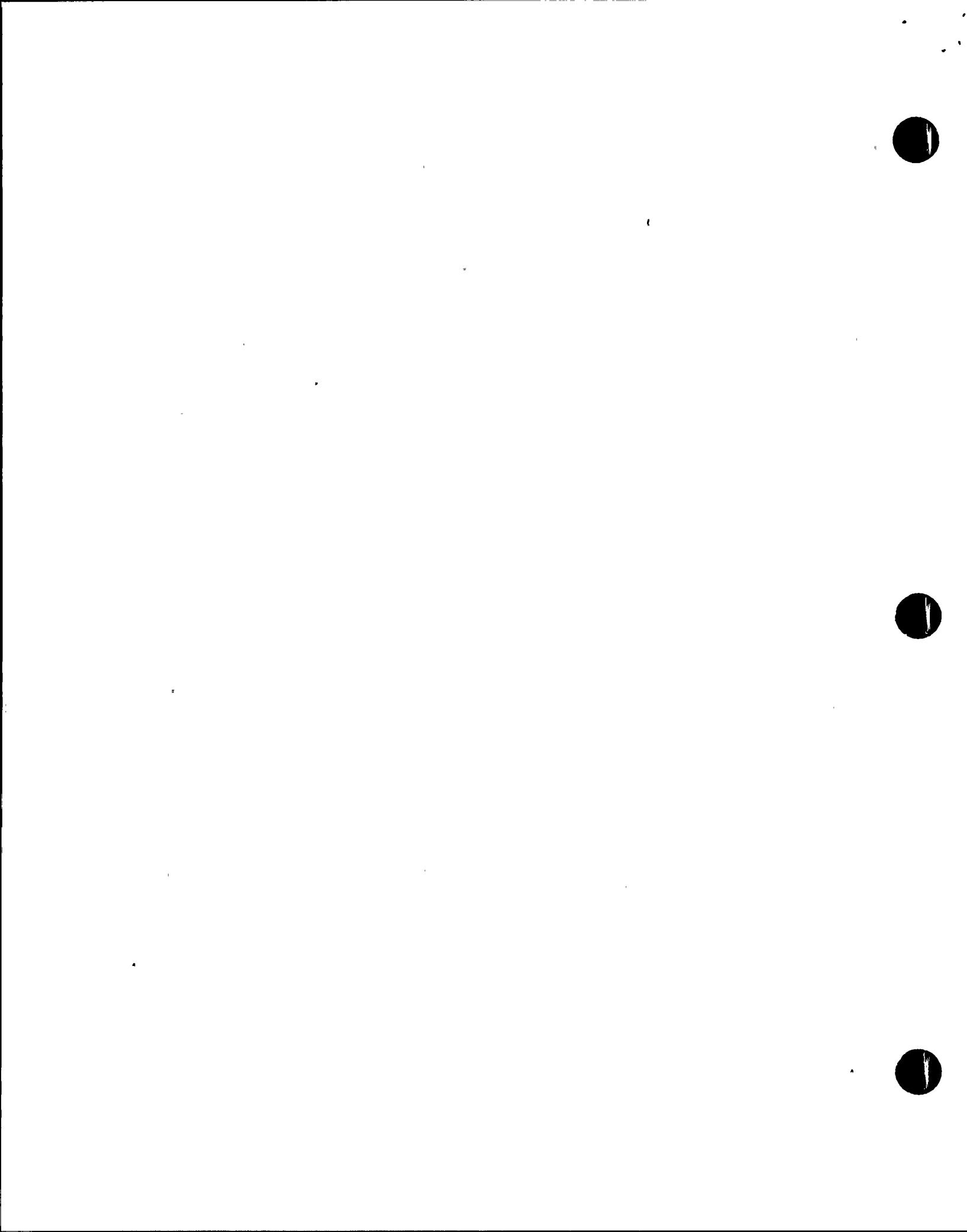
The inspector reviewed the licensee's response and O-PMI-047.29 and determined that the equalizing valve was previously closed using procedure O-PMI-047.29, step 6.5.14, approval dated January 7, 1988, which stated:

6.5.14 Verify the following indicator valve lineup:

- | | |
|--|--------|
| (1) Indicator equalizing valve: | CLOSED |
| (2) Indicator HP side isolation valve: | OPENED |
| (3) Indicator LP side isolation valve: | OPENED |

"Verify," as used in procedure O-PMI-047.29, approval date January 7, 1988, step 6.5.14, means that the equalizing valve shall be checked to assure that it is in the CLOSED position and that if the equalizing valve is not found to be in the CLOSED position, it shall be placed in the CLOSED position.

The step 6.5.10, "Close the equalizing valve," added by the OTSC clarifies the procedure. However, the inspector concluded that the equalizing valve would be placed in the CLOSED position using either revision of the procedure.



Conclusion

This concern was not substantiated. The licensee's response to this issue was adequate, and this item is considered to be closed.

3.3.4

Concern No. 14b

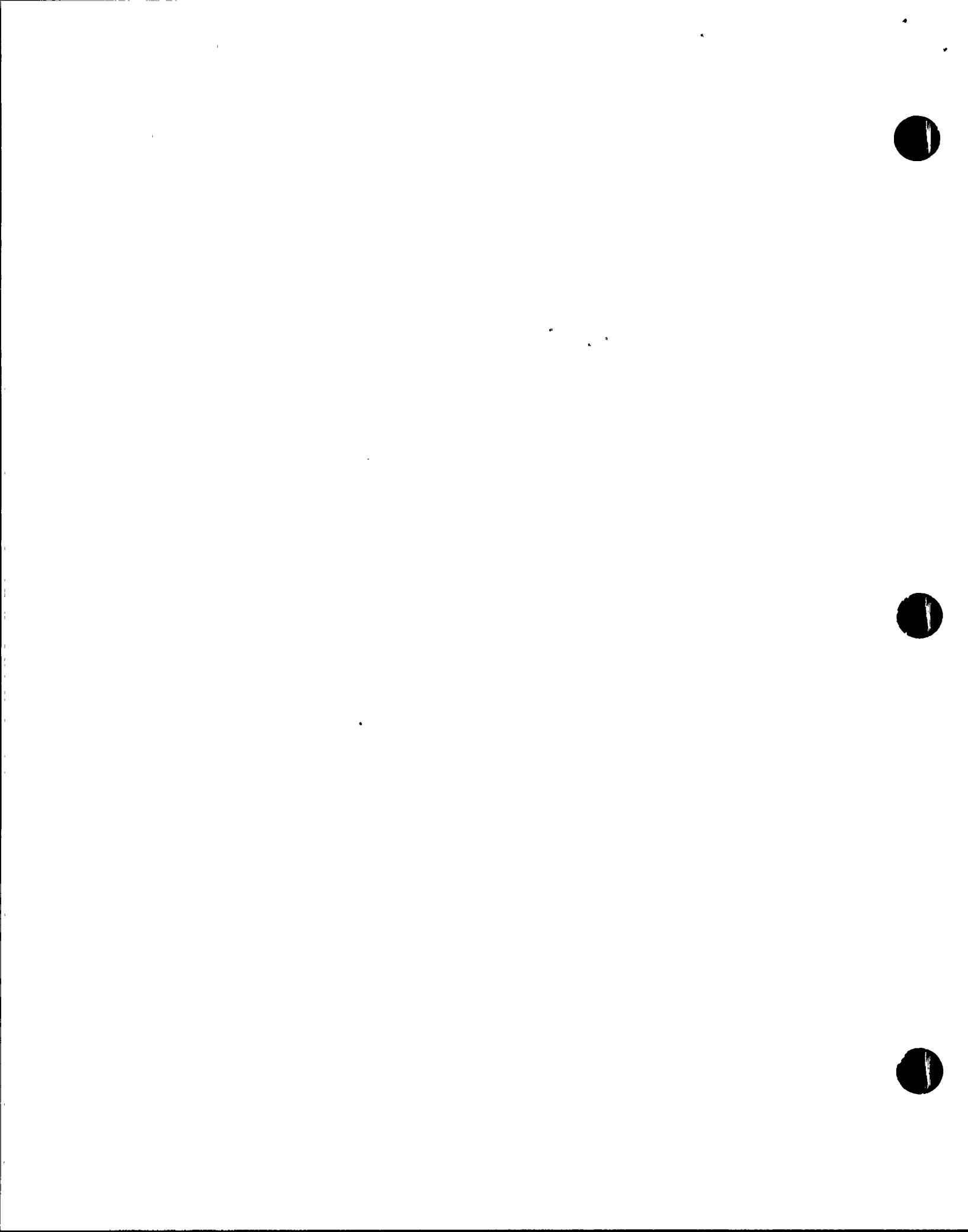
Our understanding of this concern is that FPL management was informed that a clearance for each auxiliary feedwater pump should have been initiated prior to beginning work in order to ensure that oil would not be expelled during the maintenance activities of oil removal/replacement. Additionally a specific procedure should be written to provide for proper instructions in performing this work. The licensee acknowledged the concern for the proper maintenance of this system and that followup of the events would take place at a later time. These concerns are in reference to Nuclear Plant Work Orders: PWO 6734/69, Work Request #WA 880891349 dated March 29, 1988; PWO 6775/69, Work Request #WA 880411135036 dated April 11, 1988; and PWO 6776/69, Work Request #WA 880411135510 dated April 11, 1988.

Discussion

Each of the referenced PWO's "Clearance Required Section" (Y or N) was marked with N indicating that the clearance was not required. The licensee responded that Operations support personnel had reviewed the referenced PWOs and the design of the Auxiliary Feedwater Pump governors from which the oil was to have been drawn and refilled. This review indicated that the probability of oil expulsion was minimal, regardless of the pump operating mode. Since this oil sampling process could have been performed with the pump operating, no clearance was required to do the work in question while the pumps were shutdown.

The licensee stated the instructions for this activity are simple in nature and are within the normal skill of the journeyman. In addition, no specific procedure is required by Technical Specification 6.8.1 or Regulatory Guide 1.33. The instructions provided are in accordance with site procedure AP 0190.19.

The inspector reviewed the referenced PWOs to determine if the safety-related auxiliary feedwater pumps would be in a safe operating condition when the oil sampling/replacement and post-maintenance testing were completed. The Work Description Section for each PWO has the following work steps:



- (1) Draw oil sample from X AFW turbine governor.
- (2) Add oil, type Texaco Regal 32, to Restore oil level to normal (amount of oil to be added should be approximately equal to amount taken).
- (3) Post-Maintenance Test: With the pump in operation, oil level shall be visible within the sightglass approximately on the black line.

The inspector verified that Appendix A, Post-Maintenance Test Sheet, for the referenced PWOs stated that the proper oil level was verified with the pump running after the work was completed.

Conclusion

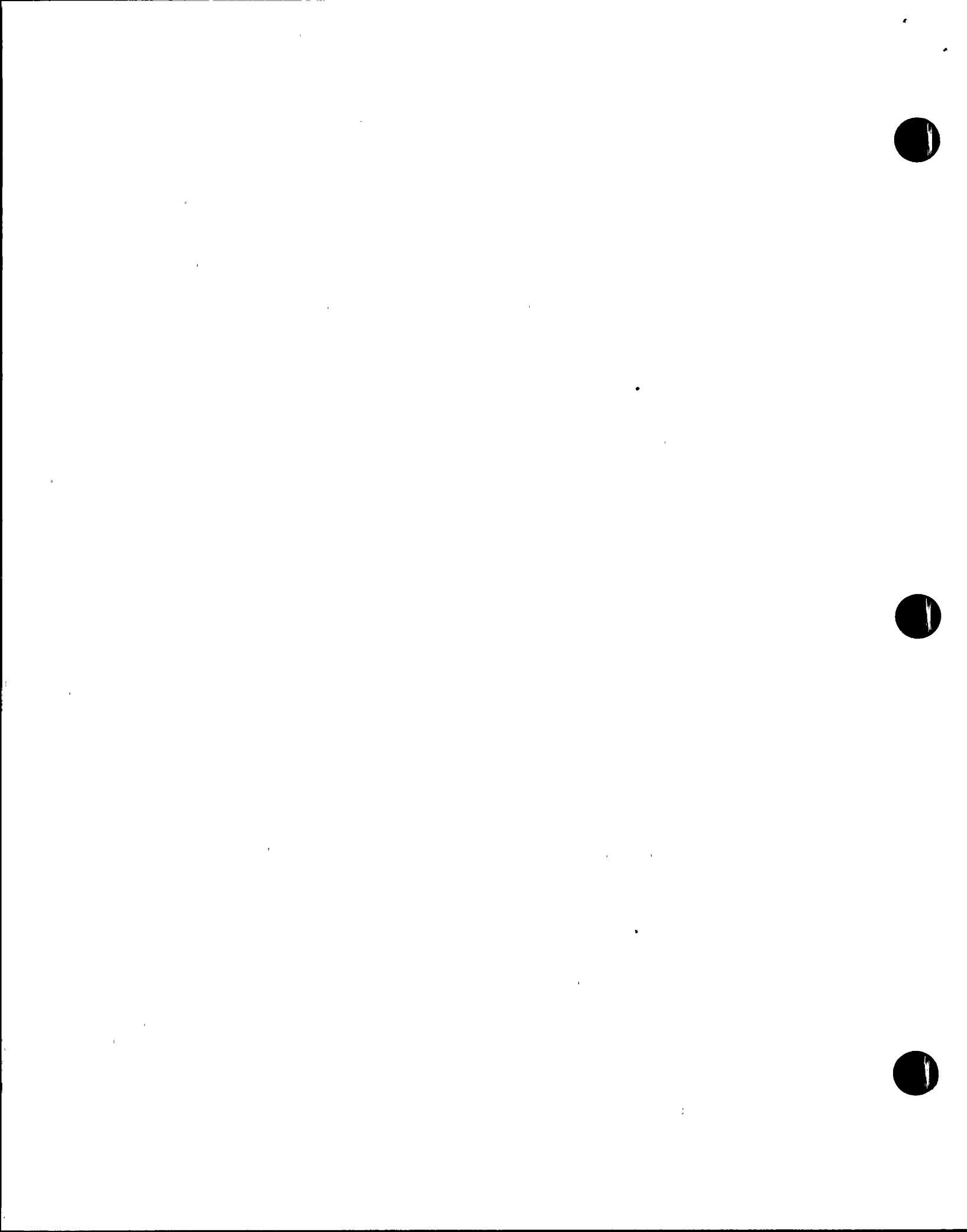
This concern was not substantiated. The licensee response to this concern was adequate, and this concern is considered to be closed.

3.3.5 Concern No. 14c

Our understanding of this concern is that the licensee was unsure how to properly determined the oil levels in the auxiliary feedwater (AFW) turbine governors during the initial attempt to perform this maintenance. Later, after the jobs had been re-assigned, an attachment was placed with the work packages providing instructions to determine the proper oil levels. The attachment, an internal memorandum issued by the Technical Department Supervisor to the Maintenance Superintendent on February 17, 1988, clearly states "please ensure the above guidance is clearly stated in future plant work orders." This concern is in reference to Nuclear Plant Work Orders: PWO 6734/69, Work Request #WA 8808913409 dated March 29, 1988; PWO 677/69, Work Request #WA 880411135036 dated April 11, 1988; and PWO 6776/69, Work Request #WA 880411135510 dated April 11, 1988.

Discussion

The licensee stated that detailed instructions on how to determined the proper oil level were contained in the February 17, 1988 memorandum, which was issued prior to the the job in question and in response to Management On Shift (MOS) Item 88-0158. The licensee stated these instructions (memorandum) are routinely placed in the work packages by the planners. In addition, although the packages were



issued together (PWO and memorandum), the memorandum was not in the A pump package when the job came back from implementation. The licensee stated that the allegation is incorrect.

The inspector reviewed the three referenced PWOs to determine if the licensee knew how to determine the proper oil level in the governors for the AFW turbines. An internal memorandum dated February 17, 1988, provides clarification for correct oil levels for the AFW turbine governors. This memorandum is dated before the referenced PWOs. Step 3 of the work instruction in the PWOs agrees with step 2 in the memorandum (i.e., With the turbine in operation, oil level shall be visible within the sightglass preferably at the black line).

Conclusion

This concern was not substantiated since the internal memorandum provides adequate clarification for the proper oil levels in the AFW turbine governors. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.6 Concern No. 16a

Our understanding of this concern is that the Nuclear Plant Work Order PWO 7853/63, Work Request #WA 881181921 dated April 27, 1988, is a safety-related PWO, and the work description does not provide the use of 3-MPI-067.1 in the repair of this equipment. Who authorized the use of 3-MPI-067.1, and did QC concur as approval was documented?

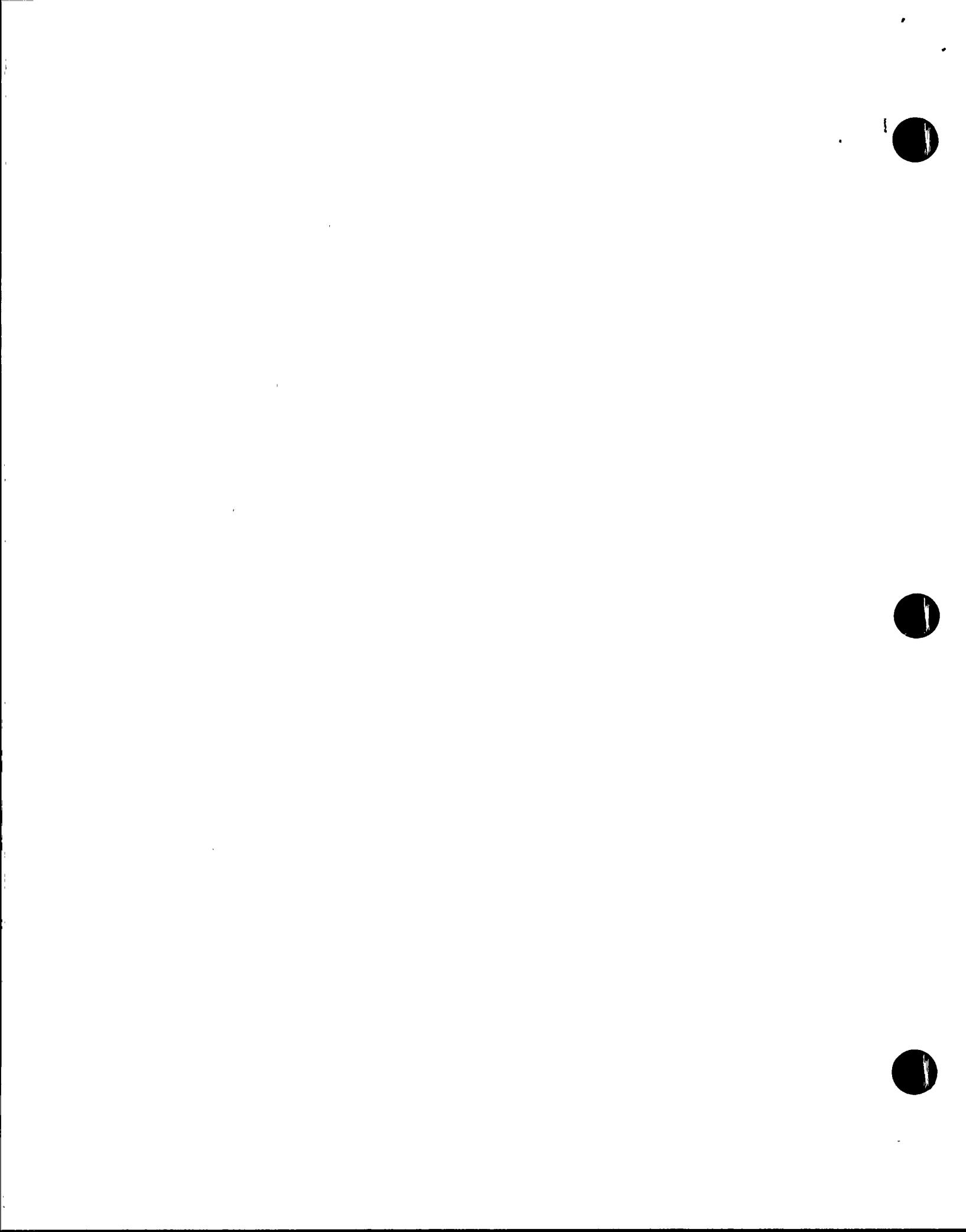
Discussion

The licensee responded that the use 3-MPI-067.1 was authorized and documented in accordance with step 6.2.2 of O-GMI-102.1. The use of O-GMI-102.1 was directed in step 1 of the PWO instructions. No prior QC approval to use the approved procedure is required according to O-GMI-102.1.

The inspector reviewed O-GMI-102.1, 3-MPI-067.1, and the PWO and determined that the licensee response concerning the use of O-GMI-102.1 was correct. In addition, 3-MPI-067.1 is referenced in step 4 of the PWO.

Conclusion

This concern was not substantiated, and this item is considered to be closed.



3.3.7 Concern No. 16b

Our understanding of this concern is that O-GMI-102.1 requires all lifted leads to be documented on Attachment 4 of the procedure. Proper documentation of the lifted leads was not performed. Reference was made to Concern No. 16a (paragraph 3.3.6).

Discussion

The licensee responded that the leads lifted while removing the channel from service were properly documented in 3-PMI-067.1 and that redundant documentation on Attachment 4 of O-GMI-102.1 was not required. This was properly documented in the Remarks Section of O-GMI-102.1 used for the plant work order.

The inspector reviewed procedures O-GMI-102.1 and 3-PMI-067.1, verified that the lifted leads were documented, and concluded that redundant documentation was not required.

Conclusion

This concern was not substantiated. The licensee's response to this item was adequate, and this item is considered to be closed.

3.3.8 Concern No. 17a

Our understanding of this concern is that controlled plant documents delineating the loop wiring for FIC-4-491 and Annunciator G-3/2 could not be located.

Discussion

The licensee has responded that controlled wiring diagrams for FIC-491 and Annunciator G-3/2 are maintained in Document Control and are available for review by maintenance personnel and others. The inspector has reviewed the following controlled wiring diagrams that show wiring for FIC-491 and Annunciator G-3/2:

- (1) 5610-M-301-66, Revision 1, Sheets 32 and 33, Turkey Point Nuclear Unit No. 4 1971 -760 MW Install. Florida Power & Light Company. Rear View Wiring Diagram For Vertical Panel "B" Sect. 4C06;
- (2) 5610-E-408A, Revision 21, Connection Diagram Control Boards; and
- (3) 5610-E-418A, Revision 13, Wiring Diagram Penetrations.

Conclusion

These drawings may not have been supplied with the PWO; however, the inspector determined that the drawings were available in document control. This concern was not substantiated. The licensee's response was acceptable, and this issue is considered to be closed.

3.3.9 Concern No. 17b

Our understanding of this concern is that a discrepancy as to the correct model number of FIC-4-491 existed in that the history files indicated a Model 290A and the Maintenance Instruction MI-41-002 indicated a Model 200.

Discussion

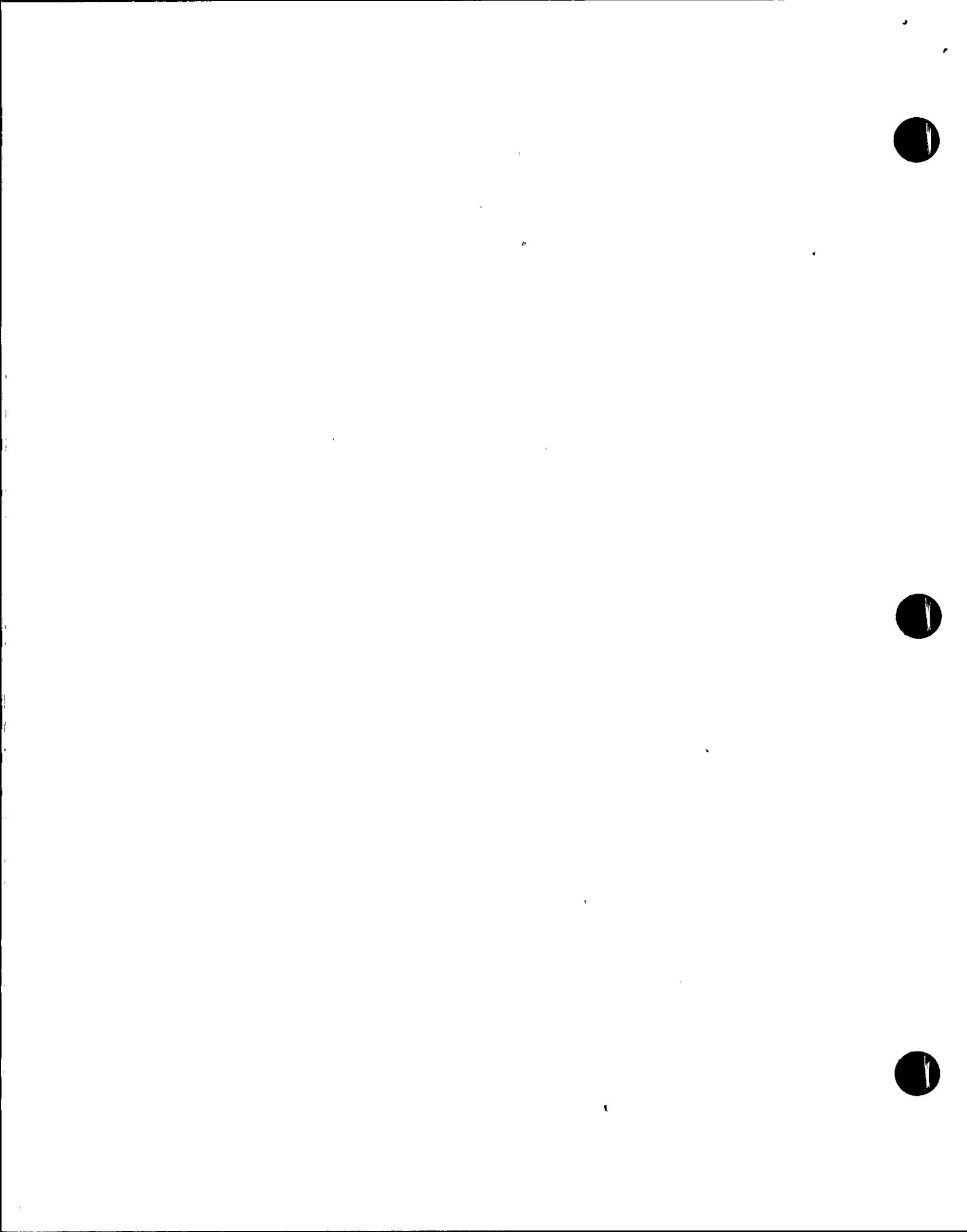
The inspector reviewed the licensee response and the work package and determined that this concern has been substantiated by the licensee. There was a discrepancy in model numbers between the computerized stores parts listing and Maintenance Instruction MI-41-002. Both should have identified the instrument as Model 290A. The error was discovered during the performance of Nuclear Plant Work Order 6516/64, Work Request #WA 880521504, dated February 21, 1988.

The Journeyman's Work Report documents the error for the model number in MI-41-002.

In addition, the Journeyman's Work Report states that MI-41-002 and O-GMI-102.1 were completed and that the system operability was verified and released back to Operations. The licensee has revised MI-41-002 by incorporating the correct model number.

Conclusion

To summarize the situation, #WA 880521504 was issued for work to be performed on FIC-4-491. The journeyman discovered an error in MI-41-002 for the instrument model number. The journeyman completed the required work. MI-41-002 was corrected. The inspector verified that this concern was substantiated and was properly corrected by the licensee when the deficiency was identified. The licensee's response to this item was adequate, and no plant safety issue has been identified with this concern. This item is considered to be closed.



3.3.10 Concern Nos. 22a and 22b

- (22a) Our understanding of this concern is that page 20, Section 5.6.2, of procedure O-ADM-701, revision dated October 26, 1988, provides detailed instructions for completion of the journeyman's work report by identifying the instruction with a number which relates to a number on an example journeyman's report form (Attachment 2) in procedure O-ADM-701. These same instructions are intended to be used for the journeyman's continuation sheet.
- (22b). Our understanding of this concern is that page 42 of this procedure is in fact the Attachment 2 referenced in the completion instructions of the procedure as this is page 2 of 2 for Attachment 2. Now then, as you can clearly see, the completion instructions do not directly relate to Attachment 2 (page 2 of 2) as they were obviously written for Attachment 2 (page 1 of 2).

Discussion

The inspector reviewed Procedure ADM 701, dated September 20, 1988, paragraph 5.6.2, which states, "The following information shall be recorded on the Journeyman's Work Report (JWR) and if needed, the Journeyman's Work Report Continuation Sheet." The JWR has sections or blocks that have a descriptive title. The first page has more descriptive blocks than the second page which is the continuation page. The information indicated under paragraph 5.6.2 is stated below.

<u>Column 1</u>	<u>Column 2</u>	<u>Column 3</u>
These are numbers that are put on the description block of page 1 of the sample JWR in ADM 701	Description block information on page 1 and when applicable, on page 2 of the sample JWR in ADM 701	Date to be entered by the journeyman in the description block of page 1 and when applicable on page 2 of the JWR
(1)	<u>Plant</u>	(Plant Turkey Nuclear)
(2)	<u>Unit</u>	(03), (04), or (00)

(3)	<u>PWO/JO</u>	PWO number assigned by GEMS
(4)	<u>Equipment Name</u>	The common usage noun name of the equipment....
(5)	<u>Equipment Tag Number</u>	Plant equipment tag number a) record equipment tag number
(6)	etc.	etc.
	etc.	etc.

Page 1 of the sample JWR has the numbers in the description blocks as indicated in Column 1 above, but the numbers are not included in the description blocks of the JWR continuation worksheet (Page 2). The inspector determined that the instruction was adequate to insure that both the cover sheet and the continuation sheets of the JWR are properly filled out.

Conclusion

In summary, 10 CFR Part 50, Appendix B, Criterion V, states, "Activities affecting quality shall be prescribed by documented instructions...of a type appropriate to the circumstances..." The concerns were substantiated, but it is considered that the instructions were adequate for the circumstances. In addition, no plant safety issues were identified; however, it is considered that when these minor type omissions are noted, they should be rectified during the next routine revision of the procedure. The licensee's response to these concerns were adequate, and these items are considered to be closed.

3.3.11 Concern No. 22c

Our understanding of this concern is that the second page of the Journeyman's Report Continuation Sheet, procedure ADM-701, attachment 2, is not the form which is currently being used at Turkey Point Nuclear Plant Site.



Discussion

The NRC inspector determined that the second page that is used is similar to the form shown in ADM 701 but does not have the following blocks for information: "System No.," "System Name," "Job started: Date Time a.m. p.m.," and "Job completed: Date Time a.m. p.m." There may be other minor differences that are considered sufficient by title to enable a qualified journeyman to complete the form.

The information indicated above is on the coversheet (first page) of the JWR, and it is considered that it need not be repeated on each continuation sheet of the JWR.

FPL states that forms of this type in procedures are provided as illustration and/or user aids and are not required. This is in accordance with ADM-101, Writer Guide for Administrative and Normal Operations Procedures, Section 5.3.6, which states, "Enclosures or Attachments are not required [in procedures] but can be used for illustrations and/or user aids."

Conclusion

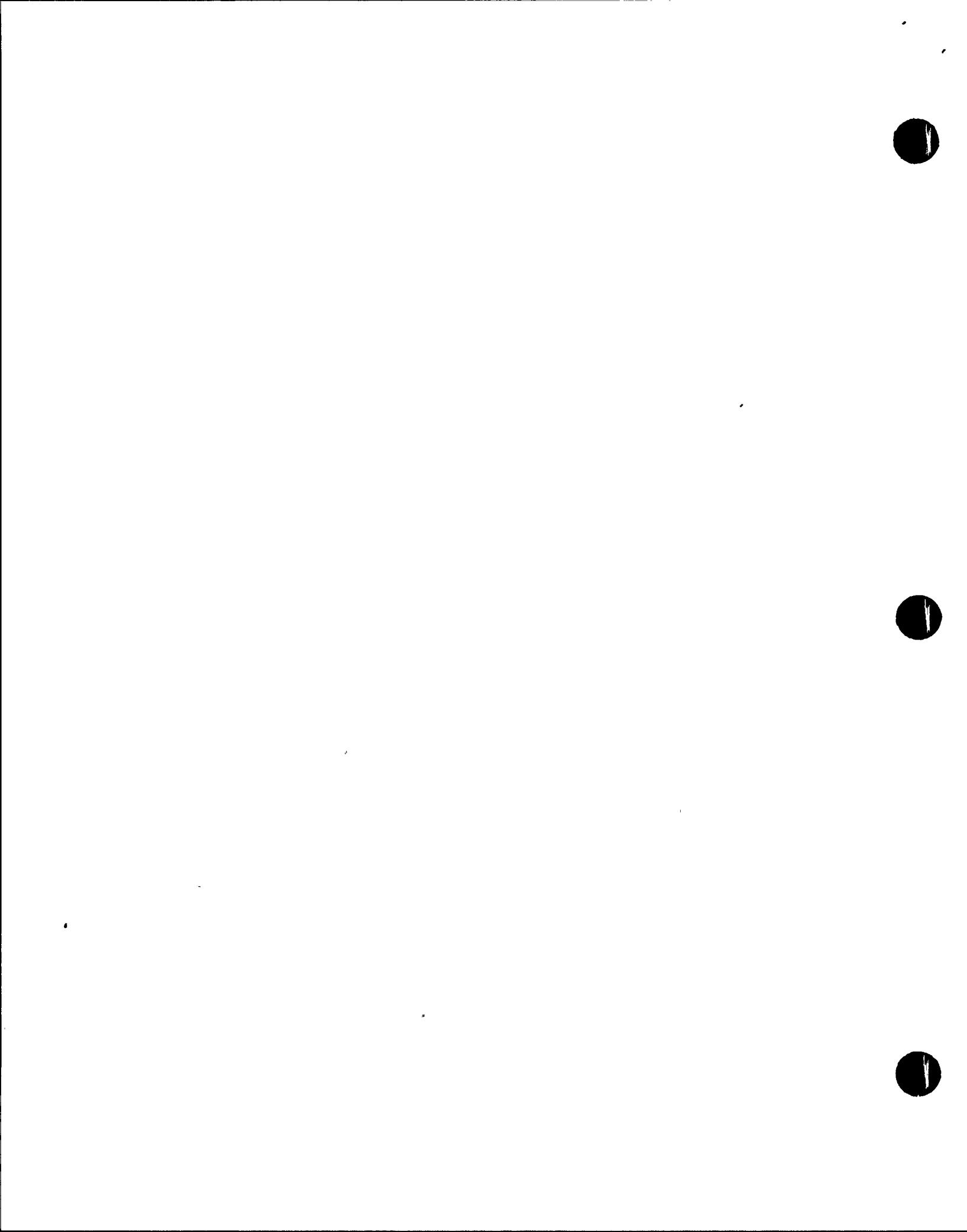
In summary, 10 CFR Part 50, Appendix B, Criterion V, states, "Activities affecting quality shall be prescribed by documented instruction...of a type appropriate to the circumstance..." The concern was substantiated, but it is considered that the forms in the procedure and the forms used are similar and of a type that are appropriate to the circumstances. However, it is also considered that when these type of minor discrepancies are noted, they should be rectified during the next routine revision of the procedure. There was no safety issue identified. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.12 Concern No. 23a

Our understanding of this concern is that the Supervisor's check sheet was not complete for Plant Work Request #WA 881750952 (PWO 8115) dated June 23, 1988.

Discussion

The inspector determined that the above work order concerned the periodic calibration of some Temperature Indicator (TI) devices in the RHR Heat exchanger and was completed satisfactorily in July 1988. These TIs are not safety-related.



FPL states that this check list was an intradepartment check list that was intended to be used to monitor complex job. For simple jobs, such as the above, completion of the check list would not be expected. The inspector verified that the supervisor check list was later introduced in Maintenance Instruction MI-700, Conducted of Maintenance, Rev. 0, dated November 7, 1988, as Attachment 4.

Conclusion

In summary, the concern was substantiated, but the inspector determined that there were no NRC or licensee requirements for this check list, and no plant safety issues were identified. The intradepartmental check list was to be used as an aid in complex jobs. The licensee considered this aid to be beneficial and incorporated into the Conduct of Maintenance procedure (MI-700) in November 1988 as part of the up-grade to the maintenance program. The licensee's response to this issue was adequate, and this item is considered to be closed.

3.3.13 Concern No. 23b

Our understanding of this concern was that equipment was found to be mis-labeled. Reference was made to Plant Work Request #WA 881750952 (PWO 8115) and PCM 87-091.

Discussion

The inspector determined that the above referenced equipment was a Temperature Indicator (TI) in the RHR heat exchanger. This TI is not safety-related. It had an engraved label indicating that it was TI-3-661D. This number was incorrect in that the last character (the letter "D") was in error. This was reported to the supervisor by the journeyman and was also included in the JWR. The licensee indicated that the label was corrected as is the normal work practice when such discrepancies are noted.

Conclusion

In summary, 10 CFR Part 50, Appendix B, Criterion XVI, states "measures shall be established to assure that conditions adverse to quality such as deficiencies...are properly identified and corrected." The deficiency stated in the concern was substantiated. It was identified by the journeyman as a result of a routine calibration, and the label was subsequently corrected. No safety issues were identified. The licensee response to this concern was adequate, and this item is considered to be closed.

3.3.14 Concern No. 23d

Our understanding of this concern is that Maintenance Instruction (MI) 05-009, Calibrate TI-661A, B, C, and D, was incorrect.

Discussion

The inspector determined that the above MI was initiated by Plant Work Request #WA 881750952 dated June 23, 1988, for the calibration of nonsafety-related TIs.

Step 4 of MI-05-009 stated that prior to reinstalling the instrument, measure and record the temperature at the process thermowell on the post-maintenance, Appendix F, test sheet attached. Appendix F was the wrong reference; it should have been Appendix A. It should be noted that Appendix A post-maintenance test sheets were attached to the procedure. The licensee stated that the supervisor made a pen and ink change on July 11, 1988, to MI-05-009. Appendix F was changed to read Appendix A. This pen and ink change was initialled by the I&C supervisor. The inspector verified that on July 14, 1988, Rev. 2, to MI-05-009 was approved. The step in question was changed to read, "Prior to reinstalling the instrument, measure and record the temperature at the process thermowell on the post-maintenance test sheet attached." The work on MI-05-009 (Plant Work Request #WA 881750952) was completed on July 18, 1988.

Conclusion

In summary, 10 CFR Part 50, Appendix B, Criterion V, states, "Activities affecting quality shall be prescribed by documented instructions...of a type appropriate to the circumstances." The procedures in question contained an incorrect reference; however, the correct forms were attached to the procedure. The inspector concluded that the intent of the procedure was obvious and the procedure was corrected to specify the right reference. This concern was substantiated; however, adequate corrective action was taken by the licensee when the problem was identified. There were no safety issues identified, and this item is considered to be closed.

3.3.15 Concern No. 23e

Our understanding of this concern is that during work associated with Plant Work Request #WA 881750952, dated June 23, 1988, the wrong Temperature Indicator (TI-3-661A) was found to be installed and in use.

Discussion

The inspector determined that the above reference work order concerns TIs in the RHR heat exchanger. These TIs are not safety-related.

The JWR reports correctly that TI-3-661A was not the proper instrument in that it had a 9" long stem and should have had a 6" long stem. FPL could not determine when the 9" long TI was installed. However, an engineering review of the 6" TI versus the 9" TI was made. This review showed that both elements were made by the same manufacturer, and both had the same accuracy requirements. The inspector determined that since the thermowell could accommodate either size and RHR fluid surrounded the well, any minimal difference in temperature sensing of the fluid would be within the instruments accuracy. TI-3-661A was replaced with replacement part number 50EI42E060 (a 6" stem) that was approved by engineering using PCM/CPWO 87-091.

Conclusion

In summary, 10 CFR Part 50 Appendix B, Criterion XVI, states, "measures shall be established to assure that conditions adverse to quality such as...deficiencies, ...defective material, and equipment are promptly identified and corrected." The deficiency was identified by the journeyman as a result of a routine calibration. The condition was analyzed and found not to be detrimental to the elements function. The item was not safety-related and was replaced with a new element. There is no safety significance to this concern. This concern was substantiated; however, it was handled correctly by the licensee when it was identified. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.16 Concern No. 25a

Our understanding of this concern is that a supervisor gave verbal direction for a journeyman to skip procedure steps. Reference was made to Nuclear Plant Work Order (PWO) 7581/64, Work Request #WA 380725183552 dated July 25, 1988.

Discussion

The inspector reviewed the PWO and the Journeyman's Work Report attached to the PWO. It appears the journeyman believed he was directed to skip Step 6.1.2, which states,

"Ensure all necessary or required materials and equipment listed in Subsections 5.2 and 5.3 will be available to complete this procedure."

Subsection 5.3.6 specified a Barton Model 200 Indicator, as required. The licensee stated the replacement indicator was not required, and therefore, Step 6.1.2 was not skipped. The inspector concurs with the licensee that the Barton Model 200 was not required to complete the work.

Conclusion

This concern has not been substantiated, and no plant safety issues were identified with this concern. The licensee's response to this item was adequate, and this item is considered to be closed.

3.3.17 Concern No. 25b

Our understanding of this concern is that the licensee authorized the use of O-ADM-201 to control maintenance work. O-ADM-201 is an operations procedure and not applicable to the maintenance department. Reference is made to Nuclear Plant Work Order 7581/64, Work Request #WA 880725183552 dated July 25, 1988, and procedure O-PMI-062.16.

Discussion

The inspector reviewed procedure O-PMI-062.16, Step 6.1.2, which states, "Ensure all necessary or required materials listed in Subsections 5.2 and 5.3 will be available to complete this procedure." Step 5.3.6 specifies a Barton Model 200 Indicator, as required. The inspector determined that the journeyman did not need a Barton Model 200 Indicator to complete the work as required. Therefore, Step 6.1.2 could not have been skipped or the use of O-ADM-201 was not applicable to this situation.

The licensee has stated that the general use of O-ADM-201 to control maintenance activities was implemented by management as an administrative tool during development of O-ADM-715, Maintenance Procedure Usage, and its usage was discussed in Information Bulletin 88-02.

The licensee also stated that part of the intent of 88-02 was to describe the applicability of O-ADM-201 to all procedures while O-ADM-715 was being developed. O-ADM-715 was approved on October 21, 1988, for plant usage.

Conclusion

The licensee has substantiated the use of O-ADM-201 as described in the previous paragraph. However, the inspector concluded that even though the licensee states that O-ADM-201 was applicable to this situation, it wasn't needed for this situation. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.18 Concern No. 25c

Our understanding of this concern is that the Supervisor's Check Sheet was not complete and the post-maintenance test requirements were not delineated. Reference is made to Nuclear Plant Work Order (PWO) 7581/64, Work Request #WA 880725183552 dated July 25, 1988.

Discussion

The licensee has stated that at the time of this PWO, the Supervisor's Check Sheet was not required to be filled out for simple tasks such as gauge calibration. It was intended for complicated repair and overhaul work. In order to upgrade the maintenance program, a check sheet has been incorporated into MI-700, "Conduct of Maintenance." The post-maintenance test requirements were correctly specified in Step 5 of the PWO. The inspector reviewed the work package, procedure MI-700, and the licensee's response dated February 27, 1989, and concurs with the licensee's response to this concern.

Conclusion

This concern has not been substantiated, and no plant safety issues were identified with this concern. The licensee's response to this concern was adequate, and this item is consider to be closed.

3.3.19 Concern No. 32

Our understanding of this concern is that the licensee has not demonstrated acknowledgement of the verbatim compliance policy at Turkey Point and further maintains that their supervisor can interpret Plant Work Orders and give verbal direction conflicting with approved written instructions.. This concern was in reference to Administrative Procedures 0109.1, Revision 07JUN88, and 0190.19, Revision 18AUG88, Information Bulletin 88-02, and a Plant Work Order.

Discussion

The inspector reviewed the referenced procedures and the associated work package and discussed this concern with licensee personnel. The inspector determined that Nuclear Plant Work Order (PWO) 7404/69, Work Request #WA 880911085743, dated September 12, 1988, identified that the electrical conduit for diesel oil storage tank transfer flow element FE-6539 needed repairs because the seal tight sleeve pulled loose at the connector. The work instructions listed in the Work Description section of the PWO are described as follows:

- (1) Disconnect components as required to remove damaged flex conduit.
- (2) Trim new flex conduit to desired length and reassemble components.
- (3) Contact FS/QC for problem resolutions.
- (4) Remove Deficiency.
- (5) PMT: AP 0190.28, Step 8.1.3.
- (6) Ref: 5610-T-E-4536, Sheet 1, TEDB, Equipment History.

The inspector also determined that in order to make the repair, not only would new conduit be needed, but the seals and connector should be replaced as well. The supervisor was notified, and he determined that replacing the seals and connectors were components addressed by Step 2 in the PWO. The supervisor's interpretation was reviewed by Quality Control at the time and was agreed to. The supervisor then directed the employee to continue the job.

The employee believed the supervisor violated PNSC approved procedures and was in conflict with the plants verbatim compliance policy. However, the employee had not specifically identified which part(s) of the procedures have been violated or identified any safety significance concerning PWO #WA 880911085743. The employee completed the work as required by the PWO and the verbal instructions of the supervisor.

Conclusion

This concern was not substantiated. The inspector concluded that the work was properly completed and that procedure requirements were not violated. The licensee's response to



this item was adequate, and this item is considered to be closed.

3.3.20 Concern No. 36

The specific concern was not defined by the allegger, but reference was made to Plant Work Request #WA 872021548.

Discussion

The inspector determined that the Work Order was implemented on November 9, 1988, and concerned work on the reactor vessel head vent valves. This work was done when the reactor was shutdown in a safe condition with the average coolant temperature less than 200°F.

A review of the JWR by the inspector indicated that Turkey Point has experienced problems in identifying replacement parts for the solenoid valve. Turkey Point agreed that improvement is required in the handling of spare parts. This has been identified by the Turkey Point QIP and also by the NRC Maintenance Team Inspection which was performed in December 1988. However, the inspector determined that sufficient inspections and review were performed to ensure that the parts used on the work orders were correct.

Conclusion

In summary, the licensee recognizes that its parts inventory and identification program needs improvement and is working toward that end. The performance of the above work order was accomplished with the plant in a safe shutdown condition, and parts were correct for the job. There were no safety concerns identified with performance of this job.

This concern could not be substantiated because the specific concern was not identified. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.21 Concern No. 37

Our understanding of this concern is that a field supervisor invoked O-ADM-715 as authority for skipping a valve verification step in Plant Work Order #WA 880930010631. The employee's concern is that O-ADM-715 does not give this authority.



Discussion

The inspector determined that the above work order was implemented to perform a calibration/calibration check on a charging pump oil Pressure Indicator (PI). The first step in the Work Description Block of the Work Order states, "Perform I/V (Independent Verification) per applicable attachment for system alteration."

The inspector determined that a clearance authorization No. 4-88-11-001-R was specifically issued for this job by operations and before work could start the clearance had to be validated. This authorization required that the isolation valve in question be closed, independently verified closed, and tagged with a danger tag to ensure protection of personnel and equipment. The clearance tag was placed on the valve in question and a walkdown was performed by the journeyman to verify tagging. This was recorded in the "Description Work/Repair as Performed" block of the Work Order.

The inspector determined by discussions with licensee representatives the first step in the Work Order is a standard step if the attachment is used, and the I&C journeyman manipulates the valve closed per O-ADM-715 Step 5.5.6. The field supervisor knew the first step had been performed as required by the clearance authorization program and did not consider that another I/V was required since clearance signatures were complete.

The inspector determined by discussions with licensee representatives that there was no specific procedural guidance on PWOs for bypassing steps but because step 1 had already been performed, the field supervisor applied a conservative approach by drawing an analogy on procedure O-ADM-715. Paragraph 5.2.6 of O-ADM-715 states, "if a step requires an action to be performed and no action is necessary because the condition required by the steps already exists, such as, 'open the pump suction valve' and the valve is already open then the step may be signed off..." QC subsequently agreed with the field supervisor's approach.

Conclusion

In summary, the concern was substantiated, but the field supervisor's action was considered to be in agreement with company policy. No safety significance is applied to this concern since the valve in question and the PWO were

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specifically covered by clearance authorization. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.22 Concern No. 41a

This concern as stated by the aleger is that a supervisor did not obtain operations authorization to initiate work.

Discussion

The inspector determined by a review of documents that the above concern relates to PWO No. 881121021700 and concerns the repair of an apparent defective hose to the diesel generator crankcase pressure indicator.

The Plant Nuclear Supervisor and the Nuclear Watch Engineer, both high ranking personnel in Operations, were present at the job site for this work. This fact is recorded on the PWO. FPL representatives stated in essence that because of the above, the field supervisor had operations authorization to do the work; however, this authorization was not properly documented on the PWO at the start of the job. This was recognized by the licensee and was corrected. The authorization signature was placed on the PWO at 8:50 a.m. of the same morning after the job was started. As a result of questions posed to FPL personnel, the inspector determined that control room logs indicated that plant operators were aware of this work and that the other diesel generator was in service.

Conclusion

In summary, the concern was substantiated, but operations was aware of the work and witnessed its performance. There were no safety issues identified relating to this job; however, the employees concern should have triggered proper documentation before commencement of work. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.23 Concern No. 41c

This concern as stated by the aleger is that an incorrect part was planned for the job as the part obtained from stores did not fit although the part number was correct. How did Quality Control approve this part?



Discussion

This concern relates to a replacement hose on PWO #WA 88112102170. The JWR does not expound on why the hose did not fit. The inspector determined by review of documents and discussion with FPL personnel that the new hose for this application had major configuration differences from the installed hose, namely it was 3" longer and had 2-90 degree connection fittings rather than straight fittings. Records indicate that the supplied hoses for this PWO were correct for the job.

The inspector verified that the hose for the above application was ordered in 1987 under the original part number. During receipt inspection of this hose, it was noted that the supplied hose had a different part number and was 3" longer. This discrepancy was recorded and resolved on Deficiency Report (DR) 641-87. As a result of the DR, the vendor was contacted, and they certified the new hose to be equal or better than the old hose. The licensee expended a reasonable amount of effort to ensure that the part number was correct.

Conclusion

This concern was not substantiated. Even though the new hose was not installed, the hose in question was correct. The inspector determined that it was a proper replacement hose of a modified design which had previously been reviewed by Quality Control and approved for use. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.3.24 Concern Nos. 42b and 42c

Our understanding of this concern is that the licensee does not properly maintain tools that are used in the repair of equipment in safety-related systems. In addition, the licensee currently does not have an acceptable preventive maintenance program for testing chain falls.

Discussion

The above concern provides no specifics other than a brief reference to a 400 lb chain fall issue. Sufficient information was not provided to evaluate it for plant safety significance.



The inspector determined that the licensee has a program for control of heavy loads with respect to guidelines of NUREG 0612. This program has been looked at previously as a result of a 1981 Generic Letter (81-07) and is associated with critical loads. Critical loads are defined in ANSI 14.6-1978 as, "Any lifted load whose uncontrolled movement or release could adversely affect any safety-related system when such system is required for unit safety or could result in potential off-site exposure comparable to the guideline exposure outlined in the Code of Federal Regulations."

A program which includes chain falls and other rigging equipment outside of the Generic Letter 81-07 program was implemented by Maintenance Instruction (MI) 102016 in June 1988. The inspector verified that this procedure was up-graded and issued as O-ADM-719, Rigging Controls, in January 1989.

The licensee has a program for maintenance of welding rod ovens (MP 0701.2) and for measuring and test equipment control. The calibration facilities for measuring and test equipment was inspected during the maintenance inspection in December 1988. During that inspection, it was determined that calibration control of test equipment was well documented and controlled to ensure that proper equipment was used.

Conclusion

In summary, the specific concerns are not adequately defined for plant safety significance. It is considered that the chain fall concern did not fall in the licensee's program implemented for critical loads as a result of Generic Letter 81-07 requirements. The inspector determined that a preventive maintenance program for chain falls and other rigging equipment that fall outside the Generic Letter 81-07 requirements had been implemented. This may have been implemented after the referenced 400 lb chain fall event. The licensee's calibration control of test equipment was inspected on a previous inspection and was considered to be satisfactory.

These concerns may have been true; however, the inspector found programs in place to ensure the preventive maintenance of chain falls. Therefore, these concerns were not substantiated. The licensee did not respond to these concerns, and these items are considered to be closed.

3.3.25 Concern No. 43d

Our understanding of this concern is that a matter concerning the proper installation of Raychem seals was brought to the licensee's attention in November 1988 relating to 10 CFR 50.49. The licensee was informed that the Raychem seals on Unit 3 equipment inside the containment building did not appear to be properly installed as openings existed at the ends of the Raychem seals, no observable flow of red sealant appeared at the end of the Raychem seals, nor was the Raychem material shiny as would be indicative of a proper installation. Additionally, the conduit boxes appeared to be the incorrect type of boxes as these boxes contained no sealing gasket between the body of the conduit box and the cover of the conduit box. Furthermore, one piece of equipment listed on the computer data base print out was shown to be EQ; however, no cono-seal was installed on the instrument in accordance with 10 CFR 50.49. The licensee's Quality Control Department stated that these concerns would be addressed and that feedback would be given for these concerns. The licensee never responded with any feedback.

Discussion

The inspector determined that the licensee was performing a containment instrument tagging and conductel inspection in 1988. During this inspection, an employee identified 20 instruments that he considered may not meet 10 CFR 50.49 because of questionable splice, electrical conductor seal assemblies (ECSA) and/or gaskets missing from conduit boxes.

The inspector verified by review of records that the licensee performed an investigation into the concern and determined that:

- Eight of the instruments were not required to be EQ and these were not on the EQ List of Equipment. Therefore, the employee's observation with regard to conax ECSA and improper junction box covers were not valid EQ concerns for these instruments. This was verified by the NRC by reviewing the list of instruments in the concern and the Environmental Qualification Maintenance Index, ADM-704.
- Twelve of the instruments were shown on the EQ List. These were noted by the employees concerns as having questionable Raychem splices. The twelve instruments



with Raychem splices were inspected by an outside agency under contract to FPL. A walkdown inspection and the original Raychem Splice QC records were reviewed. This action verified that Raychem splices for these twelve instruments were EQ. The NRC verified the twelve instruments to be EQ and also reviewed the original Raychem splice records.

It should be noted, that once the Raychem sleeve has been installed over the substrate, it not possible to visually determine the seal adherence quality. The Original QC inspection records, which were also reviewed by the inspector, showed that sleeve installation was proper.

The licensee's inspection was completed in November 1988, and a copy of the inspection results were given to the I&C supervisor for feedback to the employee.

Conclusion

In Summary, the inspector determined that there were no EQ discrepancies, and therefore, there was no safety significance with regard to the employees concern on these 20 instruments. This concern was substantiated; however, the instruments were properly evaluated to use "as is" by the licensee. The licensee's response to this item was acceptable, and this item is considered to be closed.

3.4 Operational Concerns (571707) Units 3 and 4

3.4.1 Concern No. 26c

Our understanding of this concern is that the post-maintenance test procedure requires a leak test of the system with just the static line pressure applied. The post-maintenance test should entail a leak test at system pressure to ensure proper gauge performance and that no leakage exists. Reference was made to PWO #WA 880915144122.

Discussion

The licensee reviewed this issue and found that the required static head leak test of PI-4-957C-1, suction static head leak test of PI-4-957C-1, suction pressure test gauge for the 4A HHSI pump, is the proper test since this is the maximum pressure seen at this point in the system.

Conclusion

This concern was not substantiated. The inspector reviewed the associated documents and the applicable system drawing and concluded that the licensee's response to this concern was adequate. This item is considered to be closed.

3.4.2 Concern No. 27

The concern as stated by the alleger is, "PNSC disapproved the OTSC and found it acceptable to interpret this procedure as needed." Reference was made to PWO #WA 880725163934, Loose Parts Monitoring System Weekly Test (O-PMI-099.1), and OTSC #6167.

Discussion

The inspector reviewed the referenced documentation and concluded that the change submitted by the alleger would have made the procedure more detailed but was not needed to properly perform the test. It is common industry practice to require steps to be repeated for redundant channels. The data sheet provided blanks as needed. To add the other channel designations to each step of the procedure would make the procedure more complete but is not required for clarity.

Conclusion

This concern was not substantiated. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.4.3 Concern No. 28c

Our understanding of this concern is that procedure MI-50-008 provides instructions for isolating a block valve. No block valve exists; only a root valve. Reference was made to PWO #WA 880930062741, O-ADM-701, and MI-50-008.

Discussion

As per discussions the licensee, valve 4-756 D is the root valve and 4-756F is the block valve for pressure instrument 4-PI-1595B. The inspector reviewed Procedure 4-OP-050, RHR S75, and performed a physical walkdown and verified that the block valve does exist.



Conclusion

The concern was not substantiated, and the licensee's response to this concern was adequate. This item is considered to be closed.

3.4.4

Concern No. 29

The concern as stated by the aleger is, "The licensee's Reactor Operators may be under-going stress due to excessive overtime which they are being forced to work at the plant and which is apparently affecting their family lives."

Discussion

The inspector reviewed a letter dated May 20, 1988, from the site Vice President to the Nuclear Management Team, Department Heads, and Supervisors. This letter requires each manager, Department Head, and Supervisor to review the overtime being worked on a weekly basis and to review the overtime from the previous week prior to authorizing future overtime. Items to be considered include: the amount of overtime worked by the individual, the individual's effectiveness, the necessity for the overtime, and the alternatives available. This letter also required all departments to have a formal overtime management system by June 30, 1988.

The inspector determined that overtime is being tracked both by computer and on an individual basis. Additionally, review of computerized summary reports, Operations Department Details, and Monthly Overtime Percentages charts indicated that as of February 1989, the Operations Department overtime had been averaging 29 percent with a goal of 22 percent by the end of 1989. Evaluation of the circumstances involved with individuals listed who's overtime had exceeded the administrative guidelines revealed that the individuals in question were not licensed operators.

Conclusion

Based on the data reviewed, it appeared that the licensee is performing the actions in the above referenced May 20, 1988 letter. Overtime is being tracked both by computer and on an individual basis, and the overtime requirements for licensed operators were being met. This concern was a safety item but was not substantiated. The licensee's response to this concern was adequate, and this item is considered to be closed.



3.4.5 Concern No. 33

Our understanding of this concern is that an operator was found sleeping in the Turbine Operator shack by the management-on-shift (MOS) observer on shift at the time. The watch engineer was notified of this but did not take appropriate actions to correct the problem. Operators must remain alert at all times.

Discussion

Discussions with the Operations Superintendent revealed that the individual who was apparently asleep had been talking with another employee in the Turbine Operator shack just minutes prior to the event. The inattentive individual was disciplined, and a letter to all Turkey Point personnel was issued to clearly inform employees that no sleeping at any time is allowed within the site boundary. An agreement to clearly define "sleeping" was also reached between FPL and the union. Sleeping personnel is considered to be a safety issue. In this case, it could not be proven that the employee was asleep, and the individual was also a non-licensed operator. Therefore, the inspector concluded that there was little safety significance to this event. Additionally, the licensee took prompt and conservative action in response to this event.

Conclusion

The licensee's response to this concern was adequate. This item was not substantiated and is considered to be closed.

3.4.6 Concern No. 35

Our understanding of this concern is that improper labelling was noted. Reference was made to PWO #WA 88100692477.

Discussion

The inspector determined that proper action was taken in that the improper labelling was reported to the field supervisor. As of January 25, 1989, the licensee verified the tags in place.

Conclusion

This concern was not a significant safety issue. Although this item was substantiated, the licensee took proper corrective action and responded adequately to this concern. Therefore, the item is considered to be closed.



3.4.7 Concern No. 43b

Our understanding of this concern is that the licensee contracted maintenance on the Unit 3 flux mapper system out to Westinghouse Corporation. The system has only been operative with two or three drive units permitting the licensee to monitor only the minimum required amount of points in determination of the reactor core loading. The licensee's procedure for maintenance on this system was changed by the vendor to permit maintenance with reduced radiation exposure to the workers.

Discussion

The design of this system is such that one drive unit supplies one "five path transfer device" which in turn supplies one "ten path transfer device" during the normal mode of operation. During the "Emergency" or "Alternate Emergency" mode of operation, the "five path transfer device" will supply an additional "ten path transfer device;" therefore, any one drive unit can supply at least 30 thimbles in various locations throughout the core. The licensee's current Technical Specification 3.2.7.a, In-Core Instrumentation, requires a minimum of 16 thimbles, at least 2 per quadrant, and the associated detectors to be operable. For the last 2 years, the licensee's procedure O-ADM-021 has required that at least 38 thimbles, with a minimum of 2 per quadrant, be operable. This requirement has been implemented through the licensee's previous interim technical specification and the current O-ADM-021 technical specification implementation procedure. After reviewing the technical specifications and procedures and after discussions with engineering personnel, the inspector verified that the licensee has exceeded its legal requirements for the number of thimbles required to be operable.

Conclusion

The validity of this concern could not be substantiated. The licensee's response to this item was adequate, and this concern is considered to be closed.

The ALARA aspects of this issue are discussed in paragraph 3.6.7 of this report.

3.4.8- Concern No. 43c

Our understanding of this concern is that the Post Accident Sampling System (PASS) at the licensee's Turkey Point facility to my knowledge has not been 100 percent



operational since its installation, even to the extent that the licensee has contracted the vendor for maintenance on this system.

Discussion

The licensee stated that this concern was substantiated.

On November 6, 1987, Quality Assurance Audit QAO-PTN-87-863 on the PASS was issued. The purpose of this licensee audit was to verify that the PASS meets the requirements of the applicable technical specifications and implementing Chemistry Procedures. Due to inoperable equipment, the audit found that the QA program was not satisfactorily implemented in the audited areas. Specific findings were failure to maintain an operable PASS and having inadequate chemistry procedures.

The QA Audit provided recommendations in each area. On November 6, 1987, the licensee responded to the findings of the QA Audit. In order to track the operability finding, a monthly update letter was issued from the Plant Manager to the QA Superintendent. The finding of inadequate chemistry procedures was resolved by the licensee and closed on December 7, 1987.

NRC Inspection Report Nos. 50-250/88-05 and 50-251/88-05 of April 1988 reported the status of the PASS. NRC Inspection Report Nos. 50-250/88-29 and 50-251/88-29 of October 1988 also documented the PASS status. Reference was made to the monthly PASS status reports.

The issue of PASS operability is still open and being tracked in monthly reports.

Conclusion

This concern was substantiated by the licensee; however, the licensee has taken corrective action as a result of deficiencies identified by the licensee Quality Control Audit. Therefore, this item is considered to be closed.

3.4.9 Concern No. 43e

Our understanding of this concern is that the licensee has implemented an equipment tagging program on the primary and secondary systems at the station. A large number of these



equipment tags have been installed in the containment structures at the station. Concerns with these equipment tags include: (1) Since a large number of these tags have been installed within the containment structure, has an engineering assessment been performed to ascertain the decrease in volume of the containment structure as the volume of the structure should be design basis for (hydrogen bubble) considerations? (2) An observation was made that one of these plastic tags had been broken and a piece of the tag was missing. Since these tags are installed with a stainless steel braided wire and fastened with a crimp lug, a concern would arise to the fact that parts of these tags or installation materials could plug up the containment sump system. Additionally, the crimped lugs were not installed with calibrated, traceable crimping tools which lends to the concern of proper, consistent installation of the crimp lugs.

Discussion

The inspector reviewed the licensee's response of February 27, 1989, to this concern and concluded that the issues were adequately addressed. The issue of recirculation sump plugging is a safety issue; however, tagging of equipment is necessary. The inspector reviewed procedures to determine that inspection of containment prior to operations is also required to ensure that no loose items are there to block the sump. Periodic inspections of the sump screens are also required.

Conclusion

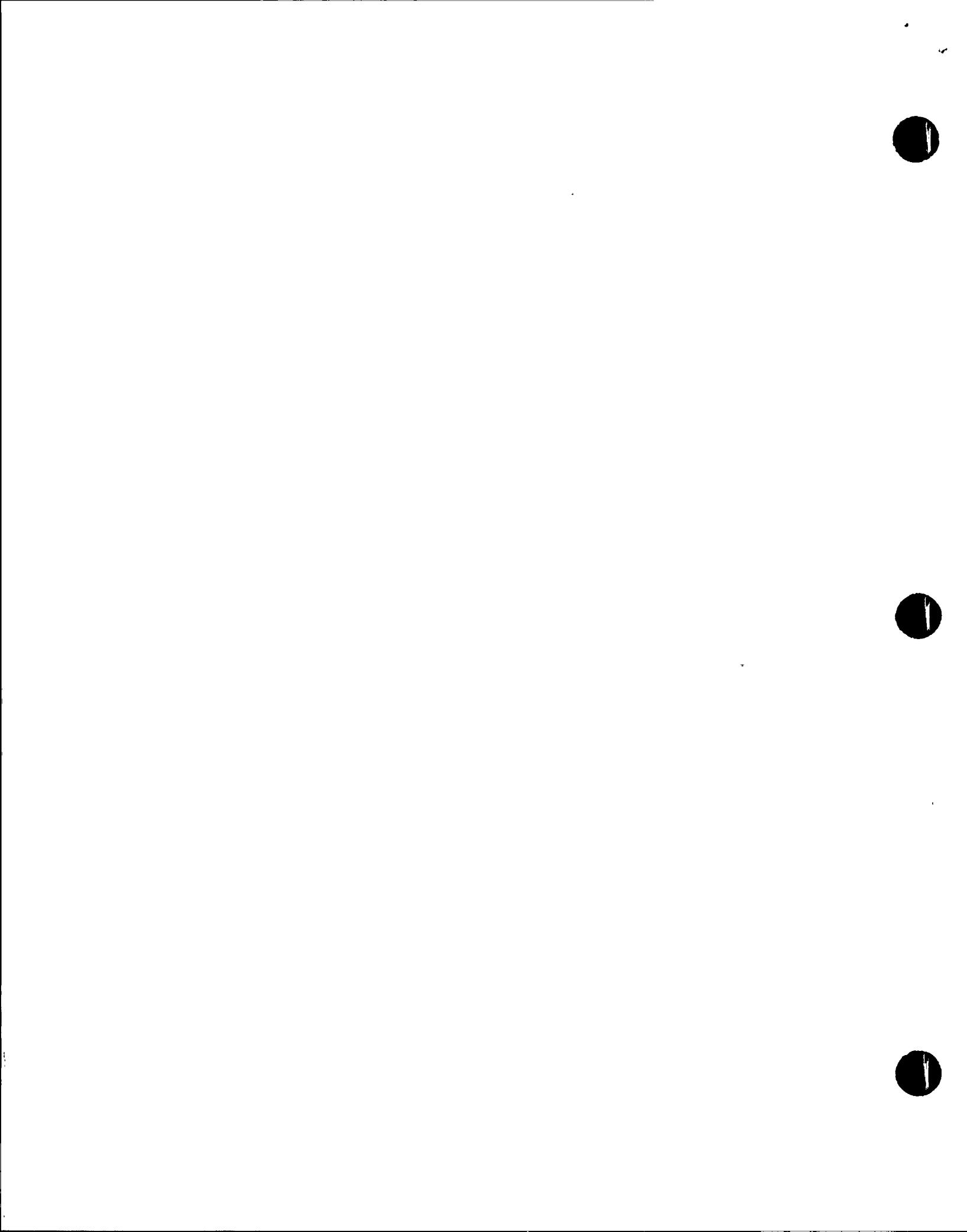
This concern was substantiated; however, it has little safety significance. This item is considered to be closed.

3.4.10 Concern No. 43f

Our understanding of this concern is that in November 1988, the alleger was told by another employee that she informed the licensee (in 1988) of a concern that plant drawings did not detail a containment pipe penetration which she was assigned to work on. She (not the alleger) indicated that the licensee did not resolve the concern.

Discussion

The licensee's response states that the employee, when asked if the concern had been resolved, said that it was resolved by NCR 86-293. The inspector reviewed the licensee's response and NCE 86-293 and determined that the licensee's response was adequate.



Conclusion

This concern was not substantiated, and the licensee's response to this concern was adequate. This item is considered to be closed.

3.4.11 Concern No. 49

Our understanding of this concern is that the Unit 3 Reactor Cavity Sump Transmitter failed to actuate a high level alarm in the control room. Additionally, R-15 does not satisfy the requirements of the FSAR, and an incorrect seal was used in the installation of the detector.

Discussion

The EQ qualified sump level transmitters on Unit 3 do not have a high level alarm and therefore could not alarm. The non-EQ pneumatic instrument has a high level alarm. This alarm was alarmed in the control room due to a misadjusted setpoint in the recorder. This was identified and corrected rected by the licensee in May 1988..

Conclusion

Although this concern appeared to be substantiated, it was not a significant safety issue. The inspector reviewed the licensee's response and supporting documentation on site and concluded that the licensee's response to this concern was adequate. This item is considered to be closed.

The second part of this concern regarding the R-15 radiation monitor is discussed in paragraph 3.6.9 of this report.

3.4.12 Concern No. 50

Our understanding of this concern is that in December 1988, an individual at the Turkey Point Station informed the alleger that he had concerns with a flow indicator in the Unit 3 pipe and valve room as he and another individual were instructed to insert a teflon o-ring in the flow indicator and that chlorides would form in the RCS. Additionally, he informed the alleger that work on CV-3-200C on the Unit 3 letdown system had been stopped by the Quality Control department due to poor work practices as QC holdpoints were bypassed in the procedure which eventually lead to a procedure change of O-GMI-102.1.

Discussion

The Teflon O-rings used in the flow indicator were the original equipment on Brooks Rotometers. The licensee has upgraded this part to viton. Teflon leaching into the RCS would be inconsequential since the area of teflon wetted is very small. The reason for this change is to prevent potential leaks due to teflon degradation in a higher radiation environment. Additionally, the inspector was informed the Buna-N (rubber) gaskets are to be replaced.

Work on CV-3-200c had been stopped due to a disagreement as to the scope of work allowed under troubleshooting. The matter was resolved and the job was completed as a repair with the proper QC hold points. The licensee acted correctly to resolve the question and to strengthen the understanding as to what is troubleshooting and what is repair.

Conclusion

This concern was not a significant safety issue, and it was not substantiated. The inspector reviewed the licensee response and the supporting documentation that was available on site and concluded that the licensee's response to this concern was adequate. This item is considered to be closed.

3.5. Clearance Concerns (571707) Units 3 and 4

3.5.1 Concern No. 12b

Our understanding of this concern is that in-plant clearance 4-88-05-007 was not valid. The alleger followed up on this clearance during his break and lunch time and discovered that this clearance was in fact not properly initiated and was not properly performed for the following reasons:

- (1) The clearance order showed SV-6428 as CV-6428.
- (2) Valves V-972, V-996A, and V-993 should have been tagged open to permit and ensure system de-pressurization.
- (3) The clearance order should have indicated fuse nomenclature and location.



- (4) The I&C Field Supervisor originated the clearance and therefore the I&C Technician had no right to assign work under this clearance as his name was not on the clearance order.
- (5) Management should have included a copy of the clearance procedure AP 0103.4 in the job package as this procedure itself requires management to ensure that all personnel are cognizant of its contents.

Reference was also made to PWO #WA 873321358.

Discussion

The inspectors reviewed the clearance, the PWO, and the drawing associated with the work to be performed. Based on the review the inspector concluded that the clearance was adequate. The drawing, 5610-T-E-4515, Sheet 2, clearly shows the isolation required for maintenance on this component. This drawing is available in the control room for clearance verification.

The inspector concluded the following regarding the additional five issues.

- (1) It is true that the clearance did include a typographical error in that SV-6428 was listed as CV-6428.
- (2) As previously stated, the clearance was adequate and did not require system depressurization as the RCS was depressurized during this maintenance.
- (3) AP 0103.4, step 8.3.12.4, Rev. 4/22/88, requires only that the name and number of the item to be tagged be listed, which was included on the clearance. This observation would be a procedure enhancement but is not required.
- (4) This concern is partially true. The clearance was issued to the Production Supervisor and not the I&C Field Supervisor as stated; however, the I&C Technician was not listed on clearance as required by Step 8.2.1 of AP0103.4. This is for personnel safety concerns as required by the FPL Safe Work Practices Manual. Refer to the summary on clearances for further discussion on the issue of assigning a clearance to an individual (foreman or supervisor) versus to the PWO.

- (5) This item is strictly opinion. The inspector determined that it is not appropriate to attach copies of the clearance procedure to all PWOS.

Conclusion

In general, the inspector concluded that the validity of the clearance was adequate for the work to be performed.

This concern was not substantiated. The licensee's response to this item was adequate, and this item is considered to be closed.

3.5.2 Concern No. 12d

Our understanding of this concern is that the licensee was not able to obtain controlled documents to enable the proper verification of the clearance. Furthermore, the licensee did not at the time of the event understand the requirements of the FPL Safety Review Book concerning the verification of a clearance.

Discussion

As previously stated in Concern No. 12b above (paragraph 3.5.1), the inspector considered that the drawings available were sufficient to determine the clearance required for the work to be performed. If the worker considered that additional drawings were needed to determine adequate isolation, they were available in the I&C shop or Document Control. The second part of this concern is addressed in Subpart (4) of Concern No. 12b, paragraph 3.5.1.

Conclusion

This concern was not substantiated and is considered to be closed.

3.5.3 Concern No. 26a

Our understanding of this concern is that Operations authorized starting work prior to issuing equipment clearance #4-88-9-251-R. This practice is in violation of plant procedure AP-0190.19 and O-ADM-701. Reference was made to Plant Work Order #WA 880915144122.



Discussion

The inspector reviewed the package, the associated clearance, and plant procedures AP-0190.19 and O-ADM-701. Step 8.3.2 of AP-0190.19, revision dated August 18, 1988, states that clearance work required for the PWO may be started at the discretion of the PS-N/APS-N/NWE. Normally, a clearance is not required for IST gauge calibration as the IST gauge has an instrument valve that is manipulated by I&C personnel during the calibration. Discussions with I&C and operations personnel indicated that I&C has control of the gauge isolation valve (block valve) and operations has control of the root valve (first valve off the process system going to the gauge). In cases where the root valve and the gauge isolation valve are one in the same, the Operations Department would have control. This is common practice throughout the industry. In the case of this PWO, a clearance was not initially requested or required and authorization to commence work was granted. Shortly after that the I&C technician requested a valve manipulation, and the NWE decided to initiate a clearance which is allowed by AP 0190.19.

Conclusion

The inspector could not substantiate a violation of procedure AP 0190.19 or O-ADM-701. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.5.4 Concern No. 26b

Our understanding of this concern is that equipment clearance #4-88-9-251-R was found to be invalid, unacceptable, and in violation of the FPL Safe Work Practices Manual. The plant clearance procedure AP-0103.4 should be changed to permit the journeyman assigned to the job to hold the clearance as the supervisor is not required by procedure to validate the clearance. Reference was made to Plant Work Order #WA 880915144122.

Discussion

Based on the information contained in the Journeyman's Work Request for this PWO the workman stated, "the clearance was invalid as the system was pressurized and not vented/drained in accordance with the FPL Safety Rule Book." The inspector does not consider this concern to be valid as the work to be performed under this PWO was to calibrate an



installed IST gauge which included a gauge isolation or block valve and a vent/test connection valve. Depressurization, if required, of the small section of tubing between the gauge and its isolation valve would be accomplished by cracking open the vent/test connection valve which would be manipulated by the I&C technician. The inspector determined that the second part of this concern on allowing the journeyman to hold the clearance is a recommendation. It was also determined by the inspector that the requirement for the supervisor to hold the clearance is in accordance with existing procedures and FPL policy.

Conclusion

This concern was not substantiated. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.5.5 Concern No. 28b

The concern as stated by the aleger is; "A clearance was required but not requested by supervision prior to job issue." Reference was made to Plant Work Order #WA 880930062741, O-ADM-701, and MI-50-008.

Discussion

This concern is similar to Concern No. 26a. The inspector's response to Concern No. 26a is also applicable to Concern No. 28b in that a clearance is not required for I&C to work on a gauge that includes a gauge isolation value. However, the inspector determined that the current procedures allow the NWE to establish a clearance at his discretion.

Conclusion

This concern was not substantiated. The licensee's response to this concern was adequate, and this item is considered to be closed.

3.5.6 Concern No. 28d

Our understanding of this concern is that a violation of O-ADM-701 occurred as a job start authorization was given by operations prior to clearance #6487-4-88-10-084-R being initiated and equipment tagged out of service. Reference was made to Plant Work Order #WA 880930062741, O-ADM-701, and MI-50-008.

Discussion:

The inspector reviewed the associated work package and the referenced procedures and determined that the job authorization was given by operations prior to the clearance being initiated and equipment being tagged out of service, but this is not a violation of O-ADM-701. The job was to calibrate an instrument in accordance with a procedure. No clearance was required to perform the job and the PWO was made up in advance as job preparation for a scheduled preventive maintenance. Operations has the option to hang a clearance (if they desire) on the root valve to the instrument. When the job came up to be performed operations took the option to tag the root valve.

This concern is similar to Concern Nos. 26a and 28b (paragraphs 3.5.3 and 3.5.5). The licensee response to those issues addresses this concern.

Conclusion

This concern was not substantiated. The licensee's response to this item was adequate, and this item is considered to be closed.

3.5.7 Concern No. 41b

Our understanding of this concern is that a root valve was manipulated by the Watch Engineer without the use of an approved procedure, and no documented independent verification of the valve position was performed. Reference was made to O-ADM-701, AP-0190.19, a Site Vice President letter on valve manipulation, and PWO #WA 881121021700.

Discussion

The inspector reviewed the associated work package and the referenced procedures and determined that although the Watch Engineer has the authority to position or direct positioning of valves, there must be a method of controlling the action. In this case, the proper method of control would have been to add this PWO to the existing clearance for the diesel that was already in effect. This would have provided a positive means of control in positioning the root valve and ensuring it was returned to its proper position with independent verification, as required. (See the end of Section 3.5 for a general summary on clearance concerns.)

Conclusion

This item was substantiated, and licensee corrective action in this area is being tracked with a previously identified NRC violation (88-39-01) which is discussed in the summary below.

Summary of Clearance Concerns

The concerns reviewed during this inspection which were related to clearances included the following: 12b, 12d, 26a, 26b, 28b, 28d, and 41b. In general, the inspectors did not consider the majority of these concerns to be valid as stated in the discussion for the individual concern. The concerns or portions thereof that the inspectors considered valid were of minor safety significance. The NRC has previously identified clearance issues in Inspection Reports and issued Notices of Violation when warranted.

NRC Inspection Report Nos. 50-250/88-39 and 50-251/88-39 issued January 24, 1989, with associated Notice of Violation for violation 88-39-01 identified numerous weaknesses in the licensee's clearance program. These weaknesses were identified by the NRC prior to review of the clearance concerns identified in this report. The licensee responded to the issues identified in violation 88-39-01 in a letter to the NRC, L-89-59, dated March 3, 1989. The adequacy of the licensee's actions to these, issued will be followed up in the resolution of the violation which will resolve the valid concerns of this report in the clearance area.

3.6 Concerns Involving Radiological Safety (583728) Units 3 and 4

3.6.1 Concern No. 4e

Our understanding of this concern is that radiation work permits (RWP) required to perform specific tasks are not always available prior to the job package being issued for work initiation. In addition, the allegation stated that the assigned RWPs are not always the correct ones for the job and have to be changed by the Health Physics (HP) Department. This allegation was referred to the licensee for evaluation.

Discussion

The concern was a subpart of concerns regarding poor planning and coordination of functional groups involved in supporting and/or performing specific site jobs. This

specific part of the concern did not provide any documented examples where job packages were issued for work initiation and the task activities started prior to issuance of an appropriate RWP.

The inspector reviewed and discussed procedures and methods for RWP and associated job package initiation with cognizant licensee HP and general maintenance employees. Licensee representatives stated that for activities in a radiologically controlled area (RCA), no work is allowed without the issuance of a RWP. Criteria for issuance of RWPs are detailed in the licensee's Health Physics Procedure, O-HPA-001, Radiation Work Permit Initiation and Termination, dated December 2, 1988. Development of the appropriate RWP for each job follows standard guidelines including submittal of the RWP Request Form, HP-3, to the HP Department for review; completion of pre-job radiological surveys if necessary; assignment of an already prepared RWP or development of the specific RWP by the HP Writing Group using estimates of required man-hours, potential exposure, and contamination levels from the pre-job surveys and/or job history files; a pre-job planning review; and final sign-off by the Health Physics Shift Supervisor (HPSS) and Nuclear Plant Shift Supervisor. Guidance for work order preparation is detailed in Licensee Procedure, O-ADM-701, Plant Work Order Preparation, dated February 2, 1989.

Coordination of HP RWP preparation or assignment, and Maintenance Department scheduling and planning activities were discussed with licensee representatives. Licensee representatives stated that poor coordination of activities between the HP Department and the site Scheduling and Planning Group have been noted and corrective actions are being implemented. These actions were reviewed and detailed in a previous NRC Inspection Report regarding maintenance activities (NRC Inspection Report Nos. 50-250/88-32 and 50-251/88-32). Corrective actions included the assignment of a person with a HP background reporting directly to the Planning and Scheduling Supervisor. This person is detailed to review morning reports for activities, requiring HP support in an attempt to provide improved and more timely information to the HP department regarding radiation protection requirements for planned activities thereby facilitating coordination between the HP and Planning and Scheduling groups.

The adequacy of and the potential for changes to the initial RWPs for selected jobs were reviewed and discussed with licensee representatives. Procedure O-HPA-001,

Radiation Work Permit Initiation and Termination, details guidance for changing RWP status. Minor changes, expected to be more conservative than the original conditions, are permitted with authorization by the HP Department Supervisor. Significant changes in the radiological conditions as determined by the HP technician providing job coverage result in the termination of the RWP for that activity. Licensee representatives stated that, occasionally, the performance of a task can cause changes in the radiological conditions thereby requiring minor revisions to the existing RWP or the issuance and/or assignment of a different RWP for completion of the job. Furthermore, misunderstandings between the Scheduling and Planning group and the HP Department's evaluation of the task as determined by the expected scope and/or location of a job have resulted in the assignment of inappropriate RWPs. However, for several examples reviewed by the inspector where improper RWPs were reassigned, the tasks were conducted using the appropriate RWP. The recent assignment of a knowledgeable HP person reporting to the Planning and Scheduling supervisor is expected to minimize the amount of changes to RWPs resulting from the initial assignment of inappropriate RWPs to the task.

From review of procedures, RWPs, and Plant Work Orders and discussions with licensee representatives, the inspector noted that the required document for entry into any area of the RCA for the performance of job activities was the RWP. On occasion, the entire scope of the assigned task must be known prior to assigning or preparing an appropriate RWP. Furthermore, appropriate changes to RWPs were allowed as necessitated by changing job conditions. The inspector found no instances of work conducted without an appropriate RWP.

Conclusion

The concern was substantiated in the fact that not all RWPs were completed prior to initiation of a work package; and on occasion, the initially assigned RWP was not correct for the job assigned. However, this issue was not considered safety significant in that no examples of work being performed without an appropriate RWP or the failure to use RWPs to provide controlling guidance for entry into selected site areas and to detail radiological safety conditions while performing maintenance activities were noted. No violations of license or 10 CFR Part 20 requirements were noted.

The licensee response and conclusions regarding the concern were similar to the inspector's findings. The licensee evaluation was considered adequate.

3.6.2 Concern No. 8

Our understanding is that this concern involved violations of RWP No. 303 on January 8, 1986, that is, two HP technicians venturing on the Unit 3 Reactor Head without using the required respiratory protective equipment and protective clothing. No details regarding the names of the technicians, their employer, that is, contract or FPL personnel, or the specific times of violation were noted. This concern was referred to the licensee for evaluation.

Discussion

The inspector discussed this issue with HP supervisors and technicians who were on site and provided radiation protection coverage associated with the Unit 3 outage work at the time of the event. No personnel recalled the described event.

The inspector discussed with HP representatives the radiological controls required by RWP-303 and reviews of records of those personnel who entered the RCA assigned to this specific RWP. All records of January 8, 1986, RCA entries and the Unit 3 Containment Access Logs for both contractor and FPL HP technicians were reviewed. For the referenced date, no HP technicians entered the RCA assigned to RWP-303 which required the use of a respirator and paper suits. The majority of HP technician RCA entries were conducted using RWP-2, RCA/General Entry Inspections, Routine Survey and Activities, and Pre-job Surveys Inside the RCA for HP Personnel, dated January 1, 1986, and RWP-300, Unit 3 Containment - All Elevations, Health Physics General Inspection, Observation, Routine and Pre-Specific RWP Survey, dated February 3, 1986. These RWPs did not require use of paper suits nor respirators. Further review of HP records indicated no doses, as measured by Self-reading Pocket Dosimeter (SRPD), to be above 25 millirem (mrem) and no instances of personnel contamination or internal exposure events reported for the HP technicians assigned entry to the RCA for the above detailed RWPs.

Conclusion

The concern could not be substantiated by the inspector's independent discussions with licensee representatives and review of applicable records. No safety significant issues, that is, concerns regarding personnel contamination, internal exposure, or external exposure measurements relative to the licensee's administrative or federal regulatory limits were noted for personnel potentially involved in the event.

The licensee's evaluation was considered acceptable regarding substantiation of the alleged violation. However, weaknesses in the overall evaluation included the licensee's failure to review RCA entry logs, doses, and contamination events for the HP technicians thereby minimizing the probability of finding any occurrence of significant radiological concerns for the specific RWP on the date referenced.

3.6.3 Concern No. 9

Our understanding is that this concern, which was referred to the licensee, involved a violation of RWP No. 213, failure of an individual contractor HP technician to wear a paper suit over cotton protective clothing (PC) as required while providing HP job coverage on January 9, 1986.

Discussion

The inspector discussed the issue with cognizant licensee supervisors and reviewed RWP controls and available radiological data concerning RCA entries made by the technician on January 9, 1986. The technician entered the RCA under RWP No. 2, RCA/General Entry Inspections, Routine Survey and Activities, and Pre-job Surveys Inside the RCA for HP Personnel, dated January 1, 1986, which did not require the use of the outer paper suit. However, licensee representatives stated that when providing HP coverage for a specific job, the technician was required to meet or exceed the protective clothing requirements indicated on the applicable job-specific RWP. At the time of the alleged violation, the HP technician was providing coverage conducted under the guidance of RWP-213 which required the use of a paper suit over the normal PCs. Licensee representatives confirmed that the technician did not use a proper suit and stated that although the paper suit was not necessary to perform job coverage activities in a safe manner, the HP technician's violation of the licensee's

policy regarding RWP requirements was noted. On January 10, 1986, the cognizant HP supervisor initiated appropriate disciplinary and corrective actions to prevent recurrence. No further RWP violations by the identified HP technician have been noted.

The inspector reviewed the technician's external and internal exposure records and licensee records regarding personnel contamination reports for January 9, 1986. No anomalous findings were noted.

Conclusion

The concern was substantiated with the violation of RWP requirements and/or policy noted and corrected by the licensee. The inspector noted that licensee actions regarding the violation met the criteria specified in 10 CFR Part 2, Section V, of the NRC Enforcement Policy for not issuing a Notice of Violation, and therefore, this violation is not being cited. The concern is considered to be a licensee-identified violation (LIV) due to the following: classification as a severity level IV or V issue, corrective actions were taken immediately and measures initiated to prevent recurrence, and it was not similar to violations previously identified. Furthermore the violation was not considered to have safety significant implications. This matter, identified as LIV 50-250, 251/89-13-01 (violation of RWP NO. 213 - failure to wear a paper suit over cotton PCs as required) is considered to be closed.

The licensee's evaluation of this issue was considered to be adequate.

3.6.4 Concern No. 10

Our understanding is that this concern involved improper HP coverage for a job conducted during the week of January 7, 1986.

The concern alluded to improper HP coverage for an individual (I&C technician) at the site who subsequently was relieved of his duties. This concern was not referred to the licensee for review.

Discussion

The inspector discussed and reviewed with cognizant licensee representatives details regarding work conducted by the identified I&C technician. The inspector determined



that the incident referenced in the paragraph above previously was reviewed during a January 15-16, 1986, inspection and was documented in NRC Inspection Report Nos. 50-250/86-04 and 50-251/88-04 and in letters transmitting a Notice of Violation and Proposed Imposition of Civil Penalty dated April 28, 1986, and an Order Imposing a Civil Monetary Penalty dated October 14, 1986. The correspondence detailed both the willful disregard of procedural requirements by the I&C technician, deficiencies in training, and poor performance by the employees involved. The above concerns were viewed by the NRC as resulting in deficiencies in required radiological protection practices and were considered safety significant. Licensee corrective actions and responses were detailed in letters to the NRC dated May 28, 1986, and November 13, 1986. The licensee's corrective actions were reviewed and verified during subsequent inspections.

Conclusion

The concern was substantiated during the referenced inspection and, at that time, was considered to be a safety significant event. However, changes to training, procedures, and operation work practices for high radiation areas have been implemented. Licensee corrective actions were considered adequate.

3.6.5 Concern Nos. 12e, 12g, and 12h

It is our understanding that these concerns involved improper planning for PWO #WA 873321358, incorrect RWP assignment for plant area where job was conducted, and licensee actions were not within guidelines of ALARA program.

The concern stated that poor planning for the referenced PWO resulted in unnecessary exposure of personnel and an improper RWP initially issued to conduct the job. In addition, this concern was referred to and evaluated by the licensee.

Discussion

The inspector discussed and reviewed with cognizant licensee representatives, PWOs #WA 873321358 and #WA 880311836, and the RWPs used to complete the tasks. In addition, exposure records for personnel involved in the assigned tasks were reviewed.



Licensee representatives indicated that planning of the detailed activities could have been improved, however, some expenditure of dose was necessary to evaluate and subsequently complete the job for PWO #WA 873321358. RWP-8018 was utilized for the work which was conducted in containment non-high radiation areas on May 5, 1988. From review of records and discussion with licensee representatives the inspector determined that RWP 88-114 initially was assigned to work authorization #WA 880311836. However, licensee personnel noted that work inside containment was not allowed using this RWP. Work conducted on May 26, 1988, by the alleger and other journeymen was authorized following guidance presented in RWP-2306, Auxiliary Building (HRA) Units 3 and 4 RHR Pits and 10' Elevation Repair, Calibrate Transmitters, Indicators, Gauges & Actuators, dated January 1, 1988. Review of the alleger's dose received, as measured by SRPD, indicated a total of 10 mrem received for work conducted during May 1986 in accordance with the RWPs utilized. For other journeymen potentially involved in the tasks, no doses exceeded 25 mrem as measured by SRPD.

Conclusion

The concerns were substantiated in part in that an improper RWP originally was assigned to the job package and planning was poor for PWO #WA 880311836. However, the concerns were not considered safety significant in that prior to the performance of the actual work, the correct RWPs were utilized and no excessive doses were measured. For all individuals potentially involved in the performance of the specified tasks, doses did not appear to have been excessive.

The licensee response was reviewed and considered acceptable regarding the issuance of RWPs and planning reviews. However, review of the ALARA issue was weak in that additional reviews of the employee dose records needed to be conducted to evaluate the concern. These items are considered to be closed.

3.6.6 Concern No. 23c

Our understanding is that this concern involved an unnecessary exposure to radiation as a result of poor job planning. The initial work request was for the annual calibration of RHR heat exchanger inlet temperature probes using WA881750952. The alleger stated that the task should have been completed as PCM-87-091 detailed and thus, the exposure received was unnecessary. This concern was referred to and reviewed by the licensee.



Discussion

The inspector reviewed and discussed with cognizant licensee representatives, the original job intent, planning status, and changes required to complete the tasks during July 1988. The inspector verified that the original intent of the plant work order was to calibrate the RHR heat exchanger thermometers, PM 050009, without replacement of the original probes. The thermometer probe replacement was scheduled on an "as needed" basis.

In addition, the Journeyman's Work Reports were reviewed for specifics of the job sequence and required changes. Details indicated that the required annual calibrations were completed, and three of the original and a replacement thermometer were installed. Subsequently, cognizant licensee representatives determined that when replacement became necessary, the thermometers were to be replaced in accordance with CPWO 87-091. All four RHR thermometers were then replaced with the new model type as required by the CPWO.

The inspector reviewed the monthly cumulative doses for the personnel involved in the documented work. For the journeymen involved in the task, monthly accumulated doses, as measured by thermoluminescent dosimetry (TLD), ranged from 0.00 to 0.37 rem. These doses were not considered excessive.

Conclusion

The concern was substantiated in part in that poor planning resulted in the increased potential for personnel exposure as a result of repeating a task. However, CPWO 87-091 was not to be completed until instrument change out was necessary, and thus, the replacement of the new thermometers after initiation of #WA 881750952 to conduct PM 05009, which indicated concerns with one of the instruments, was justified. However, the installation and then removal of three old thermometers subsequent to changing the model type for one of the instruments, indicated poor information exchange among responsible groups, for routine maintenance and required changes which resulted in poor coordination and planning of required tasks. The poor planning resulted in the unnecessary installation and removal of three thermometers. The issue was not considered to be safety significant. Doses received by the personnel performing the task did not appear to be excessive as determined from review of personnel exposure records.



The licensee's response was considered acceptable in regard to the review of planning and coordination of the events and safety significance of the issue. However, review of the ALARA concern was marginal in that review of the doses received by the journeymen performing the task needed to be evaluated to address the exposure concern.

3.6.7 Concern No. 43b

Our understanding of this concern is that licensee procedural changes were made to address ALARA concerns associated with vendor maintenance activities conducted for the flux mapper system.

This radiation control issue was not identified as a discrete concern but was reviewed for potential radiological control issues during evaluation of the concern regarding operability of the flux mapping system. This issue was referred to and reviewed by the licensee.

Discussion

The inspector reviewed and discussed the vendor maintenance activities associated with the Unit 4 Flux Mapping system during September 1988. The review included dose estimate records, ALARA Job in Progress Records, Job-History Worksheets; Procedural Review Requests, and both licensee and vendor procedures. Licensee representatives stated that the ALARA zone coordinators identified issues which could affect "hot particle" contamination, and dose controls associated with the task. Licensee actions regarding the issues included increased HP coverage, changes to lubricating materials used to ease insertion of the capillary tubes into the drive cables, shielding of waste materials, and use of containment structures. In addition, the zone coordinator identified a significant difference between licensee Maintenance Procedure 12407.1, Retracting and Inserting Incore Instrumentation Thimbles, dated November 19, 1988, which required depressurization and venting of the system and the vendor's tube cleaning procedure. The inspector noted that a Service Activity Procedure Field Change Request regarding correcting differences noted between the vendor and licensee procedures was approved September 24, 1988. The inspector noted that in addition to procedural resolution, the changes were initiated to minimize the potential spread of contamination and/or exposure to persons, thus affecting ALARA considerations.



The task was performed using RWP No. 88-4009. The dose budgeted for the task was approximately 0.660 rem based on approximately 220 man-hours estimated to complete the task. The actual man-rem expended was approximately 1.57 rem, that is 239 percent over budget. Licensee representatives stated that the increase in dose resulted from higher than expected dose rates associated with material cleaned from the guide tubes and poor planning associated with the initial equipment installation. The inspector verified that no licensee administrative or regulatory limits were exceeded during completion of the task.

Conclusion

Changes to vendor procedures were substantiated. The inspector determined that procedural changes were made to the vendor procedure prior to performing maintenance work on the Unit 4 Flux Mapper equipment. Although the changes were not addressed directly to ALARA considerations, their implementation improved job performance and thus, indirectly would have resulted in reducing the exposure received. Although exposure was above original estimates, the inspector verified that no administrative or regulatory compliance limits were exceeded. The licensee's response to the stated concern was considered adequate.

The operational aspects of this concern are discussed in paragraph 3.4.7 of this report.

3.6.8 Concern No. 47

Our understanding is that this concern involved problems with the condenser air ejector SPING system, including water intrusion, which occasionally rendered the equipment inoperative. This concern was not referred to the licensee for review.

Discussion

The inspector reviewed and discussed with cognizant licensee representatives the function and operation of the Unit 3 and Unit 4 condenser air ejector SPING systems (RAD-6417). The system provides backup to the gaseous radiation monitor (R-15) system to monitor potential condenser air ejector effluent releases. Licensee procedure, Nuclear Chemistry (NC) -22C, details channel checks conducted to verify operability, and actions required for "out of service" conditions. The licensee's procedural requirements appeared adequate. Review of

selected surveillance data indicated routine and nonroutine operations were conducted in accordance with appropriate procedures.

The inspector reviewed and discussed the operational history of the condenser SPING monitors with cognizant licensee representative. The Nuclear Job Planning, Work Request history files for the Unit 3 and 4 detectors indicated problems, including flooding, which rendered the systems inoperable on occasion. Licensee representatives stated that I&C supervisors and journeymen indicated that the location of the systems resulted in many of the detailed system failures. Engineering assistance has been requested and the appropriate department supervisors were aware of the concerns. The inspector verified that when the systems were inoperable, appropriate redundant monitoring systems or surveillances were maintained as required.

Conclusion

The concern was substantiated in that the system design has allowed, on occasion, moisture and/or water intrusion, to render the condenser air ejector SPING system inoperative. However, the concern is not considered safety significant in that, the licensee has established and utilized adequate redundant backup radiation monitoring systems and/or sampling methodology to monitor the condenser air ejector release pathway effectively when the SPING monitors are inoperable.

3.6.9 Concern No. 49

Our understanding of this concern is that the R-15 radiation monitor did not satisfy the FSAR requirements, and the incorrect seal was used for detector installation. This concern was not referred to the licensee

Discussion

The FSAR Volume 5, Section 11.2, Radiation Protection, Rev. 3, dated July 1985, states beta-gamma sensitive Geiger-Mueller (GM) tubes are used to monitor the condenser air ejector gaseous radiation levels. The sensitivity range for the R-15 detectors is listed as 1 E-6 microcuries per cubic centimeter ($\mu\text{Ci}/\text{cc}$).

The inspector reviewed and discussed calibration and operation of the R-15 monitors with cognizant licensee personnel. System calibrations are done in accordance with



licensee procedures 3/4 PMI-067.3, Process Radiation Monitoring System, Channel R-3/4-15 Calibration Procedure, dated March 8, 1988. When inoperable, the licensee conducts backup grab sampling as required by technical specifications. Selected review of licensee records indicated that backup sampling and analyses were conducted in accordance with appropriate procedural requirements.

The operational history of the R-15 detectors as indicated by Nuclear Job Planning System, Work Request records was reviewed and discussed with licensee representatives. Detector seal leakage resulting in internal detector moisture was identified as rendering the system inoperable. Licensee representatives stated that the seal presently installed on the detector was correct and the identified problems resulted from design problems. Licensee representatives stated that engineering assistance has been requested to improve operability of the system.

Detection sensitivity of the system was discussed with cognizant licensee representatives. The licensee provided vendor calculations verifying that the currently installed GM tube sensitivity, 1.76×10^{-7} uCi/cc, exceeded FSAR requirements. However, during discussion with cognizant licensee representatives, the inspector was notified of a temporary system alteration (TSA) made to the Unit 3, R-15 monitoring system which potentially could have resulted in decreased detector sensitivity. From December 1985 to July 1988, the licensee installed a half-shield around the GM tube on the Unit 3, R-15 monitor to prevent water impaction from damaging the detector. The inspector noted that dependent on the shield thickness and flow of condenser air around the GM tube, the sensitivity of the system may have been reduced. At the time of this inspection, the shield had been removed. However, the licensee was informed that the ability of the Unit 3, R-15 radiation monitor to meet FSAR sensitivity requirements and/or technical specification requirements for redundant system or sampling requirements from December 1985 to July 1988, during reactor operations was considered an unresolved item* regarding required monitoring for the condenser air ejector pathway. This item will be tracked as URI 50-250/89-13-02 (evaluation of shielding requirements for the R-15 radiation monitor). No shield was installed on the Unit 4, R-15 detector.

*An unresolved item is a matter about which information is required to determine whether it is acceptable or may involve a violation or deviation.



Conclusion

The inspector determined that additional information was required to evaluate the concern. Followup action is required to determine if the condenser air ejector system was not monitored as a potential release pathway by the R-15 and/or other redundant instrumentation or sampling methodology during reactor operations. Licensee representatives agreed to evaluate and provide a response in a timely manner. Currently the operating status of the R-15 monitors appeared to meet the intended function and the concern is not considered a safety significant issue.

The ALARA aspect of this concern is considered to be open at this time pending resolution of the unresolved item. The operational aspects of this concern are also discussed in paragraph 3.4.11 of this report.

In the areas inspected, one licensee-identified violation (Concern No. 9, paragraph 3.6.3) and one unresolved item (Concern No. 49, paragraph 3.6.9) were identified.

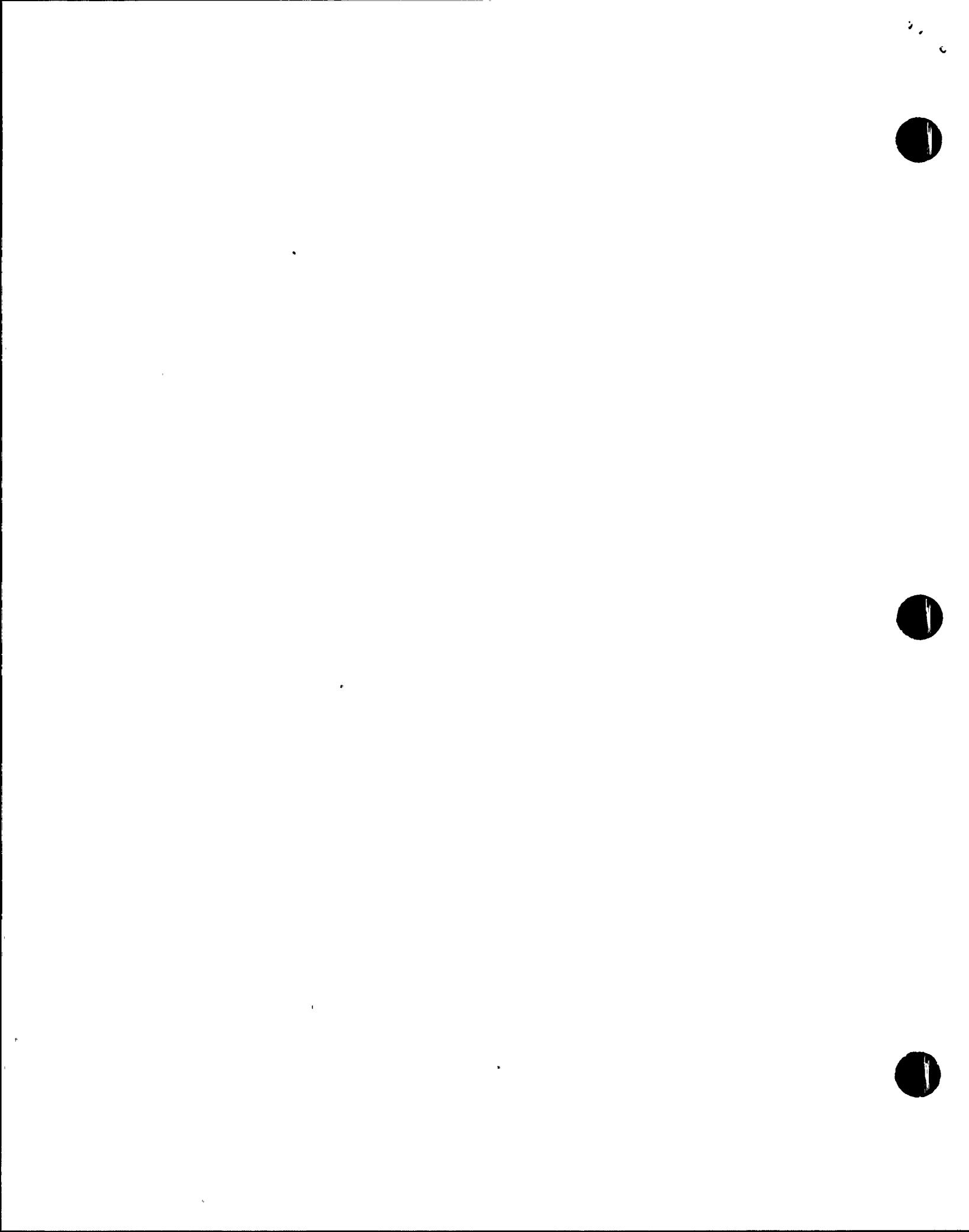
4.0 Exit Interview (530703) Units 3 and 4

The inspection scope and results were summarized on March 17, 1989, with those persons indicated in paragraph 1 above. The inspectors stated that all concerns reviewed during the inspection (these were delineated) would be closed except for Concern No. 49 (paragraphs 3.6.9 and 3.4.11) and

Concern No. 17a (paragraph 3.3.8). Prior to the inspectors leaving the site, additional information was obtained involving the loop wiring diagram for FIC-4-491 and Annunciator G-3/2, and Concern No. 17a was closed thus eliminating the need for the inspector followup item. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
250,251/89-13-01	Opened and	LIV - Violation of RWP No. 213 - Failure to Wear a Paper Suit Over Cotton PCs as Required - Concern No. 9 (paragraph 3.6.3)
	Closed	
250/89-13-02	Opened	URI - Evaluation of Shielding Requirements for the R-15 Radiation Monitor - Concern No. 49 (paragraph 3.6.9)

The results of the inspector's review of the Employee Concerns Reporting System (paragraph 2.0) were also discussed at the exit interview.



5.0 Acronyms and Abbreviations

AFW	Auxiliary Feedwater System
ALARA	As Low As Reasonably Achievable
ANSI	American Institute of National Standards
ASCO	Automatic Switch Company
CPWO	Controlled Plant Work Order
DR	Deficiency Report
ECRS	Employee Concerns Reporting System
ECSA	Electrical Conductor Seal Assemblies
EICS	Enforcement and Investigation Coordination Staff
EQ	Environmental Qualification
FPL	Florida Power and Light Company
FSAR	Final Safety Analysis Report
FS/QC	Field Supervisor/Quality Control
GEMS	Generating Equipment Management System
GM	Geiger-Mueller
HP	Health Physics or High Pressure
HPSS	Health Physics Shift Supervisor
I&C	Instrument and Control
IBEW	International Brotherhood of Electrical Workers
INPO	Institute of Nuclear Power Operations
IST	Inservice Test
I/V	Independent Verification
JWR	Journeyman's Work Report
LIV	Licensee-identified Violation
LP	Low Pressure
MAC	MAC Valves Inc.
MI	Maintenance Instruction
MOS	Management On Shift
NC	Nuclear Chemistry
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
NWE	Nuclear Watch Engineer
OTSC	On-the-spot Change
P&ID	Plant and Instrument Drawing
PASS	Post Accident Sampling System
PC	Protective Clothing
PEP	Performance Enhancement Program
PI	Pressure Indicator
PMT	Post-Maintenance Testing
PNSC	Plant Nuclear Safety Committee
PUP	Procedure Upgrade Program
PWO	Plant Work Order
PWR	Plant Work Request
QA	Quality Assurance
QC	Quality Concerns or Quality Control
QIP	Quality Improvement Program



RCA	Radiologically Controlled Area
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RHR	Residual Heat Removal System
RWP	Radiation Work Permit
SRPD	Self-Reading Pocket Dosimeter
SSE	Safe Shutdown Earthquake
TEDB	Total Equipment Data Base
TI	Temperature Indicator
TLD	Thermoluminescent Dosimetry
TSA	Temporary System Alteration
URI	Unresolved Item

