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

Report Nos. 50-369/89-01 and 50-370/89-01

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

Facility Name: McGuire Nuclear Station 1 and 2

Docket No(s): 50-369 and 50-370

License No(s): NPF-9 and NPF-17

Inspection Conducted: January 20, 1989 - February 27, 1989

Inspectors: K. VanDoorn, Senior Resident Inspector — 3/22/89 Date Signed

R. Croteau, Resident Inspector — 3/22/89 Date Signed

Approved by: M. B. Shymlock, Section Chief, Division of Reactor Projects — 3/29/89 Date Signed

SUMMARY

Scope: This routine unannounced inspection involved the areas of operations safety verification, surveillance testing, maintenance activities, review of plant procedures, drawing system verification and follow-up on previous inspection findings.

Results: In the areas inspected, the following issues were identified:

Violation 369,370/89-01-01, Failure to Follow Maintenance Administrative Procedure. Three examples were identified involving performing work without a work request and improper acceptance of operational control following maintenance. (Paragraphs 5 and 6)

Licensee Identified Violation 369/89-01-02, Missed TS Surveillance on Snubbers. (Paragraph 6)

Licensee Identified Violation 369/89-01-03, Breach of Fire Barriers. (Paragraph 6)

Violation 369/89-01-04, Inadequate Chemistry Procedure Leading to Inadvertent Dilution. (Paragraph 6)

Violation 369,370/89-01-05, Followup of Improvements in Control Room Drawing Control. For reasons described in the report no Notice of Violation is being issued for this violation. (Paragraph 10)

Inspector Followup Item 369,370/89-01-06, Written Guidance on Use of Procedures. (Paragraph 11)

Violation 369,370/89-01-07, Failure to Follow Procedures With Respect to Writing Problem Investigation Reports (PIRs). (Paragraph 12)

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Boyle, Superintendent of Integrated Scheduling
*G. Gilbert, Acting Superintendent of Technical Services
*T. McConnell, Plant Manager
W. Reeside, Operations Engineer
M. Sample, Superintendent of Maintenance
*R. Sharp, Compliance Engineer
J. Snyder, Performance Engineer
*B. Travis, Superintendent of Operations
R. White, Instrument and Electrical Engineer

Other licensee employees contacted included construction craftsmen, technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

2. Unresolved Items

An unresolved item (UNR) is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation. There were no unresolved items identified in this report.

3. Plant Operations (71707, 71710)

The inspection staff reviewed plant operations during the report period to verify conformance with applicable regulatory requirements. Control room logs, shift supervisors' logs, shift turnover records and equipment removal and restoration records were routinely reviewed. Interviews were conducted with plant operations, maintenance, chemistry, health physics, and performance personnel.

Activities within the control room were monitored during shifts and at shift changes. Actions and/or activities observed were conducted as prescribed in applicable station administrative directives. The complement of licensed personnel on each shift met or exceeded the minimum required by Technical Specifications.

Plant tours taken during the reporting period included, but were not limited to, the turbine buildings, the auxiliary building, Units 1 and 2 electrical equipment rooms, Units 1 and 2 cable spreading rooms, and the station yard zone inside the protected area.

During the plant tours, ongoing activities, housekeeping, security, equipment status and radiation control practices were observed.

A detailed walkdown of the accessible portions of the Unit 1 auxiliary feedwater (CA) system was conducted by the inspectors. A CA Resistance Temperature Detector (RTD) was found disconnected and details are contained in paragraph 5.

The inspectors reviewed the licensees progress relative to Generic Letter 88-17, Loss of Decay Heat Removal. The licensee appears to be thoroughly addressing the issue with appropriate detailed procedures under development. Further detailed inspections will be conducted at a later date.

a. Unit 1 Operations

Unit 1 operated at approximately 100 percent power for most of the report period. On February 12, 1989, power was reduced to 90 percent to repair the number two governor valve position indicator which had failed. The unit returned to full power approximately twelve hours later.

b. Unit 2 Operations

The unit operated at approximate 100 percent power until January 27, 1989. On January 27, 1989, at 4:30 p.m. the licensee observed indication of main condenser tube leakage on Unit 2. Turbine generator load was reduced in accordance with procedures to allow isolating and repairing the leaks. Load was reduced to approximately 40 percent. Three condenser tubes were found leaking and a total of fifty two tubes were plugged. The unit returned to full power at 10:05 a.m. January 29, 1989. The licensee believes steam impinging on the conderser tubes from a leaking turbine steam drain valve may have caused the tube leakage. The leakage from the drain valve was not stopped, however, and power was again reduced on February 22, 1989, to approximately 85 percent in order to inspect and plug additional leaking condenser tubes. The unit returned to full power on February 22, 1989.

c. At the licensees request, the inspectors reviewed the licensees progress relative to Generic Letter 88-17, Loss of Decay Heat Removal. The licensee appears to be thoroughly addressing the issue with appropriate detailed procedures under development. Further detailed inspections will be conducted at a later date.

No violations or deviations were identified.

4. Surveillance Testing (61726)

Selected surveillance tests were analyzed and/or witnessed by the inspector to ascertain procedural and performance adequacy and conformance with applicable Technical Specifications.

Selected tests were witnessed to ascertain that current written approved procedures were available and in use, that test equipment in use was

calibrated, that test prerequisites were met, that system restoration was completed and test results were adequate.

Detailed below are selected tests which were either reviewed or witnessed:

PROCEDURE	EQUIPMENT/TEST
PT/2/A/4208/10B	2B NS HX Heat Balance
PT/1/A/4200/09A	ESF Test
PT/1/A/4206/09A	NI Check Valve Movement Test

No violations or deviations were identified.

5. Maintenance Observations (62703)

a. Routine maintenance activities were reviewed and/or witnessed by the resident inspection staff to ascertain procedural and performance adequacy and conformance with applicable Technical Specifications. The selected activities witnessed were examined to ascertain that, where applicable, current written approved procedures were available and in use, that prerequisites were met, that equipment restoration was completed and maintenance results were adequate.

Specific maintenance activities observed included:

Activity	Work Request No.
Control Room Activity Door No. 507 Repair	26740 ADM
Troubleshooting Diesel Generator 2B Battery Charger	137753 OPS
Replacement of Power Range Nuclear Instrumentation (N41) Meter and Potentiometer	68487 IAE
Replace CA-57	96430 NSM
Repair CA Turbine Trip Mechanism	500488 MNT (Review Only)

b. The inspectors discussed painting of the auxiliary building relative to operability of the Auxiliary Building Ventilation System (VA), Technical Specification (TS) 4.7.7.b. The TS requires testing after painting in zones communicating with the system. By previous agreement with the NRC, painting was defined as 1,000 square feet of painted area and retesting was to be done after painting each 1,000 square feet. The primary concern being carbon degradation in the charcoal absorber. Two years of data has shown negligible effect on the carbon, therefore, the inspectors agreed that 5,000 square feet could be painted and larger amounts dependent on test results. The

licensee requested this relief due to an effort to improve housekeeping which includes repainting of the auxiliary building. The results after 5,000 square feet also showed no effect on the carbon and, therefore, the licensee will paint larger amounts and retest as appropriate. At a minimum tests will be taken monthly. The inspectors agreed with this approach.

c. On February 4, 1989, during a walkdown of the auxiliary feedwater system, the Resistance Temperature Detector upstream of 1CA-65 was found disconnected by the inspectors. The licensee inspected the other CA RTDs and found the RTD upstream of 1CA-57 also disconnected and others were found damaged. These RTDs are installed to monitor check valve backleakage from the steam generators to the CA pumps to prevent steam binding of the pumps. The CA RTDs were reinstalled, however, a work request was not used to reinstall them. The RTDs are strap on devices that attach perpendicularly to the pipe. The straps were damaged such that the RTDs had slid under the straps and were parallel to the pipe and could not be reinstalled properly.

After reinstallation, the RTD upstream of 1CA-57 was reading between 200 degrees and 246 degrees F; the operability limit is 250 degrees F. Attempts were made to reseat the valve with out success. The licensee then decided to replace the valve while on line.

On February 15, 1989, while checking the job site setup prior to removal of 1CA-57, the inspectors found the RTD upstream of 1CA-57 again disconnected. Operations was not aware that the RTD had been disconnected and no work request had been authorized to remove the RTD. Work Request 96430NSM indicated that the RTD was removed on February 15, 1989, however the work was not cleared to begin until February 16, 1989. Operations reconnected the RTD and again no work request was used.

On February 16, 1989, maintenance personnel recorded on work request 96430NSM that the CA RTD was already removed prior to starting work. Valve 1CA-57 was replaced on February 16 and 17, 1989.

After replacing 1CA-57 and restoring the system to operation, operations personnel noted that the RTD was still indicating high piping temperatures. Upon investigation it was discovered that the RTD had been incorrectly placed on the valve 1CA-57 rather than further upstream. The RTD was moved, apparently without using a work request. The RTD continued to read high, though improved, and a fan was left on the piping to cool the line between the check valve and the RTD. McGuire Maintenance Management Procedure (MMP) 1.0, "Definition of the Work Request Form," describes the use of a work request form to control work. Paragraph B under the scope section specifies that corrective maintenance (replacement and/or repair of defective parts) shall require a work request. On several occasions,

as described previously, maintenance was performed in reinstalling and removing the CA RTDs without an authorized work request. This is considered a failure to follow administrative procedures and is identified as a violation of T.S. 6.8.1: 369,370/89-01-01, Failure to Follow Maintenance Administrative Procedure.

In reviewing the completed 1CA-57 work request 96430NSM it was noted that the Operation Control Accepted block was signed by the shift engineer (shift technical advisor) and not by a member of the operations department. MMP 1.0 section 2.20 states that the Operation Control Accepted block shall be signed by a responsible representative of the group that gave clearance to begin work. Operations gave clearance to begin work and the shift engineer is in the Integrated Scheduling department. Apparently past practice has been to allow shift engineers to sign for operators in some circumstances (primarily for modifications), however, this is not in accordance with station procedures. The licensee indicated that it is their intent to have shift engineers sign for clearing modifications in some cases. This is a second example of failure to follow administrative procedures, violation 369,370/89-01-01.

d. The inspector accompanied NRC/NRR personnel to review the licensee's raw water fouling monitoring program. Heat exhanager and other raw water fouling is a general industry problem and the NRC is gathering information in order to develop a generic communication to the industry. The licensee has developed various methods to maintain heat exchangers included differential pressure (DP) and heat transfer testing, periodic cleaning and flushing and continuous DP monitoring of Component Cooling System heat exchangers. Visual and ultrasonic testing is also being utilized. These programs have been and will continue to be monitered by the NRC.

One violation was identified in this area. (Also see paragraph 6).

6. Licensee Event Report (LER) Followup (90712, 92700)

The following LERs were reviewed to determine whether reporting requirements have been met, the cause appears accurate, the corrective actions appear appropriate, generic applicability has been considered, and whether the event is related to previous events. Selected LERs were chosen for more detailed followup in verifying the nature, impact, and cause of the event as well as corrective actions taken. The following LERs are considered closed:

(Closed) LER 369/88-23, Required Surveillance was not Performed on Two Snubbers. These snubbers were omitted since a formal snubber inspection list was not maintained. The snubbers omitted were subsequently inspected and found to be operable. The licensee is developing a computerized data base program to track all safety related snubber inspection requirements. This event constitutes a violation of T.S. 3.7.8. This violation meets the criteria specified in Section V of the NRC Enforcement Policy for not issuing a Notice of Violation and is not cited. LIV 369/89-01-02, Missed TS Surveillance on Snubbers.

(Closed) LER 369/88-29, Fire Barriers Breached Due to Management Deficiency and Unknown Reasons. A management deficiency existed because vendor personnel involved had not received the appropriate training. Cause of the other breaches could not be determined. Corrective actions are being taken to prevent recurrence of this event, however, there have been several instances of breached fire barriers in the past several years. This event constitutes a violation of TS 3.7.11. This violation meets the criteria specified in Section V of the NRC Enforcement Policy for not issuing a Notice of Violation and is not cited. LIV 369/89-01-03, Breach of Fire Barriers. The licensee is performing an evaluation of past fire barrier violations due to the large number of previous breaches. The licensee stated that these occurrences have decreased in number over the past several years.

(Closed) LER 369/88-42, ESF Actuation Occurred Due to Personnel Error. An operator caused the motor driven auxiliary feedwater pump to auto start while in Mode 3 by resetting the ATWS Mitigation System and Actuation Circuitry (AMSAC). The operator had received training on the recently installed AMSAC system but reset the circuit when the operator mistakenly believed that the system was generating a signal to shut a blowdown valve which the operator was attempting to open. The valve was actually receiving an isolation signal from a high level in the blowdown tank. The inspector reviewed the training package for the AMSAC modification and found it to be adequate with the following exception. The training package stated that the AMSAC indicating light on the control board was lit when the system was bypassed. The indicating light is actually lit when the system is in the reset mode (not bypassed). The light itself is not labeled and located between the "Bypass" and "Reset" push buttons. In spite of the erroneous training operations personnel questioned by the inspector were aware that the indication was lit when the system was reset. The nomenclature of the AMSAC system and no label on the indicating light are poor from a human factors perspective. Reseting other plant equipment serves to remove a signal restoring control to the operator but in this case reset caused an actuation signal to be generated in the plant conditions that existed at the time. The licensee is considering relabeling the control switch and light.

(Closed) LER 370/88-06, ESF Actuation Due to Personnel Error and Procedure Deficiency. Violation 369,370/88-20-01 was issued with this event as one example. Corrective actions will be tracked in followup to the violation.

(Closed) LER 370/88-13, Water Level ESF Actuation Instrumentation for a Main Feedwater Isolation Valve Inoperable for Indeterminate Period of Time. Although an ESF instrument was inoperable for an extended period of time an NRC Notice of Violation is not considered appropriate since the problem was discovered by licensee self initiated corrective actions and previous escalated enforcement was issued for problems with the same root cause (open sliding links and failure of the test program to discover the deficiency), see NRC Report No. 369,370/88-29.

(Closed) LER 369/89-01, Failure to Take Compensatory Measures When Both Trains of Control Room Area Ventilation Were Inoperable. This event was identified as a violation in paragraph 7 and corrective actions will be evaluated in followup to the violation.

The following LERs are also considered closed:

LER 369/88-24	LER 370/88-08
LER 369/88-35	LER 369/88-43
LER 369/88-41	LER 369/88-46
LER 369/88-44, Rev.1	LER 369/88-47

Two licensee identified violations were identified as described above.

7. Follow-up on Previous Inspection Findings (92701,92702)

The following previously identified items were reviewed to ascertain that the licensee's responses, where applicable, and licensee actions were in compliance with regulatory requirements and corrective actions have been completed. Selective verification included record review, observations, and discussions with licensee personnel.

(Closed) Inspector Followup Item 370/87-41-02, Both Trains of Control Room Ventilation and Chilled Water Fail Control Room Pressurization Test. The event was reviewed and corrective actions have been taken. A program for checking control room door seals has been established.

(Closed) Violation 369/88-09-03, Inoperable Nuclear Service Water Train Due to Inadequate Post Maintenance Test. Planners have reviewed this event to prevent recurrence. Failure to perform post maintenance tests has occurred since this event. A recent example is documented in Report 369,370/88-33, where CA-44 was not retested to set the travel stops after maintenance.

(Closed) Violation 370/88-14-02, Failure to Follow Procedure and Failure to Use a Procedure to Perform Safety Related Work. The licensee attributed this event to personnel error on the part of the individual performing the work. The individual was counseled and station management has been stressing procedural compliance. This general area continues to be evaluated by the inspectors.

(Closed) Violation 370/88-20-01 Failure to Follow Procedures/Inadequate Procedures With Three Examples. The licensees corrective actions for these three examples have been verified complete by the inspectors. The second example involved a loss of offsite power due to improper implementation of a general procedure OP/2/A/6350/05, "AC Electrical Operation Other Than Normal Lineup." The licensee decided not to change the procedure since the number of possible variations of alignment would make a change to a more detailed procedure impractical. The licensee has chosen to control this type of evolution through the use of the Removal and Restoration (R&R) process. The inspectors will continue to observe licensee performance in the use of R&Rs.

(Closed) Inspector Followup Item 369,370/88-04-01, Long Term Corrective Action Associated With Nuclear Service Water Expansion Joint Liner. The liner and bellows were replaced using a stainless steel flanged joint rather than a welded joint via a Nuclear Station Modification (NSM). The NSM was installed on Unit 1 during the last outage and will be installed on Unit 2 during the next refueling outage.

(Closed) Temporary Instruction 369,370/T2515/77, Survey Of Licensee's Response to Selected Safety Issues. The completion of this instruction was due in 1986. Formal documentation in an inspection report indicating the instruction was completed could not be found. The inspector verified that the information requested by this instruction had been transmitted to the proper NRC group in 1986 indicating that the instruction had been completed.

(Closed) Inspector Followup Item 370/87-36-04, Review Electrical Breaker Coordination Resulting in 9/6/87 Trip. This event involved a ground on an instrument air (VI) compressor motor which tripped both the motor breaker and the motor control center (MCC) feeder breaker. The McGuire NRC Diagnostic Evaluation Team (DET) report paragraph 3.5.6.2, also discussed this event and concluded that no NRC followup was considered necessary. A breaker coordination problem did, however, exist and the licensees Design division has an on-going review underway of breaker coordination as a part of an analytical model review. The essential power supply portion of the review has been completed and the non-essential power supply is currently under review. This review includes normal and standby power supplies under normal and faulted conditions. The DET was also concerned that the responsible design personnel were unaware at the time of any concern with breaker coordination problems at McGuire due to a communication concern. Since the DET inspection, Design representatives have been stationed at the site and Design has been reorganized such that the design personnel involved deal only with McGuire. The inspector discussed the communications concern with the General Office Design person involved who stated that information input and communication from the site are not a problem at this time. Design personnel also indicated that breaker coordination is not assured in all cases since many of the breakers at McGuire have instantaneous and long time current trips and no short time trip. In some cases a ground may cause breaker coordination problems due to high instantaneous current trips. Design indicated that breakers are being replaced when needed with those having short time over current trips to provide breaker coordination.

(Closed) Violation 369/88-09-02, Inoperable Component Cooling Train Due To Inoperable Nuclear Service Water (RN) Valve. The licensee postulated, that the travel stops on RN valve 1RN-190B, service water flow control valve to the component cooling heat exchanger, had come loose and vibrated out of position. Signs were placed on these valves warning against moving the travel stops and locking the stops securely after any authorized positioning. Corrective actions in the licensees response also included placing Loctite thread sealant on the travel stops for 1RN-190B and evaluating the need to put Loctite on all four of these valves. After

Loctite was initially p d on 1RN-190B the licensee subsequently decided to discontinue use of Loctite in this application. Currently none of the valves have Loctite on the travel stops. The licensee stated that the travel stops have not been found out of position since this event occurred. In addition, these valves are scheduled to be replaced with more reliable valves in the early 1990's. All signs have been verified in place and tightness of the selected travel stops has been verified by the inspector.

(Closed) Unresolved Item 369,370/88-33-03: Review of Control Room Door Seal Maintenance Affecting Operability of Control Room Ventilation. On January 17, 1989 Mechanical Maintenance personnel replaced the seals on a control room door rendering Control Room Ventilation (VC) system inoperable for approximately 5 hours. Instructions on the work request (WR) stated "Repair or adjust door closure after door seal is replaced". Another WR was supposed to be implemented first which would have implemented adequate controls to maintain VC operable. Although the statement on the WR could be misleading it did not clearly authorize seal work to be accomplished. Maintenance Management Procedure (MMP) Scope Section B1.0 requires a WR for maintenance activities. Responsibility Section B1.11 requires a description of requested work. This incident is considered a violation of both sections of MMP 1.0 in that unauthorized work was accomplished and the description of work was unclear. This is another example of violation 369,370/89-01-01, Failure to Follow Maintenance Administrative Procedures.

(Closed) Unresolved Item 369/88-33-07: Followup of Dilution Event. On January 10, 1989 a cation bed demineralizer was placed in service which led to an unplanned dilution of the reactor coolant system. Operators acted in a timely manner to isolate the demineralizer and boron concentration was returned to normal. Excore detectors rose approximately 1.2% and the highest indication of excore power was 100.49%. While this event was not a significant transient, it is important that procedures adequately control reactivity without unplanned changes. McGuire Procedure OP/1/A/6200/01, Chemical and Volume Control System, contains instructions for placing the cation bed demineralizer in service. This procedure specifies boron saturating mixed bed demineralizers prior to placing in service to ensure no change in reactivity, however, the procedure does not require boron saturating the cation bed demineralizer prior to placing in service. The chemistry procedure in this case (CP/0/B/8400/14) allowed filling of the demineralizer with unborated water leading to the event. Therefore, this is a violation of Technical Specification 6.8.1 which requires that adequate written procedures be maintained for plant systems. This is violation 369/89-01-04: Inadequate Chemistry Procedure Leading to Inadvertent Dilution.

(Open) Bulletin 85-03: As requested by Action Item e. of Bulletin 85-03, "Motor-Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings", the licensee identified the required safety-related valves, the valves' maximum differential pressures and a program to assure valve operability in their letters dated May 16, 1986, November 20, 1986, and February 18, 1987. Review of these responses indicated the need for additional information which was requested in NRC Region II letter dated March 31, 1988.

Review of the licensee's May 2, 1988, response to the request for additional information indicates that the licensee's selection of the applicable safety-related valves to be addressed and the valve's maximum differential pressures meets the requirements of the bulletin and that the program to assure valve operability requested by Action Item e. of the bulletin is now acceptable, with the exception of providing justification in cases where testing with maximum differential pressure cannot practicably be performed. Prior to final acceptance, differential pressure testing will be examined more closely by a regional inspector.

The results of the inspections to verify proper implementation of this program and the review of the final response required by Action Item f. of the bulletin will be addressed in additional inspection reports.

Two violations were identified as described above.

8. Review of Licensed Operators Medical Records (71707)

10 CFR Part 55 requires that applicants for an operator's license be certified as medically fit. Documentation of medical examinations is required to be maintained and made available for review by the NRC. A random review of medical examination documentation was conducted from currently licensed reactor operators.

No violations or deviations were identified.

9. Escalated Enforcement Issues

On January 19, 1989, two severity level III violations were issued concerning the operability of the hydrogen skimmer (VX) system and inadequate post modification testing. Reports 369,370/88-24 and 88-29 identified numerous concerns in these areas which ultimately resulted in the two severity level III violations. In order to correctly document the final disposition of these items, previously opened items 88-24-01, 88-24-02, 88-24-03, and 88-24-04 are being combined into one item 369,370/88-24-03,VX Operability Violation. Also, 88-29-01, 88-29-02 and 88-29-03 are being combined into one item 369,370/88-29-01, Inadequate Post Modification/Maintenance Testing. These two items will remain open pending review of completed corrective actions for the violations.

10. Drawing System Verification (37701, 39702)

The inspector conducted a special inspection of the drawing control program and reviewed critical control room and technical support center drawings to verify the drawings were adequately controlled, legible and usable by the operations staff for decision making during an emergency. Licensee Station Directive (SD) 2.1.1 describes the licensee's process for drawing control. SD 4.4.1 and 4.4.2 describe the program for modifications including incorporation of modifications into drawings. Operations Management Procedure (OMP) 1-11 provides guidance to operations staff in

maintaining critical drawings up to date relative to modifications. The licensee indicated that OMP 1-11 was being reviewed to add more detailed control for updating drawings relative to modifications. The licensee presently red marks critical drawings for significant plant modifications to assure current information is available while waiting on an official drawing change which typically takes several months. Addition of a valve would be a significant change and addition of a note would typically not be considered significant. Temporary modifications are not presently red marked. A note is placed on the drawing and the package is filed in the control room for reference. While these modifications are usually simple in nature, the licensee is evaluating the need for red marking. The licensee also intends to provide more guidance for complicated red marking and partially implemented modifications. The inspectors review showed that drawings were being red marked with appropriate reference to the modification and a file was maintained of modification packages for further reference. Drawing stamps and red marking are supposed to be initialed by the clerk and a second person who is SRO licensed.

Some discrepancies were identified. An out of date drawing revision was noted. In addition, some markings were not properly initialed, two added drain valves were not red marked, some areas of electrical drawings were illegible and the modification file was in disarray. The inspector discussed these problems with the licensee. The licensee immediately initiated a complete audit of critical drawings and found additional similar discrepancies. The licensee initiated corrective actions. Out of date drawings and illegible areas were determined to be insignificant to operations. A number of discrepancies were found on control room drawings but were not critical. These drawings are being evaluated for retention. Some drawings were found with unnecessary stamps or references to temporary modifications. The file was reorganized and a training package was developed for shift clerks. Stamps and red marks have been validated and out of date drawings have been replaced. Additional reviews by an NRC team inspection (see Report 369,370/89-02) identified one out-of-date drawing since the licensee audit, identified several situations where the control room had later drawings than the Master File and also discovered that confusion may exist with operators as to whether the drawings are usable without using the NSM's on file. The licensee indicated that a Design Engineering master list was available, that operator training would be conducted and that Operations, Projects (lead group for modifications) and Document Control personnel would be working together to verify drawings which were affected by the modification process are up-to-date in all station groups. The Master file problems were apparently filing errors only. The licensee also indicated that Document Control personnel had recently deleted distribution/accountability sheets and master file audits for drawings. Individual groups were tasked with auditing. The licensee committed to evaluate the need for reinstating these processes or improving existing processes as necessary based on additional problems found.

The licensee relies on internal audits of individual groups and random audits/surveillances by quality assurance (QA) personnel. One QA surveillance of modifications was conducted in late 1988 with no problems identified and one audit was conducted in 1987 with one minor finding. Past operations audits have apparently not been sufficiently broad based. The licensee was requested to consider an improved audit process. A detailed walkdown of the Unit 1 Auxiliary Feedwater System against as-built drawings was also conducted (see paragraphs 3 and 5).

The above discrepancies appear to have minor technical significance and the licensee initiated appropriate corrective action before the inspection period ended. This violation meets the criteria specified in Section V of the NRC Enforcement Policy for not issuing a Notice of Violation and is not cited. However, further followup will be conducted of licensee corrective actions. This is Violation 369,370/89-01-05: Followup of Improvements in Control Room Drawing Control.

One violation was identified as described above which is not being cited.

11. Review Of Plant Procedures (42700)

Due to an ongoing concern with failure to follow procedures the inspector reviewed procedures which define how specific procedures are to be implemented. Procedures reviewed included "Operations Management Procedure" (OMP) 1-2, "Use of Procedures"; OMP 2-17, "Tagout/Removal and Restoration (R&R) Procedure" and Station Directive 4.2.1, "Handling of Station Procedures". The following comments are provided:

a. The first statement in the OMP 1-2 section titled "General Statements of Philosophy" is that "Procedures do not cover all situations". While this is a true statement it appears inappropriate that this statement is listed <u>first</u> under philosophy. If procedure compliance is to be strongly emphasized, and may imply to some that procedures do not need to be followed. The OMP 1-2 later states that operators are required to take appropriate action to place the plant in a safe condition, independent of procedures. This is also an appropriate statement, however, the OMP should emphasize the use of procedures for most situations and processing changes when the time taken to process the change will not impact plant or personnel safety. In summary, the OMP should reflect the strict procedural compliance, an attitude that the licensee has verbally indicated it intends to enforce.

b. OMP 1-2, Section 7.1.E under philosophy, states "Prior to using any procedure the initial conditions...must be verified. If these are not met, the procedure cannot be used without supervisory review and approval". This section does not state that a procedure change must be processed and, therefore, is unclear as to whether a change is needed. A procedure change should be made if initial conditions cannot be met.

c. OMP 1-2, Section 7.2.E.1 allows signing a valve checklist even if the valve is mispositioned as long as a Removal and Restoration (R&R) exists. It seems to be more appropriate to sign the checklist noting that the valve mis-position is acceptable per R&R.

d. OMP 1-2, Section 7.2.F states "Performance valve checklist may be performed by Operations to allow performance testing of certain systems. When the testing is complete, the checklist requires the valves to be returned to a "normal" position. This "normal" position may not correspond to the actual valve position required by the approved (OP) Operations Procedures currently in use. In such cases, the Performance valve checklist "normal" position should be signed off as being correctly positioned."

There has been difficulty in the past with conflict between the final position of valves in a performance test procedure and the position desired by Operations (per the OP in use or an R&R). Performance test procedures use various methods in an attempt to overcome this problem including recording the as found position in the PT and specifying returning the valve to the as found condition; specifying returning the valve to the position desired by operations; and specifying final positions but allowing deviation from the final position if an R & R is outstanding on the valve. However, the OMP paragraph allows signing for a valve which is out of position. Other alternatives exist that would not give the appearance of the performance procedure.

e. OMP 1-2 Section 10.1.A states that "No deviation from the original intent of the procedure shall be allowed without an approved procedure change". The original intent is not defined and this statement allows the procedure user to interpret original intent without reviews. Original intent needs to be clearly defined and narrowly interpreted by procedure users. TS 6.8.3. in part states that temporary changes to procedures may be made if the intent of the original procedure is not altered. Intent in the TS is not defined, however, the TS requires approval of a temporary change by two members of the plant management staff, at least one of whom must holds a senior operator license and review/approval by the plant manager or a superintendent within 14 days. The intent determination made by the procedure user per OMP 1-2 does not receive the reviews required by the TS.

f. OMP 1-2 outlines the use of procedures for Operations Department personnel but not for other station personnel. Only minimal guidance is provided for other personnel via Station Directive (SD) 4.2.1, "Handling of Station Procedures". Section 1.0 states that the objective of Station Directive 4.2.1 is to insure adequate preparation, review and approval for all station procedures, changes and completed procedures. Ensuring proper use of procedures is not listed as an objective of SD 4.2.1. Section 4.0.9 of SD 4.2.1 is titled "Use of Procedures" but the guidelines are very limited. The licensee committed to revise SD 4.2.1 to be more specific in the

requirements for use of procedures in response to violation 369/87-41-04. The revision of SD 4.2.1 dated December 18, 1987 was incomplete in that the only change in this area was to state "Where an approved Station Procedure exists that covers station activities, those station activities shall always be conducted in accordance with the provisions of the approved procedures." The revision to SD 4.2.1 was intended to reflect the management policy clarification on the use of procedures as stated in the plant managers memorandum dated 10/27/87. This memorandum stated:

(a) "If a station activity is important enough to have a procedure written to perform the activity, then the procedure will always be used, in its entirety...Steps may not be deleted, skipped or altered without a procedure change being made unless specifically allowed by the procedure. To perform the activity without the procedure IS NOT OPTIONAL."

(b) "Do not deviate from the scope of the procedure unless the activity is covered by another procedure or administrative control, such as a troubleshooting procedure. Again, if the activity is important enough to be performed under procedural control, DO NOT PERFORM ACTIVITIES THAT GO BEYOND THE PROCEDURE without also using a procedure or other administrative controls".

The actual change to SD 4.2.1 did not state that steps may not be deleted, skipped, or altered without a procedure change unless specifically allowed by the procedure. Part B of the memorandum likewise was not included in the station directive. Realistically there are situations in which procedures cannot be followed or where alternate methods are acceptable. Clear guidance needs to be provided for these situations to maintain a proper attitude for following procedures and to assure correction of procedural problems. In summary, SD 4.2.1 appears weak in the area of providing guidance on use of procedures.

g. "Tagout/Removal and Restoration (R&R) Procedure", OMP 2-17 provides guidance for removal and restoration of equipment. However, very little guidance is provided relative to when an R&R can be used in lieu of a procedure. The licensee is developing this guidance based on an NRC violation (369,370/88-31-01).

h. The licensee has independently recognized the need to improve guidance for use of Abnormal and Emergency procedures and is developing this guidance.

Due to the history of weak procedural compliance and adequacy at McGuire, management has increased emphasis on following procedures and correcting inadequacies in procedures. However, the Station Directive and Operations Management Procedures governing use of procedures continue to be weak in providing adequate guidance to plant personnel. Again, it is noted that the OMP applies only to Operations Personnel and the Station Directive applies to all Station

Personnel but the SD gives very little guidance on use of procedures. The current written guidance for use of procedures is considered a weakness and an Inspector Followup Item IFI- 369,370/89-01-06, Written Guidance on Use of Procedures, is being opened to followup in this area.

No violations or deviations were identified.

12. Review of Problem Investigation Process (71707)

The inspectors reviewed various problems and events to determine if the stations corrective action program was being properly implemented relative to these situations. Problem Investigation Reports (PIRs) were also reviewed to determine adequacy of program implementation. The primary program the licensee uses for identifying, documenting and correcting problems is the PIR program implemented by Station Directive 2.8.1, "Problem Investigation Process". This procedure requires in paragraph 5.1.1 that "Problems identified that meet the criteria in Attachment 1 shall be documented as soon as practical..." Attachment 1 defines the criteria for writing a PIR as follows:

1. Unplanned, unexpected, unanalyzed events, or conditions involving important functions.

2. Degradation, damage, failure, malfunction or loss of plant equipment performing important functions.

3. Deviation from or deficiencies involving code, specifications (includes Tech Specs) requirements, or administrative controls involving important functions.

Two apparent failures of the licensee to document problems in accordance with the above criteria were discovered by the inspectors. The licensee experienced a loss of Residual Heat Removal on December 1, 1988 on Unit 1 in part due to a confusing drawing which had not been properly updated (see NRC Report 369,370/88-33). A problem was identified by the inspectors (see paragraph 5) involving damaged Auxiliary Feedwater (CA) System temperature detectors. Neither of these issues were documented on a PIR. In addition, two other situations were documented on a PIR approximately two weeks after the events and after NRC prompting. One situation involved a leaking CA check valve which was documented on PIR 1-M89-0046. Leakage of this valve can affect CA operability. Another issue involved missing fuses causing a Diesel Generator breaker to not function. Local function (not emergency start) only was affected, however, this was a repeat problem which could indicate a program weakness or personnel problem. This situation was documented after prompting on

PIR 1-M89-0050. While the inspector cannot show that the PIRs would not have been issued, these issues appear to indicate weaknesses in aggressive program implementation. Another situation involved corrective maintenance on the Unit 1 CA turbine driven pump. This work was documented on Work Request (WR) 500488 MNT. The WR indicated that the overspeed trip mechanism was found inoperable indicating a possible past operability issue or maintenance problem. Upon questioning of two individuals by the inspector each indicated that he thought the other was going to issue a PIR. The licensee eventually decided to document the problem on an existing PIR which had been written previously identifying that the mechanism was not being periodically tested. This problem may not have been fully addressed without NRC prompting.

The inspector reviewed PIR 0-M88-0022. This PIR documented problems with instrument air lines and prompted filter inspections and review for adequate sizing. Part of the corrective action was to evaluate the need for a preventive maintenance (PM) program. Given the problems experienced at McGuire and generally well known industry problems this corrective action appeared weak and would have allowed no program to be implemented based on one individuals decision. In addition, Quality Assurance personnel signed off the PIR indicating a PM program had been implemented. The air system is designed fail safe and is non-safety-related but this issue may also indicate weaknesses in program implementation. The first two examples are considered a Violation 369,370/89-01-07: Failure To Follow Procedure With Respect To Writing Problem Investigation Reports. Since this violation is indicative of program implementation weaknesses, both units are included. A review of licensee statistics did show the number of PIR's issued had increased through 1988 indicating an improving documentation trend. The licensee is trending numbers of PIR's on a monthly basis as a management tool.

One violation was identified.

13. Exit Interview (30703)

The inspection findings identified below were summarized on February 27, 1989, with those persons indicated in paragraph 1 above. The following items were discussed in detail:

(Open) Violation 369,370/89-01-01, Failure to Follow Maintenance Administrative Procedure. Three examples were identified involving performing work without a work request and improper acceptance of operational control following maintenance. (Paragraphs 5 and 6)

(Closed) Licensee Identified Violation 369/89-01-02, Missed TS Surveillance on Snubbers. (Paragraph 6)

(Closed) Licensee Identified Violation 369/89-01-03, Breach of Fire Barriers. (Paragraph 6)

(Open) Violation 369/89-01-04, Inadequate Chemistry Procedure Leading to Inadvertent Dilution. (Paragraph 7)

(Open) Violation 369,370/89-01-05, Followup of Improvements in Control Room Drawing Control. For reasons described in the report no Notice of Violation is being issued for this violation. (Paragraph 10)

(Open) Inspector Followup Item 369,370/89-01-06, Weakness in Written Guidance on Use of Procedures. (Paragraph 11)

(Open) Violation 369,370/89-01-07, Failure to Follow Procedures With Respect to Writing Problem Investigation Reports (PIRs). (Paragraph 12)

The licensee representatives present offered no dissenting comments, nor did they identify as proprietary any of the information reviewed by the inspectors during the course of their inspection.