UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
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Report Nos.: 50-369/94-11 and 50-370/94-11

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

Docket Nos.: 50-369 and 50-370 License Nos.: NPF-9 and NPF-17

Facility Name: McGuire 1 and 2

Inspection Conducted: May 9 - 13, 1994

Inspector: McKenzie Thomas 6-8-94
M. Thomas Date Signed

Accompanying Personnel: W. Miller, Jr.
C. Yates (Intern)

Approved by: Clint Casto 6/7/94
C. Casto, Chief Date Signed
Test Programs Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of design changes and plant modifications, engineering and technical support activities, and followup on previously identified inspection findings.

Results:

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

- Some areas where the inspectors noted weaknesses included the following:

  - Drawings related to recent modifications were not updated (as-built) in the time period specified by site procedures. The inspectors identified examples similar to the findings identified in Unresolved Item (URI) 50-369, 370/93-32-03. Followup on licensee corrective actions for these additional examples will be in conjunction with the above URI. Additionally, site procedures were inconsistent in specifying the time period for updating drawings.

- The overall number of active temporary modifications (75) and the length of time some remained installed (2 years or more) was considered high.

- Site Engineering was not timely in resolving some open work orders that were pending engineering actions. Additionally, it did not appear that Engineering was actively pursuing resolution of these work orders.

- There was a backlog of problem investigation process items where the Engineering responses were overdue.

- Handling of vendor information was not consistent with engineering procedures. NRC concerns over the licensee's handling of vendor information were documented in NRC inspection reports 50-269, 370/93-32 and 50-369, 370/93-33. URI 50-369, 370/93-32-05 was identified to document the concerns. Followup on licensee actions to address the control of vendor manuals and vendor information will be in conjunction with URI 369, 370/93-32-05.

- The modification packages reviewed were technically adequate with sufficiently detailed 50.59 safety evaluations. This included both major modifications and minor modifications.

- Several management initiatives had been implemented to address the area of backlog reduction. One of these initiatives was the As-Built Drawing Quality Improvement Team.

- One of the main focuses of the recent reorganization was to provide more timely and effective engineering support to the plant. Procedures were being revised and training developed to address the changes in the responsibilities and functions for some of the groups in Engineering.

- Establishment of the Top 10 Major Equipment Problem List and the Top 20 Plant Work-Around List was considered a positive initiative.

REPORT DETAILS

1. Persons Contacted

*B. Caldwell, Manager, Training
*R. Cross, Regulatory Compliance
*T. Curtis, Manager, Mechanical/Nuclear Systems Engineering
*R. Deese, Supervisor, Safety Review Group
M. Efird, Supervisor, I & C Equipment Engineering
M. Geddie, Jr., Station Manager
*G. Gilbert, Manager, Safety Assurance
*P. Herran, Manager, Site Engineering
A. Hinson, Supervisor, Electronic Equipment Engineering
*D. Jamil, Manager, Electrical Systems/Equipment Engineering
W. Matthews, Supervisor, Power Systems/Equipment Engineering
*T. McMeekin, Vice President, McGuire Nuclear Station
*L. Reed, Supervisor, Instrumentation and Electrical Engineering
*R. Sharpe, Manager, Regulatory Compliance
G. Small, Engineer, Safety Review Group
*K. Thomas, Manager, Modifications
*R. Travis, Manager, Mechanical/Civil Equipment Engineering
H. Wallace, Supervisor, Mechanical Equipment Engineering

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

NRC Resident Inspector

G. Maxwell, Senior Resident Inspector
*G. Harris, Resident Inspector

*Attended exit interview

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

2. Engineering and Technical Support Activities (37550)

a. Organization, Staffing, and Training

The inspectors reviewed the licensee's organization and staffing to determine whether the engineering organization was adequately staffed to provide timely and effective engineering support to the plant. An Engineering Quality Improvement Project (EQIP) for the Nuclear Generation Department at Duke Power Company (DPC) was chartered by senior management to review gains in cost, quality, and responsiveness resulting from the reassignment of engineering resources to the nuclear sites. The review by the EQIP identified opportunities for further improvement which included a better clarification of the engineering roles for direct plant support and modifications. The EQIP recommended a simple engineering

organization structure defined by roles with customers and staffed according to functional needs. This structure was in the process of being implemented at DPC's three nuclear sites and the General Office.

McGuire Nuclear Station (MNS) implemented a reorganization of its engineering department on March 1, 1994. The new Site Engineering organization was aligned to accomplish two primary functions: modification engineering and plant engineering.

Modification engineering consisted of the Modifications Section. The role of modification engineering was focused on long term modifications and design functions. The long term modification function encompassed all plant modification work except for maintenance minor modifications which were being handled by plant engineering as short term plant support work.

Plant engineering consisted of the Mechanical/Nuclear (M/N) Systems Section, the Mechanical/Civil Equipment (MCE) Engineering Section, and the Electrical Systems/Equipment (ESE) Engineering Section. The role of plant engineering was focused on short term engineering support of the station while interfacing with modifications engineering and Nuclear Services regarding long term activities. Plant engineering responds directly to maintenance and operations personnel for engineering troubleshooting and day-to-day support. A transition team was established to resolve transition issues and ensure that appropriate document changes occurred.

Engineering and technical support were provided by both onsite and corporate (General Office) organizations. The inspectors reviewed selected activities of the various Site Engineering groups. The inspectors held discussions with licensee personnel and reviewed documentation of selected plant activities to evaluate the engineering involvement and support of day-to-day plant operations. This support included: trending equipment performance; preparing nuclear station modifications (NSM), minor modifications (MM), and temporary modifications (TM) for permanent and temporary installation; responding to Problem Investigation Process (PIP) items; and performing safety evaluations, failure analysis, etc.

In addition to reviewing the licensee's organization and staffing, the inspectors also reviewed documentation and held discussions with licensee personnel regarding the training and qualification of the engineering staff. As a result of the March 1994 reorganization, the licensee evaluated the immediate training needs and identified the following four areas: (1) engineering calculations, (2) engineering drawings, (3) design specifications, and (4) operability evaluations. The training program for the new Site Engineering organization will consist of initial training, position specific training, and continuing training. The initial

training, designed for completion within two years, consisted of orientation, fundamental, and systems training. The inspectors reviewed training records which indicated that the initial training had been completed by approximately 60%-70% of the staff. The position specific training was new and was being developed by each section to define the roles and responsibilities for each individual and to provide documentation of training completion. The training program is currently accredited by the Institute of Nuclear Power Operations (INPO) and is scheduled to be reviewed by INPO for re-accreditation in the fall of 1994.

The inspectors concluded that the current staffing levels for the recently reorganized Site Engineering organization were adequate to provide support to the plant, and the personnel have sufficient technical knowledge and training to perform their assigned tasks. The licensee had recognized the need for and was developing additional training based on the engineering reorganization. However, as noted in paragraph 2.e. of this inspection report, there was a backlog of work assigned to engineering. These backlogs were due, in part, to the lack of effective programs for the timely resolution of some of the assigned tasks rather than an inadequately sized staff.

b. Modification Engineering

The Modifications Section in Site Engineering was primarily responsible for the design of long term station modifications (NSMs); configuration control (which includes drawing control); and other design functions such as maintaining the plant design criteria, human factors reviews, design input calculations, Appendix R evaluations, etc. One of the activities that the Modifications Section had responsibility for was the as-built drawing update project. The inspectors held discussions with the Modifications Manager regarding the major effort that was initiated to improve the drawing update process and eliminate the backlog of plant drawings that needed to be updated. The drawing control update activities are discussed in greater detail in paragraph 3.c. of this inspection report.

c. System Engineering

The March 1994 reorganization of the MNS Site Engineering organization resulted in the functions of the former System Engineering group and the former Mechanical/Nuclear Engineering group being combined and the group being renamed the Mechanical/Nuclear (M/N) Systems Section. The section was divided into the following "teams:" (1) Primary Systems; (2) Secondary Systems; (3) Balance of Plant; and (4) Nuclear, which includes reactor engineering. The primary responsibility of the M/N Systems Section is to provide day-to-day support to operations. This included, but was not limited to: system monitoring and trending/thermal performance; system reliability/availability;

Technical Specifications (TS) knowledge; owners of the Design Basis Documentation for mechanical systems; system walkdowns; system team reports; PIP resolutions; operability evaluations; MM development; periodic test results analysis; 50.59 evaluations; reactivity management; fuel reliability/testing; etc. Each mechanical system was assigned to a system engineer. Most of the engineers had several systems assigned. Licensee personnel indicated that the systems were assigned to ensure that the system engineers did not have an excessive work load.

The inspectors reviewed the March 1994 and April 1994 system team reports for various systems. The inspectors noted that the reports provided detailed information on system activity. This included top system issues/trends, areas of concerns, maintenance activity, and modification activity. The inspectors also reviewed the M/N System Section's involvement in the resolution of PIPs. This effort is discussed in greater detail in paragraph 2.e. of this inspection report.

d. Component Engineering

The March 1994 reorganization of the McGuire Site Engineering organization assigned most of the functions of the former Component Engineering group to the Mechanical/Civil Equipment Engineering Section and the Electrical System/Equipment Engineering Section in the McGuire Site Engineering organization.

The principle responsibility of the MCE Engineering Section was to provide engineering and technical support to the site mechanical craft groups for rotating equipment (pumps, diesel engines, etc.), non-rotating mechanical equipment (piping, heat exchangers, etc.), valves, and plant structures. Other routine duties included the preventive/predictive maintenance program, component monitoring and trending, and the development of mechanical related minor modifications. Periodic duties consisted of component failure analysis and trending, operability evaluations, various mechanical calculations, equipment outage inspections, FSAR updates, and post maintenance testing activities.

The principle responsibility of the ESE Engineering Section was to provide engineering and technical support to operations and to the site electrical craft groups. Other routine duties included the preventative/predictive maintenance program, development of electrical related minor modifications, knowledge of Technical Specification requirements, and system reliability/availability. Periodic duties consisted of component failure analysis and trending, operability evaluations, various electrical calculations, system walkdown inspections, FSAR updates, and various testing activities.

Each mechanical or electrical component and civil structure was assigned to an engineer in the MCE or ESE Section for technical oversite. Most engineers were responsible for several items. The licensee indicated that, in general, all of the engineers were degreed and have sufficient technical and specialized training to accomplish their assigned tasks. However, there were several engineers who have not received specialized training on their assigned components or equipment. A training program was being developed and is scheduled to be implemented by late 1994 which will identify all training requirements and establish a training schedule to meet the appropriate training requirement.

The licensee indicated that the distribution of duties and responsibilities was made to ensure that each engineer did not have an excessive work load. However, as noted in paragraph 2.e, the Site Engineering had an appreciable backlog of work. This included a number of outstanding work orders requiring engineering involvement that were originated prior to 1993 and a high number of open PIP items. The licensee indicated that this backlog was primarily attributed to the recent reorganization of Site Engineering and was not indicative of an inadequately sized staff.

e. Engineering Backlogs

The inspectors reviewed the status of engineering backlogs to determine if sufficient engineering resources and management attention were being focused to prevent the buildup of a large engineering work backlog. Items reviewed in this area included: open work orders, PIPs, and drawing control. Drawing control is discussed in greater detail in paragraph 3.c. of this inspection report.

Outstanding Work Orders

The licensee provided the inspectors with a list dated May 6, 1994, containing 69 outstanding station work orders (WO) assigned to the site engineering groups. This list included a total of 22 WOs which were issued prior to 1993. Upon further review, the licensee found that 13 of the 22 WOs issued prior to 1993 were not in engineering but were being processed administratively by the Work Control group. A breakdown of the remaining nine pre-1993 WOs assigned to engineering was as follows: engineering evaluations were in progress for six WOs (91121183, 92042098, 92049395, 92063501, 92083465, 92083466); WO 89078761 was awaiting parts; WO 92080410 was on hold because the modification was not completed due to the modification moratorium; and a procedure change was in progress for WO 92049734. The first two numbers in the above WOs represent the year that the WO was initiated.

Outstanding WOs had been identified by the licensee as an item requiring additional management attention. A Site Outstanding Work Order Task Team was established in March 1994 to evaluate the

existing backlog of approximately 2500 work orders. This team was to define the responsibilities for each existing outstanding work order and to close out old work orders to reduce the total backlog. Resolution of this problem was not yet evident in the engineering area. The large number of outstanding WOs assigned to the engineering groups is identified as a program weakness.

Problem Identification and Resolution

The inspectors reviewed the licensee's Problem Investigation Process (PIP) to assess whether Site Engineering had been providing timely support in the resolution of plant problems assigned to them in the form of PIPs. During this review, the inspectors noted that there was a backlog of overdue PIP items assigned to the various engineering groups that were awaiting engineering responses. The following groups were reviewed:

(1) Mechanical/Civil Equipment Engineering

The inspectors reviewed the licensee's PIP Tracking Report of April 1994. This report indicated that 88 of the 190 PIP items assigned to the MCE Engineering Section were overdue. Twenty three of these items were classified as More Significant Events (Category 1 and 2). These items were required by the licensee's procedures to be resolved within 180 days. The number of overdue PIP items assigned to the MCE Engineering Section was considered high.

(2) Electrical Systems/Equipment Engineering

The inspectors reviewed the April 1994 PIP Tracking Summary Report for the ESE Engineering Section. The report indicated that 24 of the 131 PIP items assigned to ESE were overdue. Seven of these items were classified as either Category 1 or Category 2. The inspectors noted that the number of overdue items was not as significant for the ESE Section as it was for the MCE Section.

(3) Mechanical/Nuclear Systems

The inspectors reviewed the April 1994 PIP Tracking Summary Report for the M/N Systems Section. The report indicated that 115 of the 230 PIP items assigned to M/N Systems were overdue. Twenty eight of these items were classified as Category 1 or Category 2. The inspectors noted that the M/N Systems Section had the most PIP items assigned and they also had more overdue items than the other two sections combined.

The inspectors concluded that, based on the high number of overdue PIP items assigned to the various engineering groups, the licensee did not have an effective program in place for the timely resolution of these items. The inspectors considered this to be a program weakness.

f. Equipment Reliability

On February 10, 1994, selected site management personnel met and developed the Top Equipment Problem Resolution Process (TEPR) for the McGuire Nuclear Station. The purpose of the TEPR was to evaluate the importance of certain plant equipment problems and focus management attention on the resolution and closure of the problem. The TEPR Project Review Team included:

- Operations Superintendent
- Maintenance Superintendent A
- Maintenance Superintendent B
- Work Control Superintendent
- Chemistry Manager
- Mechanical Systems Engineering Manager
- Mechanical/Civil Equipment Engineering Manager
- Electrical System/Equipment Engineering Manager

The TEPR was not meant to replace any current process but was intended to be used as a project management tool to function in parallel with existing processes for the resolution and correction of previously identified plant problems. Two separate lists were developed. The first list, entitled "Major Equipment Problem Resolution," consisted of 10 items on plant equipment problems that have a high impact, or a potential high impact, on plant availability, reliability or nuclear safety. The second list, entitled "Top Plant Work-Around Problem Resolution," consisted of 20 plant problem items that prevent plant systems or equipment from being operated or maintained as originally designed. These plant problems had resulted in additional work, time, repeat maintenance or increased radiation dose.

The TEPR Project Review Team initially was scheduled to meet monthly to review the items on the two lists and initiate the appropriate corrective action to resolve the problems within the specified project time frame. As an item was corrected, additional items were to be added to the lists as appropriate. The first Team meeting was conducted on March 14, 1994. During that meeting, the ownership of each item and the personnel or group responsible for the corrective action for each item were identified. A second meeting was conducted on April 6, 1994, and the status of each item was discussed. During that meeting, the Team determined that future meetings would be conducted weekly instead of monthly. Since that date, two weekly meetings have been conducted.

The inspectors reviewed the summary reports for the February 10, March 14, and April 6, 1994, monthly status meetings and noted that the stated purpose of these meetings was being accomplished.

The inspectors also reviewed the status of the following items on the TEPR Lists:

Major Equipment Problem Resolution List:

1) Feedwater Regulation Valve Reliability
3) Cold Leg Accumulator Out Leakage
5) Unit 1 Residual Heat Removal Suction Line Pressurization
8) High Priority Chronic Valve Problems

Top Plant Work-Around List:

1) Unit 2 Boric Acid Flow Controller
6) Diesel Generator Fuel Oil Tank Instrumentation
9) Reactor Coolant Pump Oil Level Instrumentation
10) Steam Generator Blowdown Pump Availability
12) Pressurizer Heater Problems
13) Chemistry Laboratory Fume Hood
17) Failure of Valve NV-238 to Control in Automatic

The inspectors found that the licensee's staff was taking the appropriate action to resolve the problems associated with these items and considered that the TEPR program to improve equipment reliability and eliminate the work-around discrepancies was a positive initiative.

Violations or deviations were not identified in the areas inspected.

3. Design Changes and Plant Modifications (37550)

a. Planning, Development, and Implementation of Plant Modifications

The inspectors reviewed the nuclear station modification (NSM) and minor modifications (MM) listed below to: (1) determine the adequacy of the safety evaluation screening and the 10 CFR 50.59 safety evaluations; (2) verify that the modifications were reviewed and approved in accordance with TS and applicable administrative controls; (3) verify that the modifications were installed and had proper signoffs; (4) verify that applicable design bases were included and design documents (drawings, plant procedures, FSAR, TS, etc.) were revised; (5) verify that the modifications were properly turned over to operations; (6) and verify that both installation testing and post modification test requirements were specified and that adequate testing was performed. The following plant modifications were examined:

NSM MG-12421	Replace United Electric CA Pump Suction Pressure Switches with Static-O-Ring (SOR) Pressure Switches
MM-3214	Revise CA Throttle Valve Manual Loader Operation on Motor Driven Pumps Local Control Panels and Turbine Driven Pump No. 2 Local Control Panel
MM-3529	Change Setpoints on Diesel Generator Room Temperature Alarms
*MM-3535	Modifications to Conventional Sampling (CT) System Laboratory Fume Hood
MM-3767	Replace Existing Relief Valve 2VI-835 With A New Anderson-Greenwood Model 223NF12/S1 Relief Valve
*MM-5032	Replace Existing Fuel Oil Storage Tank Level Indication Instruments For Diesel Generators 1A and 1B With A New MTS Level Plus Gauging System
*MM-5033	Replace Existing Fuel Oil Storage Tank Level Indication Instruments For Diesel Generators 2A and 2B With A New MTS Level Plus Gauging System
MM-5404	Replace FNQ Fuses in Feedwater Regulation and Bypass Valve Control Circuits with FLQ Type Fuses

NOTE: * Indicates minor modifications that addressed items on the licensee's Top 20 Plant Work-Around List. Refer to paragraph 2.f. for details.

The inspectors reviewed selected plant procedures relative to design changes and plant modifications to determine the adequacy of the controls governing the design change process. The following procedures were reviewed:

- NSD 301, Nuclear Station Modifications, Revision 1
- McGuire Nuclear Station (MNS) Modification Manual, Revision 3, Section 5.0, Minor Modification Process
- MNS Modification Manual, Revision 3, Section 6.0, Nuclear Station Modification Process
- MNS Modification Manual, Revision 3, Section 11.0, Document Control
- Engineering Documents Manual, Section 3.5.2, Vendor Drawings

The inspectors noted that the procedures were inconsistent in specifying the time period in which plant drawings needed to be updated (as-built) once a NSM was field completed. This inconsistency is discussed in detail in paragraph 3.c. of this inspection report. Engineering personnel indicated that the inconsistency in the procedures was being evaluated and will be addressed as part of the drawing update corrective actions.

The inspectors reviewed the above modification packages to verify that: the modification field work was complete; applicable design input information such as seismic requirements, environmental qualification, industry codes, etc., were addressed; the modifications contained a work instruction package; the packages contained additional information such as the design basis; and affected plant documentation such as "As Built" drawings would be revised within 75 days following completion of the modification. This review also verified that affected FSAR drawings, tables and figures had been updated or appropriate action taken to revise these documents to accurately reflect the modifications. The inspectors performed field inspections for some of the modifications and verified that the modifications were installed in accordance with the requirements specified in the applicable modification package. The inspectors identified the following problems:

(1) During review of NSM MG-12421, the inspectors noted that the field work completion notice was dated October 12, 1993. The drawings associated with this NSM that were designated as vital to operations (VTO) were redmarked to reflect the NSM. However, the applicable as-built drawings had not been revised within the specified time period of 75 days following field work completion. The inspectors discussed this item with licensee personnel who indicated that the drawings which needed to be revised were part of the drawing update backlog. The inspectors noted that this item was a similar example to the finding identified in URI 50-369, 370/93-32-03. Actions had been initiated by the licensee to address the drawing backlog. The drawing backlog is discussed in greater detail in paragraph 3.c. of this inspection report. The inspectors will review the licensee's corrective actions for this item in conjunction with the followup for the URI referenced above.

(2) During further review of NSM MG-12421, the inspectors questioned licensee personnel as to whether the vendor information, which accompanied the SOR pressure switches, had been reviewed in accordance with the Engineering Documents Manual procedure and incorporated into the licensee's vendor manual program. Licensee personnel indicated that the vendor information had been reviewed by engineering personnel, but the information was not formally reviewed and controlled per the Engineering Documents Manual

procedure because it was only one sheet and the maintenance requirements for the pressure switches were minimal. Licensee personnel indicated that the applicable vendor information for the pressure switches had been incorporated into maintenance procedure IP/0/A/3002/09, Auxiliary Feedwater (CA) Pumps Suction Pressure Switch Calibration. The inspectors reviewed the maintenance procedure and the vendor information and noted some differences in the torque values for tightening of the pressure switch cover screws and in the installation and mounting instructions for the pressure switches. Although licensee personnel indicated that these differences were minimal and had no impact on the operation of the switches, the inspectors found that this conclusion was not formally documented.

The inspectors considered that the licensee's formal review and control of the above vendor information was not consistent with Section 3.5.2 of the Engineering Documents Manual procedure. NRC concerns over the licensee's handling of vendor information were identified previously as URI 50-369, 370/93-32-05 and discussed in NRC Inspection Report 50-369, 370/93-33. The inspectors will review the licensee's control of vendor manuals and vendor information during further followup of this URI.

(3) The station's "As Built" drawings had not been revised to indicate the plant changes incorporated by Minor Modifications MM-3529 and MM-5404. The work for these two modifications was completed on February 23, 1994, and February 3, 1994, respectively. The McGuire Nuclear Station Modification Manual, Section 11.3, indicates that the revised as built documents, which show the verified modification, should be released by Engineering and be in the satellite files within 75 days of completion of the modification.

The licensee has identified a number of "As Built" drawings which have not been updated following completion of the modification within the time specified by the Modification Manual and has implemented a program to correct this discrepancy. For additional information refer to paragraph 3.c.

Otherwise, the inspectors concluded the documentation of the modifications packages was satisfactory.

b. Temporary Modifications

The inspectors reviewed and assessed the licensee's temporary modification (TM) process to determine its adequacy for controlling and tracking temporary changes to the plant's configuration. TMs were prepared by the systems or equipment

engineers. MNS Modification Manual, Section 7.0, Temporary Modification Process and maintenance procedure IP/0/A/3090/30, Installing & Removing Temporary Modifications, provided controls for the preparation, review, installation, and removal of TMs.

At the time of this inspection there were seventy five (75) active temporary modifications. The TMs were reviewed to verify and ensure that: (1) adequate safety evaluations and technical reviews were performed in accordance with Section 7.0 of the MNS Modification Manual; (2) testing was specified and performed where applicable; and (3) TMs installed for longer than 1 year were evaluated for their continued need. The following active TMs were reviewed.

TM 6294 Placed a Seal Cap on a Kerotest Valve in the Reactor Coolant System.

TM 6201 Installed Support Brackets Between the Vertical Auxiliary Building Unfiltered Exhaust Fan 1B Structure to Perform Vibration Test.

TM 6324 Placed Jumper Between Terminals to Allow the Turning Gear Permissive for "Bearing Lift Oil Pressure > 850 PSIG" to be Bypassed.

TM 6232 Injected Sealant Compound to Stop Body-to-Bonnet Steam Leak on a Regulating Valve in the Main Feedwater System.

TM 6311 Installed Camera, Light Shaft, Cabling, and Light Switch Box to Monitor the Letdown System Manual Isolation Valve 2NC14.

TM 6274 Injected Sealant to Stop Leakage of Steam Generator 1B Blowdown Outlet Valve.

TM 6400 Installed Temporary Slide Pin for Ice Condenser Equipment Access Door.

TM 6403 Installed a Needle Valve in the Safety Injection System to Create a Backpressure on the Accumulator Fill Line.

The inspectors reviewed the quarterly evaluations performed by the engineering staff for active TMs. These evaluations provided a documented justification for the continued need of each active TM.

The inspectors noted that the overall number of active TMs (75) seemed to be high, given that both units had refueling outages in 1993 and over 25 percent of the TMs were installed before the

refueling outages. Eighteen of the TMs had been installed for two years or longer. This was considered a weakness in the licensee's TM program.

c. Drawing Control

NRC Inspection Report No. 50-369, 370/93-30 documented that in January 1993 there was a backlog of approximately 3000 drawings which were required to be updated. In July 1993, the licensee chartered an As-Built Quality Improvement Project Team to address the drawing backlog problems and the drawing update process. The licensee indicated that the current as-built drawing process was inefficient and took too long to get drawings updated after a plant modification had been implemented. Until drawings were updated, drawing users must refer to red marked drawings in order to understand the system configurations.

The inspectors found that the licensee's procedures for revision of as-built drawings and documents were inconsistent. Nuclear Policy Manual, NSD Section 301.11.3, indicated that revised as-built documents should be released from engineering and be in the satellite files within 120 days of the completion of implementation of the modification. The MNS Modification Manual, Section 6.9.2 states that all drawings and documents affected by a NSM modifications "must be revised and transmitted to Document Control within 60 days of implementation/testing completion date." Section 11.2 of the Modification Manual states that "revised as-built drawings should be released from Engineering and in the satellite files within 75 days of completion of the modification." Section 5 of the Modification Manual does not appear to address the time required to revise as-built drawings following completion of minor modifications. The licensee indicated that 75 days was being used at McGuire as the goal to revise as-built drawings.

However, as of January 1994, there was a total of 4318 drawings required to be updated. To reduce this backlog, a Drawing Backlog Team consisting of one supervisor and 20 people (six Duke employees and 14 contractors) was formed. This team reduced the backlog to 2945 drawings by April 30, 1994. The licensee estimates that approximately 2500 additional drawings (1400 from outage modifications and 1100 from non-outage modifications) will be required to be revised during 1994. The goal is to have the backlog completely eliminated by the end of 1994.

On January 25, 1994, the As Built Drawing Quality Improvement Project issued a report which contained recommendations for reducing the drawing backlog. One recommendation involved development of an Electronic Document Management System to prevent future drawing backlogs. In the interim, several changes have been implemented to control as-built drawings. On January 4, 1994, all Vital to Operations (VTO) drawings, such as flow diagrams and one line drawings, were marked to indicate plant

modifications which had been completed. Effective February 10, 1994, engineering was assigned the responsibility of marking all VTO drawings to indicate revisions to the drawings from NSMs which had been completed. This same policy was also implemented on March 15, 1994, for all changes required by minor modifications.

Although there is currently a large backlog of as-built drawings which require revision, the licensee identified this problem, implemented a program to reduce the backlog, and is developing additional program enhancements which, when fully implemented, should prevent future recurrence.

Within this area no violations or deviations were identified.

5. Follow-up on Previously Identified Inspection Findings (92701)

a. (Open) IFI 50-369, 370/91-09-01, This item concerned four issues: (1) Degraded Grid Voltage; (2) Emergency Diesel Generator Grounding; (3) Protective Coordination 600 Volt Motor Control Centers; and (4) Coordination on 125 Volt DC Vital Circuit Breakers. NRC Inspection Report 50-369, 370/93-30 documented that issues (2) and (3) had been resolved through successful implementation of plant modifications. The report further documented that modifications to address issues (1) and (4) had been recommended for cancellation by the Modification Disposition Team. Licensee personnel indicated that the modifications (NSMs MG-12392 and MG-22392 for Issue (1); and NSMs MG-12411 and MG-22411 for Issue (4)) will not be canceled. The NSMs will be implemented to address these issues. This IFI will remain open pending licensee resolution of this issue.

6. Exit Interview

The inspection scope and results were summarized on May 13, 1994, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection findings. Proprietary information is not contained in this report. No dissenting comments were received from the licensee.

7. Acronyms and Initialisms

CA	Auxiliary Feedwater
CT	Conventional Sampling
ESE	Electrical Systems/Equipment
EQIP	Engineering Quality Improvement Project
FSAR	Final Safety Analysis Report
MCE	Mechanical/Civil Equipment
MM	Minor Modification
M/N	Mechanical/Nuclear
NSM	Nuclear Station Modifications
PIP	Problem Investigation Process
SOR	Static-O-Ring
TEPR	Top Equipment Problem Resolution Process
TM	Temporary Modification
TS	Technical Specifications
URI	Unresolved Item
VTO	Vital to Operations
WO	Work Order