UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

October 8, 2004

Duke Energy Corporation
ATTN: Mr. G. R. Peterson
Vice President
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000369/2004005 AND 05000370/2004005

Dear Mr. Peterson:

On September 11, 2004, the US Nuclear Regulatory Commission (NRC) completed an inspection at your McGuire Nuclear Station. The enclosed report documents the inspection findings which were discussed on September 22, 2004, with you and members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, there were five NRC-identified findings of very low safety significance (Green) in the report which were determined to be violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in Section 4OA7 of this report. If you deny these non-cited violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the McGuire facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of

NRC's document system(ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert C. Haag, Chief,
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos. 50-369, 50-370
License Nos. NPF-9, NPF-17

Enclosure: NRC Integrated Inspection Report 05000369/2004005 and 05000370/2004005
w/Attachment - Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-369, 50-370
License Nos:	NPF-9, NPF-17
Report Nos:	05000369/2004005, 05000370/2004005
Licensee:	Duke Energy Corporation
Facility:	McGuire Nuclear Station, Units 1 and 2
Location:	12700 Hagers Ferry Road Huntersville, NC 28078
Dates:	June 13, 2004 – September 11, 2004
Inspectors:	J. Brady, Senior Resident Inspector S. Walker, Resident Inspector L. Mellen, Senior Operations Engineer (Sections 1EP2, 1EP3, 1EP4,1EP5, 40A1) M. Thomas, Senior Reactor Inspector (Sections 4OA5 and 4OA7) R. Rodriguez, Reactor Inspector (Sections 4OA5 and 4OA7) R. Bernhard, Senior Reactor Analyst (Sections 4OA5 and 4OA7)
Approved by:	Robert C. Haag Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR05000369/2004005, IR05000370/2004005; 06/13/2004 - 09/11/2004; McGuire Nuclear Station, Units 1 and 2; Fire Protection, Operability Evaluations, Problem Identification and Resolution, and Other Activities.

The report covered a three month period of inspection by resident inspectors and announced inspections by four regional inspectors: an operations engineer, two reactor inspectors, and one senior reactor analyst. Five non-cited violations (NCV) were identified; three Green and two Severity Level (SL) IV. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a second example of non-cited violation 05000369,370/2004004-01 which involved inadequate fire strategy plans and was a violation of the license condition for fire protection. The strategy plan for fire area 21, auxiliary building 750 elevation, did not identify that class D combustibles were located in the fire zone and identified that extinguishants were in locations where none existed. The strategy plan for fire area 4, auxiliary building elevation 716, did not list one of the rooms that was in the fire area. The failure to have comprehensive pre-fire strategy plans was considered a degradation for manual fire fighting effectiveness.

  This finding is more than minor because it affects the mitigating systems cornerstone objectives to ensure capability of features that respond to initiating events and the associated attributes of protection from external factors (including fire), procedure quality, and design control. The licensee's corrective actions for the previous violation have not yet been implemented for these fire areas. The inspectors determined these corrective actions would likely have identified the deficiencies. The finding was determined to be of very low safety significance because it only minimally diminished manual suppression effectiveness without affecting the low fire ignition frequency within the compartments or the previously established safe shutdown strategy for a fully developed fire within the applicable compartments. (Section 1R05)

- Green. A non-cited violation of 10CFR50, Appendix B, Criterion III was identified by the inspectors for inadequate design control involving an assumption that supported nuclear service water flow following a seismic event. The assumption was that non-seismic condenser circulating water pipe would be available for an extended period of time after a seismic event as the discharge path for nuclear service water train A. Similar to Example 3.a. of Inspection Manual Chapter 0612, this issue is more than minor because it affects the mitigating systems

cornerstone objective to ensure reliability of systems that respond to initiating events and associated attributes of design control and protection from external factors (seismic). Following the identification of the issue, the licensee performed a seismic evaluation of the piping and determined that it would sufficiently perform the relied upon minimal service water flow function after a seismic event. Consequently, the issue was determined to be of very low safety significance. (Section 1R15)

- SL IV. The inspectors identified a non-cited violation of 10CFR50.59 for failure to obtain a license amendment prior to implementing a change to plant procedures that involved an unreviewed safety question. The unreviewed safety question dealt with extending the availability of non-seismic condenser circulating water piping to perform a safety-related function following a seismic event.

  This issue is more than minor because it would require NRC review prior to implementation. A subsequent engineering evaluation determined that the non-seismic piping would not collapse or kink, and although it may leak, it will provide the necessary minimal service water flow function. Since the technical issue was determined to be of very low safety significance, the regulatory significance was categorized as a Severity Level IV violation. (Section 4OA2b.(1))

- SL IV. A non-cited violation of 10CFR50.59 was identified by the inspectors for changing the design of the auxiliary feedwater system as described in the Updated Final Safety Analysis Report without performing a safety evaluation or obtaining a Technical Specification change. The change reduced the required number of trains of auxiliary feedwater from three independent trains to two independent trains to safely shutdown the reactor.

  This failure to perform a safety evaluation and submit a Technical Specification change is more than minor because it would require an NRC review prior to implementation. Because there was no evidence to indicate that the licensee had used the change the safety significance was determined to be very low. Consequently, the regulatory significance was categorized as a Severity Level IV violation. (Section 4OA2b.(2))

- Green. A non-cited violation of Unit 1 Operating License Condition 2.C.4 and Unit 2 Operating License Condition 2.C.7 was identified by the inspectors for failure to comply with McGuire's approved fire protection program and 10 CFR Part 50, Appendix R, Section III.G.2. Specifically, Train A and Train B cables for the primary and backup power supplies for all four reactor protection system (RPS) channels were routed in close proximity in Room 803A (Unit 1 Fire Area 15/17) and Room 805A (Unit 2 Fire Area 16/18). The cables did not have adequate protection (i.e., 20-feet separation or fire barriers) to remain free of fire damage in the event of a fire. The licensee entered this issue into its corrective action program.

  The finding is greater than minor because it is associated with the protection against external factors attribute, and degraded the reactor safety mitigating systems cornerstone objective. The finding degraded the defense-in-depth for

fire protection. This finding is of very low safety significance because the likelihood of a fire, in either room 803A or 805A, that would damage all four reactor protection system channels was relatively low due to the small ignition sources and the horizontal distance of the ignition sources from the cables. (Section 4OA5)

B. Licensee-Identified Violations

A violation of very low safety significance (previously identified by the licensee) was reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status:

Unit 1 and Unit 2 began the inspection period at approximately 100 percent rated thermal power. The units remained at approximately 100 percent power for the rest of the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

When a tornado warning was issued for the site (Mecklenburg County) on June 25, 2004, the inspectors reviewed actions taken by the licensee in accordance with procedures RP/0/A/5700/006, Natural Disasters, and RP/0/B/5700/027, Hurricanes and High Winds, prior to the onset of that weather. This was performed to ensure that the adverse weather conditions would neither initiate a plant event nor prevent any required system, structure, or component from performing its design function.

After the licensee completed preparations for seasonal high temperature, the inspectors discussed the licensee's Hot Weather Program and the licensee's hot weather computer spreadsheet for 2002, 2003, and 2004 with the responsible licensee individual. The inspectors reviewed the completed test results for PT/0/B/4700/039, Warm Weather Equipment Checkout, dated April 18, 2004. The inspectors discussed any safety-related equipment affected by hot weather with the responsible system engineers. The inspectors toured the plant to determine if other equipment not monitored by the program could be affected.

The inspectors reviewed the following Problem Investigation Process reports (PIPs) associated with this area in order to verify that the licensee identified and implemented appropriate corrective actions:

- M-04-03497, Operator Aid Computer (OAC) Alarm for Unit 1 Fueling Water Storage Tank (FWST) Yard Contents Temperature

- M-04-03503, D, E, & F Instrument Air (VI) Compressors Running at or Above the High Level Setpoint During the Hottest Parts of the Day

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns

During this inspection period, the inspectors performed the following partial system walkdowns, while the indicated structures, systems, and components (SSCs) were out of service for maintenance and testing:

- Unit 2 train A containment spray (NS) with train B out of service on June 15, 2004
- Unit 1 train A diesel generator (DG) with train B out of service on June 22, 2004
- Unit 1 train A nuclear service water (RN) with train B out of service on June 22, 2004
- Unit 2 train A component cooling water (KC) with train B out of service on August 10, 2004
- Unit 2 station battery inverters EVIA, EVIB, and EVID, with EVIC out of service on August 25, 2004

To evaluate the operability of the selected trains or systems under these conditions, the inspectors verified correct valve and power alignments by comparing observed positions of valves, switches, and electrical power breakers to the procedures and drawings listed in the Attachment to this report. In addition, the inspectors reviewed the system parameters on the OAC to determine whether the parameters matched expected conditions for the system and plant conditions.

Complete System Walkdown

The inspectors conducted a detailed review of the alignment and condition of the Auxiliary Feedwater (CA) system on Units 1 and 2. To determine the proper system alignment, the inspectors reviewed the procedures, drawings, and Updated Final Safety Analysis Report (UFSAR) sections listed in the Attachment to this report. In addition, significant events data in the industry was reviewed to ascertain any similarities to McGuire SSCs. The inspectors walked down the system, to verify that the existing alignment of the system was consistent with the correct alignment. Items reviewed during the walkdown included the following:

- Valves were correctly positioned and did not exhibit leakage that would impact the function(s) of any given valve
- Electrical power was available as required
- Major system components were correctly labeled, lubricated, cooled, ventilated, etc.
- Hangers and supports were correctly installed and functional
- Essential support systems were operational
- Ancillary equipment or debris did not interfere with system performance
- Tagging clearances were appropriate
- Valves were locked as required by the licensee's locked valve program

The inspectors reviewed the documents listed in the Attachment to this report in order to verify that the ability of the system to perform its function(s) would not be affected by outstanding design issues, temporary modifications, operator work-arounds, adverse conditions, and other system-related issues tracked by the engineering department. In addition, the inspectors also reviewed the associated PIPs below to verify that the licensee identified and implemented appropriate corrective actions:

- M-98-03503, INPO E&A Concern, McGuire CA has some important design weaknesses with preferred sources of water and pump recirculation
- M-98-00682, PIP to address many CA system concerns and operator work-arounds

b. Findings

No findings of significance were identified. (See Sections 1R15 and 4OA2 for CA related findings.)

1R05 Fire Protection

a. Inspection Scope

For the areas identified below, the inspectors reviewed the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures, to verify that those items were consistent with UFSAR Section 9.5.1, Fire Protection System, and the fire protection program as described in the Design Basis Specification for Fire Protection, MCS-1465.00-00-0008. The inspectors walked down accessible portions of each area as well as reviewed results from related surveillance tests, and reviewed the associated pre-fire plan strategy, to verify that conditions in these areas were consistent with descriptions of the areas in the Design Basis Specification. Documents reviewed during this inspection are listed in the Attachment to this report.

The inspected Areas included:

- Unit 1 767 elevation electrical penetration room (fire area 22)
- Unit 1 750 elevation penetration room (fire area 15)
- Unit 2 767 elevation electrical penetration room (fire area 23)
- Unit 2 750 elevation penetration room (fire area 16)
- Unit 1 and 2 auxiliary building elevation 750 (fire area 21)
- Unit 1 and 2 auxiliary building elevation 716 (fire area 4)
- Unit 1 and 2 auxiliary building elevation 733 (fire area 14)

b. Findings

Introduction: A second example of Green non-cited violation NCV 05000369,370/ 2004004-01 was identified for failing to have adequate fire strategy plans. The strategy plan for fire area 21, auxiliary building 750 elevation, did not identify that class D combustibles were located in the fire zone and identified that extinguishants were in

locations where none existed. Additionally, the strategy plan for fire area 4, auxiliary building elevation 716, did not list one of the rooms located in the fire area.

Description: On August 14, 2004, the inspectors found that two fire extinguishers identified in the pre-fire strategy plan (1-21) for the auxiliary building 750 elevation (Fire Area 21) were not in the identified locations. Inspection Report 05000369,370/2004004 noted that a modification (MGMM 8227) had been performed in the 1996-1997 time frame to reduce the number of fire extinguishers and that pre-fire strategy plans had not been appropriately updated as part of that modification. In addition, the inspectors identified that there was a sign on the door to room 786 (2B containment spray and residual heat removal heat exchangers), which indicated that the room contained class D fire hazards (pyrophoric metals). The strategy plan did not indicate that such a fire hazard existed in the fire area and did not identify any class D fire extinguisher locations. Combustibles in fire zones and fire extinguisher locations are required to be in the pre-fire strategy plans as described in the licensee's fire protection program (MCS-1465.00-0008, Design Basis Specification for Fire Protection, Appendix B, section 5.d).

In addition, on September 1, 2004, the inspectors identified that room 602 on auxiliary building elevation 716 (Fire Area 4) was not listed as being covered by the fire strategy plan for the area. However, this room was listed as part of the fire area in fire protection program plan MCS-1465.00-0008, Design Basis Specification for Fire Protection. Room 602 contained safety-related equipment for the nuclear service water system and was not covered under any other strategy plan.

Analysis: The fire fighting strategy plans are the fire brigade equivalent of abnormal/emergency procedures used by licensed operators, and similarly the strategy actions taken based on these strategy plans are time sensitive. Inaccurate plans could increase the time response of the brigade in putting out the fire, resulting in an increase in fire damage. Consequently, the failure to have a comprehensive pre-fire strategy plan was considered a degradation for manual fire fighting effectiveness. This performance deficiency is more than minor because it affects the mitigating systems cornerstone objectives to ensure capability of features that respond to initiating events and the associated attributes of protection from external factors (including fire), procedure quality, and design control. Under a Significance Determination Process analysis the performance deficiency was determined to be of very low safety significance (Green). This was because the performance deficiency only minimally diminished manual suppression effectiveness without affecting the low fire ignition frequency within the compartments or the previously established safe shutdown strategy for a fully developed fire within the applicable compartments.

Enforcement: McGuire operating license condition 2.C.4, for Unit 1 and 2, states that the licensee shall maintain in effect and fully implement all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as updated, for the facility and as approved in the NRC Staff's McGuire Safety Evaluation Report (NUREG-0422) and its supplements. McGuire UFSAR section 9.5.1 states that the fire protection program is contained in document MCS-1465.00-0008, Design Basis Specification for Fire Protection. The Fire Protection Program states, in Appendix B, section 5, Fire Fighting Procedures, that the fire fighting procedures should identify the strategies established for fighting fires in all safety-related areas and areas presenting a

hazard to safety-related equipment. It further indicates that the strategies should identify the combustibles within the fire zone and identify the nearest location of extinguishants. Contrary to the above, prior to August 14, 2004, the licensee had not adequately implemented the fire protection program for fire areas 21 and 4, in that: (1) the strategy plan for fire area 21 did not identify that class D combustibles were located in the fire zone and identified extinguishants in locations where none existed; and (2) the strategy plan for fire area 4 did not include room 602 as part of the fire area strategy plan, which contained safety-related equipment. The failure to have adequate and comprehensive fire strategy plans, as required by the fire protection program, was previously identified as NCV 05000369,370/2004004-01, Failure to Update Fire Strategy Plans. The inspectors' review of the licensee's proposed corrective actions for that violation, which were not yet completed and had not been started for this fire area, indicated that these deficiencies were likely to have been identified during that activity. Consequently, this issue is considered example 2 of NCV 05000369,370/2004004-01 and is in the licensee's corrective action program as PIPs M-04-4105 and M-04-1114.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding

The UFSAR sections and the design basis documents listed in the Attachment to this report indicate that the following areas containing safety-related equipment are susceptible to flooding:

- Auxiliary building Unit 1 and 2 CA pump rooms (712 foot elevation)
- Auxiliary building residual heat removal (ND) and NS pump(s) area (695 foot elevation)
- DG rooms
- Internal and external doghouses

The inspectors walked down the Unit 1 and 2 CA pump rooms, as well as the ND and NS pump(s) area containing risk significant equipment which are susceptible to flooding from postulated pipe breaks, to verify that the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in UFSAR sections and in the supporting basis documents listed in the Attachment to this report. The inspectors also did a general walk-through of the auxiliary building to verify the licensee's determination that pipe breaks in the auxiliary building would drain to the auxiliary building areas identified above. The inspectors reviewed preventative maintenance documentation for the sump pumps and level transmitters in the groundwater drainage system and floor drain system located in these rooms, which are used to mitigate flooding to determine whether the system equipment was being adequately maintained to perform its design function. The inspectors reviewed the operator actions credited in the flooding analysis, contained in procedure AP/0/A/5500/44, Plant Flooding, to verify that the desired results could be achieved.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On July 15, 2004, and August 26, 2004, the inspectors observed licensed-operator performance during requalification simulator training for B shift Group 3 and A shift Group 1, to verify that operator performance was consistent with the expected performance described in Exercise Guide OP-MC-SRT-35 and OP-MC-SRT-39, respectively. This training tested the operators' ability to perform abnormal and emergency procedures dealing with reactivity, pressurizer pressure malfunction, loss of component cooling, malfunction of a feed regulating valve, reactor trip, and anticipated transient without scram. The inspectors focused on clarity and formality of communication, procedural usage, alarm response, control board manipulations, group dynamics and supervisory oversight. The inspectors also observed the post-exercise critique to verify that the licensee identified deficiencies and discrepancies that occurred during the simulator training.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two degraded SSC/function performance problems or conditions listed below, to verify that the licensee appropriately handled these in accordance with 10CFR50, Appendix B, Criterion XVI, Corrective Action, and 10CFR50.65, Maintenance Rule.

- 525/230 kV Switchyard 125 VDC Batteries (ESH system)
- Motor bearing oil level verification

The inspectors focused on the following:

- Appropriate work practices
- Identifying and addressing common cause failures
- Scoping in accordance with 10 CFR 50.65(b)
- Characterizing reliability issues (performance)
- Charging unavailability (performance)
- Trending key parameters (condition monitoring)
- 10 CFR 50.65(a)(1) or (a)(2) classification and reclassification
- Appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1)

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's risk assessments and the risk management actions used to manage risk for the plant configurations associated with the activities listed below. The inspectors assessed whether the licensee performed adequate risk assessments and implemented appropriate risk management actions when required by 10CFR50.65(a)(4). For emergent work, the inspectors also verified that any increase in risk was promptly assessed, and that appropriate risk management actions were promptly implemented. The inspectors also reviewed associated PIPs to verify that the licensee identified and implemented appropriate corrective actions.

- Work for the week of June 13, 2004, which included: Unit 1 emergent work on the 1C1 heater drain pump that tripped and caused a minor power reduction on June 16, 2004; and Unit 2 problems with rod control indicating fuse failure on a shutdown bank rod that caused a schedule change for control rod movement surveillance.

- Work for the week of June 27, 2004, which included: unexpected hydrogen make-up to the reactor coolant drain tank (NCDT) on Unit 2; degradation of the seal oil vapor extractor motor on Unit 1; and a broken wheel flange on the independent spent fuel storage installation (ISFSI) dry cask cart.

- Work for the week of July 25, 2004, which included: Unit 1 and Unit 2 turbine building water intrusion from heavy rainfall, spilling directly onto auxiliary relay cabinet 1ATC-28 and 2LXG, which powers motor generator set 2B and several pressurizer heaters; load center inspections resulting from Oconee operational experience (OE), loss of switchyard battery chargers; repetitive RN strainer backwashes; and increased temperatures on the 2D reactor coolant pump (NCP) motor stator.

- Work for the week of August 1, 2004, which included: a loss of main feedwater final chemistry sampling point; and intermittent ground faults on 1LXF, which powers the 1A motor generator set and pressurizer heaters.

- Work for the week of August 15, 2004, which included: ongoing plant concerns with loss of 2A spent fuel cooling (KF) pump to high inboard motor bearing temperature; unplanned Technical Specification Action Item Log (TSAIL) entry into Technical Specification (TS) 3.0.3 for control room ventilation (VC/YC) unavailability; and VC/YC valves being inconsistent with piping analysis and flow diagrams for seismic events.

- Work for the week of September 6, 2004, which was reassessed due to inclement weather, included: emergent work, risk evaluation, and rescheduling

of work due to fault on 600 V non-essential motor control center resulting in cross-tie of power supply for nonsafety-related auxiliary controls.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. Inspection Scope

During the non-routine evolutions identified below, the inspectors observed plant instruments and operator performance to verify that the operators performed in accordance with the associated procedures and training.

- Unit 1 Turbine Valve Movement Test in automatic control conducted on September 4, 2004, in accordance with PT/1/A/4250/004, Turbine Valve Movement Test

- Unit 1 and Unit 2 mitigating actions on September 8, 2004, in accordance with AP/1&2/A/5500/015, Loss of Vital or Auxiliary Control Power for loss of non-essential auxiliary control panel MKB

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability determinations the licensee had generated that warranted selection on the basis of risk insights. The selected samples are addressed in the PIPs listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the TS. The inspectors verified that the operability determinations followed the guidance in Nuclear System Directive (NSD) 203, Operability. The inspectors compared the arguments made in the determination to the requirements from the TS, the UFSAR, and associated design-basis documents, to verify that operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred.

- M-04-2943, 10CFR21 notification on Rotork actuator plastic parts that were not properly heat treated
- M-04-2569, 10CFR21 notification of Woodward Digital Reference Unit applicable to 1A diesel generator governor
- M-04-3803, Issues associated with UFSAR CA system description and the alignment of the turbine driven auxiliary feedwater pump (TDCAP)

- M-04-4062, Interaction between “A” YC DP Test and Unit 1 “B” SSPS resulted in unplanned TSAIL entry

- M-04-04120, YC valves inconsistent with seismic piping calculations and flow diagrams

b. Findings

Introduction: The inspectors identified a Green NCV for inadequate design control related to an assumption, without any justification, that non-seismic condenser circulating water pipe would be available for an extended period of time after a seismic event as a RN train A discharge path.

Description: On August 3, 2004, the inspectors identified that the licensee was taking credit for non-seismic pipe availability in the condenser circulating water system for the A train RN system discharge path for no less than 30 minutes after a seismic event to allow sufficient time to perform a special CA valve lineup prior to aligning the RN train A discharge to the standby nuclear service water pond (SNSWP); thereby, averting the possibility of air/gas entry into the A train CA pump suction supply. This issue applied to both Units 1 and 2. The credit was taken as an assumption in the operability evaluation for PIP M-04-3803. The basis for the assumption was taken from a prior operability evaluation for PIP M-92-0074 and its associated calculation MCC 1223.42.00-0029, Unreviewed Safety Question (USQ) Evaluation of Operability Evaluation for PIP M-92-0074. Currently, calculation MCC-1223.42-00-0030, Documentation of the Adequacy of the Assured Suction Source to the CA Pumps, section 8, contains this assumption. The assumption was used as a basis for establishing that special system alignments, along with a modification, would compensate for a design deficiency discovered in 1992 that gas/air was coming out of solution and collecting in the RN train A piping where the CA assured suction was located. The 1992 analysis indicated that with the modification, the gas/air was only a problem below certain RN flow rates and only when the discharge was aligned to the SNSWP, the seismically qualified safety-related water source.

Systems capable of withstanding the safe shutdown earthquake, per 10CFR100 Appendix A, and credited to perform safe shutdown and accident mitigation functions, as specified in 10CFR50 Appendix A, General Design Criteria 2, were designated as seismic category 1 per Regulatory Guide 1.29. The condenser circulating water system piping was not identified as seismic category 1 in UFSAR section 3.2.1 or on drawings; therefore, it was not qualified to perform any function important to safety after a seismic event. The licensee was unable to provide any documentation that demonstrated the condenser circulating water piping would survive a seismic event to perform the relied upon function. Consequently, there was not reasonable assurance that the non-seismic condenser circulating water pipe would be available as a train A RN discharge flow path after a seismic event.

Analysis: This issue is more than minor because it is similar to Example 3.a of Inspection Manual Chapter 0612, Appendix E for an issue that is not minor. In addition, this issue affects the design control and protection from external factors (seismic) attributes of the mitigating systems cornerstone. This finding involves the necessary continued connection of the non-safety/non-seismic condenser circulating water system

to the safety-related RN system A train for a 30 minute to 1 hour time period after a seismic event to prevent air intrusion into the A train CA system suction piping. The air intrusion could affect both the turbine driven and A train motor driven CA pumps. Following the identification of the issue, the licensee performed a seismic evaluation of the piping and determined that it would sufficiently perform the relied upon function after a seismic event. Consequently, the issue was determined to be of very low safety significance (Green).

Enforcement: 10CFR50, Appendix B, Criterion III, Design Control, requires that measures be established to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures and instructions. Duke Quality Assurance Program Topical Report implements their design control program in accordance with Regulatory Guide 1.64, Revision 2 and ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants. ANSI N45.2.11, Section 4.2, Design Analysis, stated that analyses shall be sufficiently detailed as to purpose, method, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without recourse to the originator. Contrary to the above, prior to August 1, 2004, the licensee had not provided sufficient detail for an assumption in calculations MCC 1223.42-00-0029 and MCC 1223.42-00-0030, and the operability evaluation for PIP M-04-3803 that piping in the condenser circulating water system would be available for at least 30 minutes after a seismic event. Specifically, the pipe is not qualified as seismic category 1 and no basis for why the piping would be available after a seismic event was provided or referenced. The failure to adequately document the basis for an assumption is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000369,370/2004005-01, Failure to Comply with Design Control for an Assumption. This issue is in the licensee's corrective action program as PIP M-04-4002.

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed the following two operator work-arounds to determine whether the work-arounds affected either the functional capability of the related system in responding to an initiating event, or the operators' ability to implement abnormal or emergency operating procedures.

- 04-05, 1A feedwater pump turbine high pressure and low pressure stop valves would not open from the main control board causing a tool to be used locally.

- 04-06, Compensatory Actions are required to maintain TDCAP operable when A train RN is aligned to the SNSWP. This item came from PIP M-04-3067. See section 1R15 for more details on the special alignment.

b. Findings

The special alignment associated with PIP M-04-3067 is the subject of a violation in section 1R15 above.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the three modifications described in the Engineering Changes described below, to verify that:

- these modifications did not degrade the design bases, licensing bases, and performance capabilities of risk significant SSCs
- implementing these modifications did not place the plant in an unsafe condition
- the design, implementation, and testing of these modifications satisfied the requirements of 10CFR50, Appendix B

Modifications reviewed included:

- McGuire Modification MGMM-14436, Replace Oscillator and Sync Boards in 1EVID Inverter
- McGuire Modification MGMM-14128, Wiring Changes to Auxiliary Contacts in 1EMXA4-2C
- McGuire Modification MGMM-14127, Wiring Changes to Auxiliary Contacts in 1EMXA4-3B

The inspectors reviewed the associated PIPs below to verify that the licensee identified and implemented appropriate corrective actions:

- M-04-02787, Procedure changes required during performance of 2EVID Vital Inverter MOD MGMM14437
- M-03-00049, Vital Inverter Frequency Drift

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

For the five post-maintenance tests listed below, the inspectors witnessed the test and/or reviewed the test data, to verify that test results adequately demonstrated restoration of the affected safety function(s) described in the UFSAR and TS.

- PT/2/A/4208/010B, NS 2B Heat Exchanger Heat Balance Test, (maintenance activities for inspection and cleaning of NS heat exchanger 2B)
- PT/2/A/4204/005A, ND Train A Valve Stroke Timing - Shutdown (preventative maintenance on 2ND-19A)
- PT/1/A/4403/002B, RN Train B Valve Stroke Timing - Quarterly; Enclosure 13.13 1RN-215B, (maintenance on 1B Safety Injection (NI) Motor Cooler)

- PT/2/A/4403/002A, RN Train A Valve Stroke Timing - Quarterly; Enclosure 13.5 2RN-70A, (maintenance on actuator during RN/DG down day)
- PT/2/A/4403/002D, RN Train A Valve Stroke Timing - Quarterly Plant Evolution Valves; Enclosure 13.2 2RN-22A, (maintenance on valve limit switches during RN/DG down day)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the six surveillance tests identified below, the inspectors witnessed testing and/or reviewed the test data, to verify that the systems, structures, and components involved in these tests satisfied the requirements described in the Technical Specifications, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions.

- PT/0/A/4150/041, Unit 1 Rod Cluster Control Assembly (RCCA) Bank Repositioning
- PT/0/A/4150/041, Unit 2 RCCA Bank Repositioning
- *PT/1/A/4252/001C, #1 TDCAP Performance Test Opening 1SA-49 First
- *PT/1/A/4209/001C, Standby Makeup Pump Flow Periodic Test
- PT/0/A/4601/008B, SSPS Train B Periodic Test With Reactor Coolant (NC) System Pressure > 1955 PSIG
- PT/0/A/4601/008A, SSPS Train A Periodic Test With NC System Pressure > 1955 PSIG

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspectors ascertained the licensee's commitments with respect to the testing and maintenance of the alert and notification system (ANS), which is comprised of 67 sirens in the ten-mile-radius emergency planning zone (34 in Mecklenburg County, 10 in Gaston County, 16 in Lincoln County and 7 in Iredell County). The inspectors evaluated the design of the ANS, the licensee's methodology for testing the system, and the adequacy of the testing program design. Assessment of the program as actually implemented included review of siren test records (with an emphasis on identification of

any repetitive individual siren failures), system changes during the past two years, procedures for periodic preventative maintenance (including post-maintenance testing), and a sample of corrective actions and their effectiveness for siren failures and issues. The review of this program area encompassed the period of June 2003 through August 2004. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation

a. Inspection Scope

The inspectors identified the licensee's commitments with respect to timeliness and numbers of personnel for staffing emergency response facilities (ERFs) in the event of an emergency declaration at Alert or higher. The licensee's automated paging system and manual backup system for call-out of ERO personnel were reviewed to determine whether they would support staff augmentation in accordance with the criteria for ERF activation timeliness. Methodologies for testing the primary and backup systems for augmenting the ERO were reviewed and discussed with cognizant licensee personnel. The inspectors also reviewed and discussed the changes to the augmentation system and process during the past two years. The inspectors reviewed records of the last off-hour ERO augmentation drill, which involved actual travel to the plant and activation of ERFs (conducted on July 30, 2004). Records of ERO pager tests (the backup system for ERO notification) were reviewed. Followup activities for a sample of problems identified through augmentation testing were evaluated to determine whether appropriate corrective actions were implemented. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

The inspectors reviewed a selected sample of changes made to the Emergency Response Plan (ERP) since the last inspection in this program area (conducted in May 2003) against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased ERP effectiveness. The subject changes, which were incorporated in ERP Revisions 03-01, 03-02, 04-01, and 04-02, did include modifications to the EALs. The inspectors reviewed documentation of the licensee's 10 CFR 50.54(q) screening evaluations for these changes. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors evaluated the efficacy of licensee programs that addressed weaknesses and deficiencies in emergency preparedness. The procedure governing the plant corrective action program was reviewed for applicability to the emergency preparedness program. The inspectors reviewed event documentation to assess the adequacy of implementation of ERP requirements, as well as the licensee's self-assessment of ERO performance during the event. The inspectors evaluated selected drill scenarios and associated critiques to determine whether the licensee had properly identified failures to implement regulatory requirements and planning standards. A sample of weaknesses and deficiencies identified by means of these licensee processes was evaluated to determine whether corrective actions were effective and timely. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee submittals relative to the PIs listed below for the period of May 2003 through July 2004. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline", Revision 2, were used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

- Emergency Response Organization (ERO) Drill/Exercise Performance
- ERO Drill Participation
- Alert and Notification System Reliability

For the specified review period, the inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the PI for ERO drill and exercise performance through a review of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors

verified the accuracy of the PI for alert and notification system reliability through a review of the licensee's records of periodic system tests. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment to this report.

Mitigating Systems Cornerstone

- Safety System Unavailability, Residual Heat Removal

The inspectors reviewed Licensee Event Reports, records of inoperable equipment, and Maintenance Rule records, to verify that the licensee had adequately accounted for unavailability hours that the subject systems had experienced during the previous four quarters. The inspectors also reviewed the number of hours those systems were required to be available and the licensee's basis for identifying unavailability hours. In addition, the inspectors interviewed licensee personnel associated with the PI data collection, evaluation, and distribution.

- Safety System Functional Failures

The inspectors reviewed Licensee Event Reports and Maintenance Rule records, to verify that the licensee had adequately accounted for functional failures that the subject systems had experienced during the previous four quarters.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

As required by Inspection Procedure 71152, "Identification and Resolution of Problems", and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing hard copies of condition reports, attending daily screening meetings, and accessing the licensee's computerized database.

Annual Sample Review

a. Inspection Scope

The inspectors selected for detailed review, problems associated with a special alignment of the TDCAP suction when RN is aligned to the SNSWP. This issue was recently addressed in PIP M-04-3067 where this alignment was determined to be an operator work-around (see section 1R16). Several PIPs over the last several years have been issued associated with this alignment and the problems that required the alignment. The inspectors reviewed the associated PIPs listed in the Attachment to this report in order to determine if the licensee identified the full extent of the issue, performed an appropriate evaluation, and specified and prioritized appropriate corrective

actions. The inspectors evaluated the PIPs against the requirements of the licensee's corrective action program as delineated in corporate procedure NSD 208, Problem Identification Process, and 10 CFR 50, Appendix B. As a result of the inspectors review, PIP M-04-3803 was issued and a subsequent operability evaluation was performed and reviewed by the inspectors as documented in section 1R15. In addition, the inspectors reviewed the UFSAR sections associated with this issue.

b. Findings

The inspectors found that the corrective action for a 1992 gas voiding problem in the nuclear service water system was corrected using methods that violated regulatory requirements. A special system alignment for the suction of the TDCAP, which was necessary to prevent gas intrusion into the assured suction source (RN system), required that non-seismic condenser circulating water system piping be available for 30 to 60 minutes after a seismic event. The reliance on non-seismic pipe after a seismic event was inappropriately accomplished by assuming in a calculation and an operability evaluation that the piping would be available, without any documented determination of why the assumption was reasonable.

In addition, while reviewing design basis information for the RN and CA systems, the inspectors discovered a change made by the licensee to the design of the CA system as described in the UFSAR without performing a review under 10CFR50.59.

(1) Failure to Obtain License Amendment Prior to Implementing a USQ

Introduction: The inspectors identified a violation of 10CFR50.59 for failing to obtain a license amendment prior to implementing a change to plant procedures that involved an USQ. The USQ dealt with extending the availability of non-seismic condenser circulating water piping to perform a safety-related function following a seismic event.

Description: The inspectors found, on August 3, 2004, that the licensee had performed a procedure change that kept the RN system A train discharge aligned to the condenser circulating water system for a minimum of 30 minutes and up to 60 minutes after a loss of the low level intake from the Cowans Ford Dam. The required extended availability of condenser circulating water piping was to allow sufficient time for performance of a special valve alignment that would ensure the A train assured suction source (RN system) to the TDCAP was free of gas voiding. The 10CFR50.59 evaluation performed for procedure AP/1(2)/A/5500/20, Loss of RN, failed to identify that the necessary reliance on non-safety/non-seismic piping to ensure a flow path for the A RN train increased the probability of occurrence (or possibility) of a malfunction of equipment important to safety after a seismic event because the A nuclear service water train could be impacted by the failure of the non-seismic piping.

Systems capable of withstanding the safe shutdown earthquake (per 10CFR100 Appendix A) and credited to perform safe shutdown and accident mitigation functions (10CFR50 Appendix A, General Design Criteria 2) are designated as seismic category 1 (per Regulatory Guide 1.29). UFSAR section 3.2.1 states that structures, systems and components required to shutdown the reactor and maintain the reactor in a safe shutdown condition are qualified to seismic category 1. The condenser circulating water

system and components are not included in the UFSAR chapter 3 tables, which identify the equipment and systems that are seismic category 1.

Analysis: This issue is more than minor because it would require NRC review prior to implementation. The significance of this violation was not formally evaluated under the Reactor Oversight Process per the Enforcement Policy because the Agency views 10 CFR 50.59 issues as potentially impeding the regulatory process (i.e., it precluded NRC review of a change to the facility). A subsequent engineering evaluation has determined that the non-seismic piping would not collapse or kink, and although it may leak, it will support the required minimal service water flow. Since the technical issue was determined to be of very low safety significance, the regulatory significance was categorized as a Severity Level IV violation under the current Enforcement Policy, Supplement I.

Enforcement: The version to 10CFR50.59 that existed at the time of the change states that a proposed change, test, or experiment shall be deemed to involve an unreviewed safety question if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased. If a licensee desires to make a change in the facility or the procedures described in the safety analysis report which involves an unreviewed safety question, the licensee shall submit an application for amendment of the license pursuant to 10CFR50.90. Contrary to the above, in 1992, the licensee failed to submit a license amendment pursuant to 10CFR 50.90 when a change to the facility involving a USQ was implemented through a procedure change. The procedure change increased the probability of a malfunction of the RN system after a seismic event, because it relied on the availability of non-seismic condenser cooling water piping for 30 to 60 minutes after the seismic event in order to complete the performance of special valve alignments in the CA system prior to allowing the RN discharge to be aligned to the SNSWP.

The significance of the violation was evaluated under the 10 CFR 50.59 Rule that was in effect at the time of the change, as well as the current 10 CFR 50.59 Rule. Because the issue was determined to be a USQ, the violation would be categorized at Severity Level III under the enforcement guidance that existed at the time. Under the current 10CFR50.59, this issue would create the possibility for a malfunction of equipment important to safety with a different result, because the seismic impact on the RN system had not previously factored in non-seismic piping being able to pass flow for an extended period of time. Since the NRC Enforcement Manual states that violations which existed under the old and new rule should be categorized using the current enforcement guidance, this finding is assessed as a Severity Level IV violation as noted above in the Analysis section. The failure to obtain a license amendment prior to implementation of a change to the facility as required by 10CFR50.59 is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000369,370/2004005-02, Failure to Obtain a License Amendment Prior to Implementing a USQ. This issue is in the licensee's corrective action program as PIP M-04-3803.

(2) Change to Design Description of the CA System

Introduction: The inspectors identified a violation of 10CFR50.59 for changing the facility as described in the safety analysis report without performing a review under 10CFR50.59. The change to the UFSAR reduced the required number of trains of CA from three independent trains to two independent trains to safely shutdown the reactor.

Description: On August 3, 2004, the inspectors identified that the licensee had made a change to the design and performance requirements of the CA system as described in UFSAR section 10.4.10 to state that one turbine-driven pump or two motor driven CA pumps can supply the required flow to maintain the plant in a safe shutdown condition, without performing a review under 10CFR50.59. This 1992 change was made to the design description in both the UFSAR and in Design Basis Specification for the CA System, MCS-1592.CA-00-0001. The 1991 version of the UFSAR indicated that any one of the CA pumps were capable of removing the heat load of the reactor system for safe shutdown. The inspectors considered this change as a reduction from a three train system to a two train system. The inspectors review of NUREG-0422, Safety Evaluation Report (SER) Related To Operation of McGuire Nuclear Station Units 1 and 2, and its supplements, confirmed that the original licensing basis was a three train system. TS 3.7.1.2 and its bases were not changed, and specifically identified that at least three independent steam generator CA pumps and associated flow paths shall be operable with two motor driven CA pumps, each capable of being powered from separate emergency busses, and one steam turbine-driven pump capable of being powered from an operable steam supply system. The TS bases stated that capacity (stated for each pump) is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce NC system temperature to less than 350 degrees when the ND system may be placed in operation. The inspectors found that the current TS 3.7.5 and bases (Improved TS) for the CA system stated that the CA system consists of two motor driven CA pumps and one steam turbine driven pump configured into three trains. Each of the motor driven pumps supply 100% of the flow requirements to two steam generators, although each pump has the capability to be realigned to feed the other steam generators.

The licensee was unable to produce any evaluation conducted under 10CFR50.59 for this change or to find evidence that the change was reported to the NRC in the annual 10CFR 50.59 report. Through interviews, the licensee established that the change had been considered an administrative change to align UFSAR Chapter 10 with UFSAR Chapter 15. The licensee argued that the two train (turbine-driven or two motor-driven) approach was supported by the safety analysis calculations, which showed that all Chapter 15 accidents could be handled assuming single failure with the two train approach. The inspectors found no evidence to indicate that the change to the design was due to corrective action for any degradation in CA system performance. The inspectors asked for the basis of the original three train system. However, the licensee was unable to produce any, and proceeded to generate a calculation to support that a single motor-driven pump could provide the necessary flow.

Analysis: The failure to perform a safety evaluation is more than minor because the licensee should have recognized that a TS change was required prior to implementation

of the UFSAR change. The significance of this violation was not formally evaluated under the Reactor Oversight Process per the Enforcement Policy because the Agency views 10 CFR 50.59 issues as potentially impeding the regulatory process (i.e., it precluded NRC review of a change to the facility). Because there was no evidence to indicate that the licensee had used the change to not comply with the TS, this issue was determined to be of very low safety significance and was categorized as a Severity Level IV violation under the current Enforcement Policy, Supplement I.

Enforcement: The version to 10CFR50.59 that existed at the time of the change states that a licensee may make changes to the facility as described in the safety analysis report unless the changes involve a change to the TS or a USQ. The licensee shall maintain records of changes that must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question. Contrary to the above, in 1992, the licensee made a change to the facility as described in the UFSAR without performance of a safety evaluation or without obtaining prior NRC approval. A TS change was required because the revised design of the CA system as described in UFSAR section 10.4.10 changed from "any one of the motor driven CA pumps or the turbine driven pump is capable of removing the heat load of the reactor system for safe shutdown," to "both motor driven pumps or one turbine driven CA pump are capable of removing the heat load of the reactor system for a safe shutdown." This was inconsistent with TS 3.7.1.2, (applicable in 1992-1993) and 3.7.5 (applicable in 2004), which required three independent trains of CA capable of removing reactor heat for a safe shutdown.

The significance of the violation was evaluated under the 10 CFR 50.59 Rule that was in effect at the time of the change, as well as the current 10 CFR 50.59 Rule. Because the issue was determined to be a USQ, the violation would be categorized at Severity Level III under the enforcement guidance that existed at the time. Under the current 10CFR50.59, the issue would still require a TS change under 10CFR50.90 and could not be performed under 10CFR50.59. Since the NRC Enforcement Manual states that violations that exist under the old and new rule should be categorized using the current enforcement guidance, this finding is assessed as a Severity Level IV violation as noted above in the Analysis section. The failure to perform an evaluation under 10CFR50.59 for a change that required a license amendment prior to implementation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000369,370/2004005-03, Failure to Obtain a License Amendment Prior to Implementing a Change to the Facility. This issue is in the licensee's corrective action program as PIP M-04-3803.

4OA5 Other Activities

Significance Determination for Triennial Fire Protection Inspection Findings

a. Inspection Scope

Inspection Report 05000369,370/2003007 identified the two findings listed below as unresolved items (URIs) pending completion of the NRC significance determination process (SDP). The two URIs were as follows:

- URI 05000369,370/2003007-02, Inadequate Separation and Protection of Cables Associated With Redundant Trains of Instrumentation Located in the Same Fire Area

- URI 05000370/2003007-03, Use of a Local Manual Operator Action in Lieu of Providing Physical Protection for Cables of Redundant Safe Shutdown Equipment in Fire Area 16/18

This documents the in-office and onsite followup inspection results and completion of the NRC SDP with respect to the two URIs. The significance determination was accomplished using the guidance in NRC Inspection Manual Chapter (IMC) 0609, Significance Determination Process; IMC 0609, Appendix A, Significance Determination of Reactor Inspection Findings for At-Power Situations; and IMC 0609, Appendix F, Fire Protection Significance Determination Process. This involved evaluating the significance of a potential fire in the affected fire area using the Phase 2 SDP, considering each finding that could be involved in the fire. URI 05000369,370/2003007-02 is discussed below and URI 05000370/2003007-03 is discussed in Section 4OA7 of this report.

b. Findings

Introduction: The inspectors identified a Green NCV of Unit 1 Operating License Condition 2.C.4 and Unit 2 Operating License Condition 2.C.7 for failure to comply with McGuire's approved fire protection program (FPP) and 10 CFR Part 50, Appendix R, Section III.G.2. Specifically, Train A and Train B cables for all four reactor protection system (RPS) channels were routed in close proximity in Room 803A (Unit 1 Fire Area 15/17) and Room 805A (Unit 2 Fire Area 16/18). The cables did not have adequate protection (i.e., 20-feet separation or fire barriers) to remain free of fire damage in the event of a fire. This issue was entered into the licensee's corrective action program.

Description: Fire Area (FA) 16/18 is the Unit 2, Train A electrical penetration room/4160 volt (V) switchgear room 2ETA and the associated heating, ventilation, and air conditioning (HVAC) equipment room 805A. Train B equipment controlled from the main control room (MCR) was designated as the safe shutdown (SSD) train for a fire in this area according to the safe shutdown analysis (SSA) and plant procedures (i.e., this fire area was designed to comply with 10 CFR 50, Appendix R, Section III.G.2). Room 805A is the HVAC equipment room which supplies ventilation to the Unit 2 Train A 4160V switchgear room 2ETA. During a walkdown of FA 16/18, the inspectors observed that Train B cables were routed through room 805A. The licensee was not aware that these Train B cables passed through room 805A. The team walked down Unit 1 FA 15/17 and observed that a similar condition also existed in Room 803A. FA 15/17 is the Unit 1 Train A electrical penetration room/4160V switchgear room 1ETA and the associated HVAC equipment room 803A. HVAC equipment Room 803A supplies ventilation for the Unit 1 Train A 4160V switchgear room 1ETA. The licensee initiated PIPs M-03-02106 and M-03-02588 to address this issue for both units. On June 10, 2003, the licensee reported that these cables did not meet the separation criteria of Appendix R and represented an unanalyzed condition (Event No. 39915).

Investigation by the licensee revealed that cables for the primary and backup power supplies for all four reactor protection system (RPS) channels were routed in close proximity in each of the HVAC equipment rooms (803A for Unit 1 and 805A for Unit 2) and could be damaged during a fire. One consequence of this finding, identified by the licensee, was that fire-induced cable damage could cause many RPS protective functions to spuriously go to the trip condition. Consequently, a safety injection signal could be generated. The safety injection signal could in turn trigger a reactor trip and Phase A isolation. (At the same time, many main control panel instruments necessary to achieve and maintain hot shutdown could be lost, including pressurizer level, reactor coolant system pressure, and steam generator (SG) level indications.)

During this followup inspection, the inspectors reviewed cable routing information for Rooms 803A and 805A to confirm that the licensee's evaluation adequately addressed the cables and functions which could impact Unit 1 and Unit 2 SSD. The inspectors noted that the licensee had implemented several corrective actions related to URI 05000369,370/2003007-02. Some of the corrective actions included: (1) modifications which installed detection and fixed suppression in Rooms 803A and 805A; (2) revisions to fire response procedures; and (3) establishing new fire areas for Room 803A (Unit 1 FA 17A) and Room 805A (Unit 2 FA 18A) which were designated as Appendix R, Section III.G.3 areas for alternative or dedicated shutdown capability. The licensee initiated PIP M-04-04399 to address questions raised by the inspectors regarding conformance of the new fire areas to the licensee's approved FPP and Appendix R, Sections III.G.3 and III.L. The PIP indicated that the licensee intended to pursue resolution of the Appendix R conformance issue through the licensing process.

Analysis: The inspectors determined that the finding was associated with the protection against external factors attribute and affected the objective of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events. Therefore, the finding is greater than minor. During the significance determination process, the inspectors determined that this finding was of very low safety significance (Green), based on the following:

- Rooms 805A and 803A contained a few small ignition sources. Among them were two small HVAC units in each room. The nearest HVAC fan motor was almost nine feet horizontally from the Train B unprotected cables. Inspector calculations estimated that it would take approximately one hour for a fire initiated at the fan motor to spread to the Train B cables.

- Though part of the same FA, the inspectors considered it relatively unlikely for a fire to spread from/to the switchgear room due to the installed fire barriers.
- Transient fires were unlikely and the licensee had procedural controls in place to limit the amount of transient combustibles permitted in FAs 16/18 and 15/17.

- For the small fires considered, SDP historical evidence from past fire events indicated that the onsite fire brigade could respond in time to limit any significant fire damage.

This finding was reviewed in combination with URI 05000370/2003007-03 (discussed in Section 4OA7 of this report) to determine if the findings, when reviewed together, would

be of greater significance. The inspectors determined that the combined impact of the two findings was of very low safety significance (Green), based on the reasons stated above.

Enforcement: McGuire Unit 1 Operating License Condition 2.C.4 and Unit 2 Operating License Condition 2.C.7 require the licensee to implement and maintain in effect all provisions of the approved FPP as described in the Final Safety Analysis Report (FSAR), as updated, for the facility and as approved in the Safety Evaluation Report (SER) dated March 1978 and Supplements 2, 5, and 6 dated March 1979, April 1981, and February 1983, respectively, and the safety evaluation dated May 15, 1989.

The licensee's approved FPP commits to 10 CFR 50, Appendix R, Section III.G. Section III.G.2, specifies that one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) be maintained free of fire damage. Section III.G.2 requires one redundant train to be protected from fire damage by one of three specified methods.

Contrary to the above, on May 23, 2003, the NRC identified that the licensee failed to maintain one train of systems necessary to achieve and maintain hot shutdown free of fire damage. Specifically, cables for the primary and backup power supplies for all four RPS channels were routed in close proximity in each of the HVAC equipment rooms (Unit 1 Room 803A and Unit 2 Room 805A) and could be damaged during a fire. The RPS power supplies and the redundant MCR instrumentation important to SSD in Room 803A (Unit 1 FA 15/17) and Room 805A (Unit 2 FA 16/18), did not have adequate protection to remain free of fire damage in the event of a fire in either one of the two rooms. This condition has existed since original plant construction and is applicable to Unit 1 and Unit 2. Because it is of very low safety significance and has been entered into the licensee's corrective action program (PIPs M-03-02106 and M-03-02588), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000369,370/2004005-04, Inadequate Separation and Protection of Cables Associated With Redundant Trains of Instrumentation Located in the Same Fire Area. Accordingly, URI 05000369,370/2003007-02 is closed.

4OA6 Meetings, including Exit

On September 22, 2004, the resident inspectors presented the inspection results to Mr. G. Peterson and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following finding of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI.A of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- McGuire Unit 2 Operating License Condition 2.C.7, requires the licensee to implement and maintain in effect all provisions of the approved FPP, as described in the FSAR, as updated, for the facility and as approved in the SER

dated March 1978 and Supplements 2, 5, and 6 dated March 1979, April 1981, and February 1983, respectively, and the safety evaluation dated May 15, 1989. The approved FPP for McGuire Unit 2 commits to 10 CFR Part 50, Appendix R, Section III.G. Section III.G requires that fire protection features be provided that are capable of limiting fire damage so that one train of systems necessary to achieve and maintain hot standby conditions from either the control room or emergency control station(s) is free from fire damage. Section III.G.2 requires one redundant train to be protected from fire damage by one of three specified methods. Manual operator actions to respond to maloperations are not listed as an acceptable method for satisfying this requirement.

Contrary to the above, the licensee identified in April 2003 (prior to the NRC triennial fire protection inspection of May 2003) that they had failed to protect cables to ensure that redundant trains of systems and equipment necessary to achieve and maintain SSD were maintained free of fire damage in the event of a fire in FA 16/18. Specifically, the cables for Unit 2 Train B motor operated valve 2CA0042B were routed in the Unit 2 Train A electrical penetration room (FA 16/18) without adequate spatial separation or fire barriers. In lieu of providing adequate physical protection, the licensee relied on manual operator actions outside the MCR without obtaining prior NRC approval. Initially identified as URI 05000370/2003007-03, Use of a Local Manual Operator Action in Lieu of Providing Physical Protection for Cables of Redundant Safe Shutdown Equipment in Fire Area 16/18, this finding was entered into the licensee's corrective action program as PIP M-03-02311.

In addition, when reviewed in combination with URI 05000369,370/2003007-02 (discussed in Section 4OA5 of this report), the inspectors determined that this finding was of very low safety significance (Green). The basis for this determination was that: timely fire brigade response would limit any fire damage; the local manual operator actions were reviewed and determined to be feasible per the guidance of NRC Inspection Procedure 71111.05, Enclosure 2; and it did not result in additional local manual operator actions beyond those previously identified in the SSA. Accordingly, URI 05000370/2003007-03 is closed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

Beaver, Al, Emergency Preparedness
Black, D., Security Manager
Bradshaw, S., Superintendent, Plant Operations
Bramblett J., Chemistry Manager
Brown, S., Manager, Engineering
Crane, K., Technical Specialist
Evans, K., Manager, Mechanical and Civil Engineering
Harrall, T., Station Manager, McGuire Nuclear Station
Kammer, J., Manager, Safety Assurance
Loucks L., Radiation Protection Manager
Murray, K., Supervisor, Emergency Preparedness
Painter, Jim, Emergency Preparedness
Parker, R., Superintendent, Maintenance
Peterson, G., Site Vice President, McGuire Nuclear Station
Thomas, J., Manager, Regulatory Compliance
Thomas, K., Manager, RES Engineering
Travis, B., Superintendent, Work Control

NRC personnel

R. Haag, Chief, Reactor Projects Branch 1
J, Shea, Project Manager, NRR

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000369,370/2004004-01	NCV	Failure to Update Fire Strategy Plans - second example (Section1R05)
05000369,370/2004005-01	NCV	Failure to comply with design control for a design assumption associated with the nuclear service water system (Section 1R15)
05000369,370/2004005-02	NCV	Failure to obtain a license amendment prior to implementing an unreviewed safety question associated with the nuclear service water system (Section 40A2b.(1))

05000369,370/2004005-03	NCV	Failure to obtain a license amendment prior to implementing a design change to the facility associated with the auxiliary feedwater system (Section 4OA2b.(2))
05000369,370/2004005-04	NCV	Inadequate Separation and Protection of Cables Associated With Redundant Trains of Instrumentation Located in the Same Fire Area (Section 4OA5)

Previous Items Closed

05000369,370/2003007-02	URI	Inadequate Separation and Protection of Cables Associated With Redundant Trains of Instrumentation Located in the Same Fire Area (Section 4OA5)
05000370/2003007-03	URI	Use of a Local Manual Operator Action in Lieu of Providing Physical Protection for Cables of Redundant Safe Shutdown Equipment in Fire Area 16/18 (Section 4OA7)

Discussed

None

LIST OF DOCUMENTS REVIEWED

(Section 1R01: Adverse Weather Protection)

licensee's hot weather computer spreadsheet for 2002, 2003, and 2004
PT/0/B/4700/039, Warm Weather Equipment Checkout , Rev. 11
PT/0/B/4700/038, Verification of Freeze Protection Equipment and Systems, Rev. 15
Work Order PM-0VOCUOOO60

(Section 1R04: Equipment Alignment)

Partial System Walkdown

[Containment Spray]
Procedure OP/2/A/6200/007, NS System, Revision 20

[1A Emergency Diesel Generator]
Drawing MCFD-1609-04.00, Flow Diagram of the Diesel Generator Starting Air System
Drawing MCFD-1609-03.00, Flow Diagram of the Diesel Generator Engine 1A Fuel Oil System

Drawing MCFD-1609-02.00, Flow Diagram of the Diesel Generator Engine Lube Oil System
Drawing MCFD-1609-01.00, Flow Diagram of the Diesel Generator Engine Cooling Water System

[Nuclear Service Water]
Procedure OP/1/A/6400/006 A, Nuclear Service Water System Valve Checklists
Drawings: MCFD-1574- 01.00, MCFD-1574- 01.01, MCFD-1574- 02.00, MCFD-1574- 02.01, MCFD-1574- 04.00

[Station Battery Inverter]
OP/0/A/6350/001A, 125 VDC/120 VAC Vital Instrumentation and Control Power System, Rev. 69
OAC system prints of Unit 2 Vital I&C (EPG/EPL)

Complete System Walkdown

UFSAR Section 10.4.10 Auxiliary Feedwater System, dated 10/6/2003
MNS Response to GL 81-14, Seismic Qualification of the CA System, dated 7/15/81
M-04-03808, Evaluate label enhancements for performing time critical actions
MCFD-1592-01.01, Flow Diagram of Auxiliary Feedwater System, Rev. 14
OP-MC-CF-CA, Auxiliary Feedwater Lesson Plan, Rev. 35
OP/1/A/6240/002, Auxiliary Feedwater System, Enclosure 4.8, Rev. 95
CA System Health Report - Period 2004T1
MCS-1592.CA-00-0001, Design Basis Specification for CA System, Rev. 19

(Section 1R05: Fire Protection)

McGuire Nuclear Station IPEEE Submittal Report dated June 1, 1994
McGuire Nuclear Station Supplemental IPEEE Fire Analysis Report dated August 1, 1996
MCS-1465.00-00-0008, R4, Design Basis Specification for Fire Protection

(Section 1R06: Flood Protection Measures)

Internal Flooding

[UFSAR Sections]
10.4.5, Condenser Circulating Water
9.5.8, Ground Water Drainage System
9.2.2, Nuclear Service Water System and Ultimate Heat Sink
9.3.3, Equipment and Floor Drainage System
2.4.13.5, Design Bases for Subsurface Hydrostatic Loading
7.6.11, Groundwater Drainage System

[Design Basis Documents]
MCS-1154.00-00-004, Design Basis Specification for the Auxiliary Building Structures, section 30.2.1.3.4.1, Internal Flooding
MCS-1565.WL-00-0001, Design Basis Specification for the Liquid Waste Recycle (WL) System

MCS-1581.WZ-00-0001, Design Basis Specification for the WZ System
MCS-1223.SS-00-0001, Design basis Specification for the Standby Shutdown System

[Calculations]
MCC-1223.42-00-0037, Evaluation of the Use of Non-Safety Water Sources for the Auxiliary Feedwater System, Sec. 10.8, Rev. 6
MCC-1206.47-69-1001, Auxiliary Building Flooding Analysis, Sec.9.2-9.2.1, Rev. 11, 12, and 13

[Procedures]
AP/0/A/5500/44, Plant Flooding, Rev. 3
IP/0/A/3215/004, Magnetrol Liquid Level Control Switch Calibration, Rev. 15

[Work Orders]
98631476, 98640957, 98598397, 98609168, 98629092, 98553556, 98553558, 93045301, 93045299

[Other Documents]
Selected Licensee Commitment 16.9.8 Ground Water Level Monitoring System
IN 2003-08, Potential Flooding through unsealed concrete floor cracks
IN 83-44, Potential damage to redundant safety equipment as a result of backflow through the equipment and floor drain system
Drawing MCFD-1581-01.00, Flow Diagram of Groundwater Drainage System
Drawing MCFD-1565-03.00 , Flow Diagram of Liquid Waste Recycle System
PIP M-01-04091
Review of NRR dynamic web page PIM entries for IP 71111-06

[PIPs Generated During Inspection]
M-04-03540, Auxiliary building DBD not updated for PIP M-01-3250 regarding curbs around door openings from auxiliary building to turbine buildings
M-04-3590, Floor drain DBD discrepancies for auxiliary building 695 elevation flooding issues associated with procedure AP-44
M-03-3780, CA 51, Engineering to verify that the stresses in the large RN suction pipe located in the auxiliary feedwater pump rooms are below acceptable criteria for postulating pipe break locations
M-04-3702, Missing documents referenced in flooding calculation

(Section1R12: Maintenance Effectiveness)

M-03-00465, Pilot cell battery for sy2 not within acceptance criteria
PT/0/B/4350/061B, 125 Volt Switchyard Battery Quarterly Inspection, Rev. 8
W.O. 98643032, 125 Volt Switchyard Battery Quarterly Inspection (SY1), dated 3/24/04
W.O. 98659625, 125 Volt Switchyard Battery Quarterly Inspection (SY1), dated3/17/04
W.O. 98644401, 125 Volt Switchyard Battery Quarterly Inspection (SY2), dated 3/31/04
W.O. 98659624, 125 Volt Switchyard Battery Quarterly Inspection (SY2), dated 6/23/04
MP/0/A/7300/052, On-Line Oil Sampling of Components with Oil Sample Valves, Rev. 10
M-99-05521, Operations Self Assessment OPS-SA99-17, Oil Assessment
M-99-04709, Motor Bearing oil level markings inadequate

M-94-00744, Unable to determine proper oil levels for pumps
M-94-00749, present oil level monitoring is inadequate

(Section1R15: Operability Evaluations)

M-99-3926, Per CNS PIP C99-0606, the affect of warmer seal injection water on the NCP seals during an SSF event, was not adequately taken into consideration on Standby Makeup Pump capacity
MCS-1223.SS-00-0001, Design Basis Document for Standby Shutdown System, Rev. 15
PT/1/A/4150/001 B, Reactor Coolant Leakage Calculation, Rev. 50
MCC-1211.00-33-0007, YC System Chiller A Heat Balance and RN Condenser Flow vs. RN Temperature Relationship

(Section1R17: Permanent Plant Modifications)

PT/1A/4350/013D Static Inverter 1EVID Transfer Test, Rev. 2
M-03-00049, Vital Inverter frequency drift
M-04-02787, Procedure changes required during performance of 2EVID Vital Inverter Mod MGMM14437

[PIPs Generated Due to Inspection]
M-04-0384, Minor Mods MGMM14127 and 14128 mod packages calls for valve stroke timing test...no test was performed

(Section 1R22: Surveillance Testing)

PT/0/A/4150/041, RCCA Bank Repositioning, Rev. 26
PT/1/A/4252/001C, #1 TD CA Pump Performance Test Opening 1SA-49 First, Rev.2
PT/1/A/4209/001C, Standby Makeup Pump Flow Periodic Test, Rev. 30
PT/0/A/4601/008B, SSPS Train B Periodic Test With NC System Pressure > 1955 PSIG, Rev. 34
PT/0/A/4601/008A, SSPS Train A Periodic Test With NC System Pressure > 1955 PSIG, Rev. 33

(Sections 1EP2 - 1EP5: Reactor Safety—Emergency Preparedness)

[Plans and Procedures]
MTP 7111.0 Emergency Response Training Program, Revision 5
AP/1(2)/A/5500/024, Loss of Plant Control Due to Fire or Sabotage, Revision 2
McGuire Nuclear Station Emergency Plan Revision 03-01, Dated April 24, 2003
McGuire Nuclear Station Emergency Plan Revision 03-02, Dated June 30 2003
McGuire Nuclear Station Emergency Plan Revision 04-01, Dated March 24, 2004
McGuire Nuclear Station Emergency Plan Revision 03-02, dated July 28, 2004

[Records and Data]
McGuire Emergency Planning Performance Indicator data from June 2003 - July 2004
Training Records for 30 Individuals

[Action Requests (PIPs)]
M-03-02174
M-03-03294
M-03-05795
M-03-00735
M-03-02487
M-03-02742

(Section 4OA1: Performance Indicator Verification)

M-04-02699, OE Review- Safety System Unavailability accrued during Solid State Protection System Testing not included in NRC PI Data for CA, NI and ND
M-04-03784, Incorrect denominator hours were entered into the Consolidated Data Entry website for the ROP Unit 2 Mitigating Systems 4 (ND)
M-04-00258, NRC Resident Inspector question regarding calculation of safety system availability for ND system during no-mode

(Section 4OA2: Identification and Resolution of Problems)

10CFR50, Appendix B, Criterion III, Design Control
10CFR50, Appendix B, Criterion XVI, Corrective Action
10CFR50.2 Design bases
10CFR50 Appendix A General Design Criteria 1 Quality Standards and Records
10CFR50 Appendix A General Design Criteria 2 Protection against natural phenomena
10CFR50 Appendix A General Design Criteria 44 Cooling Water
10CFR100, Appendix A , Seismic and Geological Siting Criteria
NRC Regulatory Guide 1.29, Seismic Design Classification
10CFR 50.36 Technical Specifications
10CFR50.59, Changes, Tests, and Experiments
Generic Letter 91-18
ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants
Duke Quality Assurance Program Topical Report
UFSAR 10.4.10, Auxiliary Feedwater System
SER & SSERs 2, 4, & 6, Section 10.5
Design Basis Specification MCS-1592.CA-00-0001
PRA Revision 2 Summary Report section A5
Calculations associated with:
- MCC-1223.42-00-0030, Documentation of the adequacy of Assured Suction Sources to the CA Pumps
- 1992 Technical Specification 3.7.1.2 and bases, Auxiliary Feedwater
- 2004 Technical Specification TS 3.7.5 and bases, Auxiliary Feedwater
- UFSAR 9.2.2, Nuclear Service Water System
- UFSAR 3.2.1, Seismic Qualification
- Technical Specification 3.7.7

NRC Inspection Reports:
- 92-13(5/29): Apparent violation based on LER 92-06; Enf. Con. 6/8; later issued as SL IV (6/29)
- 92-24: closed LER 92-06 to violation 92-13-02

– 94-06: closed violation based on review of corrective action
– 01-06, SSDPC on CA
– 04-03: reviewed operability assessment for M-02-02829 and corrective action for M-03-5432

LER 92-06, Unit 1 and 2 CA were past inoperable because of a design deficiency
PIPs M-92-0074,M-93-115 & M-93-183, M-00-4486,M-02-2829, M-03-3780, M-04-3067, M-04-3659

[PIPs Generated Due to Inspection]
M-04-3688
M-04-3803
M-04-4002
M-04-4486
M-04-4495

(4OA5: Other Activities)

[Procedures]
AP/0/A/5500/045, Plant Fire, Rev. 2 and Rev. 3
AP/1/A/5500/024, Loss of Plant Control Due to Fire or Sabotage, Rev. 21
Nuclear System Directive 313, Control of Combustible and Flammable Material, Rev. 4
Nuclear System Directive 314, Hot Work Authorization, Rev. 2

[Minor Modifications]
MGMM12907, Addition of smoke detectors in AHU rooms for 1ETA and 2ETA, 6/26/2003
MGMM14449, Install fire protection sprinkler system in the Unit 1 ETA HVAC equipment room (803A) and the Unit 2 ETA HVAC equipment room (805A), 9/17/2003
MGMMVN-14449A, Document as built condition of piping route for MGMM14449, 11/19/2003
MGMMVN-14449B, Revise Fire Protection DBD and App. R DBD for MGMM14449, 11/11/2003

[Miscellaneous]
NRC Generic Letter 86-10, Implementation of Fire Protection Requirements, 4/24/1986
NRC Information Notice 84-09, Lessons Learned from NRC Inspections of Fire Protection Safe Shutdown Systems (10 CFR 50, Appendix R), 2/13/1984
NRC Information Notice 84-09, Lessons Learned from NRC Inspections of Fire Protection Safe Shutdown Systems (10 CFR 50, Appendix R), Rev 1, 3/7/1984
Fire Strategy 1-17, Unit 1 Switchgear and HVAC Equipment Rooms 803 and 803A, 11/20/2003
Fire Strategy 1-18, Unit 2 Switchgear and HVAC Equipment Rooms 805 and 805A, 11/20/2003
Fire PRA for RPS Cable Issue in ETA Switchgear Room HVAC Area, 6/19/2003
Cable Routing Information for Cable Tray Sections 11, 21, 1632 and 1657, 9/1/2004

[PIPs]
M-03-02106, NRC plant walkdown showed “B” train cables in “A” train switchgear room FA
M-03-02311, Evaluate May 2003 fire protection inspection items
M-03-02588, Apparent Appendix R violation in the 1ETA and 2ETA HVAC rooms

[PIPs initiated during this inspection]
M-04-04399, Concern raised with fire suppression system installed per mod MGMM14449

LIST OF ACRONYMS

ANS	-	Alert and Notification System
AP	-	Abnormal Procedure
CA	-	Auxiliary Feedwater
CF	-	Feedwater
CFR	-	Code of Federal Regulations
EAL	-	Emergency Action Level
EP	-	Emergency Procedure
ERF	-	Emergency Response Facilities
ERO	-	Emergency Response Organization
ERP	-	Emergency Response Plan
FA	-	Fire Area
FPP	-	Fire Protection Program
FWST	-	Fueling Water Storage Tank
FSAR	-	Final Safety Analysis
HVAC	-	Heating, Ventilation, and Air Conditioning
INPO	-	Institute of Nuclear Power Operations
IR	-	Inspection Report
ISFSI	-	Independent Spent Fuel Storage Installation
KF	-	Spent Fuel Cooling
kV	-	Kilovolts
LER	-	Licensee Event Report
MGTM	-	McGuire Temporary Modification
NC	-	Reactor Coolant
NCDT	-	Reactor Coolant Drain Tank
NCP	-	Reactor Coolant Pump
NCV	-	Non-Cited Violation
ND	-	Residual Heat Removal
NEI	-	Nuclear Energy Institute
NI	-	Safety Injection
NPF	-	Nuclear Production Facility
NS	-	Containment Spray
NSD	-	Nuclear System Directive
NV	-	Chemical and Volume Control
OA	-	Other Activities
OAC	-	Operator Aid Computer
OE	-	Operational Experience
OS	-	Occupational Radiation Safety
PI	-	Performance Indicator
PIP	-	Problem Investigation Process report
PT	-	Liquid Penetrant
RCCA	-	Rod Cluster Control Assembly
Rev.	-	Revision
RN	-	Nuclear Service Water
RPS	-	Reactor Protection System
RTP	-	Rated Thermal Power
SBMUP	-	Standby Make Up Pump

SDP	-	Significance Determination Process
SER	-	Safety Evaluation Report
SNSWP	-	Standby Nuclear Service Water Pond
SSD	-	Safe Shutdown
SSC	-	Structures, Systems, Components
SSF	-	Standby Shutdown Facility
SSPS	-	Solid State Protection System
TDCAP	-	Turbine Driven Auxiliary Feed Water Pump
TS	-	Technical Specification
TSAIL	-	Technical Specification Action Item Log
URI	-	Unresolved Item
USFAR	-	Updated Final Safety Analysis Report
VC/YC -	-	Control Room Ventilation
VDC	-	Volts DC
VI	-	Instrument Air
YC	-	Ventilation Chiller