



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

July 27, 2006

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  
05000369/2006003 AND 05000370/2006003

Dear Mr. Peterson:

On June 30, 2006, 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 July 11, 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 no findings of significance were identified.

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/**

Michael E. Ernstes, 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 05000369/2006003  
and 05000370/2006003  
w/Attachment - Supplemental Information

cc w/encl: (see page 2)

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SIGNATURE	CWR /RA/	MEE /RA/	JBB /RA/	SAW /RA/	TFS /RA/	SDR /RA/	MAP /RA/	JTM /RA/	RHB /RA/
NAME	C. Rapp	M. Ernestes	J. Brady	S. Walker	T. Stetka	S. Rose	M. Pohida	J. Mitman	R. Bernhard
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Letter to G. R. Peterson from Michael Ernstes dated July 27, 2006

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05000369/2006003 AND 05000370/2006003

Distribution w/encl:

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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: 05000369/2006003, 05000370/2006003

Licensee: Duke Energy Corporation

Facility: McGuire Nuclear Station, Units 1 and 2

Location: Huntersville, NC 28078

Dates: April 1, 2006 through June 30, 2006

Inspectors: J. Brady, Senior Resident Inspector  
S. Walker, Resident Inspector  
G. Laska, Senior Operations Engineer (Section 1R11.2)  
T. Stetka, Senior Operations Engineer (Section 1R11.2)  
S. Rose, Senior Operations Engineer (Section 1R11.2)  
M. Pohida, Senior Reliability and Risk Analyst (Section 4OA5.3)  
J. Mitman, Risk and Reliability Engineer (Section 4OA5.3)  
R. Bernhard, Senior Reactor Analyst (Section 4OA5.3)  
M. King, Project Engineer (Sections 1R04.2, 1R15, 1R22)

Approved by: Michael E. Ernstes  
Reactor Projects Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000369/2006-003, 05000370/2006-003; 04/01/2006 - 06/30/2006; McGuire Nuclear Station, Units 1 and 2; routine integrated report.

The report covered a three month period of inspection by resident inspectors and announced inspections by regional senior operations engineers and a senior reactor analyst and two risk and reliability analysts from NRC headquarters. 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

No findings of significance were identified.

B. Licensee-Identified Violations

None.

Enclosure

## REPORT DETAILS

### Summary of Plant Status:

Unit 1 began the inspection period at approximately 100 percent (%) power. On May 13, power was reduced to 50% to remove some debris off the Y-phase of main startup transformer 1A. Unit 1 returned to 100% on May 14.

Unit 2 operated at approximately 100% power for the entire inspection period.

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R04 Equipment Alignment

##### .1 Partial Walkdowns

###### a. Inspection Scope

The inspectors performed a partial walkdown of the following four systems to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, walked down control systems components, and verified that selected breakers, valves, and support equipment were in the correct position to support system operation. The inspectors also inspected to verify that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program. In addition, the inspectors used the operator aid computer to determine if system parameters were as expected for the plant conditions and if equipment status shown for inaccessible equipment supported operability of the system. Documents reviewed are listed in the Attachment.

- Unit 1 train B safety injection with train A out of service
- Unit 2 train A emergency diesel generator (EDG) with train B out of service
- Unit 1 train A EDG with train B out of service
- Unit 2B charging/high head safety injection pump with 2A pump out of service for maintenance

###### b. Findings

No findings of significance were identified.

Enclosure

## .2 Complete Walkdown

### a. Inspection Scope

The inspectors conducted a detailed review of the alignment and condition of the Unit 1 train A and turbine driven auxiliary feedwater system with train B out of service. To determine the proper system alignment, the inspectors reviewed the procedures, drawings, and Updated Final Safety Analysis Report (UFSAR) sections listed in the Attachment. In addition, significant events data in the industry was reviewed to ascertain any similarities to McGuire structures, systems, and components (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:

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

The inspectors reviewed the documents listed in the Attachment to verify that the ability of the system to perform its function(s) could not be affected by outstanding design issues, temporary modifications, operator workarounds, adverse conditions, and other system-related issues tracked by the engineering department. In addition, the inspectors also reviewed the Problem Investigation Process Reports (PIPs) associated with this area to verify that the licensee identified and implemented appropriate corrective actions.

### b. Findings

No findings of significance were identified.

## 1R05 Fire Protection

### a. Inspection Scope

For the six fire 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 are listed in the Attachment.

C Unit 1 electrical penetration/MG set room (fire area 22 )  
C Unit 2 electrical penetration/MG set room (fire area 23 )  
C Auxiliary Building Elevation 767 (fire area 25)  
C Auxiliary Building Elevation 750 (fire area 21)  
C Auxiliary Building Elevation 733 (fire area 14)  
C Auxiliary Building Elevation 716 (fire area 4)

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Resident Quarterly Observation

a. Inspection Scope

The inspectors observed licensed-operator performance during requalification simulator training for shift "C" to verify that operator performance was consistent with expected operator performance, as described in Exercise Guide OP-MC-SRT-21 and 57. This training tested the operators' ability to perform abnormal and emergency procedures dealing with loss of a non-safety control power buss, steam line break inside containment, anticipated transient without scram (ATWS), loss of charging, load rejection with turbine runback, loss of condenser vacuum causing a turbine trip/reactor trip, and ATWS without safety injection. The inspectors focused on clarity and formality of communication, use of procedures, alarm response, control board manipulations, group dynamics and supervisory oversight. The inspectors 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.

.2 Biennial Program Inspection

a. Inspection Scope

The inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program to assess the effectiveness of the licensee in implementing

requalification requirements identified in 10 CFR 55, Operators' Licenses. The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, Operator Licensing Examination Standards for Power Reactors. The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy in operator licensing examinations. The inspectors observed four licensed operator simulator scenarios during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records and performance test records, the feedback process, licensed operator qualification records, remediation plans, watchstanding, and medical records. The records were inspected against the criteria listed in IP 71111.11. Documents reviewed are listed in the Attachment.

On June 30, the licensee completed the comprehensive requalification biennial written examinations and annual operating tests, required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the written examinations, individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two samples listed below for items such as: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) scoping in accordance with 10 CFR 50.65(b) of the maintenance rule (MR); (4) characterizing reliability issues for performance; (5) trending key parameters for condition monitoring; (6) charging unavailability for performance; (7) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (8) appropriateness of performance criteria for SSCs/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). Documents reviewed are listed in the Attachment.

- Potential safety hazard with Woodward Digital Reference Unit
- Spent Fuel Pool Cooling Pump availability

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 if the licensee performed adequate risk assessments, and implemented appropriate risk management actions when required by 10 CFR 50.65(a)(4). For emergent work, the inspectors reviewed the updated risk assessments to verify 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.

- Week of April 3, including the emergent discovery of the 2A NV discharge check valve that leaked by which affected the operability of the 2B NV train.
- Week of April 10, including delayed dry cask storage load and distribution grid status change which resulted in rescheduling of planned work.
- Week of April 24, including effect on scheduled switchyard work due to emergent overall power system indicator (grid risk) assessment changes.
- Week of May 22, including schedule revisions due to problems encountered concerning the B main feedwater pump speed control circuitry. Catawba dual unit loss of offsite power (LOOP) caused the distribution grid status to change.
- Week of June 11, including schedule revisions due to emergent work related to the safe shutdown facility (SSF) diesel generator.
- Week of June 25, including planned work on the 2A auxiliary feedwater pump and 2A EDG, and emergent work that resulted in declaring the containment floor and equipment sump inoperable due to unexpected resistance and voltage readings for the level instrumentation. After replacing the level instrument, a functional test was performed using the standby makeup pump, making the SSF inoperable which resulted in the deferral of scheduled switchyard work. The inspectors also discussed with the licensee the risk assessment for taking out of service the turbine building sprinklers above the unit 2 main feed pumps (ranked 4<sup>th</sup> in fire risk) on the same day as planned maintenance on the 2A auxiliary feedwater pump and 2A emergency diesel generator.

### b. Findings

No findings of significance were identified.

## 1R14 Personnel Performance During Non-routine Plant Evolutions

### a. Inspection Scope

During replacement of the low pressure actuator interface card for the 2B CF pump, the inspectors observed plant instruments and operator performance to verify that the

operators performed in accordance with the associated procedures and training. The inspectors reviewed the following documents associated with this item to verify that the licensee identified and implemented appropriate corrective actions.

- PIP M-06-2023, 2B main feedwater pump speed controller not controlling LP governor valve
- TO/2/A/9600/199, Transfer 2B CF pump to HP Steam Supply

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the five operability evaluations described in the PIPs listed below, the inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors assessed the evaluations to verify that the operability determinations were made as specified by Nuclear System Directive (NSD) 203, Operability. The inspectors reviewed the UFSAR to verify that the system or component remained available to perform its intended function. In addition, the inspectors reviewed compensatory measures implemented to verify that the compensatory measures worked as stated and the measures were adequately controlled.

- M-06-1264, Non-conservatism in Thermal Power Best Estimate due to calibration range of steam generator blowdown flow elements.
- M-06-1394, 2A NV pump discharge check valve is leaking by resulting in 2B NV & Emergency Core Cooling System inoperability
- M-06-1907, Cracked terminal post nuts and cracked lid on battery EVCC
- M-06-1956, Use of Deacon 404 as sealant for 2-3 drop per minute oil leak on 2B nuclear service water pump.
- M-06-2354, 10 CFR 21 notification on EDG intake and exhaust valve seat inserts.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the five post-maintenance tests listed below to verify that procedures and test activities ensured system operability and functional capability. The

inspectors reviewed the licensee's test procedure to verify that the procedure adequately tested the safety function(s) that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed the test data, to verify that test results adequately demonstrated restoration of the affected safety function(s).

- PT/2/A/4206/001A, 2A NI Pump Performance Test (various preventive maintenance and motor inspection)
- PT/2/A/4350/002B, Diesel Generator 2B Operability Test (various maintenance on the diesel generator)
- PT/1/A/4350/002B, Diesel Generator 1B Operability Test (various maintenance on the diesel generator)
- PT/2/A/4403/002A, RN Train A Valve Stroke Timing - Quarterly (removal and reinstallation of 2RN-103A limit switches)
- IP/0/A/3090/002, Replacement of the Unit 2 pressurizer pressure master 7300 driver card

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the 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. (\* - Included inservice testing requirements).

- PT/2/A/4252/001A, 2A CA Pump Test\*
- PT/2/A/4403/001A, 2A RN Pump Test
- PT/2/A/4403/001A, 2A RN Pump Test, Enclosure 13.1, Quarterly Valve Stroke (2RN - 68A)
- PT/1/A/4600/001, Rod Cluster Control Assembly (RCCA) Movement Test
- PT/2/A/4208/001B, 2B NS Pump Performance Test\*
- PT/2/A/4208/002B, NS Train B Valve Stroke Timing - Quarterly\*
- PT/2/A/4403/002A, 2A RN Valve Stroke Timing - Quarterly (for 2RN-103A and 2RN-296A)\*

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

For the PIs listed below, the inspectors sampled licensee PI data for units 1 and 2 for the period from July 2004 through March 2006. To verify the accuracy of the PI data reported during that period, the inspectors compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline."

Mitigating Systems Cornerstone

- Safety System Functional Failures

The inspectors reviewed Licensee Event Reports and Maintenance Rule records for units 1 and 2, to verify that the licensee had adequately accounted for functional failures that the subject systems had experienced for the period from July 2004 through March 2006.

Barrier Integrity Cornerstone

- Reactor Coolant System Specific Activity

For the period October 2004 - March 2006, the inspectors reviewed licensee sampling and analysis of reactor coolant system samples for units 1 and 2 and compared the licensee-reported performance indicator data with records developed by the licensee while analyzing previous samples. The inspectors also reviewed the associated PIPs associated with this area to verify that the licensee identified and implemented appropriate corrective actions.

- Reactor Coolant System Leak Rate

For the period April 2004 - March 2006, the inspectors reviewed surveillance test records of measured reactor coolant system identified leakage for units 1 and 2.

b. Findings

No findings of significance were identified.

## 4OA2 Problem Identification and Resolution

### .1 Daily Screening of Corrective Action Items

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.

### .2 Annual Sample - 2B EDG Fuel Injection Pump Failure

#### a. Inspection Scope

The inspectors selected PIP M-05-3648 for detailed review. This PIP was associated with the 2B EDG fuel injection pump failure on August 9, 2005. The inspectors reviewed this report to verify that the licensee identified the full extent of the issue, performed an appropriate evaluation, and specified and prioritized appropriate corrective actions. The inspectors evaluated the report 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. Not all corrective actions were complete at the time of this review.

#### b. Findings and Observations

No findings of significance were identified. The licensee's root cause analysis identified a most probable root cause since a clear root cause could not be determined. However, the licensee identified several diagnostic corrective actions to pursue the most likely causes which provided informative results. The inspectors observed that the licensee was pursuing resolution of this issue including discussion at industry users groups, the use of operating experience, and performance of metallurgical analysis of an original equipment manufacturer part. The inspectors concluded that the lack of identification of a clear root cause was not affecting the licensee's pursuit of effective resolution.

### .3 Semi-Annual Trend Review

#### a. Inspection Scope

The inspectors performed a trend review to determine if trends were identified outside the corrective action program that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector corrective action program item screening discussed above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of January 2006 through June 2006, although some examples expanded beyond those dates when the

scope of the trend warranted. The review included the following areas/documents:

- PIP and department trend reports for 4<sup>th</sup> quarter 2005 and 1<sup>st</sup> quarter 2006
- NRC performance indicators and departmental performance measures
- equipment problem lists
- maintenance rework trending
- departmental problem lists
- system health reports
- quality assurance audit /surveillance reports
- self assessment reports
- maintenance rule program reports including a(1) list
- corrective action backlog lists

b. Findings and Observations

No findings of significance were identified. In general, the inspectors found that the licensee's trending of issues has been effective in identifying and preventing problems from becoming more significant.

Update of previously identified trends

A licensee-identified trend on nuclear service water fouling has been discussed in the previous two six-month trends. The licensee's attention and actions to monitor and reduce the effect of service water fouling has been effective.

The inspectors identified a continuing trend in the area of fire protection. An additional example of inadequate fire plans was identified in inspection report 05000369,370/2006002 indicating a continuing trend in problem identification in the fire protection area.

The licensee identified an additional example of a previous trend for operator lack of understanding of TS. The additional example was associated with a spent fuel cask loading issue that resulted in a late NRC notification as described in Special Report 2005-01.

4OA5 Other Activities

.1 Initial Cask Loading and Storage

a. Inspection Scope (IP 60855.1)

The inspectors reviewed the Unit 1 documentation package for the casks listed below that were created using procedure XSM-006, Workplace Procedure For Selecting Spent Fuel For Use Of NAC-UMS System at McGuire, and Regulatory Guide 3.54, Spent Fuel Heat Generation, to verify that the selected fuel assemblies and burnable poison inserts met the requirements for insertion in dry cask storage.

Enclosure

- NAC-UMS TSC-MNZ-010 (Document Control NO MCEI 0400-167)
- NAC-UMS TSC-MNZ-015 (Document Control NO MCEI 0400-168)

The inspectors reviewed the cask loading verification video tapes for each of the above casks to verify that the alpha-numeric identification numbers stamped on the loaded fuel assemblies and burnable poison assemblies matched the identification numbers used in the documentation package as required by procedure OP/0/A/6550/028, NAC UMS Fuel Assembly Loading/Unloading Procedure. The casks were loaded on June 6 and June 16 respectively. The inspectors reviewed selected licensee activities as specified in procedure MP/0/A/7650/212, Loading Spent Fuel Assemblies Into NAC-UMS Casks, to verify that activities were being accomplished in accordance with procedural requirements.

b. Findings and Observations

No findings of significance were identified. Overall, the licensee established and maintained adequate oversight for the dry cask storage evolution. The TS requirements and acceptance criteria as outlined in the FSAR for the NAC-UMS casks and the procedures were followed appropriately.

.2 (Closed) NRC Temporary Instruction (TI) 2515/165: Operational Readiness of Offsite Power and Impact on Plant Risk

The inspectors reviewed licensee procedures and controls and interviewed operations and maintenance personnel to verify these documents contained specific attributes delineated in the TI to ensure the operational readiness of offsite power systems in accordance with plant Technical Specifications; the design requirements provided in 10 CFR 50, Appendix A, General Design Criterion 17, Electric Power Systems, and the impact of maintenance on plant risk in accordance with 10 CFR 50.65(a)(4), Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants. Appropriate documentation of the results of this inspection was provided to NRC headquarters staff for further analysis, as required by the TI. This completes the Region II inspection TI requirements for the McGuire Nuclear Station.

.3 (Closed) NRC TI 2515/167: Assurance of Industry implementation of Key Shutdown Voluntary Initiatives

The inspectors reviewed refueling outage documents and interviewed licensee personnel to verify the licensee was implementing the key voluntary shutdown initiatives as described in NUMARC 91-06, Guidelines for Industry Actions to Assess Shutdown Management, and in Generic Letter 88-17, Loss of Decay Heat Removal (Generic Letter No. 88-17) 10 CFR 50.54(f). Appropriate documentation of the results of this inspection was provided to NRC headquarters staff for further analysis, as required by the TI. This completes the Region II inspection TI requirements for the McGuire Nuclear Station.

4OA6 Meetings, Including Exit

On July 11, 2006, the resident inspectors presented the inspection results to Mr. G. Peterson and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

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Bramblett J., Outage Manager  
Brown, S., Manager, Engineering  
Crane, K., Licensing Specialist  
Evans, K., Superintendent, Maintenance  
Harrall, T., Station Manager, McGuire Nuclear Station  
Kammer, J., Manager, Safety Assurance  
Mooneyhan, S., Radiation Protection Manager  
Nolin, J., Manager, Mechanical and Civil Engineering  
Parker, R., Superintendent, Work Control  
Peterson, G., Site Vice President, McGuire Nuclear Station  
Snyder, S., Manager, Reactor and Electrical Systems Engineering  
Thomas, J., Manager, Regulatory Compliance

#### NRC personnel

M. Ernstes, Chief, Reactor Projects Branch 1  
C. Payne, Acting Chief, Reactor Projects Branch 1  
J. Stang, Project Manager, NRR

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Closed

2515/165	TI	Operational Readiness of Offsite Power and Impact on Plant Risk (Section 40A5.2)
2515/167	TI	Assurance of Industry Implementation of Key Shutdown Voluntary Initiatives (Section 40A5.3)

### LIST OF DOCUMENTS REVIEWED

#### **Section 1R04: Equipment Alignment**

##### Partial System Walkdown

##### Safety Injection system:

MCFD-2562-03.00, Flow Diagram of Safety Injection System (NI)  
MCFD-2562-03.01, Flow Diagram of Safety Injection System (NI)

##### Emergency Diesel Generator 2A:

MCFD-2609-04.00, Flow Diagram of the Diesel Generator Starting Air System  
MCFD-2609-03.00, Flow Diagram of the Diesel Generator Engine 2A Fuel Oil System  
MCFD-2609-02.00, Flow Diagram of the Diesel Generator Engine Lube Oil System  
MCFD-2609-01.00, Flow Diagram of the Diesel Generator Engine Cooling Water System

**Emergency Diesel Generator 1A:**

MCFD-1609-04.00, Flow Diagram of the Diesel Generator Starting Air System

MCFD-1609-03.00, Flow Diagram of the Diesel Generator Engine 2A Fuel Oil System

MCFD-1609-02.00, Flow Diagram of the Diesel Generator Engine Lube Oil System

MCFD-1609-01.00, Flow Diagram of the Diesel Generator Engine Cooling Water System

**Complete System Walkdown**

Corrective action documents (PIPs) M-05-05507, M-06-00212, M-06-00480, M-06-00603

Auxiliary Feedwater System (CA) Flow Diagrams MCFD-1592-01.00, MCFD-1592-01.01,

MCFD-1592-01.02, and MCFD-1592-02.00

**Section 1R05: Fire Protection****Procedures:**

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 1R11: Licensed Operator Requalification****Procedures**

MTP 2701.0, Simulator Configuration Management and Operating Limits, Revision 3

MTP 4116.1, Licensed Requalification Program, Revision 9

MTP 5405.1, Initial License Operator Examination Development, Revision 2

MTP 5405.0, Operations Examination Development, Validation, and Security, Revision 4

Nuclear Policy Manual, Nuclear System Directive 512, Maintenance of RO/SRO NRC Licenses, Revision 1

**Licensee Event Reports (LERs)**

Unit 1 LER 2005-005, Inoperable source range neutron flux monitors during mode 6 and core alterations, Revision 0

Unit 2 LER 2005-004, Actuation of Main Steam Isolation Valves Due to Human Error, Revision 0

Unit 1 LER 2005-001, Reactor Coolant System Leakage Detection Instrumentation Inoperable, Revision 0

Unit 2 LER 2005-001, Automatic Actuation of Motor Driven Auxiliary Feedwater Pumps During Outage, Revision 0

**Scenarios**

ASE-20, Active Simulator Exam, Revision 12

ASE-48, Active Simulator Exam, Revision 0

ASE-08, Active Simulator Exam, Revision 3

ASE-25, Active Simulator Exam, Revision 11

ASE-02, Active Simulator Exam, Revision 18

ASE-18, Active Simulator exam, Revision 15

**Job Performance Measures (JPMs)**

OP-MC-JPM-SS-VI:164A, Ensure Proper Response of Diesel VI Compressors on Loss of VI, Revision 05

OP-MC-JPM-EL-EPL:010, Shutdown Charger EVCA, Revision 16  
 OP-MC-JPM-PS-NV:169T, Emergency Borate the Reactor Coolant System Locally Using 1NV-265B, Revision 01  
 OP-MC-JPM-EL-EPL:145, Shutdown Vital Inverter 2EVIA, Revision 08  
 OP-MC-JPM-IC-IRE:041, Startup the Unit 1 Motor Generator Set, Revision 16  
 OP-MC-JPM-PSS-KC:125T, Makeup to the KC Surge Tank, Revision 6  
 OP-MC-JPM-PS-NV:067A, Emergency Borate the Reactor Coolant System, Revision 19  
 OP-MC-JPM-IC-IRE:193-IA, Respond to a Rod Control System Malfunction, Revision 02  
 OP-MC-JPM-PS-NC:117, Transfer the NI Pumps from Cold Leg Recirculation to Hot Leg Recirculation, Revision 03  
 OP-MC-JPM-EL-EP:196-IA, Respond to a Loss of Power to 1ETB, Revision 01

#### Written Examinations

2004 Annual Retake Exam, LOR 3-04F  
 2004 Annual Retake Exam, LOR 3-04G  
 2006 License Requalification Annual Written Exam, LOR 06-4BS  
 2006 License Requalification Annual Written Exam, LOR 06-4BR  
 2006 License Requalification Annual Written Exam, LOR 06-4AS  
 2006 License Requalification Annual Written Exam, LOR 06-4AR

#### Simulator Tests

SPT/A/S/02, McGuire Simulator Periodic Test - Steady State Power, Heat Balance Check, Revision 3  
 SPT/A/S/01, McGuire Simulator Periodic Test - Steady State Power Drift Test, Revision 3  
 SPT/A/S/03, McGuire Simulator Periodic Test - Steady State Power, Critical and Non-Critical Parameters Check, Revision 3  
 SPT/A/T/11, McGuire Simulator Periodic Transient Test - Transient #11: Reactor Trip, Revision 3  
 SPT/A/T/01, McGuire Simulator Periodic Transient Test - Transient #1: SG Tube Rupture, Revision 0  
 SPT/A/T/02, McGuire Simulator Periodic Transient Test - Transient #2: Large Break LOCA (Cold Leg), Revision 0  
 SPT/A/T/03, McGuire Simulator Periodic Transient Test - Transient #3: Small Break LOCA, Revision 0  
 SPT/A/T/04, McGuire Simulator Periodic Transient Test - Transient #4: Loss of Offsite Power, Revision 0  
 SPT/A/T/05, McGuire Simulator Periodic Transient Test - Transient #5: Single NC Pump Trip, Revision 0  
 SPT/A/T/06, McGuire Simulator Periodic Transient Test - Transient #6: Loss of Main Feedwater, Revision 0  
 SPT/A/T/07, McGuire Simulator Periodic Transient Test - Transient #7: Loss of all Feedwater, Revision 0  
 SPT/A/T/08A, McGuire Simulator Periodic Transient Test - Transient #8A: Dropped Rod (BOC), Revision 0  
 SPT/A/T/08B, McGuire Simulator Periodic Transient Test - Transient #8B: Dropped Rod (EOC), Revision 0  
 SPT/A/T/09A, McGuire Simulator Periodic Transient Test - Transient #9B: 50% Load Rejection

- Loss of FWPT, Revision 0  
SPT/A/T/09B, McGuire Simulator Periodic Transient Test - Transient #9B: 50% Load Rejection  
- Loss of Busline, Revision 0  
SPT/A/T/10, McGuire Simulator Periodic Transient Test - Transient #10: PZR PORV Failure, Revision 0  
SPT/4/T/01, McGuire Simulator Periodic Test - NC System Leak, Revision 0  
Real Time Periodic Certification Test Procedure performed on 11/15/05

#### Miscellaneous

Senior Reactor Individual Competencies, Crew A1, ASEs 20 & 48  
Senior Reactor Individual Competencies, Crew A3, ASEs 8 & 25  
Reactor Individual Competencies, Crew A1, ASEs 20 & 48  
Reactor Individual Competencies, Crew A1, ASEs 8 & 25  
2005 McGuire Simulator Annual Report, January 12, 2006  
Problem Investigation Process, PIP —06-01966  
Self Assessment: 2005 Program Evaluation  
License Reactivation Documentation for two Reactor Operators (ROs) and a Senior Operator  
Medical Records for 12 operators

#### **Section1R12: Maintenance Effectiveness**

Part 21 Update: A Potential Safety Hazard with the Woodward Digital Reference Unit, dated 1/12/06  
Part 21: Woodward Digital Reference Unit, dated 4/23/04  
PIP M-04-2569, Notice of Part 21 Woodward DRU (Operability Assessment)  
PIP M-06-0217, Engineering review of Woodward Service Bulletin for D/G Governor DRU

#### **Section1R13: Maintenance Risk Assessment and Emergent Work**

PIP M-06-2531, Consideration of fire risk in 10CFR50.65 risk assessment